NAEAA 2014

Conference Proceedings

Celebrating the Year of the Horse!

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EQUINE INDUSTRY PROGRAM

June 24-28

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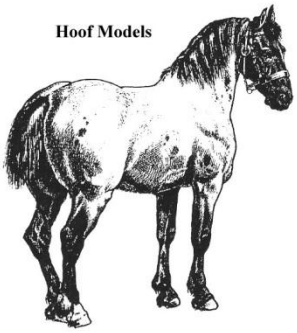

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NAEAA Don Henneke Education Impact Award

Background and Purpose

The NAEAA Don Henneke Education Impact Award was created by the NAEAA executive board in 2013. This award is named after Dr. Don Henneke who developed a body condition scoring system for horses that has become a standard throughout the equine industry. A master teacher, he educated hundreds of students and horse owners in the area of equine management. Dr. Henneke was one of the original members of NAEAA and made many important contributions to its earliest meetings.

This award recognizes an individual who has had a sustained impact on education or educational practices within the horse industry. The recipient's efforts may have been related to research, teaching or outreach and may have been accomplished within academic, industry or governmental organizations.

Criteria and Process

The nominee must have a record of educational accomplishments within the equine industry. These accomplishments may be related to undergraduate or graduate education, outreach to horse owners, research in equine science (or a related area) or education of the public on issues related to the equine area. Emphasis will be placed on the impact of the nominee on educational practices that improve the translation of theory to practice; on the development of new knowledge that can be applied in the industry; and on efforts that result in broader dissemination of evidence-based knowledge and practices within the horse industry, governmental agencies and the general public.

Norman K. Luba
2014 Don Henneke Education Impact Award Recipient

Norm Luba has used his education, his practical experience and his considerable communication and leadership skills to advance knowledge and education relating to equine science. He has had a diverse and extremely successful career of helping horsemen and women in improving their management and business practices.

Raised in Connecticut, Norm Luba earned a B.S.degree in Animal Science from the University of Connecticut, and an M.S. in Reproductive Physiology from the University of Maryland. Norm Luba has worked in a university-setting at three different institutions. He started his career in New York, where he was Cooperative Extension Agent. He then spent eight years with the University of Maryland as Manager of the Horse Breeding and Research Center and Faculty Research Assistant. He coordinated the state horse program for youth, coached the horse judging teams and also served on the Maryland Horse Breeders' Health and Farm Management Committee, and on the Board of Directors of the Maryland State Quarter Horse Association. Moving to Kentucky in December 1988, Luba was named the Equine Industry Liaison for the University of Louisville's newly established Department of Equine Administration. His responsibilities included teaching horse management, computer applications for the horse industry, and providing service programs.

Recognized for his horse management expertise, business skills and industry coalition building abilities, Luba was named the executive director of the North American Equine Ranching Information Council (NAERIC) in 1995. Since then, he has served as the worldwide spokesperson for the council which represents ranches in Canada where ranchers work to collect pregnant mares' urine (PMU), from which estrogens are extracted to produce a leading prescription drug used for estrogen replacement therapy. Under Norm Luba's guidance NAERIC has successfully educated the public and the horse industry about the equine ranching industry, providing accurate information on its progressive and responsible practices. He has been committed to the application of science-based management techniques to ensure that horses within the equine ranching industry receive a high level of care. During Norm Luba's tenure at NAERIC, the "Code of Practice" for horse ranches has been constantly subjected to rigorous review and revision. He has worked closely with many industry groups to enhance the quality of foals produced by equine ranches increasing their marketability and value within the industry.

In addition to his activities within academia and as Executive Director of NAERIC, Norm Luba has touched the horse industry in many other ways. Luba is a past Treasurer of the American Youth Horse Council (AYHC). During his tenure at the AYHC, they produced the Horse Industry Handbook. He has served on the American Horse Council's Welfare Committee; the International Stockmen's Educational Foundation Board of Directors (Horse Section chairman); as board member and Treasurer of the Animal Welfare Council; on the United States Equestrian Federation's Breeders' Committee (Chairman in 2008 & 2009) and as the Quarter Horse representative to the Sales Integrity Task Force reporting to the Kentucky Legislature. He is a national Director of the American Quarter Horse Association and serves on the AQHA's Strategic Planning Task Force. He is now Chairman of the AQHA's Stud Book and Registration Committee. Since 2009 he has served on the AQHA's Blue Ribbon Task Force implementing the "leveling" of horse shows internationally, and also serves as Chairman of the AQHA's Affiliate Advisory Board. His previous service includes six years on the AQHA Public Policy Committee.

Norm Luba has had a distinguished career in the horse industry. He has educated individuals in all facets of the industry, in government and regulatory areas and in college classrooms. He is certainly a worthy recipient of the Don Henneke Education Impact Award

PROGRAM

Tuesday June 24th

Check in: 5-6 pm and 8-9 pm

6-8pm: Pre-Conference workshop on tenure/promotion – *Facilitated by Amy Burk*
This free pre-conference workshop will focus on the sharing of tips and strategies for successfully navigating the tenure and promotion process for faculty within the equine discipline. Speakers from both public and private institutions will share their advice and experiences surrounding this important topic. The agenda includes the following areas:

- The importance of a stellar C.V. – *Amy Burk*
- How to form important collaborations, yet increase the visibility of your work – *Karin Bump*
- Tips for engaging in scholarly activities, especially when traditional research is not the primary expectation – *Lynn Taylor*
- Avoiding pitfalls on your way up the promotion ladder - lessons learned from a full professor – *Laurie Lawrence*

Wednesday June 25

Check in: 6:30am-7am. ***Late check-in between 5:30pm and 6pm***

7:00 AM – 5:30PM: Horse Industry Tour – (Must be pre-registered for tour).
Bus Departs at 7:00 AM from Shelby Campus Parking Lot. Tour includes lunch and will return to Shelby Campus at 5:30 PM. ***Facilitated by Laurie Lawrence, Leslie Janecka, and Janice Holland.*** **Tour Sponsors: League of Agricultural and Equine Centers and Triple Crown Nutrition**

Given the number of participants, tour groups will be split for locations.
- **Spy Coast Farm**
- **Kentucky Equine Sports and Medicine Rehabilitation Center**
- **Keeneland Race Course and Sale Facility**
- **Hagyard Equine Medical Institute**
- **Old Friends Thoroughbred Retirement**
- **Central Kentucky Riding For Hope**
- **WinStar Farm**
- **Midway College Equine Facility**

6:00-8:30 PM: Reception and Industry Panel

Reception Sponsored by the University of Louisville Equine Industry Program, Beverage Service Sponsored by Alltech

Panel Topic: Perceptions of student preparedness for industry needs and emerging career opportunities *Panel facilitated by Tim Capps and Bob Coleman.*
Given the national debate on whether or not colleges are preparing students appropriately for careers in their respective industries, this panel provides an opportunity to hear from industry stakeholders on what they see, what they need (now and projected into the future), and what we can do to create stronger partnerships between industry and academia that will enhance preparation of 'industry ready' college graduates.

Panelists:

- Eric Mitchell - Executive Vice President/Editorial Director at Blood-Horse Publications http://www.bloodhorse.com
- Norm Luba - Executive Director at North American Equine Ranching Information Council http://www.naeric.org/
- Mary Grace Rutland - Veterinary Field Sales Manager at Neogen Corporation. http://www.neogen.com
- Lee Hall - Vice President at Hallway Feeds - http://hallwayfeeds.com/?home-page.html
- Eric Miller - Senior Director for Human Resources at Churchill Downs - http://www.churchilldowns.com/

Thursday June 26

8:00am – Welcome and Conference Overview – Karin Bump

Session 1- Educator's Toolbox: Catching up with the students - using technology and social media in the classroom. *Facilitated by Laurie Lawrence*

8:15 Mobile Technology Utilization for Facilitating First Year Student Transitions. Lynn Taylor[1], Michael Taylor[2]. [1]Department of Equine Studies, Centenary College, Hackettstown, NJ; [2]Department of Political Science and Public Affairs, and Director: Center for Mobile Research and Innovation (CMRI), South Orange, NJ

8:30 Flipping Your Classroom with eXtension HorseQuest. Colleen Brady, Purdue University, West Lafayette, IN, Kathy Anderson, University of Nebraska-Lincoln, Lincoln, NE, and Betsy Greene, University of Vermont, Burlington, VT

8:45 The Role of Social Media in Higher Education Equestrian Programs. Jackie Dwelle, St. Andrews University, NC

9:00 Implementing a Research Based Approach for Gathering Stakeholder Data through Social Media. Melissa A. Voigt and Colleen Brady, Purdue University, IN

9:15 Microvets: using an interactive, online video game to teach equine digestion. Mary Rossano[1], Bryan J. Hains[1], William Silvia[1], Neil A. Knobloch[2], Mark A. Balschwied[3]. [1]University of Kentucky, Lexington,KY, [2]Purdue University, West Lafayette, IN, [3]University of Nebraska, Lincoln, NE

9:30 Video-taping equitation for instruction and assessment of a horsemanship course. Lee G. Wood, Southern Utah University, Cedar City, UT

9:45 Horse Lover's Math. Katrina Merkies[1], Deborah Stacey[2]. [1]University of Guelph, Guelph, ON, Canada, [2]Horse Lover's Math, Surrey, BC, Canada

***10:00 – 10:30 Break – Sponsored by the University of Louisville* Equine Industry Program**

10:30-11:30 – Invited speaker – The Marketing of Racing- Jeff Koleba, Vice President, Marketing & Programming at Churchill Downs**.**

11:30 – 1:00 - Lunch – Sponsored by the University of Louisville Equine Industry Program

Table discussions of college/program social media policies*. What policies – if any – are in place at our respective institutions regarding the use of pictures and videos from classes and equine facilities?* *Facilitated by Amy Burk and Shannon Moreaux*

Session 2 – Educator's Toolbox: Getting Beyond "Will this be on the test?" - *Incorporating real world experience in equine education.* *Facilitated by Amy Burk*

1:00 "LUNCH N' LEARN": Developing Career Skills in a Cross Disciplinary Classroom Before Internship. Sarah Mayo, Rachel McEgan, Kemptville Campus, University of Guelph, Kemptville, ON, Canada

1:15 Extending Student Learning into an Extended Learning Course. Carol Buckhout, Cazenovia College, NY

1:30 H.O.R.S.E. U – Combining Youth Outreach and Student Leadership Experience. E.L. Wagner. Department of Animal Sciences, Auburn University, Auburn, AL

1:45 Youth Horsemanship School Internship Provides Service Learning and Professional Experience for Equine Science Students. Shannon John J. Moreaux, DVM, Montana State University, Bozeman, MT

2:00 A Win/Win Situation: Equine Industry and University Equine Program Collaborate. Kathleen Jogan, M.S., University of Arkansas, Fayetteville, AR

2:15 What Can I Buy My Horse Today? The Value of Education in the Real World. Katrina Merkies[1], Doug Hendry[2]. [1]University of Guelph, Guelph, ON, Canada, [2]Doug Hendry Consulting, Kemptville, ON

2:30 Educational Resources at Your Fingertips. Robert Coleman[1], Ward Stutz[2], Anne Brzezicki[3], Christy Landwehr[4]. [1]University of Kentucky – Lexington, KY, [2]American Quarter Horse Association – Amarillo, TX, [3]Middle Tennessee State University – Murfreesboro, TN, [4]Certified Horsemanship Association – Aurora, CO

2:45 Incorporating Horse Management into a University-wide Achievement-Centered Education Program. Kathy Anderson, PhD; University of Nebraska, Lincoln, NE

3:00 – Short Break- Refreshments Sponsored by University of Louisville Equine Industry Program

3:15- 4:00 Discipline Based Accreditation – *Implications and opportunities for educational offerings affiliated with the equine discipline.* This will include a discussion with Chief Executive Officer of the American Society of Animal Science, Meghan Wulster-Radcliffe. *Facilitated by Karin Bump*

4:00- 5:30 - Poster Session – Sponsored by EQUUS Foundation. *Facilitated by Shannon Moreaux*

5:30-6:30 - NAEAA Business Meeting for all attendees.
D*iscussion of future goals and plans for collaborative projects and meetings.*

Posters (Thursday 4:00- 5:30 and Friday 12:15- 1:00)

1. Saratoga Institute for Equine, Racing, and Gaming Law. Melissa A. Perry, MA, JD. Albany Law School, Albany, NY

2. Fulbright Scientific Mobility and Scholar Exchange Programs: Untapped Opportunities for Equine Academics! Sarah L. Ralston, VMD, PhD, DACVN Rutgers, the State University of New Jersey, New Brunswick, NJ

3. EQUUS and NAEAA—A Collaborative Effort That Was A Win for Horses, Humans, and Organizations. T. Williams; L Coakley CJC Adventures, Cazenovia, NY; EQUUS Foundation, Westport, CT

4. Three Years of Data – What Have We Learned? K. Bump; J. Livermore; T. Williams; Cazenovia College, Cazenovia, NY; CJC Adventures, Cazenovia, NY

5. Value vs. Challenge: Reflections on a Discipline Based Accreditation Process. K.D. Bump, C. Buckhout, M. Brimecombe, J. Adamo, Cazenovia College, Cazenovia, NY

6. What is Western Dressage? Can Adding Western Dressage Strengthen a College Riding Program? Mark Abell, Bradie Chapman; Ohio University Southern Equine Studies, Ironton, OH

7. The Concept of Straightness- Assessment of Model-Assisted Learning in Equine Biomechanics. Carla O. Beu, Petra B. Collyer, Western Kentucky University, Bowling Green, KY

8. Think Outside the Box when Planning an Equine Program Fundraiser. Kathleen Jogan, M.S. , Nancy Jack, Ph.D., University of Arkansas, Fayetteville, AR

9. Advising Video Teaches Prescriptive Course Selection Skills to Undergraduate Students. Nancy Jack, Ph.D., Kathleen Jogan, M.S., University of Arkansas, Fayetteville, AR

10. Developing an Interdisciplinary Minor in Horses, Humans and Health. Kathy Splinter-Watkins, Eastern Kentucky University, Richmond, KY

11. The Palmar Metric: A Novel Radiographic Assessment of the Distal Phalanx in the Horse. Monique F. Craig, John J. Craig, Matthew A. Burd. Craig and Craig: Creston, CA Burd, Animal Science Department, Cal Poly State University, San Luis Obispo, CA

12. The Effect of Desensitization (Reactivity) Intensity on Physiological Parameters of Horses. C. S. Cummings, L. R. Gentry. Department of Agricultural Sciences, Louisiana Tech University, Ruston, LA

13. Equine Extracurricular Activities Improve Student GPA and Persistence in a University Horse Program. Lacey Johnston, Anne Brzezicki, Dr. Rhonda Hoffman, Dr. Warren Gill. School of Agribusiness and Agriscience, Middle Tennessee State University, Murfreesboro, TN

14. Inter-institutional Collaboration Project on Body Condition Scoring of Horses. Katrina Merkies[1], Sarah Redgrave[2], Cassie White[2]. [1]University of Guelph, Guelph, ON, Canada. [2]Nottingham Trent University, Nottingham, UK

15. Management of University Equitation Horses and its Effect on Soundness. Victoria Ramlose, Jessica Scare, Alyx M. Shultz, C.A. Shea Porr. Murray State University, KY

16. Social Media and Equine Science: The Effect of LinkedIn on In-Class Engagement and Grades of Equine Higher Education Students. Elise A. Lofgren, Alyx M. Shultz, C. A. Shea Porr. Murray State University, KY

17. The Anatomy of the Equestrian Arena: Stones, Pebbles, Particles and Dust. Brian P. McNeil, Principal, E=MC Equestrian Arenas & Surfaces International

Friday June 27

8:00 – Morning welcome and announcements

Session 3 - Innovations in teaching/learning/research within equine and related discipline areas – *Facilitated by Kari Turner*

8:15 Climate Change and the Horse Industry: Student Interest in a Sophomore-level Hybrid Learning Program Offered at the National Level. Rebecca C. Bott[1], Matt K. Spindler[2], Kathy P. Anderson[3], Christine E. Skelly[4], Carey A Williams[5], Michael L. Westendorf[5], Laura Gladney[5], Rebecca K. Splan[2]. [1]South Dakota State University, [2]Virginia Tech, [3]University of Nebraska-Lincoln, [4]Michigan State University, [5]Rutgers University.

8:30 Physics Applications for Equine Science: Joint Angles, Conformation, Velocity, and Motion. Lynn E. Taylor[1], Krassi Lazarova[2]. [1]Department of Equine Studies, Centenary College, Hackettstown, NJ [2]Department of Mathematics and Natural Sciences, Centenary College, Hackettstown, NJ

8:45 Effects of Different Arena Footings on the Biomechanics of the Horse-Hoof-Surface Interaction. J.J. Thomason[1], M.E. Peterson[2]. [1]University of Guelph, Guelph, ON, Canada, [2]University of Maine, Orono, ME

9:00 Costs Associated with Equine Breeding in Kentucky. Cassandra L. Walker[1], Robert J. Coleman[2], Alyx M. Shultz[1], C.A. Shea Porr[1]. [1]Murray State University, KY, [2]University of Kentucky, KY

9:15 The Feasibility of Implementing Equine-Assisted Activities and Therapy Curriculum in Higher Education. Calyn M. Colston, Alyx M. Shultz, and C.A. Shea Porr: Murray State University, KY

9:30 Animals in Literature with an Equine Focus: Beyond Black Beauty. Sarah Tsiang, Eastern Kentucky University, Richmond, KY

9:45 Student Self-Evaluation as a Method for Summative and Formative Learning. Katrina Merkies. University of Guelph, Guelph, ON, Canada

10:00 Break- Refreshments Sponsored by University of Louisville Equine Industry Program

10:30-11:30 Plenary Lecture: Equitation Science: The Last Frontier in Equine Science.
Dr. Andrew McLean, Director of the Australian Equine Behaviour Centre, NSW. *Introduction by Katrina Merkies*

11:30- 12:15– Lunch - Sponsored by University of Louisville Equine Industry Program

Table discussions on student assessment rubrics used in equine focused coursework. If you are currently using assessment rubrics, please bring examples to share! *Facilitated by Katrina Merkies and Kari Turner.*

12:15 – 1:00- Final poster viewing (posters may be taken down at close of session)
Poster session sponsored by EQUUS Foundation

1:00-2:00 – Industry Speaker: The landscape of racing today; responding to public concerns and criticisms Alex Waldrop, president and chief executive officer of the National Thoroughbred Racing Association. *Introduction by Tim Capps*

Session 4 - Teaching and Learning in controversial subject areas – *Facilitated by Judy Downer and Shannon Moreaux*

2:00 Addressing Controversial Topics in an Equine Oriented First Year Seminar Course.
K.D. Bump, Cazenovia College, Cazenovia, NY

2:15 Discussing Equine Euthanasia in a Classroom Setting. Dr. William E. Day, SUNY Morrisville State College, Morrisville, NY

2:30 The Educational Opportunities of Equine Euthanasia in the Undergraduate Equine Curriculum. Michael N. Fugaro, VMD, Diplomate ACVS. Centenary College, Hackettstown, NJ

2:45 Invited Speaker - Norman K. Luba, North American Equine Ranching Information Council, Louisville, KY

3:00-4:00 - Moderated Panel with Alex Waldrop, Session 4 Speakers and Audience

4:00 – Conference wrap-up

5pm – Board Bus for Churchill Downs – "Downs After Dark" Bus Sponsored by Horse Science and Equi-Analytical

Saturday June 28h

Optional post-conference Industry Tour ($50 includes lunch). Facilitated by Laurie Lawrence, Leslie Janecka, Janice Holland. Departs approximately 8am and returns by 5pm. Sites include: Dixiana Farm, The Thoroughbred Center , North American Racing Academy, Gainesway Farm, Margaux Farm.

Conference Abstracts

Abstracts from oral presentations

are followed by abstracts from poster presentations

Mobile Technology Utilization for Facilitating First Year Student Transitions.

Lynn Taylor[1], Michael Taylor[2]. [1]Department of Equine Studies, Centenary College, 400 Jefferson St., Hackettstown, NJ 07840; [2]Department of Political Science and Public Affairs, and Director: Center for Mobile Research and Innovation (CMRI), 400 South Orange Avenue, South Orange, NJ 07079

Mobile technology has become ubiquitous on college campuses and students have seamlessly integrated its use into their daily lives for communication, entertainment, professional networking, and maintaining a social media presence. Almost all students at Centenary College carry some type of mobile phone with them daily, and the objective of this project was to develop a way to utilize mobile devices to assist first year students with their orientation to a new campus, and to examine how our students are using their mobile phones on a regular basis. Starting in the Fall of 2011, a pilot project was conducted with the 45 Equine Studies first year students enrolled in our Academic Foundations at Centenary (AFC) course, which is the cornerstone of our First Year Experience program. The primary goal of the program is to help first year students make the transition from secondary school to college with specific attention given to academic, social and emotional development. It is also committed to inculcating a spirit of civility and respect required for participation in a diverse democratic society, and to cultivate socially and ethically responsible behavior, as directed by our mission and strategic plan. The goal of this particular project was help students become acclimated to popular campus services, such as the Business Office, Registrar, the IT Help Desk, and Health Services, as some of these locations have been difficult for new students to easily locate in the past. In addition, Equine Science majors spend a majority of their academic time at the equine facility which is not located on the main campus. We created a trivia-based scavenger hunt using Google Drive and QR codes that leverages the power of gamification for team building and acquainting students with the College and its history. Working in groups, students used their mobile phones to navigate their way to twenty-three different locations around campus. A smart poster with a QR code was displayed at each location. When scanned by the mobile phone, it provided a location-relevant question for the students to answer. All responses were recorded via a Google form and time stamped. The student group to visit all of the sites, and correctly answer the most questions in the shortest timeframe was deemed the winner, and received a small prize. Informal feedback gathered from this first pilot indicated that the majority of students felt that the activity was very helpful, informative, and fun for them. The project was expanded in the Fall of 2012 to include as many of the first year course sections as possible across majors, and information about mobile technology use and feedback from the scavenger hunt was formally collected via survey. In 2012, 147 students participated, and in 2013, 91 students participated. Preliminary data revealed that the digital scavenger hunt provided first year students with an overwhelmingly positive experience that assisted with their transition to College. This project has now been integrated into the AFC syllabus, and will be conducted on an annual basis. The next pilot project for the Equine Studies students is a mobile version of our departmental Practicum Book, which contains a comprehensive list of hands-on skills that the students must demonstrate their competency in over the course of their four years to faculty or senior staff in order to obtain a signature of approval for each one. The current booklets are cumbersome, they get damaged in the barn, are forgotten by the students, and they have been lost on multiple occasions. The pilot program will test the suitability of having the Practicum Book accessible on a mobile phone in the hopes of addressing these issues.

Flipping Your Classroom with eXtension HorseQuest.

Colleen Brady, Purdue University, West Lafayette, IN, Kathy Anderson, University of Nebraska-Lincoln, Lincoln, NE, and Betsy Greene, University of Vermont, Burlington, VT

Flipping the classroom is a pedagogical approach that moves lecture, and other more traditional, but less interactive teaching methods out of the classroom, and into the space usually reserved for homework. This pedagogy actively engages the student in their learning outcomes. Ideally, this approach allows the students to attain the basic subject matter knowledge outside of the classroom, and the instructor can focus on higher level learning strategies such as synthesizing and processing the information to solve real world problems during the face to face time. Although this active learning approach is growing in use in the sciences and humanities; it is just beginning to be used in agricultural and equine contexts.

Some challenges involved in creating an effective "flipped" experience include significant amounts of time added to the planning and creative processes for each assignment. Each assignment now requires careful planning, incorporation, and execution of student time both in and out of the classroom. And, the materials must have specific and achievable expectations, which are useful for and necessary to effectively complete the in class activities. The faculty member must also have a thorough grasp and expertise of the course material, since the in class activities require much more active and in depth expression of topic concepts and details. Also, students often indicate a lower level of course enjoyment with the flipped classroom, than the traditionally taught classroom, in some situations, as much as a 50% decrease in student evaluations. Current research indicates that this is, in part, due to a reluctance on the part of students to make a shift from their usual way of learning, and the increased expectation of students to be engaged both in and out of the classroom. Where students in a conventionally taught lecture can passively attend the class, in an engaged flipped classroom, the student must exert themselves and be prepared to effectively be engaged in the learning process. In addition, reality dictates that faculty must weigh the value of challenging students to actively engage in their learning processes to reach higher level understanding of the material and learning skills against the faculty evaluation methods used by their superiors. While many university systems recognize the limits and weaknesses of only utilizing student evaluations to assess performance, this single measure is still the major factor in merit and/or reappointment decisions.

eXtension HorseQuest is the digital platform for equine related education from the Cooperative Extension Service offers options for equine curriculum to allay content availability concerns. The content is peer reviewed and has come from a reputable source; and there is an almost unending variety of topics and educational mechanisms to utilize. Students can be given assignments such as consolidate and translate a webinar topic into a five minute iMovie video clip of main points. This discussion will share how instructors can utilize these learning lessons, webinars, videos, and other material from eXtension HorseQuest to 'flip the classroom', either for a single topic area, where the instructor wishes to take advantage of the leading experts producing material, or for an entire class. Specific case studies will be shared, as well as suggestions on how to incorporate the flipped classroom strategy into teaching a variety of equine topics that are traditionally taught in a lecture based format.

The Role of Social Media in Higher Education Equestrian Programs.

Jackie Dwelle, St. Andrews University, NC

Introduction

Social media can be used to recruit, enroll and retain students through information sharing, virtual tours, sharing your culture to a broader audience, news, photographs, staff and student spotlights and special features. St. Andrews Equestrian program has developed and maintained an active social media campaign which began in January 2009. Starting with a blog, we added a Facebook site in June 2010, a YouTube channel and a Twitter Account (Aug. 2011).

Our Mission – Targeted Advertising

In the spring of 2011 we were tasked by our Administration to contribute further to recruitment. Facebook advertising was one of our responses to this charge. The advertisements are targeted narrowly at 15 – 19 year olds, in high school, with interests that in some cases are narrowly defined such as people who "like" AQHA, Reining and IHSA (80,000+/- potential audience in the U.S). Broader categories include people who "like" USEF, World Equestrian Games, Show Jumping, SmartPak and Equine Affaire to cite just a few. (114,000 +/-). Other metrics that can be defined include broad categories such as "likes country music" or by city, county, state or country.

Funding

The Admissions Department funds this advertising campaign with a maximum $3,600/year budget. We use the Pay/Click option which currently averages around 21 cents/click but does vary over time. Alternatively, Pay/ 1,000 Impressions is available, which for our campaign is currently estimated to cost $2.64 for 1,000 unique viewers of an advert.

Results

Facebook "likes" are generally considered an acceptable metric of page popularity, sometimes compared to "currency". July 2011: 1,833 "likes" - March 15, 2014: 8,413 "likes". Growth is straight line at 31%. 10,000 "likes" forecast for Sept/Oct 2014, the trend line correlates very closely to the data.

Users can "like" a page and never interact with it. The Total Daily Consumer metric shows the number of unique uses who interact with your page defined as "the number of people who clicked on any of your content". Range: 0 – 1,271 interactions/day (zero on 6 days). Mean number of interactions 121, standard deviation of 147 clearly demonstrating the effectiveness of some posts over others, trend line correlation is less reliable.
Average cost/month $176 which equates to 838 narrowly targeted people/month who clicked on one of our advertisements leading to either our Facebook page or website.
Both the Total Daily Consumer (TDC) statistic and the number of clicks on targeted advertising trended around the activities of the school year and the admissions annual cycle. Over the almost 3 year time span, spending on advertising repeated it's cycle while TDC increased significantly over time, suggesting success with online community building.

Difficulties Encountered

Convincing staff to submit material to be posted. Reports from Admissions on the number of people mentioning our pages helped. An increase in the number of questions from prospective students and other constituencies also helped.

Dry periods over breaks. Annual Equestrian Program Reviews on the blog over the summer created a once a week post. We use “Remember when?” and “Did you know?” type posts and featured horses, students and staff. Spotlights of new graduates and alums; features of incoming students create community.

Staffing horse shows to report in “real time”. Internship program and utilizing barn staff to help with postings.

Additional Benefits

Finding homes for horses
Funding special projects – we raised enough money to buy a cart for our driving mini in roughly three days.
Reporting of show results almost in real time creates a greater sense of community.
Internship opportunity for Social Media Intern to maintain and develop sites.
Increased online presence from shares on Facebook and retweets on Twitter.
Connections with equestrian products companies and other equestrian programs.

Survey of Facebook Followers

Participants
49% Former Students
9% Current Students
5% Prospective students
31% All others
6% Did not identify themselves
Favored Posts by all Groups (answers were ranked by order of preference)
Photos from Shows tied with Photos of the Equestrian Center
“Real time” results tied with Horse Updates and Program News
News on Specific Academic Programs
Student features
Staff features
(Individual group results were similar to the overall results.)
Did they follow the program on other types of social media?
56% St. Andrews University facebook page
38% Did not follow on any other media
27% Equestrian Blog
14% Twitter
14% YouTube
0% University’s Google+ site
(This question asked to select all that apply.)

Implementing a Research Based Approach for Gathering Stakeholder Data through Social Media.

Melissa A. Voigt and Colleen Brady, Purdue University, Indiana

Social media has become an important form of communication in the U.S. and more recently within the horse industry. How can educational equine entities leverage this diverse, widespread, rapid environment for their benefit? The most popular social media outlet, Facebook, has become an expected, real-time form of communication that is used by over 800 million people per day. The uses of Facebook have evolved from primarily connecting with family and friends, to more diverse uses such as organizational marketing, reporting news, connecting with communities and groups, advocating political and religious perspectives, and creating awareness of issues just to name a few. With so many people using Facebook for a variety of purposes, becoming noticed in this noisy environment of posts, clicks, likes, and shares has become challenging. To gain attention, one must post content that is perceived as valuable, entertaining, relevant, provoking, surprising, and/or educational. The reality is that a mere 1% of Facebook users will return to a page after liking it. On top of that, the average post will only reach 12% of fans and only remain 'live' on a fan's wall for less than one hour after being posted.

This session will review a case study of using Facebook to connect with stakeholders and conduct a learner analysis that would be used to develop educational material. Review of the case study will include how the authors developed a strategic plan to leverage Facebook, thoughtful reflection of pitfalls and successes, and tactical strategies for dissemination of a learner analysis questionnaire. Using creative tactics, the authors were able to connect with a wide array of stakeholders, gain the attention of their target audience, and reach a broad cross-section of the horse industry. Implications from this case study can be applied and adapted to equine entities looking to leverage Facebook for academic uses by connecting with and eliciting responses from stakeholders and soliciting information that could be used to asses, develop, and enhance equine educational programs and materials.

Integrated in this session will be a step by step discussion of resourceful opportunities for interacting, communicating and connecting with social media, developing a strategic plan to fit your equine program's vision and goals, and increasing communication and authentic feedback with your target audience and stakeholders. The primary purpose of this session is to promote effective use of social media in the equine educational sector, enhance current skills and knowledge of social media, discuss best practices, and highlight primary considerations when using social media for equine educational use. The authors will answer questions on how you can best use the amazing growth and popularity of social media outlets to enhance and inform your equine educational program.

Microvets: using an interactive, online video game to teach equine digestion.

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Introduction: Equine nutrition and digestion are important topics in equine science and management and animal science curricula. Knowledge in this area is expected in graduates of these programs, yet many students fall short of this expectation. Thus, new approaches to teaching these subjects should be explored to improve students' comprehension and content knowledge. At the University of Kentucky, a multi-disciplinary team with expertise in pedagogy, animal science and equine science collaborated with video game developers to develop a learner-directed virtual environment that incorporated declarative, procedural and situational digestive concepts for an introductory animal science course. The equine digestive system was the subject of the first module of the game; games for other animal species will be developed in the future.

Methods: The game, dubbed Microvets, followed a story line in which at some time in the distant future, students have to diagnose and treat a sick horse that suffers from digestive problems. They are placed in a space ship-like craft and shrunk to a small size, then embark on a trip through the gastrointestinal tract of the horse. There, they explore the anatomy, search for abnormalities, answer questions and treat the horse's problems. As a pilot test, the game was made available to 268 students enrolled in ASC 101 (Domestic Animal Biology) in the fall 2013 semester. Students who played the game were awarded extra credit; it was not a required assignment. To assess learning of declarative, procedural and situational digestive concepts a quiz was given before and after game play. Demographic information and video/online game play habits were also collected in a separate questionnaire. Data were summarized and pre- and post-game scores for the quiz were compared using the t-test (2-tailed). A p-value of <0.05 was set for statistical significance.

Results: Of the 268 students in the class179 attempted the game but did not complete all phases of the game and assessments. Eighty-six of those students (48%) completed the game, pre- and post-game quiz and questionnaire and contributed to the data set. Participants were predominantly female (79%) and 70% were freshmen. Animal science majors comprised 52% of the population; 29% were equine science majors. Most (63%) reported that they rarely play video or online games, however 13% play games once per month and 12% play every other day. Significant increases were seen in 1 declarative knowledge question and 3 procedural knowledge questions. A significant decline was found for a procedural knowledge question pertaining to processes of the large intestine. A significant increase in the total number of questions answered correctly was found.

Discussion and conclusions: The Microvets game shows promise in enhancing students' comprehension of the complex topic of equine digestion. The results of this pilot test indicate that improvements were made in some declarative and procedural knowledge areas, however the decline in the question pertaining to the large intestine suggest that some aspects of the game may have confused students. The fact that only 48% of the students who attempted the game completed it may indicate that technical problems need to be addressed to facilitate ease of play. A revised edition of Microvets will be developed based on these preliminary findings.

Video-taping equitation for instruction and assessment of a horsemanship course.

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Effective equestrian instructors continually seek to improve teaching techniques and practices to help increase confidence and develop better horsemanship skills in their students. Video recording has long been used by riding instructors and others in a variety of disciplines to help with self-assessment. This study was conducted to assess the personal and educational impact of using video to record the equitation of students enrolled in the Intermediate Horsemanship class at Southern Utah University (SUU). Students were recorded when riding during the second week and again during the last week of the semester. Students and the instructor were videoed at the walk, rising trot, sitting trot, and lope. The initial equitation video of each rider was viewed as a class and evaluated by the group with a discussion led by the instructor. Emphasis was placed on rider body position and control of the horse, rather than horse performance. Videos were available for student viewing throughout the remainder of the semester. A survey was developed to be evaluated on a Likert-type scale with 5 response levels where 1 = strongly disagree, and 5 = strongly agree. Survey statements were designed to assess the impact of the overall class on equestrian skills as well as student perception of the use of video as a teaching tool within the class. At the conclusion of each semester the survey was available for voluntary completion to students enrolled in the course during the final exam. The survey was issued at the end of each Intermediate Horsemanship class for five consecutive semesters (Fall 2011 through Fall 2013). A total of forty-two (84% of enrollment) students completed the survey. Over 97% of students agreed or strongly agreed that they enrolled in the class to improve their horsemanship skills, and all but two students (95%) strongly agreed that the class had been a valuable learning experience. Ninety-three percent of students reported that they now ride with improved balance and timing and 93% also reported that they give more consistent cues. When presented with the statement “Seeing myself ride on video was beneficial to evaluate myself as a rider”, 97% agreed or strongly agreed. Ninety-three percent of students felt it was beneficial to see themselves ride at the beginning and then again at the end of the semester, and 86% felt it was beneficial to discuss the first video as a class, however only 33% felt that it would be beneficial to watch the videos more than once as a group. Most students (76%) also felt that watching and evaluating other riders was beneficial. Only 64% agreed or strongly agreed that it would help to watch the video occasionally during class when riding. When asked if viewing themselves and others ride made them more aware of their own horse training ability, 88% reported that it did. Ninety-five percent said they are more aware of their control of the horse. Video-taping each rider in a class takes a considerable amount of time and commitment. In this case it requires at least four class periods to record and watch the videos, as well as a working knowledge of the equipment and software necessary to compile and make it possible to view. Weather conditions, time of day, and even time of year potentially impact the quality of the video. However student response has made it evident that using video to evaluate performance is a valuable educational experience for equestrian students at SUU.

Horse Lover's Math.

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Horse Lover's Math (HLM) is a website (www.horseloversmath.com) devoted to horses and math for children aged eight and up. Horse Lovers Math is intentionally designed to encourage children to stay engaged in science, technology, engineering and mathematics (STEM) subjects by exploring the importance of math through the real-world of horses. Following the Ontario math curriculum guidelines for grades 4-6, HLM poses math questions drawn from the real world of horses to meet as many of the curriculum goals as possible. New posts are added weekly using a real story or news items about horses and ponies. Embedded within the story are math questions based on the information found therein, surrounded by links, videos and photos to expand upon the topic. Children work through the math problems at their own pace, and can check their answers online to see detailed information about how the answer was calculated. The posts also have a mix of questions that require knowledge of both metric and imperial systems since in the real world of horses both metric and imperial number systems are used. One example of a weekly post involves the calculation of horse heart rates using the study by Merkies and colleagues on the response of horses to differing tones of voice (presented at NAEAA/ESS 2013). The general procedures of the study are outlined, and various questions are posed throughout the narrative: for example, if heart rates are collected every 5 seconds, how many times is data recorded per minute?; or, how do you calculate the average heart rate for each horse? Even though many people may not think math is important to know how to ride or train a horse, it is surprising just how often math is used while working with horses. A simple task like taking a horse's heart rate involves multiplication (number of beats in 15 seconds times four to find beats/minute), calculating averages (number of beats/minute divided by the number of minutes), and finding correlations (does the average number of beats/minute for your horse at rest differ from the average number of beats/minute for your horse while working?). Children learn what a normal heart rate is for a horse, and can see how heart rates differ among different horses and under varying treatments. Math and science provides the means for children to learn more about a subject they love. Importantly, research shows that girls generally score lower on SAT scores than boys. Likewise, more girls are involved with horses than boys, thus HLM provides a logical link to helping to improve girls' aptitude in maths using their passion for horses as motivation. Horse Lover's Math makes the connection between horses and math and science through content based on current equine studies, research and real-life stories.

“LUNCH N’ LEARN”: Developing Career Skills in a Cross Disciplinary Classroom Before Internship.

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The Equine Care & Management (ECM) and the Food Science and Quality Management (FSQM) diploma programs at the University of Guelph, Kemptville Campus both include an industry internship as a core course. Winter semester includes weekly 1 hour sessions to prepare students for the upcoming internship. Internship placements (four weeks in duration) occur after final exams. Common learning outcomes for the ECM and FSQM internship courses were identified and a program was developed to incorporate both disciplines into combined sessions which included guest speakers. Combined sessions also facilitated the integration of students with varying amounts of prior work experience; FSQM students typically (5/6) had previous work experience, ECM students typically (18/20) had no work experience.

Three common learning outcomes were identified: 1) preparing cover letters and resumes; 2) workplace etiquette; 3) professionalism and confidentiality.
Subject-matter experts shared their knowledge and experience in the form of a guest lecture during each of the combined sessions. Each combined session included at least one learning activity where ECM and FSQM students were combined into small groups. This facilitated interaction between two student groups who would normally not have crossed paths. Further interactions between students, guest speakers, and course instructors were encouraged by having ‘after session’ social times. Food and drinks were served and everyone was encouraged to eat, mingle and converse. Equine and Food students took turns welcoming and thanking our guests, giving them some experience in addressing a group and practicing oral presentation skills.

This innovative model of delivery enabled students from two different programs to interact, socialize and share ideas. This allowed students to practice dealing with people from outside their discipline. During small group discussions and ‘after session’ socials the FSQM students shared many “real life” experiences with the ECM students. These lessons, having come from fellow-students, appeared to have been effective learning moments. Sharing authentic experiences during the combined sessions allowed the FSQM students to reflect on the workplace skills they had previously developed and to consider how they can focus on their improvement. Data, in the form of surveys completed by internship supervisors, will be collected and analyzed to determine the efficacy of these learning activities after the completion of the internship experience.
All students learned that workplaces have universal practices and expectations regardless of sector. All employers require some aspects of professionalism, confidentiality and etiquette in their workplace. Acquiring these transferable skills and practices will aid in preparing ECM and FSQM students to be better employees.

Extending Student Learning into an Extended Learning Course.

Carol Buckhout, Cazenovia College, New York

"One of the best ways to learn new information is to teach it to others". Such is a typical quote that many of us may share with our students. This is the concept used when designing a 4 part Extended Learning Course for nontraditional students during the fall of 2013.

The setting: A series of four-2 hour classes held over a period of 4 weeks covering topics on equine anatomy and physiology was offered through the Division of Extended Learning. Entitled "Horse Anatomy for Horse Enthusiasts" the course was created in response to findings from a survey conducted between fall 2012 and spring 2013 by a Cazenovia College student while interning with the Cornell Cooperative Extension of Madison County. Many survey respondents indicated an interest in educational opportunities related to horses. It had been a while since Cazenovia College equine faculty had offered any Extended Learning programs, so the timing to offer a course seemed appropriate. However, a different teaching model was implemented which involved using undergraduates in the development and execution of each of the four Extended Learning sessions.

The plan: Students in my fall Equine Anatomy and Physiology course were asked to organize themselves into four groups which ranged from 3 – 5 members each. Their assignment included setting intended learning outcomes for their specific sessions, creating an outline of objectives, identifying key information that needed to be shared, including terminology and illustrations and finally, determining how to implement the hands-on portion of the evening course. They were responsible for submitting their plan and their documents to the course instructor during the week prior to their assigned session and also for assisting the instructor with the set up for their assigned class.

The sessions: Each session was enrolled to the maximum attendance of twelve participants. This number was set based on the classroom size and the goal to make the learning experience feel personalized. The students' responsibilities for assisting with the course programming and instruction caused them to rise to the occasion. They conducted themselves in a most professional and mature manner and embraced the fact that they were course instructors. The apprehension that they exhibited prior to their assigned session essentially disappeared when it came to working with the class attendees. The most gratifying parts to observe were that they truly enjoyed working with the course participants and they had the chance to reinforce their own knowledge of the subject matter. They were diligent in reviewing the specific material in advance and it was a pleasure to observe them interacting with the course participants.

The outcomes: The arrangement created by using traditional students to assist with instructing in a nontraditional setting turned out to be a win-win situation for everyone. The course attendees had the opportunity to learn about topics of interest and to interact with current students. Their comments about the experience were very favorable, especially in regards to the chance to interact with the students. It was an extremely positive opportunity to "showcase" the abilities of the current Cazenovia College students.
At the completion of the Extended Learning course, students were surveyed about their experiences with this type of learning situation. The majority indicated that they were moderately enthused about participating prior to the actual experience, but at the completion of the experience, all students replied that they were enthused or very enthused about having participated. When asked about their confidence in knowing their subject matter, responses changed from being low to moderate in their confidence level prior to their specific session to

high to very high at the completion of their session. Students were also asked about their enthusiasm towards teaching. Most indicated a low to moderate level prior to the experiences, but a high to very high level of enthusiasm after the experience. The individual comments were very rewarding in that students expressed high levels of personal satisfaction that they knew more than they realized and that the experience caused them to thoroughly review their subject matter because they knew they would be sharing their knowledge with others. They liked that they were sharing learning experiences that they had recently been through.

Final comments: This experience enabled students to enhance their personal satisfaction while encouraging them to carefully review facts. They agreed that teaching others is a great way to learn and were enthusiastic to encourage this opportunity be offered again.

H.O.R.S.E. U – Combining Youth Outreach and Student Leadership Experience.

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Horse Ownership Resources, Skills, and Education for Youth (H.O.R.S.E. U) is a one-day, hands-on equine educational event for youth hosted by the Auburn University Department of Animal Sciences. The primary objective of the event is to provide an educational program benefitting youth regardless of their breed or sport preference. The secondary objectives are to give undergraduate students the opportunity to become actively involved in outreach programming, develop leadership and organization skills, and utilize skills and information learned in their equine coursework. The 2012 event attracted over 130 youth, parents, and 4-H/Extension leaders. The 2013 event saw over 150 participants.

The program loosely follows the organization and structure of previous youth livestock education events in Alabama for beef, dairy, and dairy goats. Youth are assigned to groups based on birth date so they participate in age-appropriate activities at the various workshop stations. Parents and adult leaders are allowed to join any of the groups, though they are told that the material will be presented for the youth. Groups rotate among six different learning stations throughout the day. Stations are held at the Department's Horse Center and Beef Teaching Laboratory to accommodate activities requiring live animals or classroom space, respectively. Station topics are developed from frequently asked questions and concerns at the Alabama State 4-H Horse Show, county-level equine educational events, and course activities in the undergraduate equine curriculum. Student volunteers teach the workshop sessions and serve as participant group leaders. An equine program faculty or staff member serves as the site coordinator and time-keeper at each facility. Pre-registration materials are received and processed by a staff member but day-of-event check-in and registrations are handled by student volunteers.

Two leadership approaches have been used for conducting the H.O.R.S.E U program. In 2012, the program's faculty organizer created the station topics and a loose outline for each activity before turning curriculum development over to student volunteers. The student teams worked with the faculty organizer to develop lesson plans and activities for each station. Depending on the station and topic, teams were required to submit a list of required materials to conduct their activities, create or locate supplemental educational print materials, and meet various organizational deadlines. The curriculum of the 2013 event was directed by a Master of Agriculture student who created the workshop outlines and worked directly with the student teams in fine-tuning the station content. Teams had similar expectations in terms of submitting a request for materials and generating supplemental print materials but they did not have the same level of autonomy in creating content as they did in 2012.

The 2012 H.O.R.S.E. U curriculum used live horses for workshop stations on monitoring vital signs, anatomy and leg wraps, and weight estimation and body condition scoring. Sessions on bits and bridles, nutrition basics, and hippology-type trivia were held in a classroom setting. Fifty-eight parents and adult leaders completed a brief survey including a Likert scale assessment at the completion of the event, and rated the educational sessions a mean of 4.4 out of 5. Seven of the 30 student volunteers also returned a survey of their experiences including planning and execution of the program, improvements and suggested topics for the next time, and whether they would participate again. Student scores also were favorable with a mean of 4.2 out of 5, though the question regarding planning and communication with teammates scored low (3.6 / 5).

In 2013 the Horse Center was used for sessions on exercise physiology, aging by teeth, and equine first aid. Trailer safety, internal parasites, and hippology were held at the Beef Teaching Laboratory. Educational sessions were rated 4.5 out of 5 on a Likert scale assessment completed by 69 parents and adult leaders. Seventeen students responded to the volunteer survey, resulting in a mean score of 3.9 out of 5. This was lower than the student mean score from 2012, but had more than twice the number of respondents from the previous year. Questions regarding pre-event planning with event leadership and pre-event planning with teammates scored 3.8 and 3.6 out of 5, respectively, which was similar to 2012.

Youth Horsemanship School Internship Provides Service Learning and Professional Experience for Equine Science Students

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The Youth Horsemanship School (YHS) at Montana State University (MSU) brings 55 youths to campus each summer for a week- long program. During their week on campus youths live in campus dormitories and attend school sessions at the MSU Equine Teaching Facilities which includes an indoor arena with bleacher seating for spectators, outdoor arena, a round pen and a classroom. Each year the Equine Science Program at MSU recruits undergraduate students to develop and facilitate this equine learning experience for youths from across the northwest.

Student interns are engaged in all aspects of creating, planning, promoting and conducting the school and receive 1-6 upper level internship course credits. The minimum requirements for YHS student interns are: junior standing, proof of excellence in EQUH 314-Equestrian Instruction Methods, clear a university standard background check and possess a valid driver's license. Qualified students must possess above average horsemanship skills and equine science knowledge, and be responsible, sensitive, positive, observant, patient, engaging and articulate. Interested students must submit a letter of application addressing the required and desired qualifications and desirable goals and outcomes. Approximately 6-9 MSU students are accepted and participate each summer. Student interns function as curriculum developers, planners, organizers, recruiters, fund raisers, instructors and chaperones. Program planning and development occurs during the spring semester preceding the summer YHS. Interns meet with the program director and the program coordinator twice per month and dedicate 6-8 hours equivalent effort per meeting. Interns are required to be on campus one week prior to the scheduled week of the YHS to make final preparations. Each year YHS student interns work together to develop a unique program which includes two 1.5 hour horsemanship sessions and two 1.5 hour educational sessions each day. The interns are designated for teaching assignments based on individual knowledge, experiences and leadership skills. Two student instructors are assigned to each of four riding groups and the instructors are required to create a detailed lesson plan appropriate for the experience level or discipline of the group. Interns may elect to teach specific educational, creative or personal development sessions or recruit industry professionals to assist with teaching unique topics. Interns create (or assist the industry expert) an interactive learning experience with supplemental materials. Additionally each intern is assigned 4-6 youths as their primary chaperone and mentor.

The MSU YHS provides equitation instruction, equine science education and implements personal growth and development activities as well as creative experiences. The agenda typically includes basic, intermediate and advanced horsemanship instruction, discipline specific instruction, horse behavior modification techniques assistance, horse healthcare and welfare education, personal growth and development awareness and skills development, leadership awareness and skills development, creativity development and expression opportunities and physical fitness instruction.

YHS student interns receive a performance evaluation and are required to evaluate the quality of their internship based on established learning outcomes and extrinsic factors. Interns are evaluated by the program director, professional instructors, attending parent chaperones, participants and the program coordinator. The criteria used for evaluation of student intern reflect the specific learning outcomes established for the internship: develop organizational

skills, develop team working skills, develop professionally relevant competencies, develop and characterize leadership skills, apply academic knowledge, develop teaching competencies, apply equestrian skills, develop interpersonal and group communication skills, develop professional etiquette. And lastly, student interns are encouraged to self-evaluate their own performance based on feedback and self-expressed and established learning outcomes.

A Win/Win Situation: Equine Industry and University Equine Program Collaborate.

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Educators seek ways to provide undergraduates with opportunities to apply what they have learned in the classroom in a hands-on environment, but many times these opportunities are not cost-effective. External internships are a valuable tool, but are often limited by the number of spaces available, or require that students commit to traveling a distance away from campus. Breeding horses maintained at university farms can be expensive particularly if they are kept in large enough numbers to allow students to participate in multiple foalings. Maintaining a year-round breeding herd for the express use of teaching students mare obstetrics can be cost prohibitive.

This year, the University of Arkansas Department of Animal Science teamed up with a local Quarter Horse breeder to provide a one-credit Broodmare and Neonate class. Forty-three undergraduates enrolled in this class for the opportunity to learn about pre-partum mare care, foaling and neonate care. With the help of Animal Science veterinarians, eight hours of course work was developed which allowed students to learn the basics of broodmare obstetrics and neonatal care. No prerequisites were required, allowing a diverse group of students to participate and have the experience of witnessing parturition. Wet labs included training students how to perform milk calcium tests, determine specific gravity of colostrum, and assess IgG level. After achieving competency in the class and lab portions of this course, undergraduates were allowed to mare watch.

Twenty-three pre-partum Quarter Horse mares were located at a nursery within ten miles of campus. These mares were due to foal within a two month period which coincided with the spring semester time frame. Three four- hour mare-watch shifts per night were opened to students as mares approached parturition. Students could sign up for shifts based on their schedules and were required to participate in eight separate mare-watch shifts. A site supervisor was on hand at the foaling barn for all shifts to answer student questions, monitor the mares, and to allow the undergraduates to practice newly learned skills. The broodmare farm manager was notified in advance of all foaling, and students had the opportunity to participate in foaling and assessing neonates for health.

This course allowed a large number of ANSC students to experience foaling a mare with a limited amount of capital outlay by the Department. As an added bonus, it served to strengthen the bond with the local equine industry. Course syllabi, rubrics, teaching materials and outcome/ assessment of the course will be provided during the presentation.

What Can I Buy My Horse Today? The Value of Education in the Real World.

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Students associate value of their education with both tangible and intangible items. While the cost of education continues to rise, students may not have an accurate appreciation of that cost, and how it funds their future. Studies show that most students carried student loans beyond their basic needs, and the extra funds were used to fund a higher lifestyle, not basic functions. Thus the idea of institutions of higher learning simply for education is passé; the educational experience is expected to provide social, cultural and personal development opportunities. Students only have a vague idea of what their tuition goes to, and many do not think they are getting their money's worth. Conversely, lagging attendance to course lectures is a growing concern, particularly with the positive correlation of attendance to final grades. Additionally, university education has been criticized for not preparing students for the realities of life beyond school.

In an effort to convey the real cost of learning together with real costs in life, students in a first-year introductory equine course were challenged with an exercise designed to bring awareness to both aspects. Based on current tuition fees and course load, the cost of each hour in class was determined to be $15. The course met three times per week for a total of eight hours; thus if a student attended all classes, they would "earn" $120 of their tuition each week. Attendance was noted to track the amount of money each student "earned".

As this was a required course in the equine management major, all students had a vested interest in horses. Each student was given an imaginary horse to care for throughout the semester. The current industry costs of basic feed, bedding and health care for a horse was determined to be $60 per week. Students used their earnings based on attendance to offset basic costs. Any additional money that students earned through attendance could be used to buy extras for their horse, such as riding lessons or equipment, or banked against missed classes or unexpected vet bills. At the end of the semester, the student who had best cared for her horse while providing an enriched environment in an economically-viable way was awarded a prize.

To facilitate record-keeping and to expose students to financial statements, a database program was developed using Filemaker 12 software. Once attendance was entered each week, the program automatically computed each student's cumulative balance. The software allowed for individual expenses (at the request of the student) or global expenses (at the request of the instructor) to be entered. An official statement was emailed to each student each week with a breakdown of weekly income and detailed expenses. Students gained an appreciation for the value of their tuition costs, and for the real cost of doing business in the equine industry, an industry which all of them aspire to enter upon graduation.

Educational Resources at Your Fingertips.

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The equine industry is ever evolving and changing. Students graduating from equine related programs and entering it need many different types of educational venues to keep current and stay involved. Certified Horsemanship Association (CHA) is the largest certifying body of horseback riding instructors in North America, having certified over 20,000 since 1967. The purpose of CHA is to promote excellence in safety and education for the benefit of the horse industry. CHA certifies instructors and trail guides, accredits equestrian facilities, publishes educational manuals, produces educational horsemanship DVDs and hosts regional and international conferences. Safe, Effective and Fun riding lessons are key, not a certain CHA style of teaching riding, as there is none.

CHA certifies with over 80 hands-on clinics each year throughout North America at local program member equine facilities. Many colleges and universities utilize this certification for their undergraduate and graduate students during their last semester, so they can graduate with their degree and their professional certification. Participants are evaluated on: safety, teaching skills, horsemanship, group control, and professionalism. Some of the lectures taught by the clinic staff during the clinic include: risk management, teaching techniques and horse/herd management.

CHA is a non-profit membership association whose small professional staff, board and members produce many educational products and services for the equine industry including: CHA YouTube Channel with over twenty 3 – 5 minute safety videos available to all equine facilities to use in staff trainings, etc., a monthly radio show, a monthly educational webinar, conferences where participants ride horses that are provided in the sessions, many educational horsemanship manuals, posters and DVDs and many other educational services.

Certified Horsemanship Association's reason for existing is "To change a person's life through safe experiences with horses." This is done through educational products and services, certification of horseback riding instructors and accreditation of equine facilities. CHA currently has member in all 50 states and almost every province in Canada. For more information visit www.CHA-ahse.org and to find a certified instructor or accredited facility visit www.CHAinstructors.com

Educational Resources at Your Fingertips from CHA

1. CHA Instructors You Tube Channel with over twenty 3 – 5 minute safety shorts including – How to Safely Deworm Your Horse, Tying Your Horse, Correct Breast Collar and Back Cinch Fit and many others - http://www.youtube.com/user/chainstructor
2. CHA Monthly Radio Show that can be downloaded anytime with tips on training horses and riders - http://cha-ahse.org/store/pages/218/Horse_Radio_Network_Show.html
3. CHA Bi-Weekly Blog – Getting started as a riding instructor, etc. - http://cha-ahse.org/store/blog/
4. CHA instructors can be guest lecturers remotely for your classes on subjects such as: Risk Management, Teaching Techniques for Riding Instructors, Careers in the Equine Industry, Safety Check for Riders, Horses and Tack and many more.

5. Conferences where horses are provided for attendees to take lessons on (all breeds and all disciplines) from top instructors at varying places around North America, including an annual international conference which this year is in Lexington on October 23 – 26, 2014. http://cha-ahse.org/store/pages/48/Regional_Conferences.html
6. CHA Certification Clinics that can be done as college/university clinics for just students or as Standard English/Western clinics where outside instructors are there as well and might have openings for students at their barns, camps, etc. http://cha-ahse.org/store/pages/30/Certifications.html
7. Monthly Webinars on topics such as The Nine Things the IRS Looks for in a Horse Business and What You Need to Know about Liability, Contracts and Releases. http://cha-ahse.org/store/pages/219/CHA_Monthly_Webinars.html
8. Job Postings for students at http://cha-ahse.org/store/pages/43/Job_Openings.html
9. Searchable online database to find instructors, barns, camps, etc. www.CHAinstructors.com
10. Monthly free eblast that have useful articles for horse owners in them – www.CHA-ahse.org to sign up.
11. Educational horsemanship manuals, books, DVDs and posters to hang up in the barn - http://cha-ahse.org/store/categories/Books%2C_Videos_and_Posters/

Incorporating Horse Management into a University-wide Achievement-Centered Education Program.

Kathy Anderson, PhD; University of Nebraska, Lincoln, NE

In January 2008 the University of Nebraska–Lincoln adopted an Achievement-Centered General Education Program (ACE) which is built on student learning outcomes that answer the fundamental question "What should all undergraduate students--irrespective of their majors and career aspirations--know or be able to do upon graduation?" The 10 ACE student learning outcomes focus on the Institutional Objectives of "developing intellectual and practical skills, including proficiency in written, oral, and visual communication; inquiry techniques; critical and creative thinking; quantitative applications; information assessment; teamwork; and problem-solving". ACE is a 30-h program and consists of the equivalent of 3 credit hours for each of its 10 ACE Student Learning Outcomes. All undergraduates are required to take at least 1 course.

Previous Animal Science capstone courses (ACE 10) were general animal science focused with assignments, projects, and problems which were not applicable to Equine Students. Therefore in 2011, the senior level Horse Management course (ASCI 450) was modified as a capstone course to meet the ACE 10 requirements and in Spring 2014 was formally approved as an ACE 10 course.

Horse Management focuses on integrating the knowledge students' gain through the core Animal Science courses with specific horse management principles and appling this knowledge to develop a "Comprehensive Management Plan for a Proposed Equine Enterprise". Students identify an equine enterprise of interest in the first few weeks of class and are grouped with 3-4 students of similar interests. The Comprehensive Equine Enterprise Management Plan is comprised of at least 5 chapters (hoof care, health care, nutrition, marketing and business plans) in which students must adapt newly learned principles and concepts to their specific developing enterprise. Projects are completed both individually and in groups as students must adapt the basic information presented in class and customize it to their specific Equine Enterprise. An oral presentation is done about the 4th week of the semester to the class which outlines the Equine Enterprise the group intends to develop. Students must respond to discussions, questions, and recommendations to their proposed Equine Enterprise. At the end of the semester, each group will prepare a written summary of their plan and present their "Comprehensive Equine Enterprise Management Plan" to the class. The final reports incorporate not only horse management, but numerous parameters of developing and starting a business.

In 2013, the course was further modified using a "Blended" approach. For certain topics/units, students view pre-recorded lectures and class time is devoted to interactive labs, discussion, etc. This provided greater opportunity to assist students in developing their customized "plans" plus could focus on "hot topics" and industry related issues.

Horse Management has been taught as an ACE 10/capstone course 3 semesters and has met with mixed evaluations by students. In a supplemental course evaluation, student responses have ranged from "get rid of the project" to "highly beneficial and I will use it in my career plans". Furthermore, many were very resistant to the "blended" approach and preferred more traditional lectures. However, the overall course evaluation was similar between the ACE 10 modified course (3.10/4.0) compared to 3.24 for 13 years of traditional lectures and lab.

Climate Change and the Horse Industry: Student Interest in a Sophomore-level Hybrid Learning Program Offered at the National Level.

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The escalating rate of change has created mounting pressure to prepare students to solve complex societal challenges linked to the world's food, energy and environmental resources. For students in equine science, consideration of climate change provides a novel opportunity to address such challenges at the local, national and global level.
Postulating that a nationally-administered, sophomore-level undergraduate course addressing relationships between climate change and equine management would provide significant knowledge content gains in an important topic area relatively untouched by most curricula, project collaborators from five universities preliminarily designed and conducted a survey to ascertain both student interest in such as course, as well as current knowledge deficit in twenty-six related topics identified a priori by the research team. The survey was distributed via email to all undergraduate students in the College of Agriculture and Life Sciences at Virginia Tech, and the College of Agriculture and Biological Sciences at South Dakota State University during the spring of 2014. A total of 362 students completed the survey. More than half (56%) of the respondents were female, and 78.5% were underclassmen.

Participants assessed current knowledge and level of interest via 5-point Likert scale where 1=very low, 2=low, 3= moderate, 4=high, and 5= very high. Students reported lowest knowledge level in effect of climate change on cover crops, soil nutrients and soil erosion (1.90±0.87; mean±SD), analyzing effective feed storage systems (1.91±0.90), designing horse facilities to deal with climate change (1.92±0.90), benefits of new methods for composting equine manure and unused feed (1.96±.95) and impact of climate change on forage production and pasture management (1.97±.89). Students reported they were most knowledgeable about the impact of climate change on equine diseases (2.38±0.99), the role of citizens in agricultural policy (2.36±1.10), what makes a business "green" (2.36±1.05), effects of climate change on the nutritional needs and health of horses (2.33±1.05), and effects of climate change of farm biosecurity plans and practices (2.30±0.98). However, even though students scored themselves highest for knowledge in these areas, mean scores are still below the 'high' and 'very high' assessment levels, indicating significant opportunity for knowledge gain.

Despite low self-reported levels of content knowledge related to relationships between climate change and equine management, students indicated a high interest in studying related topics. The top areas of interest included the role of citizens in agricultural and climate policy analysis (3.76±1.08), what makes a business "green" (3.73±1.04), the impact climate change may have on equine diseases and disease vectors (3.69±1.13), the impact of climate change on farm biosecurity plans and practices (3.68±1.06) and determining the cost effectiveness of conservation practices (3.67±1.15). Generally, students appeared to have strong interest in topics related to policy, equine health, and sustainable management practices.

Students indicated strong interest in a potential course pairing topics of climate change and equine science. Ranking their interest on a scale of 0 (not interested) to 100 (extremely interested), students responded most favorably to learning more about the effects of climate change on animal health (71.9±18.9), pasture management (71.7±21.1), facilities management (71.1±21.0), and nutrition and feeding to manage waste (68.7±23.0).

Overall, this survey revealed that students had a low to moderate understanding of the 26 critical agricultural topics described in the survey instrument. However, students generally expressed strong interest in a new course of study on how climate change is expected to impact the horse industry and vice versa. Based on these results, members of the project team will design and create online and site-based learning paradigms to effectively engage students and assist them in enhancing their understanding of topics related to climate change and horse management practices.

Physics Applications for Equine Science: Joint Angles, Conformation, Velocity, and Motion.

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There are currently wide held beliefs about ideal conformation and suitability for different disciplines within equestrian sports, but there are few scientific studies supporting these beliefs. Each discipline often details the "ideal" conformation for that particular sport, and these ideals can vary widely depending on the discipline. This basic philosophy of suitability is taught in many equine and animal science programs, and attempts are made to correlate joint angles, motion and limb or skeletal conformation with performance. There is, however, a large and more uniform body of literature on the mechanics of movement in the horse, and most of these studies utilize sophisticated computer modeling equipment and high-speed cameras to help quantify the motion and action of equine joints in order to study their relationship to topics such as footing quality, forces involved in jump height, vertical forces during different gaits, and how joint disease affects limb loading, stride length, and velocity. Many of the basic calculations used as part of these studies are taught in college level Physics courses, and this laboratory exercise was developed to help demonstrate a collaborative and dynamic way to teach some of the basics of physics through the evaluation of joint angles and movement during the walk. This lab uses inexpensive equipment available to any science lab with horses supplying the motion, and gives students the ability to problem solve, work as a team, and experience a new application to the principles of physics in a "real world" setting. One piece of equipment used is the goniometer. Goniometry has been used extensively in human exercise physiology and by ergonomists to evaluate joint angles and range of motion (ROM) for injury recovery and workplace design. Goniometry has also been shown to be a promising tool to evaluate the passive ROM in equine joints, in order to evaluate different therapies and monitor rehabilitation progress in the injured horse. Using goniometers, stop watches, plumb lines, and measuring sticks and tapes, groups of students will study several facets of joint movement and stride in the horse, starting with the measurement of conformational deviations of the carpus, cannon bone, fetlock/pastern, and hock joints in several different horses of varying ages. Students will then measure the angle of passive forelimb fetlock and carpal flexion in old and young horses, as a means of comparing healthy and arthritic joints for passive ROM. This is followed up with measuring limb length, locating the center of gravity, and finally calculating the ratio of shoulder angle to stride length and velocity in the same horses, in order to determine if 45 degrees is the ideal angle for an appropriate, efficient length of stride in the riding horse. This lab will be utilized as one of the weekly laboratory sessions for the Physics course during the Spring semester, which consists primarily of Biology majors and Equine Science students pursuing degrees in the pre-medical and pre-veterinary fields. The complete materials and methods, results, student feedback, and assessment of the exercise will be presented.

Effects of Different Arena Footings on the Biomechanics of the Horse-Hoof-Surface Interaction.

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Introduction

The qualities of footings are of considerable importance in show jumping because of the need to provide a safe surface that allows the horse to perform maximally while having minimal role in causing injuries. The rise of designed surfaces, and of increasingly sophisticated means of assessing the biomechanical interaction of the horse with the surface, are leading towards the development of footings that are optimal for performance and injury reduction. A recent white paper published by the Fédération Equestre Internationale (FEI) summarizes the status quo and demonstrates the numerous factors that have to be considered to achieve optimal footings[1].

The aim of the present study is to add to our knowledge of the variability of the horse-hoof-surface interaction, by measuring that interaction for multiple horses on multiple surfaces. The objectives are to record biomechanical data from the hooves of horses trotting. Cantering and jumping on high quality training and performance footings, and to compare the effect of the surfaces on mechanically significant phases of the stance: primary impact (collision of the hoof with the footing), secondary impact (the phase of forward sliding of the hoof, when forward and downward motion of the animal is retarded), support (during which the forces of weight-bearing reach a peak), breakover (which has been show to be advanced or delayed on some footing), and post breakover (when the foot accelerates from the ground under residual tension in the stay apparatus). Each of these events has been implicated as a factor in the etiology of injury[2].

Methods

Eight horses in active training were non-invasively fitted with removable sensors on both front feet under Animal Use Protocol (IACUC) 1816 approved by the Animal Care Committee of the University of Guelph. The sensors were triaxial accelerometers and strain gauges. Each horse was ridden by its usual rider on 7 footings within 2 hours, in private arenas and on the Grand Prix grounds in Wellington, FL. The footings included natural sand, turf, and 5 artificial surfaces (differing in sand type, and whether they included wax, fiber, or ebb and flow technology).

The short circuits performed by each horse on each surface included sets of 10 strides on the straight and on left and right turns, at both trot and canter, and 1 low jump. For each set of strides, and take off and landing at the jump, the following variables were extracted from the sensor data: peak deceleration at impact, peak horizontal acceleration (indicative of sliding), peak hoof strain at midstance (indicative of force), timing from impact to breakover, and peak hoof acceleration after it left the ground.
The data were subject to analyses of variance (ANOVA) to ascertain whether the type of footing and the gait (or jump) had a significant effect ($p<0.05$) on the variables relevant to each phase of the stance.

Results

The timing of breakover was not affected by footings, but all other measurements varied by footing and gait. Each footing had its own combination of effects on the measurements, being

significantly higher or lower than some others, but not different from the rest. But exactly which footings showed differences or not changed with every variable measured: a complex pattern of significance was achieved. The responses of individual horses varied widely among footings.

Conclusions

The finding of combination of effects that differ among footings is not unexpected, but adds another dimension to the search for the optimal footing. It raises the question of whether it is the combination of footings properties that influences performance and injury, or that the individual measurements should be optimized separately.
The responses of the horses clearly demonstrated their well-known ability to modulate the way they place their feet on different surfaces. This ability has to be taken into account when considering aspects of footing design.

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Costs Associated with Equine Breeding in Kentucky.

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There are approximately 9 million horses in the United States having a $102 billion impact on the U.S. economy. Over 1 million of those horses are in the breeding sector. In Kentucky, nearly 18% of the horse population is involved in breeding. Managing an equine enterprise can be difficult, particularly given that many who undertake such endeavors do not have a background or education in business management. Kentucky Cooperative Extension has produced interactive spreadsheets to help horse owners better understand the costs associated with owning horses or managing some equine businesses, including boarding and training operations. However, there has been little support for breeders. Therefore, the objectives of this study were to provide owners with a list of services offered for breeding and the costs associated with those services.

Survey questions were created from a list of topics pertinent to equine breeding and from the list of questions, an electronic survey was created. The survey was sent via Qualtrics Survey Software to collect information on stallion and mare management costs as well as expenses related to owning and breeding. Question topics included veterinary and housing costs, management and advertising expenses, and membership fees. A total of 78 farms were selected from the 2013 breeder's listings for the Kentucky Quarter Horse Association (n=39) and the Kentucky Thoroughbred Farm Managers' Club (n=26), and other breed association contacts (n=13). These farms were selected from the lists by outside individuals who were not related to the project. Participants were asked to answer all questions relevant to their farm. After the initial survey distribution, follow-up e-mails and phone calls were conducted in order to answer any questions participants might have had about the survey. Data are reported as mean, median, minimum, maximum, frequency, and percent with standard deviations.

Survey response rate was 32.1% (25 of 78 surveys returned). Since the survey was submitted anonymously the breakout of each breed was not possible. Farms in Kentucky had an average of two farm-owned and two outside stallions standing at stud. Artificial insemination was offered by 48% of the breeders. Of those that offered artificial insemination, only 2 farms provided frozen semen. Also of interest, 2 farms offered embryo transfer services. Farms spent approximately $13,536/year on advertising and $7,864/year on health care management of the stallions. The majority of farms that bred outside mares (13 of 25) bred less than 50 mares per year (n=10). Outside mares were considered to be those that were transported to the farm for breeding. Some of those remained on the farm for mare care while others returned home after they were confirmed in foal. Approximately 70% of the farms gave discounts to individuals who bred multiple mares to the same stallion or farm. Over 85% of the farms surveyed provided mare care including breeding and foaling, though the number of days mares received care varied significantly. The average cost for mare care was $ 18.29/day. All but one respondent provided a live foal guarantee.

Breeding horses in Kentucky is a very important facet of the equine industry. However, many people who consider breeding a horse have little understanding of the costs associated with the process. The data provided by this study will be used to create a spreadsheet to assist people interested in breeding to better understand the financial considerations of this type of enterprise.

The Feasibility of Implementing Equine-Assisted Activities and Therapy Curriculum in Higher Education.

Calyn M. Colston, Alyx M. Shultz, and C.A. Shea Porr: Murray State University, KY

Increased research on the benefits of equine-assisted activities and therapies (EAAT) for people with special needs and the success of these programs has generated a greater demand for education in EAAT in the United States. However, there is little formal experiential data compiled to assess the cost, demand, and success of EAAT educational programs at the university/collegiate level. Therefore, the objectives of this study were to provide evidence of the viability of EAAT programs in higher education and to determine whether universities and colleges should implement these programs into their curriculum.

Three separate surveys were administered electronically using a Qualtrics survey instrument. The first survey, "Community EAAT Programs", was sent to 10 private EAAT programs in the southwestern Kentucky community to assess their operating costs, attendance levels of clients and volunteers, and how they rank experience verses education when hiring. The second survey, "Education EAAT Programs," was sent to 10 university/collegiate EAAT program instructors to determine their operating cost, number of students enrolled, employment rates of graduates, the steps taken to implement their program, and the success of their programs to date. The third and final survey, "Special Education Administration," was sent to special education administration of 10 southwestern Kentucky counties. This survey evaluated the board member's perception of EAAT, the number of students enrolled in EAAT programs, and how much money, in dollars, they thought their students would be willing to pay for a 1-hour EAAT lesson. These surveys were first administered via e-mail in October of 2013 after speaking to each recipient on the phone. Two months later, in December, a follow up e-mail was sent to address any questions and encourage those that had not responded to complete the survey. Survey questions included descriptive text, Likert-type scale, multiple choice, and graphic slider formats.

Results from the "Community EAAT Programs" (n=10 total responses, 100%) showed costs ranging from less than $10,000 to over $800,000/year (n=7) to operate the program, with the number of clients ranging from 25-150 per week. Results also expressed a moderate interest in EAAT programs at the university/collegiate level as well as EAAT programs in the community valuing education more than experience when hiring. Comments within this survey expressed the need for the EAAT industry to hire more graduates of this type of program. "Education EAAT Programs" (n=8 total responses, 80%) reported expenses ranging from less than $50,000 to over $300,000/year (n=5) to run the program, with the number of students enrolled ranging from 10-75 annually. The average employment rate of students graduating from these programs into the EAAT field was 58%. Six out of the eight schools surveyed reported grants and donations as a source of income to fund their EAAT program and two out of the eight charged their students course fees. "Special Education Administration" (n=8 total responses, 80%) respondents showed great belief in the positive effects of EAAT on a ranked scale (average 7/10), but only 2.5% of special education students in the eight Kentucky counties were currently participating in EAAT. When asked why they thought students did not participate in EAAT, the top two reasons were lack of money and lack of transportation. The average cost that administration thought students would be willing to pay for a 1-hour equine assisted therapy lesson was $12.14 with values ranging from $0-$30. Overall, results indicated a positive understanding of the benefits of EAAT as well as a need for students in KY school systems with special needs.

The information assembled from this study could be used by colleges and universities to decide whether or not they should add an EAAT program to their curriculum. There is an obvious need for this type of program in the community and great assertion of the need for graduates in the field. More research should be conducted on the costs associated with running both community and educational EAAT programs. This study also suggested that a large number of students with special needs are not taking advantage of the benefits of EAAT, possibly due to a lack of money and/or transportation. More research on circumstances preventing students from participating in EAAT should be conducted in order to confirm that the financial and transportation barriers exist, and to find solutions so that more special needs students can experience the benefits of EAAT.

Animals in Literature with an Equine Focus: Beyond Black Beauty.

Sarah Tsiang, Eastern Kentucky University, Richmond, Kentucky

Due to the cross-disciplinary nature of Animal Studies programs, courses like 'Animals in Literature' may be offered to a range of students, including students with little background in literary studies. This presentation reflects on my experience teaching the first Animals in Literature course (Spring 2012) for Eastern Kentucky University's new Animal Studies major, and seeks to offer insight on the following two topics:

1. Designing a syllabus focusing on horses in literature.

While the course was intended to encompass the broader theme of 'animals', students noticed that a large number of readings were about horses. This was a consequence of following themes raised in the classic animal autobiography Black Beauty (1877) by Anna Sewell. However, I realized it was also a consequence of my personal interest in horses and reliance on the familiar as I developed a new course.
I would like to share and comment on the equine-themed readings I used, including some less familiar works such as "Strider: The Story of a Horse" (1864) by Leo Tolstoy and "Old Pastures" (1916) by John Taintor Foote. I would like to offer some other readings that have come to my attention since that time, and I would invite the audience to share their ideas for reading possibilities, as well.

2. Designing a literature course for the non-specialist

Although 'Animals in Literature' was offered at the 300-level through the Department of English & Theatre, it was my experience that many students in the class had little or no background in studying literature and writing papers about literature.
I would like to offer suggestions about how to tailor an Animals in Literature or Horses in Literature course toward non-English majors. For example, Marguerite Henry's "The Routine of Happiness" (1951) is a short piece of young adult literature that can be read aloud during class that introduces important themes, for example, are working animals fulfilled to have a purpose, or are their lives pathetic. I would like to share assignments that did and did not work. A creative writing task, apparently, some students' first experience with creative writing, engaged students, while, "Read Moby Dick for Friday" was an unrealistic expectation. I would invite the audience to share their teaching or learning experiences as well.

Overall, the presentation will offer insight toward designing a course like 'Horses in Literature', that would be an English course fulfilling departmental expectations but geared toward the non-major, based on my own teaching experience and reflection, as well as contributions from audience members.

Student Self-Evaluation as a Method for Summative and Formative Learning.

Katrina Merkies. University of Guelph, Guelph, ON, Canada

As a departure from the typical environment of instructor assessments of classroom learning, students are encouraged to develop metacognitive skills to become active participants in their learning outcomes, including assessment. While students may initially dislike self-evaluation, this skill is an essential part of life-long learning directly related to continued improvement of performance. When students become responsible for their own learning, they automatically have a vested interest in the procedure, thus become more active participants in the entire learning process. They are required to reflect on both the product and the process of learning. However, numerous studies point to the essential element of learning how to self-assess, and this must be taught and supported by instructor engagement to successfully direct students in the exercise. Accurate self-assessment also requires cognitive and emotional engagement in the subject. Thus, a non-traditional approach to teaching which actively engages students in their learning allows for the use of self-assessment as a formative exercise and not simply a summative exercise.

Students in the Bachelor of Bio-Resource Management (BBRM) degree majoring in Equine Management are required to enroll in EQN*2200 Equine Industry Trends and Issues. In this course, controversial topics in the industry are discussed in the classroom setting, and students are encouraged to contribute and (re)evaluate their opinions on these topics based on what they know, what they discover and what they are willing to experiment with. Critical thinking skills are stressed along with presenting a valid and professional argument. Within the course, students also carry out small research projects focused on equine behaviour to challenge some of the traditional opinions in the industry and to expose them to the process of scientific research. Students are evaluated on the research project, various small assignments and weekly critical reflections. Instead of a formal final written exam, each student is invited to individually meet with the professor at the end of the semester to discuss his/her grades, knowledge gained, and to propose and justify a final grade in the course. After discussion with the instructor, a final grade is agreed upon by student and instructor. Students also complete a survey regarding the course content, structure and activities.

Descriptive statistics were used to analyze the responses of 67 students over 3 course offerings in 2012-13. Most (88%) of the students preferred the non-traditional approach to the subject matter. No student thought their negotiated grade would be lower than the grade based on assignments throughout the semester, and 55% believed their grade would be higher; 71% felt this approach to assessment led to a fairer grade. Final grades ranged from -7 to +13% from the students' self-assessment, with 81% of students receiving a grade higher than earned in assignments. Chi-squared analysis found that there was no difference between the student's self-assessment and the instructor's assessment ($p>0.645$). Over 84% of students related self-input into grades with greater self-confidence and only one student would not choose to be assessed in this non-traditional method again. Almost all students felt the course content met their expectations (97%), they retained more knowledge (96%), experienced greater satisfaction with the course in this non-traditional manner (84%), and learned more than simply course content (95.5%), which would include the ability to objectively analyze situations and respond in a critically thinking manner, to listen to and understand other points of view, to communicate more effectively, and to have an open mind when discussing controversial topics, self-reflection skills, and research skills. This non-traditional approach to the course content evaluating both formative and summative learning outcomes assisted in developing metacognitive skills that can be transferred to continued learning.

Plenary

Equitation Science: The Last Frontier in Equine Science

Dr. Andrew McLean, Director of the Australian Equine Behaviour Centre, NSW

Animals optimally 'fit' their respective environments in two ways: firstly via a suite of innate hard-wired behaviours and secondly through a more plastic ability to modify these innate predispositions as a result of rewards and consequences, known as 'learning theory'. Thus achieving habitual control of horses involves the trainer utilising equine learning processes. Learning processes are at the core of the study of Equitation Science. However Equitation science also embraces other diverse subjects including ethology, sports psychology, physics and biomechanics of both rider and horse. The way trainers utilise the horse's learning processes is now well embedded in scientific literature and the term Equitation Science has been in general parlance now for a number of years. Furthermore, research progress in Equitation Science has boomed since the very first International Society for Equitation Science (ISES) conference in 2005, to the point that by ISES 2014 in August in Denmark over 700 papers will have been presented.

Equitation Science can be seen as the last frontier in Equine Science and despite its rapid emergence into the scientific arena, its acceptance even among equine scientists and pedagogues has been hampered by cultural and historical factors. In this presentation I describe and account for the various and complex impediments to the uptake of Equitation Science. I begin with an historical perspective of learning theory, discussing the divergent paths of ethology and learning theory and the socio-political rejection of learning theory in its birth place, the USA during the 1960's and its subsequent re-mergence in modern clinical psychology. I describe the flow-on effects in animal training theory and the concurrent rise of the horse-whispering ideology and its alluring narrative. Other factors that have inhibited the uptake of 'learning theory' in both academia and lay circles include established 'classical' horsemanship traditions and associated entrenched information bases, low educational levels in the equestrian industry and vested interests in equestrian commerce.

Despite the slow uptake of Equitation Science, it is well documented that horses present considerable danger to humans and vice versa. The horse-related death rate and serious injury rate of humans is unacceptably high (one death per million head of population annually and a serious injury rate of one in every 350 hours of contact) and the wastage of horses for behavioural reasons is also surprisingly excessive. It is therefore unsustainable that learning theory and its application to ethical and optimal horse training does not feature on the curriculum of many noteworthy Equine Science courses throughout the developed world. Accordingly, Equitation Science has an important new role within the broad domain of Equine Science.

My aim in this presentation is to deepen the awareness of Equitation Science through the NAEAA in the hope that this unique institution can accelerate the NAEAA educational affiliates as models of teaching Equitation Science as a standard unit in all Equine Science and Veterinary courses. In conclusion, I present a blueprint for an Equitation Science curriculum. The uptake of Equitation Science will have a profound impact on human safety and horse welfare as well as the promise of improved performance in all aspects of the competition arena.

Addressing Controversial Topics in an Equine Oriented First Year Seminar Course.

K.D. Bump, Cazenovia College, Cazenovia, NY

All Cazenovia College freshman enroll in fall term First Year Seminar courses. Designed as engaging seminars on topics of particular interest to participating faculty members, courses are open to all first year students regardless of major. The course Horses, Humans, Politics, and Pressure was developed for this purpose and has been offered since 2008. Each year, content focus changes based on evolving political topics.

Results from a 2013 NAEAA graduating survey (WIP) indicated that students felt they had less education in death and dying compared to breeding and foaling. This finding, in combination with pressing issues revolving around unwanted horses, resulted in more course emphasis on the topic of equine death and dying during fall 2013. Learning experiences included: readings; horse rescue site visits, video clips of animal death through captive bot, gun shot, and barbiturate overdose; viewing of several videos including: Temple Grandin movie[1]; Glass Walls: A look inside a typical large beef plant by the American Meat Institute[2]; The Oprah Winfrey Show episode involving an inside tour of a slaughter house[3].

Using an on-line survey tool, several data collection activities were implemented to track student views and perceptions. Responses were not identifiable by student name or student demographic.

Student demographics:

- N=20; 13 'equine students', 7 'other majors'
- 55% had owned a horse;
- 100% had ridden horses;
- Self-reported horse experience: 15% ' fair amount'; 45% 'quite a bit'; 40% 'lots'

Selected early term findings:

- 18% agreed with the statement 'unwanted horses should be euthanized instead of slaughtered', 59% were neutral, 17% disagreed, 6% strongly disagreed
- 56% agreed or strongly agreed with the statement 'horse slaughter is inhumane'; 22% were neutral; 22% disagreed or strongly disagreed.
- 28% agreed or strongly agreed with the statement 'slaughter of traditional meat animals such as cows, pigs, etc. is inhumane'; 22% were neutral; 50% disagreed or strongly disagreed.

Selected mid semester findings (after field trip to several horse rescues):

- Students were more likely to agree or strongly agree with the statement 'horse slaughter is inhumane' – 78% compared to 56%
- Students were more likely to agree or strongly agree with the statement 'unwanted horses should be euthanized instead of slaughtered' – 66% compared to 18%

Selected end-of-term findings (after detailed discussions on death and dying scenarios and realities):

- Students were less likely than at mid-semester to agree or strongly agree with the statement 'horse slaughter is inhumane' – 56% compared to 78%; but just as likely as at the start of the term. However, 'neutral' responses dropped from 35% to 11% and disagree/strongly disagree increased from 22% to 33%.

- Students were less likely to agree or strongly agree with the statement ‘slaughter of traditional meat animals such as cows, pigs, etc. is inhumane’ - 10.5% compared to 28%.
- Students were less likely than at midpoint to agree or strongly agree with the statement ‘unwanted horses should be euthanized (with barbiturates) instead of slaughtered’ - 26% compared to 66% ; but were more likely than at the start of the term - 26% compared to 18%
- When asked to indicate the extent to which they agreed with ‘Euthanasia by captive bolt and/or gun – rather than barbiturate overdose – should be used for unwanted horses’, 68% agreed or strongly agreed while 16% were neutral.
- Students indicated that prior to the class 53% had seen the process of animal slaughter; 68% reported they had seen a horse die.
- In regard to education on the topic of death/dying, 68% said the process of death and dying through barbiturate overdose had been explained to them prior to the class while 56% indicated that the process using gun shot or captive bolt had been explained.
- After class readings, videos, and discussions; 84% of students indicated that they felt more equipped to deal with equine death/dying.

Students enter college having already formed opinions on controversial topics. However, those opinions can be shaped and influenced. In regard to the specific topics of death and dying, while freshmen students may not be seen as fully prepared to spend time on this topic, much can be gained by doing so. At the end of the term, all students had significantly more experience with the topic and were more inclined to ask serious questions. In addition, they were more likely to think about death and dying in terms of the quality of life for the horse, were more equipped to discuss realities involved with lifespan care for horses, and were more inclined to consider environmental impact of euthanasia along with associated carcass disposal.

1: http://www.hbo.com/movies/temple-grandin#/
2. http://www.meatami.com/ht/display/ReleaseDetails/i/89464
3: http://www.oprah.com/oprahshow/Inside-a-Slaughterhouse-Video

Discussing Equine Euthanasia in a Classroom Setting.

Dr. William E. Day, SUNY Morrisville State College, Morrisville, NY 13408

Euthanasia of horses is a difficult topic to discuss, especially in a group of freshmen equine college students who may not yet see themselves making this decision. If approached with either too much or inadequate sensitivity, students are likely to become disinterested and withdraw from discussions. Outlined here is a brief method that has been consistently successful in engaging groups of 15 to 20 students in productive discussions on equine euthanasia in a classroom/laboratory setting.

This method can be broken down into 7 activities:

A. Help students self-identify as a person who is capable of dealing with emotionally difficult situations and may need to know how to euthanize a horse. Two questions I always ask at the onset are: 1) How many emotionally difficult decisions will you make in your lifetime? 2) What happens when a horse owner needs to put a horse down but is not emotionally prepared to make the decision? Invariably, the class answers the first with “a lot” and the second question with, “the horse suffers.”

B. To help set a reverent tone for the discussion and develop a sense of shared confidence, I provide a handout (Shearer[1]); and allow time for silent reading.

C. To distinguish situations for each method that would be most appropriate, I lead a discussion on the strengths and weakness of each of the three approved methods of euthanasia for horses: barbiturate overdose, gunshot and captive bolt. During the discussion, if the topic deviates to reasons for euthanasia other than suffering, (i.e. dangerous behavior, loss of value, affordability, slaughter, etc.) I will typically briefly validate each reason, and then return to alleviation of pain and suffering as the most common reason people decide to euthanize horses.

D. Using a horse’s skull, I will describe the anatomical landmarks of the specific location recommended for gunshot and captive bolt. We then quote the guidelines written in the aforementioned handout (Shearer[1]); “the intersection of lines drawn from the outside corner of each eye to the top of the opposite ear.” Students also note the shape and location of the sagittal ridges located near the top of the skull.

E. To help further familiarize students with the process, I will demonstrate how to operate a captive bolt device. If using a captive bolt, it is very important that it is inspected and cleaned after each use.

F. Using a quiet horse, I have each student palpate the sagittal ridges and specify the target location by placing their finger at a position about 1 inch below the fusion of the sagittal ridges on the horse’s forehead then notice how well that point corresponds with the location described in the handout.

G. Students are invited but not required to see a short video clip of a horse being euthanized using a captive bolt gun. As the clip is shown, I make it a point to pause it from time to time to both break the tension and to build confidence by explaining what they are about to see before it happens.

All students were surveyed the following week (Figure 1). Of the 87 students surveyed, 12 students indicated pentobarbital to be their preferred method, 18 students indicated gunshot, 57

students indicated captive bolt. Of the 62 students who chose to see the video, 46 students chose captive bolt, 11 chose gunshot, and 5 indicated that they would choose pentobarbital. When asked to point to the target location on an 8 x 11 photograph of a horse's head, 35 students pointed to the correct location, 35 students indicated a point approximately 2-3 cm below the recommended location, and 17 students indicated a location approximately in the center of forehead between the level of the eyes and the poll. During the lab, when students pointed to the target on the horse, they seemed more accurate and confident than when using the photo. This may illustrate a benefit for confirming the target location by palpating the sagittal ridges.

Death under any circumstances is emotionally difficult. By structuring the discussion as described, students are guided to set their emotions aside and work supportively as a group to face the likelihood that at some point in their careers, they will be challenged to end a horse's suffering. In addition, by familiarizing themselves with the available options, they may have more confidence in their capacity to handle situations involving equine euthanasia.

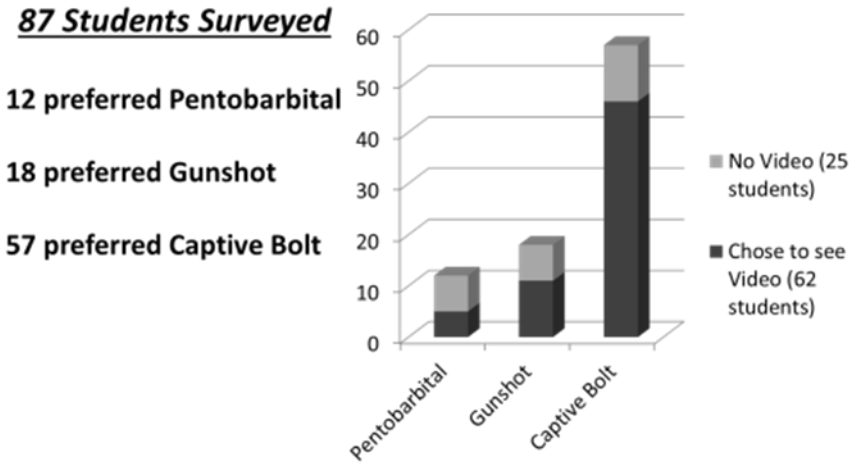

Figure 1. Survey results of 87 freshman equine college students one week after receiving instruction on equine euthanasia.

[1]Shearer, Jan. Procedures for Humane Euthanasia.Iowa State University. http://vetmd.iastate.edu/HumaneEuthanasia)

The Educational Opportunities of Equine Euthanasia in the Undergraduate Equine Curriculum.

Michael N. Fugaro, VMD, Diplomate ACVS. Centenary College, Hackettstown, NJ

Equine euthanasia is not a topic celebrated in equine curriculum like other facets of the industry. In the "horse-world", death is often accepted as an unfortunate fact of life that can occasionally occur under unexpected circumstances. In the veterinary school curriculum, pathology offers invaluable insight into anatomy, physiology, and the pathophysiology of disease processes. The education obtained from necropsies and histopathology, directly influence the expertise of veterinarians, clinicians, and researchers in related fields of the industry. This expertise, directly benefits the horse via improved therapies, longer life span, and heightened performance. In the undergraduate forum, the exposure of similar educational opportunities is no less valuable. Whether training the next generation of veterinarians, scientists, equine professionals, managers, grooms, trainers, or riders, understanding the intricacies of euthanasia and the educational opportunities offered with death cannot be underestimated.

The actual decision to euthanize a horse can sometimes present the most arduous challenges to all individuals responsible for the horse's care. Clinical conditions associated with poor prognoses and fatal outcomes can make the decision to euthanize more immediate and comprehensible to a horse owner. Elective euthanasia can pose daunting deliberations with a multitude of influencing factors. Chronic medical conditions, facility protocols, safety, serviceability, economics, and quality of life concerns are only a few of the considerations that guide the decision process. As the lifespan of the horse increases, the number of retired, non-serviceable, geriatric horses imposing financial drains on owners and developing new diseases rises simultaneously. These multifaceted considerations for euthanasia should be addressed in the undergraduate and graduate curriculum as challenges inherent to the industry that affects every equine professional.

The techniques and acceptable methods of euthanasia are taught in the veterinary curriculum for their respective species. While veterinarians are the individuals primarily responsible for the humane destruction of horses throughout the United States, the non-veterinary equine professional must be comfortable and experienced in the process to be an effective assistant and consoler in certain instances. Consequently, the undergraduate equine curriculum is an ideal forum for providing an overview of the procedure and defining the expectations of individuals assisting with such a procedure. For almost 10 years, the author has incorporated videos of equine euthanasia in one designated lecture of a course. When the topic is presented in a non-forceful educational manner, it is the author's experience that even the most disinterested undergraduate student remains open-minded and receptive to the educational exercise. After viewing these videos, students have provided positive feedback that their overall confidence in assisting a veterinarian with a euthanasia was considerably improved. A large number of students expressed their appreciation of the video as they never had observed an equine euthanasia previously. They also commented that their lack of emotional attached to the individual animal helped allay some of their preconceived apprehension of the procedure.

Another challenging and yet educational process associated with euthanasia relates to the communication of the decision to the various affiliated individuals. Many equine facilities possess a multitude of people that develop personal and professional attachments to a specific horse. When a decision is made to euthanize that horse, the number of affected individuals is proportional to the size and population of people in that facility. If the various factions of a facility are not informed of the decision by the governing body of that facility, the opportunity for

sideline discussions and inaccurately disseminated information greatly increases. With the ubiquitous nature of social media, these rumor-based communications have the ability to spread in almost instantaneous speeds and with vast distribution. In an effort to mitigate some of the discord and overwhelming concerns that often arise, the facility should assume the proactive role of providing a professional, concise and, objective statement for distribution. In the author's experience, this has been extremely advantageous in the academic institution, non-profit organizations, therapeutic riding centers, and lesson facilities.

While the topic of euthanasia can be a rather disenchanting subject matter, the undergraduate academic institution should attempt to take a somber situation and revert it into an invaluable educational opportunity. Necropsies, dissection laboratories, and specimen harvesting are only a few of the options in which the horse can remain a teaching tool beyond their lifespan. In addition, the concept of grieving and bereavement of the equine enthusiast can be introduced to students. Euthanasia and death will always be a component of the equine industry. It is imperative that the next generation of professionals are appropriately educated and prepared for these challenges.

Saratoga Institute for Equine, Racing, and Gaming Law.

Melissa A. Perry, MA, JD. Albany Law School, Albany, New York

MISSION: to develop the leading legal academic program and resource center informing legal practice within the complex international industries of equine/racing and gaming.

GOALS: Expanding Albany Law School's Saratoga Institute to a year-round academic center that provides a resource for meaningful and detailed examination of legal issues within the Equine, Racing and Gaming industries. Creating an academic concentration to fill an existing gap in legal education, providing law students with the necessary knowledge and skills to provide legal services to these multi-billion dollar industries.

THE EQUINE AND RACING INDUSTRIES: Nationwide, the equine/racing industries created a total financial impact of $102 Billion and a total employment impact of 1.4 million jobs in 2005. The American Quarter Horse Association has nearly 300,000 members, and there are approximately 78,000 members of the United States Equestrian Federation. Participants in the Equine Industries include flat and harness racing, the equine Olympic sports of Show Jumping, Eventing, and Dressage, millions of show and rodeo horses, owners who keep horses just for pleasure, and business enterprises such as professional breeding operations, boarding stables and riding lesson programs. The Industries also support robust and broad reaching auxiliary industries such as farms to grow hay and grain, feed stores, veterinarians, blacksmiths, show facilities, tack stores, and truck and trailer sales. Horse enthusiasts who travel to pursue their competitive goals add millions of dollars to the coffers of the hotel and restaurant businesses in a wide variety of locales.

The Equine Industries are comprised of global markets and interests. The International Federation of Horseracing Authorities is comprised of the governing race associations of more than 60 nations. Similarly, there are 132 National Federations that make up the Federation Equestre International which regulates world class level equestrian competitions in the disciplines of show jumping, dressage, three day eventing, reining, driving, endurance and vaulting.

LEGAL ISSUES: Like all business enterprises, individuals and corporations operating within the equine/racing industries face a number of legal issues. Farm owners must understand land use and zoning regulations or face potential unpleasant consequences when it is time to pay their property tax. Equine professionals must understand the ramifications of their state's equine liability statute, or lack of such when determining the level of care under which they must operate. Breeders must be thoroughly versed in syndications and other complex contractual issues. Any horseman who has employees needs to have a clear grasp of employment, labor, immigration and insurance law and race horse trainers must always be intensely conscious of the trainers' absolute insurer rule in any state in which they run horses.

THE PROGRAM: The Saratoga Institute for Equine, Racing, and Gaming Law will be the first such program at an ABA approved law school to focus on training students to interact with equine professionals and deal with the particular set of legal issues that arise within the equine/racing industries. The Saratoga Institute program will offer an educational experience consisting of both classroom and internship/field placement settings to provide these industries with attorneys well versed in the particulars of the field. Albany Law School has been involved in Racing and Gaming Law for decades. Given our long history of organizing the Saratoga

Institute, our access to NY State Executive and Legislative offices and State agencies for internships and field placements, and our proximity to historic Saratoga Race Course, Albany Law School undeniably has a niche that will allow us to provide an exciting and unique program. The academic offerings are envisioned similar to already existing Albany Law School concentrations and will fit nicely within the business law area. Courses specific to the area of equine and racing law will include case law common to all areas of equine businesses, as well as government regulation of the racing industry, and national and international regulation of equine sports endeavors. Due to the high level of government agency regulation in the industries, students will be required to take an Administrative Law course. Within the broad range of business law courses already offered, students will be able to design a program which enhances their own particular interests and best suits their career goals.

COMPONENTS OF THE PROGRAM:

- The Annual Saratoga Institute on Equine Racing and Gaming Law
- Legal Academic Courses
- Brown Bag Series for Students
- Internships/Field Placements
- Educational Seminars for Industry Professionals
- Brown Bag Cyber-Series for Equine Attorneys
- Website

Fulbright Scientific Mobility and Scholar Exchange Programs: Untapped Opportunities for Equine Academics!

Sarah L. Ralston, VMD, PhD, DACVN Rutgers, the State University of New Jersey, New Brunswick, NJ

In today's shrinking world of internet access to most corners of the earth, correspondence with our international equine academic colleagues is becoming easier and more common. However opportunities to share in-depth teaching and research experiences in equine science, other than at meetings such as NAEAA, are frequently over looked. In 2012 I was talking to a Brazilian colleague, Prof. Adalgiza Rezende, at the European Workshop on Equine Nutrition in Lisbon, Portugal, who invited me to consider teaching a course on equine clinical nutrition to her Zootechnology and Veterinary students at the Universidade Federal de Minas Gerais in Belo Horizonte but we could not come up with a mode of funding it. At the same time I was also exploring opportunities for research on the effects of parasitism on digestion in horses, suggested to me by a colleague, Dr. Jay Donecker of ZOETIS, Inc. It all came together when I learned of the Fulbright Scientific Mobility Awards available through the Fulbright Scholars Programs (http://www.iie.org/Programs/Fulbright-US-Scholar-Program). The Programs are sponsored by the United States Department of State's Bureau of Educational and Cultural Affairs, and administered by the Council for International Exchange of Scholars (CIES). The mission is to: "increase mutual understanding between the people of the United States and the people of other countries." The core programs send over 800 scholars and professional abroad annually to do teaching and research all over the world for as little as a few weeks to up to a year.

All you need to apply is a contact in a country in the program who is willing to host you, a plan (ie: course curriculum(s) and research plan (s)), and academic references. The financial support is generous (~$23,000 for 3 months in my case plus $2000 for research). Agriculture is one of the major categories for funding in most countries, especially South America and African nations, but to my knowledge I am the only equine scientist to have won an award in the past 5 to 10 years. I strongly believe that is because no other equine academics have applied.
If you do get an award it is necessary to get started on final plans and requirements of your host country as quickly as possible. Visas, vaccinations if travelling to a tropical country, etc should not be left to the last minute. International drivers licenses (available through AAA) also take time to get. Once in the country, if staying for more than a month, there are often other requirements. It took me over 2 weeks to get the necessary paperwork (police registry, their equivalent of a social security number, a bank account) done in Brazil.

But the opportunity to teach in a foreign land, learning new perspectives, ways of managing horses and opportunities for unique research are invaluable. There were 30 students in my class, at least 4 of which are practicing veterinarians, who were a wealth of information on the issues in Brazil. For example, did you know that swallowing mango seeds whole is a common cause of choke in horses? Or that Pantaneiro horses (Brazilian equivalent to mustangs) live up to their knees in water for 6 months of the year in the Pantanal wetlands, can graze under water and are a significant reservoir of Equine Infectious Anemia? As far as unique research opportunities, nutritional secondary hyperparathyroidism is rampant due to the widespread use of Brachiaria spp grasses for pastures-great opportunities to study a poorly understood area of nutrition. Plus where in the USA would you be able to find a herd of over 20 adult horses that had not been given anthelminthics for over a year whose owner would be willing to have them participate in a clinical trial? ZOETIS, Inc jumped at the chance to fund it. It is the basis of one of Dr. Rezende's graduate student's Master's thesis. Overall it is a win-win situation and one I highly recommend.

EQUUS and NAEAA—A Collaborative Effort That Was A Win for Horses, Humans, and Organizations.

T. Williams; L Coakley CJC Adventures, Cazenovia, NY; EQUUS Foundation, Westport, CT

During the Summer of 2013, a process designed to assist the EQUUS Foundation in accomplishing one of their organizational objectives expanded into a model useful for Equine Educators to enhance collaboration between colleges/universities, equine rescues, therapeutic riding centers and the organizations currently financially supporting these groups. A pilot program was subsequently developed where professionals from primarily NAEAA institutions volunteered their time, effort and travel expenses to conduct approximately 50-60 site visits across the United States at selected equine rescues, retirement facilities, sanctuaries and therapeutic riding centers.

The purpose of each site visit was to provide supplemental information to EQUUS to aid in their grant selection process. The EQUUS Foundation was originally developed as a public charity in 2002 for the purpose of awarding donations to several local horse charities in Westport, CT. Their philanthropic effort has grown into a national effort awarding over $2 million dollars. They have emerged as the primary organization in the equine community solely focused on both horse welfare and the horse-human connection.

Several initiatives of the EQUUS Foundation were drivers of this pilot program. They provide financial support to horse-related charities, operate a network of equine organizations and provide scholarships to reward volunteer service on behalf of horses. Each year the EQUUS board evaluates the merits of grant applicants on the basis of established guidelines. Their guiding principles include the willingness of each organization to maintain the highest concern for the quality of care and well-being of the horse and do so in a transparent environment.

Current estimates include over 2100 equine rescues/sanctuaries retirement centers across the United States[1]. The Professional Association of Therapeutic Horsemanship International (PATH Intl.), one of the largest therapeutic riding organizations, has almost 850 member centers and 4,200 certified instructors[2]. No federal mandate exists for the use or quality of care of horses for any organization, group or individual and only a handful of states have guidelines—and some of those initiatives are voluntary, not mandatory. Two organizations who have their own accreditation process concerning equine rescues, retirement centers and sanctuaries are the Global Federation of Animal Sanctuaries (GFAS) and the Thoroughbred Aftercare Alliance (TAA), but between them less than one-hundred fifty are currently recognized[3]. PATH Intl. has less than 250 designated Premier Accredited facilities[2].

The evaluation initiative is not a certification process or endorsement, but rather a vehicle to make organizational operational practices 'public' and provide EQUUS donors and other financial supporters the tools to make informed decisions on the value of their investment. The full EQUUS review includes effective use of financial resources to embody acceptable care and use of horse practices and exemplify transparency in all areas of the organization…leadership, finances, facility management, policies and procedures and volunteers.
The evaluation process had three main components—a willingness of each organization applying for a grant to publicly identify policies and procedures that impacted the lives and well-being of the horses and organization; an internal self-assessment of the structure of the organization and the day-to-day operations; and an on-site third party visit that rated the facility

on the same areas as the organizational self-assessment. Faculty involved with NAEAA served as the primary site visitors.

Anecdotal information gathered after the pilot program was completed indicated an additional benefit of the connection of the organizations to the site visit faculty member. This resulted in opportunities for expanded internship and student volunteer experiences, educational outreach programs to support the needs of the these facilities, and a better understanding useful to solidifying public trust in the operations of these organizations.

Plans have been expanded for 2014 to visit each prior year EQUUS grant recipient and all current Messenger/Grant applicants that haven't yet received a site visit. The goal is to continue to utilize this process as a way to develop and expand ongoing relationships between these types of equine organizations and colleges and universities.

[1]CJC Adventures, LLC database of equine rescues, retirement centers, and sanctuaries
[2]PATH Intl. Website March, 2014
[3]GFAS Website, March, 2014; TAA Website March 2014

Three Years of Data – What Have We Learned?

K. Bump; J. Livermore; T. Williams; Cazenovia College, Cazenovia, NY; CJC Adventures, Cazenovia, NY

In fall 2011, the NAEAA launched a project to collect comparative data on the 'incoming equine student population'. In spring 2012, a parallel graduating student survey was launched. Over this 3yr period, responses have been gathered from 2,771 students. Participating institutions were asked about the value of this study during a fall 2013 NAEAA planning survey. Of the 46 individuals that responded to questions regarding the studies, 26% selected 'very high' for value placed on the data while 43% selected 'high'. Given this background, the NAEAA study has reached an important point where it is time to reflect on the value of key findings gleaned during these early study years.

Key findings to date include:

- A commonly held perception has been verified: equine students live farther from their selected college and are more likely to attend college out-of-state when compared to national trends[1]
- Ability to afford college is a concern, with approximately 40% of new equine students indicating that affording college attendance is a challenge and approximately 23% indicating that they are barely able to afford attendance. However, this is not entirely different from reported national statistics[1]
- As students are preparing to leave college their responses regarding 'ability to afford' follow a similar pattern with approximately 44% indicating is it a challenge and approximately 19% indicating that they can barely afford attendance.
- When it comes to college choice, equine students apply to, and visit, fewer colleges than the national average but are more likely to attend their first choice college when compared to national audiences[1]
- Students are entering with less background and skills than would have been anticipated in earlier years; some of these differences are more pronounced between colleges.
- When asked about involvement in youth organizations that have equine activities, yearly aggregate responses for new students ranged from 32-40% for 'no involvement' in youth organizations. This may account for some of the differences experienced with entering student background.
- Student perceptions regarding careers in the equine industry are generally positive for incoming students with 'lots of opportunities' and 'some opportunities' identified by approximately 28% and 38% of respondents; 'limited' and 'few/scattered' opportunities was selected by approximately 8% and 2% of respondents.
- As students prepare to leave college, views of 'lots of career opportunities' is lower at approximately 16% while 'some opportunities' is higher at approximately 43%. Similarly, 'limited opportunities' is higher at approximately 19% as is 'few scattered' at approximately 5%.
- There is a disconnect between incoming student perceptions of anticipated starting salary in their career field and what graduating students find as starting salaries.
- New equine students enter with split views on beliefs regarding whether or not horses are livestock or companion animals; similarly students enter with split view on supporting concepts of animal welfare compared to supporting concepts of animal rights.
- Leaving college, graduating students are more likely to believe that horses are livestock and are more likely to support the concept of animal welfare; but a significant portion are

still split on their views and/or believe that horses are companion animals and leave with a belief in both animal rights and animal welfare.

- Both entering and graduating students identify 'unwanted horses' as the top issue facing the equine industry however entering students are more likely to follow with 'horses going to slaughter' while graduating students are more likely to follow with 'owners who don't understand horses' and 'not having the option of horses going to slaughter'.
- In the spring of 2012, graduating students were asked about their knowledge of, and participation with, horse rescues. Responses indicated that 40% had visited a horse rescue and/or retirement facility while 17% had volunteered at one while in college.
- In the fall of 2013, entering students were similarly asked about their knowledge of, and participation with, horse rescues. Approximately ½ had visited a horse rescue and/or retirement facility while closer to ¼ had spent time volunteering at such a facility.
- In the spring of 2013, graduating students were asked about their experiences with equine death and dying compared to breeding and foaling. Results indicate that students perceive more time spent in required coursework focusing on managing/working with breeding and foaling rather than managing/working with death and dying.
- When it comes to graduation, it appears that graduation attainment is higher for students in this study compared to national aggregate findings from the National Center for Education Statistics[2].
- Approximately 54% of graduating students report being very satisfied with their college choice while approximately 33% report being somewhat satisfied.

1: HERI Higher Education Research Institute http://heri.ucla.edu
2: National Center for Education Statistics: Fast Facts, Graduation Rates http://nces.ed.gov/fastfacts/display.asp?id=40

Value vs. Challenge: Reflections on a Discipline Based Accreditation Process.

K.D. Bump, C. Buckhout, M. Brimecombe, J. Adamo, Cazenovia College, Cazenovia NY

During the initial years of NAEAA formation there was considerable discussion of the potential for development of a voluntary accreditation process for equine undergraduate offerings. Just recently, the American Society of Animal Sciences has indicated that it will be developing a process for accreditation of undergraduate offerings in animal science with the intent to launch in 2015[1]. Given this background, it is an opportune time to look at the value derived from discipline based accreditation processes using the case of the International Assembly for Collegiate Business Education (IACBE) which accredits undergraduate offerings within business.

According to the IACBE, "In 1988, only 288 of the approximately 1400 U.S. colleges and universities offering bachelor's or graduate degrees in business had their programs accredited. Now, more than half of them do. In ten more years, it is anticipated that over 90 percent of these programs will have specialized accreditation. Therefore, it is becoming increasingly important to for an institution's reputation to have achieved accredited status for its business programs" [2]. This trend is not isolated to business, as discipline based accreditation has been on the rise - in part due to institutional interest in responding to external concerns of quality and value of higher education.

The Division of Business and Management at Cazenovia College consists of a BPS in Management with specializations in Business, Accounting, Fashion Merchandising, Health Care Management, Equine Business Management and Sport Management. As a smaller offering, the Division has a BS in Business. In 2004 the Division faculty applied for, and earned, programmatic accreditation through the IACBE. As part of the accreditation, a periodic review process occurs that involves a self–study, including the preparation of a comprehensive self-study report, and a site visit by an IACBE review team to determine re-accreditation status. The Cazenovia College management faculty have just completed the periodic review process and are subsequently in a position to reflect on the process as well as the value of discipline specific accreditation.

According to the IACBE, discipline based accreditation provides value in the form of 6 areas: Enhanced Reputation, Evidence of Quality, Continuous Improvement, Best Practices, Accountability, International Perspectives[2]. However, discipline based accreditation also comes with challenges such as the time and energy required for self-study, budgetary implications, and compliance with accreditation standards. In order to explore value vs. challenge, an end-of-process reflection component has been added to the Cazenovia process of IACBE re-accreditation. This presentation will focus on the information gleaned from this reflective component with an eye towards 'lessons learned' that could be applied to the potential development of an undergraduate equine academic accreditation process coordinated through NAEAA.

1: http://takingstock.asas.org/?tag=undergrad-accreditation
2: http://mail.iacbe.org/html/benefits_of_accreditation.html

What is Western Dressage? Can Adding Western Dressage Strengthen a College Riding Program?

Mark Abell &; Bradie Chapman; Ohio University Southern Equine Studies, Ironton, Ohio

This poster presentation is designed to inform and educate others in the discipline of Western Dressage as approved by the Western Dressage of America Association (WDAA) and we will demonstrate how this program has strengthened our riding program and assisted instructors and students in achieving their riding goals. By providing information on the goals of the WDAA, we are hoping to encourage other collegiate programs to begin Western Dressage Teams similar to the teams with IHSA, NCEA, IDA, ISSRA, and the NRIA.

The WDAA promotes the love of the horse and the development of a rewarding partnership between horse and rider utilizing the classical principles of the old masters. The competitions are open to any breed of horses, leading to more opportunities for students and horses from a variety of disciplines. The tests are designed to be realistic for any level and provide opportunities for students to compete and grow as a rider.
The WDAA has made major strides in promoting the sport since their beginning in 2010. They honor the western traditions that have been used over the years and combine this with classical dressage. In the past few years, we have incorporated Western Dressage into our riding program. The riders are gaining a better understanding of working and communicating with their horses. They are learning that their position and attitude has a major impact on how their horse behaves and moves. With the variety of patterns and movements, students are learning to remain focused, utilize their aids effectively, and strengthen their partnership with their horses. There is a unity in the ride now and the horses are more consistently relaxed and happy with their work.

Emphasis is placed on the horse's natural gait which makes it possible for all types of horses to be successful in western dressage. This has been important to us because many of our horses come into the program without being highly trained in a particular discipline. Some of our students have gotten into the show arena that may not have otherwise and we have others that have horse show experience enjoying this new opportunity. Students are learning to use the score sheets as a training tool for later rides and are learning to focus on their aids to achieve desired reactions from their horses. Western dressage promotes the riders and horses working together in a manner that promotes a calm, focused and confident partnership. We would like to see the WDAA add a collegiate level of competition to their association so that more colleges and universities can become involved and, we would like to see more colleges add this new discipline to their riding programs.

The Concept of Straightness- Assessment of Model-Assisted Learning in Equine Biomechanics.

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The concept of straightness focuses on the horse's horizontal balance. If the horse is traveling straight, the hind feet will track in the hoof prints of the front feet when traveling in a straight line or on the circle/curve. Straightness is essential for the horse to carry its weight in balance on both sides. The horse is able to optimize forward thrust/impulsion by moving forward equally with the hind legs. Straightness also aids in maintaining equal contact on both reins, and ensures that the horse will remain correctly on the aids. In essence, the straight horse further develops suppleness, thus resulting in the development of collection. Similar to humans, horses have a strong and a weak side, and natural crookedness is normal. The rider has the impression of a "banana-shaped" horse, which seems to move easier into the concave/ hollow side, but which has difficulties bending to the convex, or stiffer side. It is important to recognize this natural crookedness in a horse. Any attempts to achieve higher levels of performance will fail without corrective training, or may even lead to early wastage of equine potential. The natural asymmetry is caused by an increased tone of the abdominal musculature on the hollow side, together with a decreased ability to stretch those muscles appropriately. A horse that is naturally crooked to the right, moving on a right hand circle, places the right hind leg more towards the center of the circle, avoiding the center of gravity. The right hind leg is weaker, and has a shortened second half of the stance phase. The left hind leg on the seemingly stiffer side has a shorter second half of the swing phase. Consequentially, the hind legs show a difference in stride length, which in turn influences the stride length of the fore legs. This is especially obvious in trot, where simultaneous footing of the diagonal front leg occurs. Although riding on a circle may seem easier toward the concave side, into the natural crookedness, the rider feels in this case that the horse is leaning on the outside rein and falling on the outside foreleg. A different picture is seen when this horse moves into his stiffer, or convex side. When the horse moves on the left hand on a circle, it is leaning on the inside rein, and it seems to be impossible to maintain a steady contact to the outside rein. Since the horse is off balance and out of rhythm, the neck and back muscles compensate the increased muscle tone and lack of stretchiness on the concave side. On palpation, the long back muscle on the convex side is tense, and may even appear higher than its counterpart. Under an imbalanced rider and without corrective training, this natural asymmetry will increase and enter a vicious cycle, contributing to more irregular rhythm, loss of suppleness, resistance, stiffness, muscular tension, and long-term lateral muscular asymmetries, misalignments, and different hoof shapes. Resulting pain can cause behavioral problems that may not be linked to natural crookedness. Treating only the symptoms may show temporary improvement, but ignores the causation. In order to increase equine welfare, we emphasize that thorough understanding of the etiology of crookedness, and concepts for corrective training, can prevent long-term orthopedic damage and help reduce the wastage of horses. This must be recognized and addressed by not just trainers and riding instructors, but by all riders and horse enthusiasts interested in developing a balanced equine athlete.

This study aims to assess learning of the concept of straightness with the help of a wooden horse model, which was developed by Dr. Deb Bennett, according to the instructions on her website (www.equinestudies.org, Lessons from Woody). By using a horse model as an aid to teach equine biomechanics, this project intends to challenge three-dimensional thinking and emphasize applied learning. Twenty-five undergraduate students in equine science and animal anatomy and physiology classes will be given two sets of questions relating to equine biomechanics. The first set will assess previous knowledge and understanding, and the second

set will be presented after the learning module with the wooden horse model. Opportunities for responses to open ended and higher order thinking questions will be included, and the two sets of answers will be compared.

Think Outside the Box when Planning an Equine Program Fundraiser.

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It is not uncommon for university or college equine programs to supplement program costs with horse sales or horse-related fundraisers. Although there is little in the literature concerning fundraising strategy specifically for equine programs, there are fundraising concepts that can be utilized to maximize profits and increase participation. Higgins and Lauzon[2] reported that 44 of 50 event organizers surveyed suggested that fund-raising events served many purposes: they satisfied activity interests of participants; they acted as a fundraising tool, and they acted as a publicity tool for the sponsor of the event. Wood, Snelgrove and Danylchuk[4] determined that there were four distinct market segments that must be considered when hosting sporting fundraisers: (1) respondents who reported no connection to the sport or to the charity hosting the sporting event, (2) respondents who only had a connection to the charity hosting the event, (3) respondents who had a connection only to the sport, and (4) respondents who had a connection to the sporting event and to the charity hosting the sporting event. The authors suggested that the best way to maximize profit in a charity-run sporting event was to target all of the aforementioned market segments[4]. In a 2004 article, Weber[3] analyzed fundraising events in terms of participant motivators for supporting an event and the efficiency of fundraisers. The two reasons that Weber believed people participate in charity fundraisers were that they identified with the charity's mission and were philanthropic and/or they participated to get something in return. Targeting fundraising events toward a broader group of individuals outside of the charity's core philanthropically-motivated base served to yield greater income[1] .

Considering these key points from the literature, the University of Arkansas ANSC Equine Program personnel began thinking outside the traditional equine fund-raising box in order to initiate several events to generate program funding. For example, in 2012, the program hosted a successful Dog Walk and 5K run with local sponsorship. This event attracted an additional participant base to complement those individuals who wished to support the equine program effort. 'A day at the Races' was the theme of the event, and decorations depicted a day at the race track. A bugler playing 'Call to the Post' started the 5 K races, and pet food companies, local dog training facilities and horse racing enthusiasts helped to sponsor this event and donated prizes. This presentation will describe the event, strategies implemented, organizational design, stakeholders who contributed to the event's success, and information gathered along the way to ensure the event's successful production. The presentation will also present pitfalls and challenges which were addressed, as well as overall results of the project and recommendations for future implementation.

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Advising Video Teaches Prescriptive Course Selection Skills to Undergraduate Students.

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For decades, in the Department of Animal Science (ANSC) at the University of Arkansas, faculty members have advised students one-on-one. However, since student numbers have more than doubled in the last 10 yrs some departmental advisors have as many as 40 advisees, creating a heavy time commitment for individual advising. Because students who are the most satisfied with the advisement they receive are more likely to stay in school[1] it has become important to develop new group advising strategies that enhance the advising process and meet goals of the student without compromising the goals of the advisor, department, and institution[2].

In an effort to offer information about graduation requirements through stepwise analysis of the ANSC check sheet, a 17 min advising video was created to ultimately be made available from the ANSC website homepage. The video was specifically designed to teach students how to use the check sheet to tailor their college career to match their personal goals and interests and to decrease time spent by advisors teaching these prescriptive skills. If successful, it would allow advisors to spend more time learning about individual student progress, needs, concerns, and career interests. The video was also designed to familiarize students with internships, honors research, club and team activities. It included advice on some scholarship pitfalls to avoid.

To test effectiveness of the video and retention of the information, a pilot test was conducted. Approval for the study and instruments was received by the IRB. Seventy-eight undergraduates in two groups enrolled in ANSC1001L, Introduction to Animal Science Laboratory, elected to participate in the study. Consent forms were distributed, and signed by those students wishing to participate. The first group was comprised of 25 males and 17 females, and the second group was comprised of 11 males and 25 females. The instrument consisted of 5 demographic questions, and a pre- and post-test which included 24 identical questions about advising, internships, honors research, club and team activities and scholarship tips. In an effort to maintain consistency, the students were read instructions from a script by the same instructor in advance of the study. The students took a pre-test, watched the video, and took a post-test immediately after viewing the video. Data were analyzed with SAS 9.3 using a paired samples t-test to determine if the advising video had an effect on student's prescriptive course selection skills. The assumption of normally distributed paired differences was met, as indicated by the Shapiro-Wilk test, $W = .98$, $p = .13$. The paired t-test confirmed the effectiveness of the video on student's tacit knowledge, as post-test scores were higher than the pre-test scores, $t(77) = 12.66$, $p < 0.01$. Also, the effect size was very large ($d = 1.43$), indicating that on average, watching the video helped to improve student prescriptive course selection skills by nearly 1.5 standard deviations.

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Developing an Interdisciplinary Minor in Horses, Humans and Health.

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Often students of occupational therapy express a desire to practice clinically using the treatment strategy of hippotherapy. Unfortunately many students do not have the horse background or experience with horses to make them effective or safe practitioners in any equine assisted therapy applications, including hippotherapy. Thus, a course in Equine Assisted Activity was created to meet the needs of these future occupational therapists. Progressing to a service learning course, it became a highly desired elective, but not only with occupational therapy students. With Eastern Kentucky University's focus on veterans and the development of a major in Animal Studies, it was apparent that students in several majors were interested in horses. The idea caught the attention of others at Eastern Kentucky University and a group of faculty from different areas of the university community got together through the summer and fall of 2011 and developed an interdisciplinary Minor in Horses, Humans and Health.

This newly created minor began in 2012, is interdisciplinary, comprised of at least eight different connecting departments at the university, including Agriculture, Animal Studies, Family and Child Development, Occupational Science, Psychology, Therapeutic Recreation, Health, and most recently, Library Science. Those who are interested in horses can learn about the many different directions one can take to seek a career that includes horses.

The six courses in the minor vary in objectives, content and purpose, but all involve the horse experientially. Without understanding the horse as a sentient being, or understanding the power and sensitivity of this creature, students would miss out on the very basic premise of partnering with the horse in any capacity. As an Occupational Therapist, teacher of Occupational Science, and a lifelong horse person, I have a particular perspective that I like to share with my students – that of understanding of the versatility of our equine partners and the diverse directions one can pursue for their career combining horses and humans.

During this presentation, the process of developing an interdisciplinary minor will be shared as well as student perspectives that illustrate the benefits of combining courses. Students' guided self-reflections reveal a growth in knowledge and an increase in comfort level as they progress through the semester. Participants in this presentation will be able to 1) describe the progression of developing a minor at a public state university and 2) discuss the benefits of interdisciplinary study combining horses and humans.

The Palmar Metric: A Novel Radiographic Assessment of the Distal Phalanx in the Horse.

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Academic institutions that have equine science programs teach subjective evaluation of horse conformation. Although quantitative methods have been reported, only recently have tools for rapid objective quantification been developed. Due to advances in imaging technology, conformation of the horse, including foot conformation, can now be assessed accurately and quantitatively. Using undergraduate students as examiners, we investigated a previously un-described radio-dense curvilinear profile along the distal phalanx on lateral radiographs we term the Palmar Curve (PC) that we believe provides a measurement of the concavity of the distal phalanx of the horse. A second quantitative measurement, the Palmar Metric (PM), was defined as the percent area under the PC. We correlated the PM and age from 544 radiographs of the distal phalanx from the left and right front feet of various breed horses of known age, and 278 radiographs of the front feet of Quarter Horses. The PM was negatively correlated with age and decreased at a rate of 0.28 % per year for horses of various breeds and 0.33 % per year for Quarter Horses. We believe this decrease in PM may be related to the gradual demineralization of the distal phalanx and results in a loss of concavity as horses age. Therefore, the PM may be a useful tool to capture the net effect of the manner in which age affects the morphology of the distal phalanx of the horse. These advances may enhance student learning through comparison of subjective and versus quantitative assessment of equine hoof conformation. Additionally this approach may reveal insights into the form and function of the equine digit through morphometric analysis.

The Effect of Desensitization (Reactivity) Intensity on Physiological Parameters of Horses.

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It is well documented that animals have a positive effect on humans, and horses have become increasingly popular as instruments (tools) utilized in therapeutic and educational programs. Some of the attributes employed in the selection of suitable therapeutic horses include health, conformation, quality of gait and temperament. Temperament is the disposition or general consistency with which the horse behaves and may be the most important trait for sport and general use horses. Horses are considered “fight or flight” animals and therefore their natural response is to flee and to fight only out of necessity. The Natural Horsemanship training concept is based on that response and many trainers use this method in their training practices. The art of training horses is based on two premises, to either do something, which is called the “sensitizing” aspect of training or to not do anything, which is called “desensitizing”.

Desensitization in horse training has become more heavily utilized and appears valuable in today’s view of natural horsemanship. A horse that has been properly desensitized appears to be calmer and more respectful in their interactions and behavior and potentially better candidates for therapeutic or educational programs. Testing a horse’s level of reactivity to a stimulus may give an indication of that horse’s overall temperament. The objectives of this research were to expose horses to three levels of desensitization (or reactivity intensity) in a latin-square design to determine the effect that both level and order of desensitization intensity have on physiological parameters of the horse. Data from this preliminary experiment will be used to aid in the development of an objective reactivity test in horses being considered for therapeutic riding programs. Nine horses (n=3 horses/treatment) were used in a replicated latin-square design. Each horse was exposed to a rope (low intensity, L), stick (medium intensity, M) or bag (high intensity, H) for 5 minutes 2 times per week and then moved to another level of intensity in one of three orders, LMH, MHL or HLM. Respiration and heart rate were recorded and jugular blood collected for plasma cortisol concentrations both pre- and post-treatment and the difference calculated. There were no differences in respiration rate ($P=0.36$; $P=0.98$) or plasma cortisol ($P=0.64$; $P=0.61$) regardless of treatment or order of treatment, respectively. Regardless of treatment order, horses in the H group had a significantly higher heart rate after treatment than the L group ($P=0.01$) but was not different from the M group ($P=0.26$). There was an order of treatment by week interaction ($P=0.03$) in heart rate. Based on this data, we conclude that only heart rate was affected by desensitization intensity. Therefore, other parameters should be considered for future research designed for the development of an objective reactivity test for therapeutic horses.

Equine Extracurricular Activities Improve Student GPA and Persistence in a University Horse Program.

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Student retention in college has been at the forefront of research for many years. Previous studies indicate positive relationships between GPA, extracurricular activities (ECA) and retention. Extracurricular activities link students to the institution by promoting interest in the activity, encouraging students to identify with peers and mentors through involvement, and engaging them to be invested in the institution and their academic success. A companion study[1] identified student perceptions of success by surveying 70 Middle Tennessee State University (MTSU) Horse Science majors. The results indicated that students' ECA participation was positively correlated with identification of a mentor ($R^2 = 0.34$; $P = 0.003$), and there was a positive trend ($R^2 = 0.26$; $P = 0.06$) between ECA and self-reported GPA. The objective of the current study was to explore effects of ECA participation in Horse Science students at MTSU, using official transcript data for a student cohort. We hypothesized that students participating in an ECA would have higher GPAs, more hours earned and a greater persistence to graduation.

This two part study was approved by the MTSU Institutional Review Board. In Part A, a snapshot of official transcript data of all Horse Science majors enrolled in the spring 2013 semester (n = 81) were recorded and compared to survey data collected from the companion study. Means of self-reported GPAs from the survey data were compared to official transcript GPA using a proc GLM procedure of SAS with a Tukey-Kramer adjustment. There was no difference ($P = 0.86$) between official transcript GPA and self-reported GPA from the companion study. Based on official transcripts and ECA membership lists in spring 2013, students tended ($P = 0.07$) to have higher cumulative GPA at the time of the survey if they were members of at least one Horse Science ECA compared to non-members. In Part B, official transcript data were evaluated in first-time full-time freshman cohorts (n = 42) longitudinally from matriculation to graduation or attrition, from fall 2007 to spring 2013. Official transcript data from each student were cross-referenced to official ECA membership lists in the MTSU Equestrian Team, Stock Horse Team, Horse Judging Team, and Horsemen's Association. Of these students, 50% graduated, and 100% of graduates were members of at least one Horse Science ECA. ECA members had higher cumulative GPA ($P < 0.0001$) in their last semester, persisted longer ($P < 0.0001$), and earned more total hours ($P < 0.0001$) by the time they either graduated or stopped attending compared to non-members. Members of at least one Horse Science ECA had higher first-year GPA ($P = 0.0006$) and earned more hours ($P = 0.0016$) in their first year of enrollment, compared to non-members. There was a positive correlation between total number of ECA per student and cumulative GPA ($r^2 = 0.27$; $P = 0.016$), and between ECA and total hours earned ($r^2 = 0.70$, $P < 0.0001$). Of the 4 Horse Science ECA, there was no effect ($P > 0.39$) of type of ECA on cumulative GPA. The results of this study strongly indicate that involvement in ECA positively affects GPA and persistence in university Horse Science students. These factors show that ECA can keep students iNTERESTED, iNVOLVED, and iNVESTED, coined as i3.

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Inter-institutional Collaboration Project on Body Condition Scoring of Horses.

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Body condition scoring (BCS) of horses is a standardized process used to determine the amount of fat stored in the body. It may be useful for validating feeding programs or to determine the welfare of individuals or groups of horses. This procedure is regularly taught to students in equine programs through the use of notes, photos of horses representative of the different scores, and, preferably, hands-on appraisal. The simplicity of this approach may call into question the validity of the technique itself. However, observer ratings are welfare-friendly, non-invasive, inexpensive techniques that are easily learned and do not necessarily require handling of the animals. Previous studies in other species have challenged the use of subjective assessments as a valid clinical measure, and the reliability of such measures between different observers. Inter-observer reliability refers to the agreement among multiple people independently rating the same animal, whereas intra-observer reliability refers to the agreement (consistency) of ratings by the same individual on the same animal on multiple occasions.

In order to test the inter- and intra-observer reliability of BCS on horses, 45 second-year equine degree students from the University of Guelph (UG) and 13 first-year equine students from Nottingham Trent University (NTU) each scored 21 or 24 horses respectively through live palpation, and all 45 horses using photos. Photos included both a left side profile and a hindend view of each horse. UG students scored the photos a second time four weeks later. Additionally, 25 untrained observers were given a handout explaining how to body condition score horses using Henneke's BCS system (9-point system with 1=poor and 9=obese). They then recorded scores for photos of each of 25 different horses. Independent t-tests were used to analyze BCS reported by untrained observers versus students, inter-observer reliability, and scores from UG versus NTU students. Paired t-tests were used to analyze intra-observer reliability on repeated BCS by UG students. Five of the horses were owned by UG students, and an independent t-test measured the difference in BCS between owners and non-owners. There was a significant difference in BCS between students and untrained observers ($p<0.0001$), with untrained observers scoring horses slightly higher and with greater variability (5.39 ± 0.95 versus 5.6 ± 1.54, respectively). Inter-observer scores differed significantly both within the untrained observers and among all students ($p<0.0001$). There was no difference in BCS between live observations and scoring from photos ($p>0.10$). When viewing the same photos, NTU students scored horses significantly higher than UG students (5.69 ± 1.03 versus 5.39 ± 1.14 respectively; $p<0.0001$). Intra-observer scores among the UG students differed when viewing the same photos on multiple occasions ($p<0.011$). Horse owners did not score their own horses any differently than non-owners ($p>0.71$).

It is not surprising that untrained observers scored differently and with greater variation than students, who could be classified as trained observers, as reliability increases substantially with training. Interestingly, scores using photos did not differ from scores using live palpation, indicating that that body condition scoring can be achieved without physically interacting with an animal. The difference in scores both within and between subjects implies that BCS still remains a fairly subjective judgement, and should not be relied upon as an accurate assessment of an animal's status. The difference in scores between the Canadian and English students can be attributed to a variety of different factors. The English students were only in the first year of their degree program, thus could be considered somewhat less experienced than the second-year Canadian students. Additionally, cultural differences could contribute to the differences in scoring, as well as differences in the use of extremes on the rating scale. The 5-point BCS

system is more often used in Britain, and thus the English students may not have been as familiar with the 9-point scale. Although ratings by familiar people tend to be biased, with horse owners tending to underestimate obesity in their horses and not wanting to admit to a lack of care, this study did not find any difference in owner BCS compared to non-owners. This, admittedly, could be due to the small sample size of owners.
In summary, BCS in horses remains a subjective judgement with a great deal of variability both among and within scorers.

Management of University Equitation Horses and its Effect on Soundness.

Victoria Ramlose, Jessica Scare, Alyx M. Shultz, and C.A. Shea Porr. Murray State University, Kentucky

Interest in equine education programs has been increasing during the last decade. At the same time, many university budgets have decreased in recent years, preventing equestrian programs from purchasing more horses to fulfill the needs of a growing program. This often results in an increased use of horses in university programs across the country. One risk of this increased use is a higher incidence of lameness in the animals. Lameness limits the use of the horses and hampers not only their health, but also the teaching and learning of students in the program. Lameness can be caused by changes in use, fluctuations in body weight, physical injury, and many other reasons. In university equitation programs, horses are often ridden much less frequently in the summer, as courses are typically only offered during the fall and spring semesters. With this in mind, the objective of this study was to monitor lameness in a university equitation herd with respect to changes in use and body condition score between the summer and fall semesters.

Data was collected on 53 horses in the university's equitation herd during the summer and fall semesters in 2013. Exercise activity, body condition scores (BCS), nutritional adjustments, and incidents of lameness were recorded concurrently. Information on daily exercise was gathered from June through December. A form was created and placed in an accessible location, upon which data was recorded by graduate students and faculty instructors. Instructors noted which horses were used and estimated the intensity of work performed that day. Exercise was categorized as light, moderate, heavy, or extensive based on a scale modified from the NRC's Nutrient Requirements for Horses. Body condition scores, based on the Henneke scoring system, were evaluated every two weeks. Changes in feed were recorded throughout the study period. Deviations in BCS as exercise increased were anticipated; as expected, some horses began to receive grain during the fall semester in order to compensate for the increased workload. Lameness was documented by experienced equine professionals and addressed by a veterinarian as needed. Chi square analysis was performed to assess any relationship between exercise use, intensity, BCS, and lameness.

Only 21 (39.6%) of the equitation horses were ridden during the summer. Average exercise level was scored in the light category. During the fall, average exercise intensity increased into the moderate level. Chi-square statistical analysis showed that the incident of lameness did not differ by summer use ($\square^2(1, N = 53) = 0.287$, $p = 0.592$). Horses maintained an average BCS of 5.38 in the summer and 5.42 in the fall, showing no significant changes despite the increase in activity seen in the fall semester. As exercise intensified, horses were provided grain or had their ration increased in order to avoid the anticipated weight loss. The population of horses that did show signs of weight loss did not continue to lose weight once grain was provided. Horses that were continuously given grain throughout the study did not show any significant weight loss regardless of increased exercise intensity. Though not statistically significant, there was a trend for the percentage of horses that were lame to differ by BCS ($\square^2(1, N = 58) = 2.78$, $p = .0952$).

Although workload intensity increased for the university's equitation horses in the fall semester, there was no correlation between exercise intensity or BCS and the incidence of lameness. Horses were able to tolerate the extra work brought on by increased student use during the fall semester. At the same time, the majority of equitation horses were maintained within an acceptable BCS range of 4 and 6. The lack of a connection between changes in exercise intensity, BCS, and lameness suggest that the management practices at the university are appropriate to maintain equine health. However, 40% of the horses were documented as lame

at least once over the course of the fall semester. For this reason, investigating the implementation of a summer exercise program and its effect on lameness may be advantageous. Also, given the trend for BCS to relate to lameness, future studies involving obese horses introduced to an exercise program would be appropriate.

Social Media and Equine Science: The Effect of LinkedIn on In-Class Engagement and Grades of Equine Higher Education Students.

Elise A. Lofgren, Alyx M. Shultz, C. A. Shea Porr. Murray State University, KY

Social media has become a staple of communication in society today, allowing people from all over the world to interact with one another with the click of a mouse. Websites such as Facebook, Twitter, Myspace, and LinkedIn, all provide a template for communication that spans across countries and cultures. These sites involve the use of two-way communication between users, where they can share ideas, evaluate new information, and discuss current events and issues. With advances in technology and growing hunger for information, social media has increasingly become more common in the classrooms of higher education. Research of 1,000 colleges revealed that almost 80% of faculty had incorporated some form of social media into the courses they were teaching. By having their students interact outside of the classroom with their classmates and material, educators have found that use of social media in class resulted in closer relationships with their students and made classroom activities more engaging.
This study examined the benefit of using a social media site as a supplemental teaching tool in an equine higher education curriculum. In particular, it involved the incorporation of the social media site LinkedIn as a required course participation assignment for equine science students. This provided additional outside of class interaction with their material.

Two advanced-level equine science classes were selected for participation in this study. Both classes were taught by the same instructor and in a traditional lecture/discussion format, however, one course had an additional social media component added as a part of their class format. Both courses met in a face-to-face setting with the instructor for one 3-hour session each week. The traditional group (TRAD) of 7 students completed standard assignments during the semester. The treatment group (LINK) of 16 students was required to participate in several assignments during the semester using the LinkedIn site. Assignments included having students create their own profile, join a group set up for the class, and interact with their classmates by reviewing and discussing peer-reviewed research that was posted each week to the group site. LINK students were also required to interact on other equine science related groups on LinkedIn and to turn in summaries of the question and discussion activity occurring within those groups. Completion of the assignments was graded. Pre-course, mid-course, and post-course surveys were conducted in each class. The pre-course survey was composed of questions regarding the use of social media in classes previously, effectiveness of social media in the classroom, and impact of social media on career opportunities. The mid-course survey was only distributed to LINK students- and was composed of questions regarding the students' experience with the LinkedIn component of the class, their perceived impact on their grades by the LinkedIn component, and their thoughts of how the social media portion could be used to better benefit the students. The post-course survey was composed of the same questions as the pre-course survey, with the addition of questions regarding the effect of LinkedIn on their learning experience and the communication/relationship with their professor and their classmates. Grade data for each course was also collected and compared at the end of the semester. The data was then analyzed using descriptive statistics (Likert scale) and scatterplots. This study was approved by the Institutional Review Board.
Because of the low number of students in both courses, correlational analysis was unachievable; however there was noticeable positive feedback from LINK students regarding their interactions with the LinkedIn portion of the class. The descriptive statistics from this study suggest that while students found the traditional lecture format to be the most effective, they also found the social media component of the class to be beneficial as a teaching tool. Student

comments regarding the use of social media for class in the post-course survey included “It gives students a chance to actually visualize what they are learning and to see other opinions from individuals all over the world” –and “It is a great way to get involved in the outside world other than the classroom setting and get an outside point-of-view on topics”. If repeated with a larger student pool, this study has the potential to obtain more statistically significant data on the effect of social media within equine science classes.

The Anatomy of the Equestrian Arena: Stones, Pebbles, Particles and Dust.

Brian P. McNeil, Principal, E=MC Equestrian Arenas & Surfaces International

Horses and riders today spend thousands of hours training on equestrian arenas. By understanding the methods and materials required to produce safe, durable, and discipline-appropriate arena systems, students with little or no construction background will have the confidence to evaluate the arenas they are exposed to as equine professionals.

Instructors need to clearly understand and present to students the core structural components of all arenas, ***the sub-base/upper base***, with an arena anatomy lesson combined with the mechanics/processes of constructing the arena base, a process quite akin to baking a cake.

Nomenclature: arena construction has a language of its own, and every arena begins with a "recipe" of components. The vocabulary is presented out the outset of the instruction. Printed handouts are provided.

Stratifications: as with assembling a cake, in layers, simple cross-section visual aids are used to allow students to comprehend the layering of materials, with the normally hidden base layers in full view. Simple display cross-sections using the actual sands/aggregates are most effective.

Components: while different arena systems vary in the sands and aggregates used, all arena base layers/aggregates are tasked with supporting the equine forces above: hence, the proper ratios and compaction of the stones, pebbles, particles and dust. In-class inspection and handling of actual base materials are the most effective illustrations of why these 4 components actually work as they do, once combined with water and pressure.

Interpretation of Sieve Analyses: present students with the typical technical paperwork/specifications offered by aggregate processors.

Process: present the sequence of work and technical requirements which ensure longevity and proper drainage, the key concerns when constructing and maintaining the arena base layers.

Maintenance: students are presented with examples of successful and failed arena maintenance practices and equipment.

The State of the Art: arena construction continues to evolve, especially in footing composition and base components. As well, installation equipment and laser technology must be presented, ideally by actual in-class interviews with installers or site-visit to any local arena projects.

Horse health is job #1 for students entering the equestrian profession. A clear understanding of the role critical role of properly constructed and maintained training/competition arenas must be introduced into the Equine Sciences curriculum using creative, tactile approaches as well as in-the-field examinations of existing and under-construction equestrian arenas.

Note: whenever practical, bring the class to an actual arena, supply a tractor/operator and grooming equipment, and interview the maintenance crew for first-hand, in-the-field examination of the arena footing, base components, drainage and watering systems. Ideally, a horse/rider demonstrating the action of the horse on the arena will add a useful and dynamic resource for the class.

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