Since its inception in 2010, the CVM Teaching Academy has evolved and grown to provide a wide range of opportunities focused on making teaching matter. Ranging from large professional development workshops to small group meetings, the CVM Teaching Academy provides participants with a diverse menu of common objectives, activities and opportunities. These various opportunities enhance instructors' development to meet the needs of the ever-changing world of higher education.

**CVM Teaching Academy Attendance:**

*Individual attendance data for 2012 was not available*

For 2020 and 2021, though our events were impacted by COVID-19 teaching adaptations and the retirement of our founding Director, Dr. Steve Hines, we were able to interact with 175 faculty, staff, and students across different events and programs. The focus of the events varied depending on the needs and interests of our members.

The CVM Teaching Academy has impacted our college and campus both directly and indirectly with our efforts to make teaching matter.
Martin O. Furr, DVM, Diplomat ACVIM, PhD, MA Ed

After graduating from Oklahoma State University with a DVM in 1986, Dr. Furr practiced veterinary medicine at a clinic in Oklahoma and then completed a Residency in Internal Medicine at the Marion duPont Scott Equine Medical Center in 1989.

For the following two years, he was an Assistant Professor of Large Animal Clinical Sciences at the Virginia-Maryland Regional College of Veterinary Medicine at Virginia Tech in Blacksburg. In 1991 Dr. Furr returned to the College's Equine Medical Center serving as an Assistant Professor of Equine Internal Medicine. He also attained Diplomat status that year, receiving Board Certification from the American College of Veterinary Internal Medicine. In 1996, Dr. Furr was promoted to Associate Professor of Equine Internal Medicine, and in 2000, completed his PhD in Neuroimmunology at the University of Maryland. In 2006 he was promoted to full professor, and in 2015 obtained a MA degree in medical education from Michigan State University.

Currently, Dr. Furr is Professor and Head of the Department of Physiological Sciences at Oklahoma State University. He continues to teach and consult, and has spoken regularly at national and international meetings on topics of equine internal medicine, neonatology and neurology. He has published approximately 90 peer reviewed research papers, and is the primary author and editor of a major textbook of equine neurology, now in its second edition, with his colleague, Dr. Steve Reed. His research interests include equine neonatal medicine and critical care, equine neurology (particularly equine protozoal myeloencephalitis), equine immunology, and faculty development and medical education

February 17, 2021 - Seminar: Why Do They Leave?

Challenges to Recruitment and Retention of Veterinary Faculty

Description: The challenges of recruitment and retention of clinical faculty are widespread in veterinary education. Dr. Furr will present his research findings on the reasons that faculty choose to leave academe, as well as the factors that recent specialty graduates and specialist trainees consider in deciding for or against an academic career. The results might surprise you!!

February 26, 2021 - Seminar: Part 2 - Q & A session

“Why Do They Leave? Challenges to Recruitment and Retention of veterinary faculty

The challenges of recruitment and retention of clinical faculty are widespread in veterinary education. Last Wednesday, Feb 17, Dr. Furr presented his research findings on the reasons that faculty choose to leave the academe, as well as the factors that recent specialty graduates and specialist trainees consider in deciding for or against an academic career.

Seminar Attendance:

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</table>

Invited Guest Speaker:

Regina Carey, M. Ed.

Regina has positively influenced the field of Special Education across the country for 30 years. Her extensive career path started as a special education teacher in the North Carolina school system. From there, she began her work training teachers and serving as the programs coordinator with the UNC School of Education. She served as a learning specialist with the University of Wisconsin Athletic Department and an instructor and coordinator for the Special Education Program and Resource Center for Persons with Disabilities at Michigan State University. She is a former Board Member of the Learning Disabilities Association (LDA) of America and still active on the Board of the Michigan LDA.

Throughout her career, Regina has been working and growing alongside her husband, Dr. Stephan Carey. Veterinary school, internship, residency, and Ph.D. adventures have provided Regina many opportunities to work with vet school students, faculty, and staff for 25 of her 30 years in education. The goal of her work is to educate and empower those who are stuck, struggling, and ready for positive change.
April 7, 2021 - Seminar: Part 1: “Now You See It; Now You Don’t”

- Demystify learning disabilities across the lifespan
- Discuss challenges faced by both students and faculty in a learning environment
- Break down the role language plays during interactions with students with learning disabilities
- Discussion groups with Q & A around Instruction

April 14, 2021 - Seminar: Part 2: “Now You See It; Now You Don’t”

- Learn 3 techniques to assist with instructional design that is inclusive of accommodations
- Learn how changing one behavior on the clinic floor can improve outcomes
- Address the reality of “not knowing”
- Discussion groups with Q & A around Clinical Rotations
- Leave with one powerful take-away about working with students who learn differently

Seminar Attendance:

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<td>33</td>
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<tr>
<td>April 14, 2021 - Seminar: Part 2: “Now You See It; Now You Don’t”</td>
<td>32</td>
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</table>

Highlights from today’s session:

“Now You See It; Now You Don’t”

* Celebrate CVM Accomplishments!
* Identify Your Superpower (and use it!)
* Neurodiversity Celebrates the Gifts!

Difficulties are prevalent across the lifespan.

Longing to be like their peers
Fidgeting or moving to improve attention
Watching others to gauge their own behavior
Feeling lonely, unworthy, and/or anxious
Experiencing trouble with executive functions
Bethany is a licensed mental health counselor in the state of Washington and Idaho. Bethany received her Master’s Degree in Human Services with an emphasis on School Counseling and a Specialist degree in School Psychology at the University of Idaho. Her areas of interest and experience are in eating psychology, individuals and couples counseling, general mental and physical health, compassion-fatigue, mindfulness, and experiential learning and outdoor education. Bethany’s counseling philosophy is compassion-focused and client-centered, using cognitive-behavioral, existential, dialectical-behavior, and animal assisted therapies as part of the process. Ultimately, she is strengths-based and identifies the unique qualities one has to be successful. If necessary, she will utilize resources and offer referrals as needed.

Trauma-Informed Practice in Education

Invited Guest Speakers:

Rhonda Allenger, Clinical Social Work/Therapist, LICSW, ACSW

Before starting Allenger Dialectic Therapies, my work history included being a mental health clinical director in a rural Washington community behavioral health center. In over 23 years of practice in this setting, my job duties have been diverse: engagement with clients and allied professionals, development of effective service delivery, implementation of evidence-based practice- DBT, RO-DBT skills class and individual therapy, supervision of clinicians, diagnosis and assessment, and crisis work/involuntary commitment investigations. For full bio click here.

Bethany Colaprete, Ed. S., LMHC - Director of Counseling & Wellness

Bethany is a licensed mental health counselor in the state of Washington and Idaho. Bethany received her Master’s Degree in Human Services with an emphasis on School Counseling and a Specialist degree in School Psychology at the University of Idaho. Her areas of interest and experience are in eating psychology, individuals and couples counseling, general mental and physical health, compassion-fatigue, mindfulness, and experiential learning and outdoor education. Bethany’s counseling philosophy is compassion-focused and client-centered, using cognitive-behavioral, existential, dialectical-behavior, and animal assisted therapies as part of the process. Ultimately, she is strengths-based and identifies the unique qualities one has to be successful. If necessary, she will utilize resources and offer referrals as needed.

Rocky Lucas, LICSW

Rocky is a licensed Clinical Social Worker in the state of Washington. Rocky is a graduate of the Master’s in Social Work program at the University of Kentucky. A recent transplant from West Virginia, Rocky comes to WSU with 15 years of social service experience, including 9 years providing mental health therapy to adolescents and adults. His areas of focus include improving distress tolerance, emotional regulation, substance abuse, and LGBT issues. His psychotherapeutic approach is REBT-based (Rational Emotive Behavioral Therapy), focused on helping patients confront negative, unhealthy thinking patterns. He is also an educator, having served as adjunct faculty in the social work department at Marshall University.

Martha Jane Jenkins, Ph.D. LMHCA—Counselor & Wellbeing Specialist

Jane is a Psychology resident and Licensed Mental Health Counselor associate in the state of Washington. Jane received her Master’s Degree in Counseling Psychology with specialties in Cognitive-Behavioral Therapy and Child and Family Counseling from Assumption College in Worcester, Massachusetts. She received her Doctorate degree in Counseling Psychology with a specialty in the Human-Animal Bond from Washington State University. Jane’s areas of interest and experience are in mood disorders (anxiety, depression), trauma recovery, emotion regulation, interpersonal communication, and non-suicidal self-injury. Jane has provided individual, couple, and group therapy for children, teens, teens with autism, adults, and older adults. Jane’s counseling philosophy is client-centered, using cognitive-behavioral, compassion-focused, dialectical-behavior, acceptance and commitment, and equine-facilitated techniques as adjuncts to therapy as appropriate.
Part 1 of this series defined trauma, provided an overview of behavioral presentations, and facilitated a process to identify the impacts of trauma. In Part 2 we will begin to uncover ways the COVID-19 pandemic created a collective trauma experience. We will determine what can be done in response to this experience and discuss future implications.

Resources:

- **Pew Article**: "Many Americans continue to experience mental health difficulties as pandemic enters second year"
- **Essentials of Self Care Video** - "To feel too much is Dangerous, To feel too little is tragic." - David Kessler
- "Resilience & Pandemic" by Rhonda Allenger

Seminar Attendance:

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<thead>
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<td>24</td>
</tr>
<tr>
<td>June 9, 2021 - Seminar: Part 2</td>
<td>23</td>
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2020 – 2021

Brown bag informal discussions are designed to explore and disseminate best practices - helping educators teach students effectively and efficiently in both classroom and clinical environment. Brown bags also include a CVM "Teaching Tool Kit" series with a goal explore topics that will expand a participant's teaching "tool kit." In 2020-2021 our Brown bag seminars were limited due to the need for COVID-19 teaching adaptations that impacted on our availability for professional development activities. We focused many of our brown bags towards online teaching in response to the challenges faced by our members.

Brown Bag Discussions:

All Sessions were video conferenced via Zoom

2020:
- There were 5 discussions (4-Spring; 1-Summer - None in fall due to COVID)
- Average attendance for 2020 = 16 people

2021:
- There were 3 discussions (3-Spring)
- Average attendance for 2021 = 14 people

Teaching Tool Kit Series:

All Sessions were video conferenced via Zoom, not in person.

2020:
- There were 6 discussions
  - 133 total attendance; average attendance = 22
- 60 people in total participated
  - 12 were from outside CVM
  - 48 were from within CVM
  - 25 were new to the Tool Kit

2021:
- There were 3 Virtual Coffee Hours
  - 21 total attendance; average attendance = 7
- 13 people in total participated
  - 3 were from outside CVM
  - 10 were from within CVM
  - 7 were new to the Tool Kit

Guest Speakers:

All Sessions were video conferenced via Zoom

2020:
- No Guest Speakers due to COVID

2021:
- Hosted 3 Guest speaker presentations during the Spring Semester.
  - 6 Sessions = average attendance 36
  - Our largest attended seminar was 81 people
Brown Bag Discussions Included:

2020

Academic Outreach and Innovation: Pedagogy + Technology
January 14, 2020 - Mary Packer & Valerie Cheathon

**Description:** Academic Outreach and Innovation (AOI) is the division of Washington State University that promotes and supports the use of academic technology and innovative pedagogy in a wide variety of teaching and learning contexts. Participants learned about the educational technology tools that AOI supports and help implement in their course. Providing student engagement materials offered in the Spark 102 Faculty Studio, which can also be found online: [https://li.wsu.edu/teaching-tool-boxes/student-engagement-strategies/](https://li.wsu.edu/teaching-tool-boxes/student-engagement-strategies/)

Bright Spot: A new (or not-so-new) test question format that better reveals student misconceptions
January 30, 2020 - Nicole Kelp & Steve Hines

**Description:** Nicole Kelp and Steve Hines discussed recent research and their personal teaching experiences with converting Multiple Choice tests into Multiple-True-False tests in order to better investigate student understanding.
Brown Bag Discussions Continued:

**Taking your use of our student response system (Top Hat) up a level, or two!**
February 14, 2020 - Steve Hines

**Description:** During the session participants briefly explored how instructors are currently using Top Hat in their classrooms. The discussion highlighted additional evidence-based and “beyond the basics” methods that have been shown to increase student engagement and learning. The goal was to step back and talk about strategy and pedagogy.

**BACKGROUND:** When instructors first start using a student response system (“clickers”) in their classroom, they typically do so for a few specific reasons:

- **Diagnostic purposes** – check student understanding of topics or concepts taught previously in the hour or in a previous session.
- **Motivation** – a friendly nudge for students to keep up with their studying and reminder of a few key concepts.
- **Engagement** – an easy gateway to break up content delivery and introduce some active learning.

These are all great goals, but how well are our specific methods working? Are there practices that can help us better achieve these goals, but also promote deeper learning and better retention? Most of our questions are typically simple recall or some elementary application. How might we move beyond this?

Participants were asked to bring their questions and, different strategies if applicable to share.

**Increasing Intentionality in Course and Lecture Design**

March 5, 2020 - Nicole Kelp & Raelynn Farnsworth

**Description:** Nicole Kelp and Raelynn Farnsworth shared application of concepts learned from the Veterinary Educator Teaching and Scholarship (VETS) 1.0 Faculty Development Workshop this past summer at Davis, CA.

**Top Hat: Virtual Classroom is Here! Let’s Chat!**
July 23, 2020 - Brad Lindsay, Top Hat Representative

**Description:** How to leverage Top Hat Virtual Classroom for a hybrid or synchronous online course. How to deliver lectures, read-

**2021**

The CVM Teaching Academy is hosting a series of virtual Teaching Ideas and experience exchanges. The goal of each session was for participants across the college to share their experiences and ideas with remote, online, and hybrid teaching.

**Virtual Teaching Ideas and Experience Exchange—1**

Feb. 3, 2021 - Kerry Rood (Logan CVM) & Jeffrey Abbott (VMP)

- **Kerry Rood** - Engaging and Humanizing Hybrid Face-to-Face Delivery: Veterinary Public Health Curricula
- **Jeffrey Abbott** - Discussion around how to
Brown Bag Discussions Continued:

Virtual Teaching Ideas and Experience Exchange—2

Feb. 10, 2021 - Dawn DeWitt (COM) & Erika Offerdahl (SMB)

- **Dawn DeWitt** - How we adapted our cases for an online clinical “virtual” rotations.
- **Erika Offerdahl** - Focusing on building community and connection with her students via Zoom

Virtual Teaching Ideas and Experience Exchange—3

March 3, 2021 - Phil Mixter & Bill Davis (SMB)

- **Phil Mixter & Bill Davis** - Building a Community among students using "PackBack" and other platforms remotely.

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The CVM Teaching Academy continues the "Teaching Tool Kit Series" this summer in a slightly modified fashion.

Many of us who have been up to our necks in the COVID-19 teaching adaptions and are exhausted. However, we want to use our summer CVM TA Teaching Toolkit series to share some specific lessons learned with socially distanced teaching. This was timely as there was a very good chance that we will be doing more of the same during the fall. Experts tell us that one of the most powerful faculty development tools is just getting highly motivated educators together in a room to talk about teaching and learning – i.e. to share their ideas and practices. So we did it! Via ZOOM, of course.

**2020 Attendance:**

**Attendance:** There were 60 people in total that attended at least one program this summer. 25 out of the 60 (42%) were new faculty, graduate, or staff members that had never participated before.
Teaching Tool Kit Series:

What We Learned (from our online teaching experiences) - Part 1
May 28, 2020 - Steve Hines

Description: This ZOOM meeting was our first in which we began to share our experiences with online teaching this past spring. This session consisted of a round robin session where 4 people representing the 3 years of the CVM didactic curriculum and a undergraduate curriculum.

What We Learned (from our online teaching experiences) - Part 2
June 2, 2020

Round Robin discussion:
• Sam Gizerian – VoiceThread (undergraduate)
• Bethany Colaprete/Rocky Lucas – COLE mentor training
• Heloisa Rutigliano – USU Y1 and/or Y2
• Pete Meighan – DVM Y1 (video production)

What We Learned (from our online teaching experiences) - Part 3
June 9, 2020

Round Robin for Part 3 of “what we learned”:
• Bill Davis – CVM, SMB
• Martin Maquivar – CAHNRs
• Using Zoom breakroom rooms (by request) – Steve Hines—We will put participants into breakout room to demonstrate some of the features.

What We Learned (from our online teaching experiences) - Part 4
June 16, 2020

1. SnapChat: Martin Maquivar explained further how he used SnapChat last semester to communicate with his students and alert them to materials and assignments in his courses.

2. Zoom Breakout rooms: Building from our first mini-experience with breakout rooms, we used the breakout room function to collaborate - brainstorm suggestions for future TA Toolkit sessions and sharing Online Teaching Tips from spring.

3. Padlet: While in the breakout rooms, we experimented with Padlet as a way to collaborate – i.e. share the wish lists and online teaching tips we generate in our breakout rooms. Padlet page: https://padlet.com/stevehines/cost9mkofnsz0siw

Community Building and Connection—Remotely
June 23, 2020 - Christie Kittle and Samuel Aina

In this session, we discussed specific cooperative learning strategies to engage students in group work. We considered each strategy implemented using a variety of delivery methods (i.e. online, hybrid, etc.).

• Define and explore Community-Centered environment.
• Identify strategies to engage students in small groups.

Preparing for more online teaching this fall - Panopto and Blackboard tests basics
June 30, 2020 - Bob Mitchell

Bob Mitchell, WSU CVM - VIS Instructional Support, presented basic instructions on a couple of very useful online teaching tools.

• Panopto - recording instructional videos in your office or home for asynchronous student viewing
• Blackboard tests - the basics for creating and deploying online exams in Blackboard.
Virtual Coffee Hour (2021)

The WSU CVM Teaching Academy provided 3 informal virtual coffee hours during the summer to provide an opportunity to share ideas, exchange experiences, and prepare for the upcoming semester.

What We Learned (from our online teaching experiences) – Part 1
July 27, 2021

Innovative ways to build community with low-stake assessments:

Guest presenters:

- "Kahoot! for gamification and classroom community" - Sarah Guess, DVM, MS, DACVIM (SAIM)
- "Tired of the same old Zoom Rounds?" - Maria Fahie, DVM, MS, DACVS (RTA Fellow Guest: Western University Health Sciences)

What We Learned (from our online teaching experiences) – Part 2
Aug. 8, 2021 - Martin Maquivar

Online Exams and Quizzes: Student assessment beyond the classroom walls.

What We Learned (from our online teaching experiences) – Part 3
Aug. 11, 2021 - Heloisa Rutigliano

Using concept map assignments to promote course content integration

In this session, Dr. Rutigliano presented how she developed and used concept map assignments to promote course content integration and application. Concept map assignments can be modified for use in a variety of courses, especially those that require the assimilation of large amounts of information which can make students lose sight of the big picture concepts and the chronological order of events. In addition, these assignments may be used in courses where content integration is essential for students to understand how the parts of a complex system are connected to each other and how to apply basic science to real-life scenarios.

The Summer Program Influences & Implementation:

The CVM Teaching Academy summer program has been going strong for 10 years. Data collected over the past 9 years are summarized on the following page.

Book/journal club:

- 2014: Teaching Professor Newsletter archived articles (May 2014 to December 2012)
- 2016: Selected Journal Articles

Our Teaching Tool Kit Series was implemented in 2017 - 2021.

Attendance data on next page.
Teaching Tool Kit Series:

### Total Attendance

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### # Events vs. Total #

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### # of Participants

- New to the program
- Returned Participants

![Bar chart showing # of participants over years]
The College of Veterinary Medicine (CVM) Teaching Academy Educational Research Grant (ERG) Intramural program is designed to
1. Promote educational research in the WSU College of Veterinary Medicine
2. Foster innovation in the college's DVM, undergraduate, and graduate curricula
3. Support teaching and learning-focused scholarship by faculty involved in the educational missions of the CVM.

### ERG Program B: Experiments in Teaching Grants
Limited to $5,000 per grant annually, these grants are designed to result in a peer-reviewed publication within one year of completion date. These awards may be renewable twice, for up to 3 years total support. COE incentive: An additional $3,000 is available for proposals that feature a substantive collaboration with faculty co-investigators in the WSU College of Education.

### 2019-20 Educational Research Grants included

<table>
<thead>
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<th>Co-PI</th>
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<tr>
<td>Validation of an equine abdominocentesis mode</td>
<td>Dr. Jamie Kopper (VCS)</td>
<td>Dr. Macarena Sanz (VCS) &amp; Dr. Jennifer Gold (VCS)</td>
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**Significance:** Veterinary students need opportunities to master day-one ready skills, such as performing equine abdominocenteses. Current challenges impede successfully obtaining this objective. These challenges include: increasing class size, decreasing availability of teaching animals, increasing ethical concerns with using teaching animals, a variable and decreasing clinical case load and owner perceptions. The combination of these obstacles make it difficult to provide adequate structured learning opportunities for all students to master this skill.

**Hypothesis/Objectives:** The objective of this project is to validate our previously developed model as a tool that improves learning outcomes associated with performing an equine abdominocentesis. Our central hypothesis is that use of an equine abdominocentesis model will increase student confidence, proficiency, and objective structured clinical evaluation scores (OSCEs) compared to traditional lecture and observational learning.

**Study Design:** 40 pre-clinical veterinary students will be divided into two groups of 20. One group will receive traditional lecture-based instruction. The other will also have access to the equine abdominocentesis model for practice. Then, student confidence and competence performing an equine abdominocentesis will be assessed by clinicians blinded to the instruction method and using self-assessment surveys. Data will be assessed for normality utilizing a Kolmogorov-Smirnov test and assessed using parametric or non-parametric tests as indicated by normality. Significance will be set at p<0.05 for all tests.

**Expected Results:** Use of a validated equine abdominocentesis model will improve student confidence and competence when performing abdominocenteses on live horses. Validation of this model will result in a cost-effective tool to enhance our ability to train competent day-one ready veterinarians in the face of decreasing budgets, increasing class sizes and decreasing availability of teaching animals for invasive procedures.
Specific aims: While intravenous (IV) catheterization is routinely performed in equine practice, large size classes, increased animal use regulation and budgetary constraints greatly limit our ability to provide adequate student training of this skill. Inappropriate catheterization technique can result in health complications for the horse and/or veterinarian injury. We currently use a half-head equine simulator to train our students IV catheterization. While this model works well, its main limitation is the lack of normal positioning as the model lies on a table (see Fig 1 below). In addition, we currently only own one of these models which greatly limits our ability to train multiple students in an efficient fashion. The Simulation Center at Washington State University (WSU) purchased new equine intravascular access models to aid with this issue. While the model works well, its main limitation is the lack of normal positioning as the model lies on a table (see Fig 1 below). In addition, we currently only own one of these models which greatly limits our ability to train multiple students in an efficient fashion. The Simulation Center at Washington State University (WSU) purchased new equine intravascular access models to aid with this issue. While the model is widely used for venipuncture training, less information is available about its usefulness for IV catheterization training. Based on our conversation with the company (see email on appendix section) and our own experience with other catheterization models, we hypothesize that the newly purchased equine models will provide appropriate and cost-effective training of IV catheterization to veterinary students. If our hypothesis holds true, we will use these models for future student training. At the same time, we will establish the effect that training using an IV catheterization model has on live horse catheterization by veterinary students. With such long-term goal in mind, we propose the following specific aims for this initial study:

Specific Aim 1: To evaluate the effect that different catheter gauges have on the vessel integrity of the equine neck venipuncture/intramuscular (IM) injection model. Each vein will be catheterized multiple times until the vein is deemed not viable for catheterization (i.e. the vein becomes too leaky). The total number of catheterizations until loss of vessel integrity will be recorded. IV Catheterization will be repeated on different veins using different gauge catheters (20G, 18G, 16G and 14G) to establish the best catheter to be used in these models.

Specific Aim 2: To establish a system to video record catheterizations that allows later assessment of the technique.

Video cameras will be positioned in multiple places around the model. The catheterization procedure will be recorded, and the videos will be watched by 3 clinicians with ample expertise in IV catheterization. The location/s of the camera/s that provide the best visualization for procedure scoring will be used to record the final IV catheterizations to be used for Specific Aim 3.

Specific Aim 3: To validate a video-scoring system for assessment of IV catheterization in the live horse.

A scoring system including objective structured clinical evaluations (OSCE) for IV catheterization will be evaluated using video-recordings of the procedure. The scoring system will be adjusted as needed for future use.

Products of the Grant:

The models were created, validated by experts and used in the Advanced Equine Medicine elective. The grading scale was improved with input from the education team. The remainder of the research was not completed due to the departure of Dr. Jamie Kopper from the CVM.
In spring 2017 we began restructuring the BIOL107 labs in an effort to improve student experience and learning in the course. The prosocial modules developed and implemented during the first round of funding were successful in that all students in BIOL107 now participate in a more prosocial experience. The goal of this grant is to take this initial success and build off of it by expanding from oral communication to written communication. We will achieve this goal by integrating collaborative writing with peer review into the current prosocial modules. This will target two goals of our ongoing research efforts in BIOL107: Goal 1) Generate prosocial classroom environments where students can more authentically experience the social aspects of scientific practice (collaboration, argumentation, and peer review), Goal 2) Leverage increased student prosocial engagement to promote student achievement.

To date our results demonstrate that we can significantly increase student prosocial engagement with peers during learning. Yet our work has been less successful in promoting student engagement in argumentative discourse. We have seen positive shifts in the likelihood of students using evidence during discussion and they spend more time focusing on science content in group discussions, but they tend to lack a critical approach to evaluating peer ideas. Integrating collaborative writing with peer review into the prosocial modules will further advance Goal #1 by a) allowing us to integrate a formal argument evaluation structure (via a review rubric) into the modules to support student critique, b) provide students with peer review opportunities that encourage critical evaluation as a microcosm of scientific peer review, c) promote student feedback skills through a focus on student-student written discourse.

Our initial efforts to promote academic achievement in BIOL107 (goal #2) were unsuccessful during spring 2017, but preliminary results from Fall 2017 (following revision) resulted in a 6.7 percentage point increase in student performance. We also found that students in the revised modules performed 6.8% better on their capstone writing assignment. This finding suggests that specific implementations of the prosocial modules may promote student writing communication. Given our previous work on student oral communication in the course, we believe that integrating more intense writing experience as part of the prosocial modules will provide substantial support for students’ written communication abilities the proposed project will allow us to leverage the BIOL107 prosocial modules to promote the development of students' written communication skills.

**Products of the Grant:**

**Manuscripts published:**


- Premo, J., Cavagnetto, A., Davis, William B. “Promoting Collaborative Classrooms: Impacts of cooperative learning on undergraduate interactions and achievement” CBE-LSE, Published May 2018, [https://doi.org/10.1187/cbe.17-08-0176](https://doi.org/10.1187/cbe.17-08-0176)
**Peer-reviewed Meeting Talks and Poster Presentations:**

1. 2018 AAC&U/PKAL Annual Meeting, Atlanta, GA. Bill Davis presented a peer-reviewed poster titled: “Structured, Collaborative STEM Learning Environments Differentially Influence STEM Motivation.” Authors: Bill Davis, Joshua Premo, Andy Cavagnetto

2. 2019 NARST Annual International Conference, Baltimore, MD. Josh Premo presented a peer-reviewed paper titled: Experience with Peers as a Unique Source of Science Motivation for First Generation Students,” Authors: Josh Premo, Andy Cavagnetto, and Bill Davis


**2021-22 Educational Research Grants included**

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<tr>
<th>Title</th>
<th>PI</th>
<th>Co-PI</th>
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<tr>
<td>Investigation of student attitudes towards veterinary neurology</td>
<td>Dr. Vishal Murphy (VCS)</td>
<td>Dr. Sarah Guess (VCS) &amp; Haley Heater</td>
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**Summary:** “Neurophobia” is a perceived fear of and resultant negative attitude towards neurology as a subject, leading to low clinical confidence and impaired learning. This is a well-established barrier to learning in human medical education and has been long suspected to also exist in veterinary medicine but is yet to be investigated. Exploration of student perceptions towards neurology and identification of neurophobia is key to improving student learning and can help us tailor targeted innovative educational interventions to better improve neurology teaching and comprehension, in both a didactic and clinical context.

Therefore, we aim to develop and validate a survey tool to quantitatively measure student perceptions of neurology learning through focus group testing, and subsequently deploy a large scale, multi-institutional quantitative online survey of veterinary students to measure attitudes toward different aspects of veterinary neurology education. We seek to document neurophobia and identify potential causes for this, as well as specific times within curricula when it may arise. Simultaneously, we plan to survey faculty teaching neurology at each institution, to evaluate their perceptions of their students’ approaches to learning and document interventions being used to enhance neurology learning. Following survey administration in Fall 2021, anonymous response data would be used to characterize both student and teacher perceptions towards neurology, helping us better understand neurophobia in the veterinary context. Comparison of student and teacher responses may help better align perceptions of neurophobia and aid in identifying means of countering this. The knowledge gleaned from this study may provide an evidence-based rationale for targeted research and resource allocation to drive innovative interventions
that might help improve attitudes and maximize student engagement in learning veterinary neurology across various stages of the veterinary curricula.

December 2021 Update: The objectives of our study were:

1. To design and qualitatively evaluate a survey tool to measure student attitudes towards neurology training.

2. To administer a multi-institutional survey and quantitatively evaluate student attitudes towards pre-clinical and clinical neurology learning at various stages of curricula directly and in relation to other subjects.

3. To identify specific points in curricula where neurophobia arises, worsens, or improves.

4. To quantitatively evaluate teacher perceptions of students’ neurophobia and identify measures taken to mitigate it.

To date, we have successfully conducted 3 semi-structured focus group interview sessions, involving a total of 10 students (years 1-4). We obtained rich interview data exploring student perceptions and opinions of neurology as a topic and their neurology education. Interview questions and question stems were designed by the investigators in conjunction with the WSU SESRC Survey Clinic. Thematic analysis was performed on transcripts of each, in an iterative manner until data saturation occurred during analysis of the third focus group transcript.

The data collected were analyzed thematically using an inductive approach, as outlined by Braun and Clarke (1) and Bernard (2) and coded into sub-themes and themes through an iterative process.

A survey tool was created and refined through iterative testing on focus group participants. The sub-themes and themes identified through the qualitative analysis were used to further refine the survey tool to its final form, which also adapted a previously validated scoring tool from human medicine and incorporated feedback from the WSU SESRC Survey Clinic.

The finalized survey was then evaluated by student and faculty volunteers for face and content validity and subsequently successfully distributed to veterinary students of all stages at US and Canadian veterinary schools. A separate teacher survey was designed incorporating feedback from faculty volunteers and the WSU SESRC Survey Clinic. This was also successfully distributed to teachers across US and Canadian veterinary schools. As of Dec 7, 2021, 603 student responses and 52 teacher responses have been logged.

As such, we have met objective 1 and are close to meeting objectives 2, 3 and 4 as outlined above. At the end of the survey response period (Dec 31 2021), we plan to continue with quantitative and descriptive analysis of the survey results, with plans for subsequent manuscript preparation.

Thank you again for your funding of our research.

Sincerely,

Vishal Murthy, DVM, DACVIM (Neurology)
Sarah Guess, DVM DACVIM (Internal Medicine)
Haley Heater, Student investigator

References:
- Virginia Braun & Victoria Clarke (2006): Using thematic analysis in psychology, Qualitative Research in Psychology, 3:2, 77-101
Abstract: More than 75% of U.S. public school students struggle significantly with writing skills (National Assessment for Educational Progress; NCES, 2017); these challenges can continue into their university education (Artemeva and Fox, 2011; Reiff and Bawarshi, 2011). This study is designed to help upper-division STEM students at Washington State University Pullman (MBioS 304 N=96, each fall and spring; MBioS 430 N=35, fall only) improve their writing skills (e.g., lab reports) through strategy instruction that supports writing transfer and genre awareness specifically. Drs. Mixter, Ederer, and Dunn will create web tools, e.g., 5-7 instructional videos explaining rubrics for writing assignments addressing the writing styles included in the genre of lab reports, supplemented short video about the features of low and high-quality exemplars. Students in these classes can then apply the writing strategies and techniques to improve their STEM-writing skills. The research questions for this study are: what are participants’ perspectives about writing? Do participants improve with respect to writing content and quality with the use of WriteSTEM? How do instructor(s) and students evaluate the WriteSTEM approach?

Dr. Dunn developed a number of creative web tools which pilot tested during spring and fall 2020. A small number of STEM students volunteered to participate. We will develop additional genre-specific web tools and incorporate these WriteSTEM resources into the class curricula. Drs. Mixter, Ederer, and Dunn aim to make WriteSTEM part of the class writing routines for all lab sections. To further incentivize students, we can offer extra credit opportunities to encourage all students to participate. We are planning to present the data and results obtained from this study at a STEM education conference and prepare a manuscript in a STEM education journal. Ultimately, we will use the data from this study to seek additional funding from an external grant agency. All of these efforts will help identify best practices supporting writing skills development in upper-division STEM courses.

Dec. 2021 Update: The WriteSTEM project’s aim is to explore STEM student’s perspectives about writing and determine what types of web tools could help to improve their skills. These students were surveyed, interviewed and given a list of web tools to employ independently for improvement. During fall 2021 MBioS 430, the survey (N=11; 7 White, 1 Black/African American, 1 Asian, and 1 Multiracial), interviews (N=4), and editor feedback (N=4) were conducted within Dr. Mixter’s class. The survey results indicated that students’ greatest areas of difficulty were in reading assigned texts, drafting their writing assignment, knowing what edits to make, and having a positive perspective in attaining a good grade. The interview data indicated that students have a good sense of themselves as a writer but feel unsure as to how to improve their skills in an efficient manner that would demonstrate noticeable improvement. We provided 13 web tools (e.g., short videos, infographics) for students to access within a Canvas Module. Trish Hartzell, a retired science faculty from the University of Idaho served as the editor. The process for Trish to be added as non-paid WSU personnel took until about Week 10; this resulted in Trish having just a short time to offer students’ feedback on their writing, asynchronously, within OneDrive. The research team is doing a second data collection round with Dr. Ederer’s MBioS 304 students in spring 2022.

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<tr>
<td>WriteSTEM: Virtual Tools to Help Students Improve Their Writing Skills</td>
<td>Dr. Phil Mixter (SMB)</td>
<td>Dr. Martina Ederer (SMB) &amp; Michael Dunn (COE)</td>
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Peer Observation of Teaching Program

Leaders: Phil Mixter, PhD and Steve Hines, DVM, PhD, DACVP

Background: A primary goal of the WSU CVM Teaching Academy initiative for Peer Observation of Teaching is to foster a reflective culture for teaching improvement. This culture would welcome peer observers in a variety of instructional contexts, individualize faculty instruction-focused professional development, support educational innovations, and generate community-wide conversations about best teaching practices.

The capture of teaching quality and effectiveness can be limited. The peer observation program addresses these limitations by:

- Providing useful formative input to improve an individual’s teaching effectiveness
- Support informed experimentation and innovation (risk taking),
- Stimulate sharing of teaching experiences and create a comfortable environment for exploring new teaching practices
- Provide a complete and balanced summative feedback letter, that can be used for annual review and promotion portfolios

Program Overview: A cluster of current faculty at varied stages of their careers are trained to observe, discuss, and actively reflect with CVM faculty. This provides any instructor with constructive feedback from a group of at least three trained faculty following observations of the individual's teaching activities (which can include lectures, laboratories and/or clinical instruction). The interactive process follows transparent guidelines. Interactions offer opportunities for guided reflection by the instructor. The process also provides an alternative source of formative and summative assessments to department chairs and promotion committees.

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<tr>
<td>Yael</td>
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<td>Macarena</td>
<td>Sanz</td>
<td>Full version to complement tenure and promotion packet</td>
<td>VM578</td>
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Spring 2021

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Fall 2021

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<td>Laura</td>
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The Regional Teaching Academy (RTA) was established in 2012 to identify, share, and leverage expertise across the six institutions in the Consortium of West Region Colleges of Veterinary Medicine. The RTA supports the development and implementation of best practices and scholarship in veterinary medical education. Membership in the Consortium Teaching Academy is by nomination, and is a recognition of commitment to and excellence in teaching-related activities. Potential new members are nominated to a three year term by current RTA Fellow or the Dean of a member institution. Fellows are expected to be actively engaged in the mission of the RTA, which is to serve as a working group for the benefit of educators at all of the Consortium member institutions.

**Faculty Development Initiative:**

**WSU Committee Members:** Susan Matthew (Chair), Raelynn Farnsworth, Samantha Gizerian, Briedi Gillespie, Sarah Guess, Steve Lampa, Heloisa Rutigliano (Chair-elect)

After the initiative successfully established the VETS Fundamentals program for teachers new to the classroom (formerly VETS 1.0), it ran a pilot of the VETS Selective program for faculty to focus on improving constructive alignment and teaching in a specific course area (formerly VETS 2.0). The group launched four new subcommittees as described below.

1. **Clinical Teaching:** Focus on developing and enhancing the teaching that happens in the clinical setting.

2. **Educator Wellbeing:** Support educators in being whole healthy human beings with the skills, knowledge, ability, and expertise to provide high quality educational experiences to the students they teach

3. **Program Delivery and Evaluation – Scholarship:** Design and implement data collection strategies for workshop and seminar offerings, and support the creation of educational scholarship related to FD initiatives

4. **Student Assessment:** Collect resources for faculty regarding delivering and evaluating student assessments and share ideas and knowledge about best practices.
**External Peer Review of Teaching Initiative:** *WSU Committee Members: Steve Hines (Chair), Phil Mixter, Erika Offerdahl, Susan Matthew*

This initiative continues to hone open-source templates, coach candidates and unit administrators in developing portfolios, and further review submitted portfolios, generating external review letters for tenure/promotion of instructionally focused faculty.

**Membership Committee:** *WSU Committee Members: Leslie Sprunger & Samantha Gizerian.*

In 2020, the committee reviewed applications, the committee recommended and the Steering Committee approved 14 new fellows: from CSU (3), UCD (2), UofA (2), WSU (4) and WU (3).

**Biennial Conference Planning Committee:** *WSU Committee Members: Jillian Haines, Phil Mixter, Rachel Halsey.*

**Steering Committee:** *WSU Committee Members: Leslie Sprunger & Phil Mixter; Susan Matthew (started in Sept. 2021).*

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**2020 Summer Coffee Hour**

In response to challenges faced by educators during the COVID-19 pandemic, the RTA’s Faculty Development Initiative (FDI) hosted a series of sharing sessions on “Teaching in the Online and Hybrid Setting” during the months of July and August. The goal of the sessions was for faculty to share strategies for teaching in online contexts. The 3-5 minute-long show-and-tell-style sessions focused around the topics of Technology, Technical Skills, Assessment, and Wellbeing. 113 different faculty from the 6 institutions participated; 97% of the respondents planned to incorporate something they learned during the session.
Membership

Current Membership: Total of 54 members

- Steve Hines, DVM, PhD, DACVP (Director through to July 2021)
- Susan Matthew, BVSc, BSc(Vet), PhD (Director from November 2021)
- Andrew Allen, DVM, PhD
- Suzanne Appleyard, PhD
- George Barrington, DVM, PhD, DACVIM
- Thomas Besser, DVM, PhD, DACVM
- Ronald Brown, PhD
- Jessica Bunch, DVM
- Bonnie Campbell, DVM, PhD, DACVS
- Julie Cary, DVM, MS, DACVS
- Annie Chen-Allen DVM, MS, DACVIM (Neurology)
- Bethany Colaprete, EdS, LMHC
- William Davis, PhD
- William Dernell, DVM, MS, DACVS,
- Chrissy Eckstrand, DVM, PhD
- Kelly Farnsworth, MSDVM, DACVS
- Raelynn Farnsworth, DVM
- John Gay, DVM, PhD, DACVPM
- Samantha Gizerian, PhD
- Lisa Gloss, PhD
- Jennifer Gold, DVM, DACVIM, DACVECC
- Sarah Guess, DVM, MS, DACVIM (SAIM)
- Jillian Haines, DVM, MS, DACVIM (Int. Med)
- Gary Haldorson, DVM, PhD
- Rachel Halsey, DVM
- Consetta Helmick, PhD
- Heiko Jansen, PhD
- Doug Jasmer, PhD
- Rob Keegan, DVM, DACVA
- Steve Lampa, PhD
- Mary Sanchez Lanier, PhD
- Martin Maquivar, PhD
- Linda Martin, DVM, MS, DACVECC
- Norah McCabe, PhD
- Craig McConnel, DVM
- Robert Mealey, DVM, PhD, DACVIM
- Phil Mixter, PhD
- Vishal Murphy, DVM, DAVIM (Neurology)
- Lynne Nelson, DVM, MS, DACVIM (Internal Medicine, Cardiology)
- Danielle Nelson, DVM, PhD, DACVP
- Roberta O’Conner, DVM
- Erika Offerdahl, PhD
- Tania Perez, DVM, MS
- Rene Scalf, CVT, LVT
- Devendra Shah, BVSc, MVSc, PhD
- Diana Short, DVM,
- Steve Simasko, PhD
- Cleverson Souza, DVM, PhD, DACVP (Clinical)
- Leslie Sprunger, DVM, PhD
- Bert Tanner, PhD
- Kyle Taylor, DVM, PhD, DACVP
- Lane Wallet, DVM
- Jane Wardrop, DVM, MS, DACVP
- Jennifer Watts, PhD
- John Wenz, DVM, MS

2020-21 Annual Report was compiled and designed by Rachel Halsey, DVM; CVM Teaching Academy Program Coordinator.