Technical Report ICVA Veterinary Educational Assessment September 2019, January 2020, and May 2020 Test Administrations

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I. Introduction

The International Council for Veterinary Assessment (ICVA) Veterinary Educational Assessment (VEA) has been developed for schools accredited by the Council on Education of the American Veterinary Medical Association for use as an assessment of basic science knowledge. In addressing this objective, the VEA strengthens the veterinary education process by providing a psychometrically-sound method for assessing student performance on both the individual and aggregate level, both on an annual basis and as a longitudinal measure. Schools will use the score information obtained on the examination for curricular review and assessment purposes.

II. Test Development

Veterinary Educational Assessment test development is done by the ICVA in cooperation with the National Board of Medical Examiners (NBME). The forms used for the 2019-2020 VEA administrations each contained 200 items and 600 pretest items that randomly occupied 40 slots on each examination. The blueprint used to construct the 2019-2020 VEA forms is as follows:

Anatomy	22%	Includes gross and microscopic anatomy, developmental anatomy, physical examination, and principles of radiology and diagnostic imaging
Physiology	23%	Includes organ physiology, physiological chemistry, genetics, nutrition, and breeding
Pharmacology	14%	Includes pharmacokinetics, pharmacodynamics, therapeutics, toxicology, and anesthesia/analgesia
Microbiology	20%	Includes bacteriology, mycology, virology, parasitology, immunology, diagnostics, and public health [regulatory, epidemiology, and zoonoses])

Pathology	21%	Includes general pathology, gross pathology, histopathology, pathogenesis, and clinical pathology [cytology and data analysis/diagnostics])
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The committee of content experts listed in Appendix A oversaw the review process for the examination. The committee of content experts listed in Appendix B reviewed and approved the pool of test items to be used in future test administrations. Following final approval by ICVA, items and images were transmitted to NBME's web-based vendor, for web-based publication. Quality control procedures were implemented at each stage of the test development process to ensure accuracy and quality of the test materials.

III. Test Administration

The VEA was administered to 12 schools during the three testing windows for the 2019-2020 examination cycle. A total of 1601 students completed the examination. Schools that participated in the examination are as follows;

September 2019 window: University of Missouri, St. George's University, St. Matthew's University, Midwestern University, Texas A&M University, Ross University, and North Carolina State University

January 2020 window: Iowa State University, University of Tennessee, St. Matthew's University, St. George's University, Lincoln Memorial University, Oklahoma State University, University of Pennsylvania, and Ross University

May 2020 window: University of Tennessee, St. Matthew's University, and Ross University.

In May 2020, the test administration used remote proctoring to follow the CDC guidelines of social distancing due to the COVID-19 pandemic.

Post-Test Survey:

Examinees were asked to complete an optional post-test survey after completing the examination. Results of the survey for each administration were provided to the NBME and the ICVA.

IV. Scoring and Analysis

Raw and percent correct scores were computed for each examinee on the total test and each of the five content areas. Percent correct scores for examinees who took the examination from the 2002-2003 testing cycle to the 2013-2014 testing cycle (when the test was known as the "Qualifying Examination" or "QE") are not directly comparable across administrations.

Summary statistics for all students who took the VEA during the 2018-2019 testing cycle are provided in Table 1.

Feedback was distributed to schools approximately 28 days after the end of the administration. Annual school reports were created and distributed to all schools that used the VEA during the 2019-2020 testing cycle in early August of 2020.

Table 1
Percent Correct - Means and Standard Deviation for all examinees 2019-2020 Veterinary Educational Assessment testing cycle

Total Test	Anatomy	Physiology	Pharmacology	Microbiology	Pathology
57 (11)	55 (12)	59 (13)	55 (14)	57 (13)	58 (13)

Appendix A

Veterinary Educational Assessment Examination Committee Members

Dr. Daniel Brown University of Florida College of Veterinary Medicine, Gainesville, FL

Dr. Stephen Cole University of Pennsylvania College of Veterinary Medicine, Philadelphia, PA

Dr. Benjamin Darien University of Wisconsin School of Veterinary Medicine, Madison, WI

Dr. Tim Evans University of Missouri College of Veterinary Medicine, Columbia, MO

> Dr. Julie Fixman South Putnam Animal Hospital, Mahopac, NY

Dr. Hilari French Ross University School of Veterinary Medicine, St. Kitts

Dr. Sagar Goyal University of Minnesota College of Veterinary Medicine, St. Paul, MN

Dr. James Herman Texas A&M University College of Veterinary Medicine, College Station, TX

Dr. Sanjay Kapil Oklahoma State University College of Veterinary Medicine, Stillwater, OK

Dr. M. Cathleen Kovarik University of Missouri College of Veterinary Medicine, Columbia, MO

Dr. Martha Littlefield Louisiana State University School of Veterinary Medicine, Baton Rouge, LA

Dr. Wayne Schwark Cornell University College of Veterinary Medicine, Ithaca, NY

Dr. Cathryn Sparks Kansas State University College of Veterinary Medicine, Manhattan, KS

Dr. Michael Stonerook Lincoln Memorial University College of Veterinary Medicine, Harrogate, TN

Appendix B

June 2019 VEA Pool Review Meeting Participants

Dr. Lora Ballweber Colorado State University College of Veterinary Medicine, Fort Collins, CO

Dr. Linda Berent University of Missouri College of Veterinary Medicine, Columbia, MO

Dr. Daniel Brown University of Florida College of Veterinary Medicine, Gainesville, FL

Dr. Jennifer Buur Western University College of Veterinary Medicine, Pomona, CA

Dr. Deidre Campion University College Dublin School of Veterinary Medicine, Dublin, Ireland

Dr. Stephen Cole University of Pennsylvania School of Veterinary Medicine, Philadelphia, PA

Dr. David Cross University of Missouri College of Veterinary Medicine, Columbia, MO

Dr. Benjamin Darien University of Wisconsin School of Veterinary Medicine, Madison, WI

Dr. Theo de Waal University College Dublin School of Veterinary Medicine, Dublin, Ireland

Dr. Tim Evans University of Missouri College of Veterinary Medicine, Columbia, MO

Dr. Hari Goyal Tuskegee University College of Veterinary Medicine, Tuskegee, AL

Dr. James Herman
Texas A&M University College of Veterinary Medicine, College Station, TX

Dr. Sanjay Kapil Oklahoma State University College of Veterinary Medicine, Stillwater, OK

> Dr. Jennifer Ketzis Ross University School of Veterinary Medicine, St. Kitts

Dr. Judy Klimek Kansas State University College of Veterinary Medicine, Manhattan, KS

Dr. M. Cathleen Kovarik University of Missouri College of Veterinary Medicine, Columbia, MO

Dr. Arun Kumar University College Dublin School of Veterinary Medicine, Dublin, Ireland

Dr. Brendan Lee St. Matthew's University School of Veterinary Medicine, Grand Cayman

Dr. Martha Littlefield Louisiana State University School of Veterinary Medicine, Baton Rouge, LA

Dr. Elizabeth Mauldin University of Pennsylvania School of Veterinary Medicine, Philadelphia, PA

Dr. Jeffrey Musser Texas A&M University College of Veterinary Medicine, College Station, TX

Dr. Carly Patterson
Texas A&M University College of Veterinary Medicine, College Station, TX

Dr. Karen Russell Texas A&M University College of Veterinary Medicine, College Station, TX

Dr. Cathryn Sparks Kansas State University College of Veterinary Medicine, Manhattan, KS

Dr. Michael Stonerook Lincoln Memorial University College of Veterinary Medicine, Harrogate, TN

Dr. Shannon Washburn
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Dr. Alan Wolfe University College Dublin School of Veterinary Medicine, Dublin, Ireland