



JOURNAL OF THE ASSOCIATION OF
VETERINARY TECHNICIAN EDUCATORS

SUMMER 2025

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The Journal of the Association of Veterinary Technician Educators (JAVTE), a peer-reviewed, scholarly journal, is the official publication of the Association of Veterinary Technician Educators (AVTE). Its purpose is to act as a publication for disseminating evidence-based research to people working as educators in the field of veterinary technology. The journal's emphasis is on encouraging collaboration among veterinary technology educators through scholarly inquiry relating to the understanding and/or improvement of educational processes and outcomes, organizational issues in education, concepts of teaching and learning, and student engagement based upon research, observations, and experience relevant to the field.

Submission Process and Deadlines

Papers will be reviewed using the JAVTE double-blind peer-review process and should be prepared using the JAVTE author guidelines (see Editorial Policies and Peer Review Process). Submission of papers is the author's acknowledgment of and agreement to JAVTE's ethical duties of the author policy.

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Letter from the President of the Association of Veterinary Technician Educators

Tricia Gorham, FVTE, MA, CVT
AVTE President



Dear AVTE Members,

As I come to the end of my first year as President of this association, I want to take a moment to reflect on the past year and share some exciting updates as we look ahead.

First and foremost, I want to express my gratitude to each of you for your continued dedication to the education and advancement of veterinary technology. Whether you're taking a well-earned break or preparing for the upcoming academic year, I hope this summer brings you a chance to rest, recharge, and reflect.

This year, AVTE has made meaningful strides in several areas:

- **Curriculum and Innovation:** Our FVTE group continues to evaluate emerging trends in veterinary medicine and incorporate best practices into our educational models to share with our members. Many of those trends you will see presented at the conference. In addition our VTNE research study initial surveys are coming in and we look forward to sharing the results with you during the conference. We look forward to ongoing conversations around student success on the VTNE that will benefit students as well as all programs.
- **Faculty Development:** We plan to launch a new platform to support continued webinar series and a resource exchange to effectively share tools to enhance all teaching modalities.
- **Advocacy and Outreach:** AVTE continues to collaborate with national organizations to promote the role of credentialed veterinary technicians and the importance of accredited education programs. Our new advocacy committee is monitoring legislation and providing information and support to programs that might have potential impacts. Your voice and involvement make a difference.

Looking ahead, we look forward to our members becoming involved as we strengthen and grow our One Community! We are looking beyond North America as we connect with program and educators in Europe and Australia.

As always, our strength lies in our community. I encourage you to stay connected this summer through our online forums, share your insights, and support one another in our shared mission to prepare the next generation of veterinary professionals.

Wishing you a safe, joyful, and restorative summer.

Warmly,

Trish

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Teaching Tips & Tricks

Megan Olmstead, LVT, BGS
Graduate Certificate (Veterinary Medicine)
Baker College

I buy cheap paper plates, markers, paint, crayons, etc at a dollar store and have students each draw a different parasite egg or blood cell, then stand up and have the class guess what it is. Then we hang them on the wall in the lab. It's fun, helps them remember, and useful for reviews!

Training by Learning Style: Engagement Made Simple
Brandie Johnson, RVT, LVT
Dogs and Cats Emergency & Specialty

When you train veterinary nurses and assistants, do you teach them how you learn best—or how they do? During my first year as Training & Education Coordinator at Dogs and Cats Emergency & Specialty (DCES), I realized I was unintentionally doing the former. Despite my best efforts, staff weren't always retaining the material, and our annual engagement survey reflected this—they still felt unsupported.

That sparked a spiral of research into learning styles and adult education. I began with educationplanner.org and eventually created a custom Employee Learning Style and Training Preferences Survey, incorporating questions like:

- “How do you learn best?”
- “What kind of format do you prefer?”
- “What motivates you?”
- “What are your short- and long-term career goals?”

I used questions to help us better understand individuals' career goals, motivational drivers, and preferred learning formats. The structure is based on information from sources such as “Adult Learning Theory” (Knowles, 1984), NAVTA's utilization guidelines, and Maddison's insights from their article Thinking and Learning Styles--How they Affect Your Clinical Problem Solving.

Instead of emailing the survey out, we used it in one-on-one discussions, which had a big impact by helping us build stronger connections and develop resources like videos, flashcards, and fidget tools that were aligned with each learner's style.

Since implementing this tool, we've seen noticeable improvements in training engagement, stronger communication between trainers and trainees, and faster confidence-building, especially in newly hired staff.

Beyond onboarding, we revisit the survey during quarterly check-ins or when team members prepare to level up within our training tier model. These conversations often reveal shifting goals or evolving learning preferences that might not otherwise surface in day-to-day interactions.

Try this: The next time you feel you aren't connecting with your classes or staff, use a learning survey as a conversation guide, not a checkbox, and teach them how they want to be taught. Small, intentional changes in how we teach can dramatically improve retention, engagement, and trust in the learning process.

You can use or customize the Employee Learning Style and Training Preferences Survey by scanning the QR code or visiting the link below. This template is editable—just make a copy and adapt it to fit your program's needs.



[Click here to access digitally.](#)

Quick Tips: Simulating CRI Calculations with AI
April Lehmann, BS, FVTE, LVT, RVT
Veterinary Medical Technology

In veterinary technology education, fluid therapy and CRI (Continuous Rate Infusion) calculations are essential yet challenging skills for students to master. Traditionally taught through lectures and static worksheets, CRI calculations can now be taught using interactive AI tools that simulate real clinical scenarios. These simulations allow students to engage in stepwise reasoning, practice math skills, and receive immediate feedback—improving retention and confidence.

STEP 1: Identify Learning Objectives

Focus on core skills essential for both the VTNE and clinical settings. For CRIIs, this includes:

- Converting units ($\mu\text{g} \rightarrow \text{mg}$)
- Calculating doses (based on body weight and time)
- Determining infusion rates (mL/hr)
- Integrating multi-drug CRIIs

STEP 2: Craft Clear AI Prompts

Use AI to simulate tutor-like interactions. Phrase prompts the way a student would ask a tutor or instructor. Prompt Template:

“I need 5 sample questions to practice CRI calculations for the VTNE. Please include drugs like lidocaine, fentanyl, and ketamine. Show a mix of single and combination CRIIs with realistic drug concentrations.”

STEP 3: Facilitate Student Interaction

Choose how students will engage:

- Live session (project AI-generated questions during a class)
- Homework (assign students to prompt and solve on their own)
- Small groups (teams work through a shared AI prompt and compare answers)

Encourage students to:

- Show all steps
- Use dimensional analysis
- Identify where they made errors

STEP 4: Review and Discuss

Use AI-generated problems and solutions as a formative assessment to check comprehension and uncover areas where students struggle.

- Review answers as a class to model clinical reasoning and foster peer learning.
- Ask students to explain each step to reinforce understanding and build communication skills.
- Discuss common pitfalls, like incorrect unit conversions or misreading drug concentrations, and explore how to avoid them.

Prompt Template: “Provide detailed solutions to check work.”

STEP 5: Reinforce with Reflection

Have students reflect:

- What drug calculations are most challenging?

- How did the AI help them clarify a concept?
- How confident do they feel now?

Benefits for Instructors:

- Saves time creating new practice questions
- Supports varied learning styles
- Encourages critical thinking and self-assessment
- Bridges classroom learning with clinical relevance

Author Experiences:

As a Veterinary Technology Program Director, I use AI tools to generate customized CRI scenarios for students at all levels, streamlining lesson planning and maximizing practice time. In skills labs and office hours, I can instantly produce new examples tailored to individual needs. Tying these exercises to Plumb’s or McCurnin’s texts reinforces both math and pharmacology skills. I’ve observed greater student engagement, confidence, and clinical reasoning. Many students report that practicing with varied, real-world scenarios helps them feel more prepared for both the VTNE and patient care. AI has significantly enhanced the adaptability and clinical relevance of my CRI instruction.

Using a Logic Model for Wellbeing Assessment in Veterinary Technology Education

Virginia K. Corrigan, University of Tennessee

Rebecca L. Newman, Appalachian State University

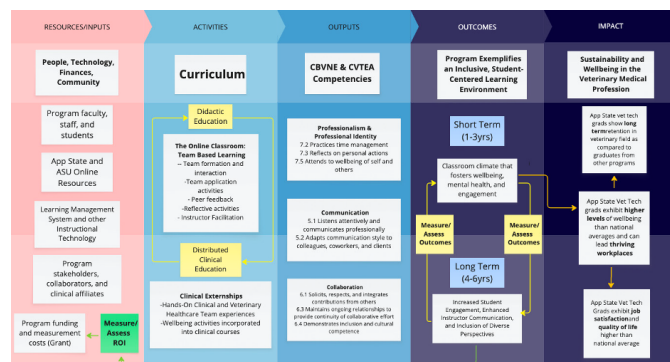
To intentionally measure, assess, and evaluate wellbeing outcomes in a new Veterinary Technology B.S. program, Appalachian State University implemented a logic model approach. This tool was developed to address a program-level need for aligning wellbeing goals with measurable outcomes, and early experience has shown that it provides clarity and consistency in both evaluation and communication of wellbeing initiatives. In addition, it has allowed the program to remain flexible with wellbeing goals as inputs and university policy have changed. This model has helped guide the Wellbeing Coordinator’s programming, while also serving as a communication visual for faculty and accreditors. Supported by a Teaching Quality Framework grant, the project team developed a detailed outcomes-based logic model, using the W. K. Kellogg Foundation’s Logic Model Development Guide (W. K. Kellogg Foundation 2004), to guide both short- and long-term evaluation.

The logic model breaks process evaluation and outcomes assessment into five key components: resources/ inputs, program activities, outputs, outcomes, and long-term impact. For example, resources include faculty, staff, technology, and the learning management system; activities encompass curriculum development and wellbeing initiatives in the didactic and distributed clinical curriculum. Outputs in this example mapped to existing Competency-Based

Veterinary Education frameworks (Read and Gonya 2024) that have been extrapolated to Veterinary Technology education. The outcomes tracked measurable behaviors such as student engagement, instructor communication, and integration of Universal Design for Learning principles. The long-term impact centered around measurable outcomes related to individual, team, and organizational wellbeing for graduates from the program.

The project team selected specific indicators and measurement tools, such as course evaluations, peer assessments, LMS participation data, and validated wellbeing surveys (e.g., PERMA Profiler (Butler and Kern 2016), ProQOL-21scale (Heritage, Rees, and Hegney 2018), and the expanded Well-Being Index (Dyrbye, Satele, and Shanafelt 2016)). This structured framework not only allows us to evaluate individual (“Me”), team (“We”), and institutional (“Us”) outcomes but also ensures the program remains flexible and responsive by treating the logic model as a living document which can be regularly updated with new insights and data.

For veterinary technology programs seeking to build or enhance wellbeing initiatives, the logic model offers a clear, adaptable roadmap to align activities with measurable goals, improve resource allocation, and demonstrate commitment to inclusive, student-centered learning.



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Quick Tip: Using Games as Informal Assessment Tools to Build Vet Tech Student Confidence Amanda Hagan, RVT Midwest Institute Veterinary Technology

Incorporating games into the classroom is not only fun, but it is a way to assess student retention and understanding of the information presented, in a less stressful environment. I use both subject based, and scenario based games to reinforce key concepts, and prepare students for not only exams and the VTNE, but to prepare them for life in the clinic.

For example, digital tools like Kahoot and Quizlet Live allow me to quickly identify areas needing review, based on overall class performance. “Tilt and Shout” is a game made for family game nights, that I turned into a vet med vocab review. It is fast paced and fun, which allows us to identify which students can recall the terminology quickly with the pressure of a timer. Our themed escape rooms take learning a step further: students must “diagnose”, and treat fictional patients (diabetic ketoacidosis for example), identify supplies, calculate dosages, read and interpret lab work, and unlock the next clue to solve the case. These rooms serve as an assessment of the students ability to use their critical thinking skills, work as a team, and use their time management skills in a real world simulation. We also utilize a “Vet ER” Board Game, to simulate real clinical decision making. Students are required to discuss their plan for treatment, triage, and gather supplies to assist them in their cases. Watching the interactions during these games allows me to assess understanding beyond what a multiple choice quiz can do. How I Built the Vet ER Board Game:

We started with a blank virtual game board from Canva, and created a winding path of colored spaces. Some spaces are labeled with actions such as “Draw a Patient Card,” “Lose a Supply,” “Triage Emergency,” or “Go to Treatment Room.” Patient Cards were created using printable templates (Google Docs or Canva) and included fictional cases such as: “8-year-old Golden Retriever, collapsed, pale gums, tachycardia. What’s your triage level and treatment plan?”

Supply Cards included items like catheters, e-collars, fluids, thermometers, and gloves—each card had a point value and a description of how it could help in a case. Students collected supplies as they moved through the game and had to justify how they'd use them in their patient scenarios.

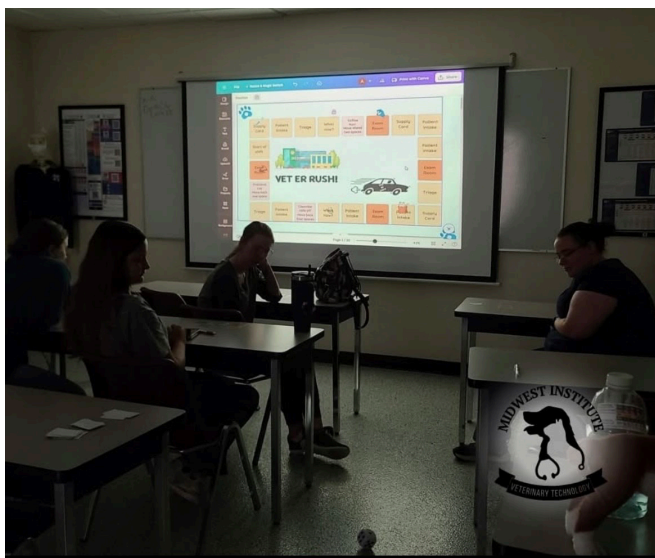
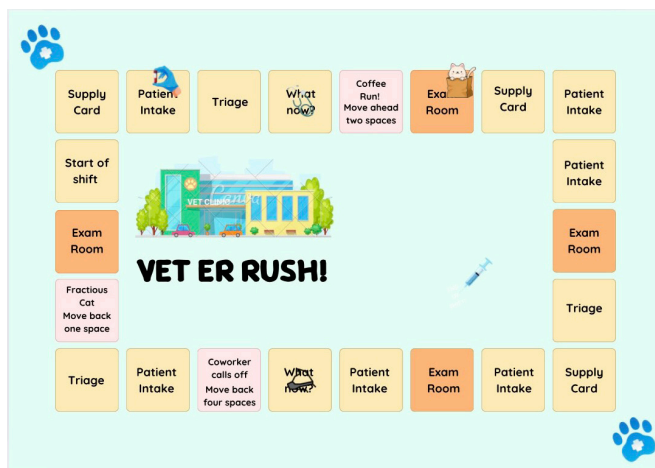
We included Triage Sorting Tasks, where students had to place patient cards in the correct treatment order before advancing.

To keep gameplay moving, we used a standard six-sided die and a timer for decision rounds (usually 60–90 seconds).

We laminated reusable cards and game boards for durability and use dry erase markers for scoring or timing adjustments.

Many students who perform poorly during timed multiple choice exams shine during gameplay. This alternative to the classic quiz, exam, or homework allows students to discover

that they really do understand that one concept, or that math equation that seems out of reach in a non-traditional, fun, low stakes environment. Games offer a chance for student engagement, while offering instructors insight to how the knowledge they taught will be applied in the real world.



Effects on Veterinary Technician Education in the Southeast United States Due to the COVID-19 Induced Shift to Online Education

Savannah “Brie” Pruitt, BS, LVMT, LVT, FVTE, Columbia State Community College

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INTRODUCTION

In March 2020, the COVID-19 pandemic resulted in governmental measures to prevent the spread of the disease. These included travel restrictions, social distancing, school closures, and mandatory quarantines¹. These measures had negative impacts on businesses, education, and health. Although restrictions were mandated, the entirety of the population did not comply, especially those in the Southeastern region of the United States. In addition to non-compliance from sectors of the population, some states implemented only minimum restrictions, encouraging disease spread².

In post-secondary education, in-person contact was limited, and schools, colleges, and other educational institutions relied heavily on online learning methods³. These changes affected health science programs, especially medical programs such as those of the College of Veterinary Medicine, by limiting in-person learning opportunities, isolating students at home, and minimizing student collaboration efforts⁴. According to studies, such as one performed at Lincoln Memorial University, surveys were composed to analyze the extent of these effects⁵. However, there seems to be a gap in research on the impact on veterinary technology schools. There are currently no studies published about veterinary technology schools and the impact the pandemic closures had on student education and the outcome of student success.

MATERIAL AND METHODS

DESIGN

An 18-question Qualtrics survey was designed to gather information regarding course delivery format, GPA averages, Veterinary Technician National Exam (VTNE) averages, and enrollment numbers during the COVID-19 pandemic. Survey questions can be found in Appendix A.

PARTICIPANT SELECTION

The survey was distributed to program directors at various veterinary technology schools in the Southeastern region of the United States regarding student performance in various disciplines after the mandated actions taken due to the COVID-19 pandemic. The Southeastern region was chosen because it was the slowest to respond to quarantine practices and was one of the earliest to lift its restrictions. The schools were chosen based on American Veterinary Medical Association (AVMA) accreditation; only schools with full AVMA accreditation were chosen. The states selected were Alabama, Tennessee, Mississippi, Georgia, Florida, Arkansas, Missouri, Texas, North Carolina, and South Carolina. A total of 36 schools met these requirements for the study. Participants were asked to voluntarily include the name of the academic institution that they are representing to prevent data from being double counted.

DISTRIBUTION

These surveys were distributed in numerous ways: email, conference newsletters, Facebook posts, and physical mail. During the 2024 Association of Veterinary Technician Educators (AVTE) Annual Conference, information about the study and a link was included in the daily announcements and conference newsletters that were emailed out. The AVTE Facebook group was also utilized, with a general post being made in the private group for educators asking schools in the specified area to complete the survey. After two cycles of emails being sent, physical copies of the survey were mailed to schools to account for security and firewall issues.

DATA ANALYSIS

Survey responses were preliminarily reviewed within Qualtrics. Then, responses were exported into an Excel spreadsheet for analysis. Quantitative data was analyzed using statistics, and qualitative data from open-ended questions were analyzed for common themes and occurrences for trends to be tracked.

RESULTS

A total of 8 school responses were received from all different states, resulting in a response rate of approximately 22%. Participants from four schools (50%) reported being online

only during 2019-2020, while four schools (50%) reported being in a hybrid format. During the 2020-2021 school year, six schools (75%) reported being in a hybrid format, one school (12.5%) reported online only learning, and one school (12.5%) reported in-person learning. Five participants (62.5%) reported they saw an increase in student failure or withdrawals during the 2020-2021 school year as compared to previous years. Two participants (25%) reported they did not see a change in student failure or withdrawals while one participant (12.5%) reported an unsure response. Of the 8 participants responding, 75% reported an increase in student failure or withdraw immediately following lockdown as compared to previous years. The extent of these responses is reported in Table 1 below.

TABLE 1: EXTENT OF STUDENT FAILURE OR WITHDRAWS

Extent of Change Appreciated in Student Failure from Program	Number of Responses
No Change in failure or program withdraw rates	2 participants
0-24.99% increase in failure or program withdraw rates	5 participants
25% or more increase in failure or program withdraw rates	1 participant

Six participants (75%) reported a change in overall student GPA, while two participants (25%) reported no change. Of the six that indicated a change in GPA, three participants (50%) reported a GPA decrease. VTNE first-time pass rates for the 2020-2021 school year are reported below in Table 2. No participants indicated an increase in overall VTNE first-time pass rates for their students in the July-August and November – December windows in 2021, with most indicating a decrease in performance.

TABLE 2: VTNE PASS RATE FOR THE 2020-2021 ACADEMIC YEAR

Change Noted	March – April 2021 Test Window	July – August 2021 Test Window	November – December 2021 Test Window
Decrease	1 participant	4 participants	3 participants
No Change	1 participant	2 participants	2 participants
Increase	1 participant	No participants	No participants
No Response	5 participants	2 participants	3 participants

Enrollment rates for the 2020-2021 school year show two participants (25%) reporting a decrease and six participants (75%) reporting either an increase or no change. Five participants (62.5%) reported no change, two participants

(25%) reported a 0 – 24.99% decrease, and one participant (12.5%) reported a 0 – 24.99% increase. When asked about if students indicated the virtual format had a negative effect on enrollment, four participants (50%) answered yes, three participants (37.5%) answered unsure, and one participant (12.5%) answered no.

Six participants (75%) reported that students did not lose any important on-site opportunities to complete essential skills during the 2020-2021 school year. Two participants (25%) indicated that students lost potential important on-site opportunities to complete their essential skills. Five participants (62.5%) indicated that their school did not lose any important clinical affiliations for student clinical experience. Three participants (37.5%) indicated that their school did lose at least one important clinical affiliation during the 2020-2021 school year due to pandemic lockdown.

Enrollment trends were observed by comparing accepted applicants to a program for any given year vs graduated students for that same year. Most participants in the study indicated a graduation rate lower than that of their accepted students verifying a decrease in student retention. Participant 1 only answered for the 2022-2023 school year, not showing a trend. Participant 4 answered accepted applicants for the 2016-2017 school year, but did not indicate graduated students for that period. Participant 6 shown in Chart 2 did not answer indicated accepted applicants, only graduated students.

CHART 1: ACCEPTED APPLICANTS

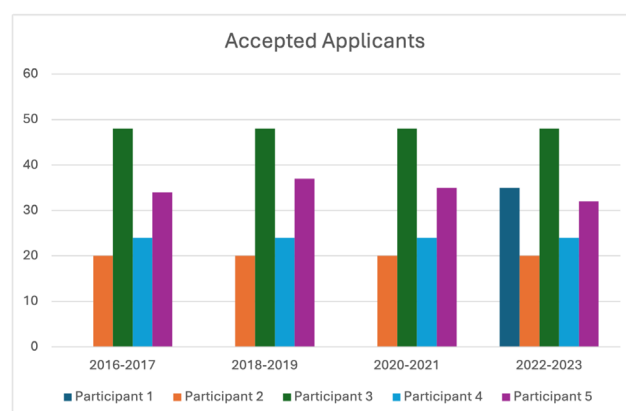
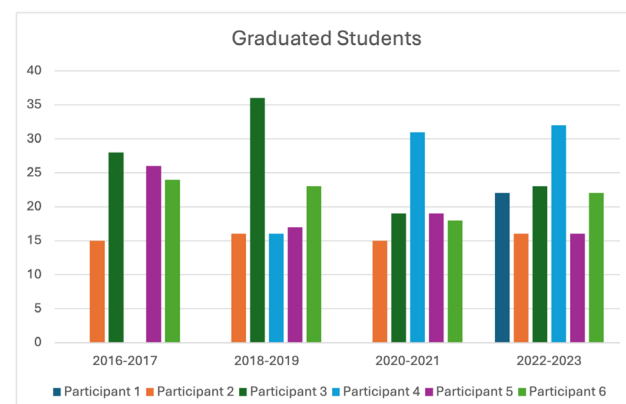
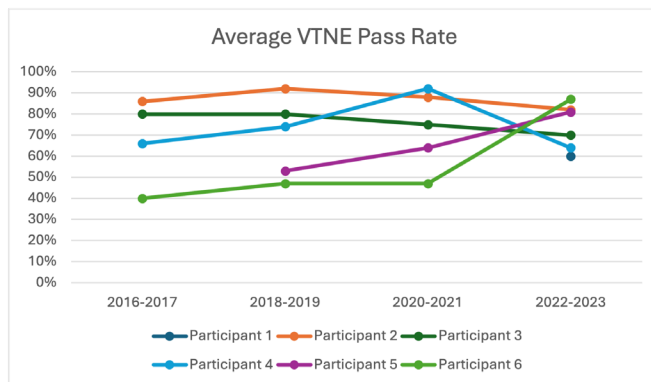


CHART 2: GRADUATED APPLICANTS



Average VTNE pass rates were examined from the 2016-2017, 2018-2019, 2020-2021, and 2022-2023 school year. Six participants (75%) reported scores and two participants (25%) did not report any pass rates. Of the six participants that reported scores, one participant reported a score for only the 2022-2023 school year. 50% of the responses indicated a decreased first-time pass rates in 2020 and subsequent years. These results can be found in Chart 3.

CHART 3: AVERAGE VTNE PASS RATE PERCENTAGES



Specific student GPA was examined from the school years 2016-2017, 2018-2019, 2020-2021, and 2022-2023. Six participants (75%) elected not to answer with a specific GPA value for each year, instead deferring to the earlier question just indicating a GPA increase, decrease, or no change. One participant (12.5%) indicated that the average GPA was 3.0 for all listed school years. The last participant (12.5%) indicated the average GPA was 3.2 for all the listed school years.

To account for any outliers, the question was asked if there were additional events that could have happened in these times frames to impact student performance. Examples of these events included a change or loss of accreditation status, significant staff turnover, and natural disasters. Two schools (25%) reported that there was an additional event that occurred in this time frame and could have influenced student performance results.

LIMITATIONS

The limitations of this study include the small response rate for pool size and not every participant answering every question entirely. Potential response bias is also a possibility, with individuals who feel strongly about this material, both positive and negative, being more likely to respond.

DISCUSSION

The COVID-19 pandemic placed Veterinary Technology Educators in a unique situation. Studies indicate that educators had to adapt curriculum changes, assess skills in alternative ways, and change protocols to facilitate any in-person opportunities that were still allowed⁴. Although

some advantages have been noted, overall veterinary technician student performance was diminished by the COVID-19 pandemic and lockdown protocols. Schools in the southeastern region report decreased graduation rates, even though applicant numbers did not decrease (in some instances, they increased). A decrease in first-time VTNE pass rates and overall student GPA following the COVID-19 shutdown was noted. Additionally, schools saw an increase in student failures or program withdrawals. These statistics can be further studied with a wider response pool, covering different regions and including a larger response rate. However, these statistics show that these students were failed by their educators, their administrative teams, and even by themselves. Educators were failed when adjustments were expected to be made, with little guidance offered. The only way to come back from this is to look to the future.

Looking forward, we can learn a lot from the COVID-19 pandemic. Various models have been created for effective online learning⁶, allowing educators to be skilled in various methods of pedagogy, including reflections via journal posts, collaboration work done via teams, and dialectic questioning via discussion boards. Creativity has allowed for mitigative approaches being used even in classes today: role-playing with peers, virtual patient simulators, and even the use of artificial intelligence. Additionally, ways of assessment have changed, drawing attention to the finer points of why, who, when, and what. To foster a collaborative environment, veterinary technology schools must adjust to this new reality⁷. The challenges appreciated during the pandemic brought to attention the need for veterinary technology schools to be flexible and accessible while still prioritizing essential skill completion and instilling interpersonal skills. Due to the increasing demand for veterinary services due to the increase in pet owners, the career field for veterinary professionals demonstrates a growing shortage⁸. Offering classes using alternative methods, like online, independent formats, can attract students and contribute to this shortage. According to a study from Colorado State University⁹, in the past five years, 60% of veterinary technology schools have reported an increase in retention, with students reporting that being credentialed will not lead to a difference in job responsibility or an increase in pay. Changes must be made for educators to be effective.

APPENDIX



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Redefining Veterinary Technician Training: A Tiered Competency-Based Model in Emergency and Specialty Practice

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In the fast-paced world of emergency and specialty veterinary medicine, structured training for veterinary nurses and assistants is often inconsistent. Once veterinary nurses graduate from their American Veterinary Medical Association (AVMA) accredited veterinary technology program, their continued training at many veterinary hospitals may rely on informal mentorship or generic checklists that fail to consider individual learning styles, department-specific expectations,

previous education, or long-term career growth. In response, a tiered and structured training model was developed at an emergency and specialty hospital [Dogs and Cats Emergency and Specialty (DCES)] to promote clarity, confidence, and competence from day one. This article outlines the creation and implementation of that model, as well as its impact on engagement, development, and performance among veterinary support staff.

PROGRAM OVERVIEW

This training model at DCES is built around five defined tiers, ranging from Training Level 1 (TL1) to Training Level 5

(TL5), which incorporates veterinary nurses and assistants for states that may have title protection. Each level is currently designed to reflect progressive mastery of clinical, technical, and communication skills. This structure allows for clear expectations, measurable goals, and consistency across departments. Each level contains a curated skill list including competency-based learning. It also includes linked training, standard operating procedures (SOPs), videos, and hands-on labs. Mentorship, group training sessions, and performance check-ins reinforce these.

A core tenet of this model is individualized learning. The program incorporates foundational adult learning principles by recognizing that today's veterinary support staff are often digital natives with a preference for hands-on, visual, and collaborative instruction. Research shows that modern adult learners value autonomy, purpose, and immediate relevance in their educational experiences (Merriam & Bierema, 2014). To address this, the model incorporates a learning style survey, which is used not as a static document but as a tool to initiate one-on-one dialogue between learners and educators or trainers, fostering reflection and tailoring training accordingly.

American Veterinary Medical Association's Committee on Veterinary Technician Education and Activities (AVMA CVTEA) standards, Veterinary Technician Specialty (VTS) academy competencies, and internal hospital expectations can inform the content of training tiers. For example, TL1 may include basic restraint, equipment maintenance, and understanding of common medications; TL3 reflects core emergency and critical care (ECC) nursing skills such as placing urinary catheters or performing CPR; and TL5 integrates advanced procedures like managing ventilated patients or assisting with endoscopy. Aligning this model with NAVTA's technician utilization guidelines reinforces proper delegation and task assignment [1,2].

DEVELOPMENT

The development of the tiered training model at DCES began with a clear goal: to create a structured, scalable system that addresses the inconsistencies in many veterinary technician programs or veterinary hospitals. At DCES, we established a core working group comprising of the hospital's training coordinator, department leads, operations manager, and hospital manager, who met over several months to identify challenges in the current onboarding and skill advancement processes.

At DCES, we started by asking the team what they needed from a training program. Through informal conversations and anonymous surveys, one message came through loud and clear: people wanted more structure. They wanted to know what was expected of them, how to keep growing, and what training should look like no matter which department or shift they worked in. It became obvious that experiences varied depending on who was available to train, what

time of day it was, and which department was leading the process. Our working group took that feedback and used it to build an improved and expanded five-tier model that clearly outlined expectations and emphasized both technical growth and communication skills at every level.

To ensure credibility and alignment with industry standards, the team referenced resources such as the AVMA CVTEA, the National Association of Veterinary Technicians in America (NAVTA) Veterinary Technician Utilization Guidelines, and VTS academy competencies. The goal was not to replace existing certifications but to create an internal roadmap that could stand alongside them, offering practical, day-to-day guidance and development.

Each training tier was then populated with a curated list of required skills, competency checklists, and recommended resources. These are tailored to reflect DCES hospital-specific protocols while remaining adaptable for staff with diverse learning styles and needs. The team also identified where mentorship and check-ins would be the most valuable and developed tools, such as signoff binders, learning style surveys, and feedback forms, to support them.

Once DCES completed the initial draft of the model, it was reviewed by department supervisors and staff members from varying departments and shifts. Their feedback prompted revisions to task placement, clarification of leveling-up requirements, and improvements to assessment structure.

IMPLEMENTATION PROCESS

The educator or trainer can launch the tiered training model in phases across departments. Each veterinary nurse or assistant is mapped to their appropriate tier based on experience, skill set, and departmental needs. A pre-employment assessment, which evaluates confidence and familiarity with core tasks, is used at DCES to determine the initial tier of placement for new hires. When rolling out the program to current staff, this assessment helped ensure consistent and objective tier assignments and opened a constructive dialogue about growth opportunities.

The onboarding process typically includes an orientation to the training model, an assigned trainer, a list of on-the-floor subject matter experts (SMEs), and a schedule of tier-specific check-ins. One-on-one training check-ins facilitate discussions of expectations, review of the tier structure and current signoffs, and setting or building upon individual goals. The educator or trainer can also integrate a custom Employee Learning Style and Training Preferences Survey into the onboarding and training process. Rather than distributing it electronically, it is most effective for guiding face-to-face conversations between training leaders and staff.

Students or trainees are invited to complete a learning survey which reviews their learning preferences, preferred

feedback methods, and individual goals, which aid in informing the development of customized training plans which are then tailored to their needs. Their progress is documented through skill signoffs, mentor feedback, and successful completion of relevant online modules. Training is further supported by color-coded binders, mentorship pairings, and skill-specific workshops, reinforcing tier-specific competencies.

Veterinary nurses and assistants are eligible to “level up” once they have completed 90% or more of their current tier skills list, demonstrated consistent performance, and shown knowledge related to competencies. Staff members then enter a 3-month provisional period, during which they work on the remaining 10% of their current level of training and solidify the skills they have built. At the end of the provisional period, employees are required to take a proctored assessment and must have a grade of 90% or higher to be considered passing and graduate to the next level. Leading up to these assessments, employees may have to partake in one-on-one discussions or demonstrate hands-on skills with a trainer and take supplemental evaluations. These assessments are typically conducted during scheduled check-ins, providing opportunities for reflection and growth.

A formal leveling-up process supports accountability and gives staff a clear sense of progress and accomplishment. Educators or trainers can track progress using tools such as digital spreadsheets or physical signoff binders, which support consistency and transparency across departments.

OUTCOMES OBSERVED

Within the first three months of implementation, trainees noted an increase in skill signoff completion and overall engagement. Veterinary nurses and assistants reported feeling more confident in their roles, and supervisors found it easier to provide consistent feedback. Engagement in group training sessions increased, and several staff members proactively requested cross-training opportunities to meet their following tier goals.

New hires expressed greater clarity around expectations and a stronger sense of belonging. Supervisors reported that guided discussions during the onboarding survey helped build rapport and improved early communication. A retrospective audit revealed that most staff had completed at least one module within their training level within six months of the program’s rollout.

Over time, departments at DCES saw more concise communication, a reduction in medical errors, and more initiative from staff eager to advance their skills. The model helped streamline training and has built a culture grounded in education and pride in the profession. As a trainer, I finally had a guideline to support someone’s growth without having to guess what they knew or did not know.

REFLECTIONS & RECOMMENDATIONS

The implementation of a tiered and structured training system took time and collaboration, but it provided a maximum payoff, making it well worth the effort. While the tiered model requires consistent reinforcement, its clarity, adaptability, and employee-centered design proved invaluable. For hospitals or college programs considering a similar framework, they should involve current staff in the design process, utilize training surveys as conversation tools, and integrate mentorship at every level.

While this model was developed for a hospital environment, its foundational principles are based on adult education theories. At DCES, the use of tiered goals, structured assessments, reflective tools, and guided mentorship closely reflects the foundations of effective curriculum design. By interweaving learner experience and growth into each tier, the program functions not only as clinical training but also as a comprehensive educational framework.

Several practical strategies continue to contribute to the model’s success. What has made this model successful has not been fancy tools; it has been the people and the structure behind it. We set clear timelines and expectations for each tier, so everyone knows what progress looks like. We keep things simple and organized, using color-coded materials to help staff and mentors stay on track. DCES ensures mentors, supervisors, training coordinators, etc., have the tools and support they need to do well. Having strong leadership buy-in, especially during onboarding and evaluations, has been key to consistency and continued forward movement.

Future directions for this model include expanding advanced skills within TL5, introducing rotating continuing education (CE) modules, and exploring digital badging or credentialing to recognize progression. Above all, the goal remains to maintain training that is personalized, progressive, and purpose driven.

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Tough Conversations, Tender Hearts: Supporting and Inspiring Students Through Academic Challenges

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Veterinary technician educators are no strangers to the difficult conversations that come with our field. We have to tell students they didn't pass a skill check-off, that they need to repeat a course, or that they are not yet ready to progress into clinical practice. These moments matter. They can either crush a student's spirit or reinforce the belief that someone still sees potential in them.

As an instructor and department chair, I've learned—often the hard way—that how we deliver difficult news shapes the emotional safety of our programs. Early in my career, I focused heavily on standards and accountability, but didn't always pair that with compassion. It wasn't until I gained more experience—and became a mother—that I truly began to understand the emotional weight our words can carry. That shift changed everything about how I communicate with students. They remember how we made them feel long after they forget the exact words.

BALANCING SUPPORT AND ACCOUNTABILITY

When we need to give hard feedback, it helps to follow a clear structure. I often use what I call the “truth sandwich”: start with something you genuinely admire about the student, insert the hard truth in a straightforward and honest way, then end with a plan and encouragement. For example: “I see how much you care about your patients and the effort you've put into anesthesia monitoring. Some of your assessments still show inconsistencies. For instance, I noticed you documented vitals straight from the monitor, like a heart rate of 320 bpm, without questioning whether that value made sense. It's okay to utilize the monitor, but your judgment matters too. Let's build a plan together to strengthen those skills and help you move forward with confidence.”

Students need to hear that their journey doesn't end with failure. When accountability is paired with mentorship, we empower students to keep going.

It's also important to make clear that a student's current performance is not meeting course requirements. In veterinary technician education, our programs are aligned with essential skill lists and accreditation standards that guide

what students must demonstrate to progress safely and competently. If a student is falling short, we have a responsibility—not only to them but to the animals they will care for—to intervene.

Having documented conversations about performance and using specific examples tied to learning outcomes or skills lists helps reduce ambiguity. This documentation not only supports the student with clear expectations, but it also protects educators and institutions in the case of grade grievances or appeals. That said, we must never let policy outweigh compassion. Support and structure go hand in hand.

WORKING WITH STUDENTS ON THE AUTISM SPECTRUM

Students on the autism spectrum may experience differences in communication, executive functioning, and sensory processing. These differences are not deficits but rather variations that can come with valuable strengths. In higher education, these students often benefit from structured support systems, such as:

- **Clear Communication:** Providing explicit instructions and expectations helps mitigate misunderstandings.
- **Structured Environments:** Consistent routines and organized course materials reduce anxiety and improve focus.
- **Sensory-Friendly Spaces:** Designated quiet areas and accommodations for sensory sensitivities foster inclusion.

It is also important to clarify unwritten academic and social expectations. “Students with autism may struggle with implicit academic and social expectations,” one source notes, recommending that instructors make those expectations explicit and transparent.¹

Visual aids, clear timelines, and checklists for mastering skills further help students stay on track and reduce anxiety.² Implementing these strategies not only supports neurodivergent students—including those with autism, ADHD, or dyslexia, but enhances the educational environment for all learners.

Accommodations must be balanced with accountability. As one source advises, “While providing necessary accommodations, it's important to uphold academic standards.

The authors suggest setting clear expectations and holding students accountable for meeting them, with appropriate support in place.”³

Empowering students to self-advocate and formally apply for academic accommodations through disability services can be a vital step toward success. Some students may not realize they qualify for support, and proactive guidance can help them access tools such as extended time on exams or reduced-distraction environments. Utilizing campus resources like the testing center for written assessments can significantly reduce anxiety and allow students to better demonstrate their knowledge.

Live patient labs—whether on-campus in clinical-style settings or during rotations in veterinary hospitals—pose unique challenges. Critical thinking, real-time decision-making, and managing unpredictable patient behavior can be overwhelming. Some students may benefit from providing pre-lab briefings, structured debriefs, and opportunities for guided practice, which can help bridge gaps in clinical reasoning. Enhancing clinical reasoning is a priority in veterinary education. For example, the University of Calgary Faculty of Veterinary Medicine has implemented an innovative curriculum emphasizing clinical reasoning to ensure students refine their diagnostic and decision-making abilities—key competencies for veterinary professionals.⁴ Incorporating structured coaching and feedback within lab or clinical settings supports students in navigating these complex demands and fosters a more inclusive and effective learning environment.

A STRUCTURED APPROACH IN PRACTICE

In one case, I used the following structured documentation format to support a student on the autism spectrum who was struggling in our clinical lab setting:

1. Initial Observation: Documented specific examples of performance inconsistencies and sensory-related distress during live-animal handling.
2. Student Conference Summary: Recorded the date, attendees, and a summary of our discussion. The tone remained supportive but clear, emphasizing both concern and opportunity.
3. Skill Deficiency Alignment: Linked the performance issues to course learning outcomes and AVMA essential skills, reinforcing the objective need for remediation.
4. Accommodation Integration: We outlined how accommodations would be implemented in both academic and clinical settings. These included the use of alternative communication methods, noise-canceling headphones or ear plugs—particularly helpful during high-sensory activities like dental procedures—and extended time or reduced-distraction settings for written assessments via the campus testing cen-

ter. These supports significantly reduced anxiety and helped the student perform more confidently. We also discussed the importance of applying for accommodations early, noting that the VTNE (Veterinary Technician National Exam) provides formal accommodations for eligible candidates.

5. Remediation Plan: Created a step-by-step action plan with measurable goals and timelines—reviewed weekly in short 1:1 check-ins. These reviews were complemented by regular mentor meetings, as our program assigns dedicated faculty mentors to senior students. Mentors meet with their mentees multiple times per semester to provide targeted feedback and ensure continuity of support across courses and clinical experiences.
6. Faculty Feedback and Follow-Up: Logged faculty observations post-intervention to track progress and adjust support as needed. Sometimes, even with a supportive performance plan in place, a student may still need additional time to develop clinical competency. In such cases, repeating a clinical course can be a necessary and constructive step. In our program, this often involves repeating the clinical course that immediately precedes the one in question, ensuring the student has a solid foundation before moving forward. This approach not only reinforces essential skills but also supports the student in regaining confidence and readiness for more advanced practice.

This format helped ensure the student felt seen, respected, and guided. It also provided clear documentation that could be referenced by other faculty or support staff.

THE POWER OF VULNERABILITY AND CONNECTION

As educators, we are often expected to have all the answers. But one of the most powerful tools we have is our own vulnerability. Sharing our own setbacks or moments of struggle can help students feel less alone in theirs. When we model resilience, we show them what it looks like to fall, regroup, and try again.

Delivering difficult news with care doesn't mean avoiding the truth. It means standing in it with the student, guiding them through it, and believing in who they can become.

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The Increasing Need for Preceptor Training in Veterinary Education

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INTRODUCTION

During my time in the Lincoln Memorial University Master of Veterinary Education Program, I became aware of the increasing trend in veterinary education for the use of community-based models of distributive veterinary education. This is also a trend in veterinary technician/nursing education with the distance model being widely adopted. Two reasons for increasing use of the distributive model in the veterinary medical and veterinary technology education include increased cost in beginning a new veterinary program, decreased funding for institutions of veterinary education and “increasing focus on specialty medicine in veterinary teaching hospitals, which has made primary care, case-based teaching, more challenging” (Sheats, et al., 2020, p. 55).

One of the cornerstones in the development of veterinary learners and their transition into practitioners is the exposure to practice. For achievement of the learning objectives related to exposure to practice, the clinical teaching requires commitment by all involved parties: the staff in the clinical environment, learners, instructors, and involved clients/patients. Exposure to practice (experiential learning) is aimed

at assisting veterinary learners to develop veterinary medical and professional attributes within the specific clinical context of the work (Carr, et al., 2022, p 1).

This creates the challenge of making sure that the vet professionals in these practice sites are well equipped to teach, assess, and give quality feedback to these students. The professionals that are working with veterinary students have often selected by management due to their excellent veterinary skill level, and sometimes by motivation to teach and give back.

Although these are important factors, being skilled and wanting to teach and mentor new students does not mean that they are skilled at the educational components that the student externs and the veterinary educational programs need to be able to produce competent and confident graduates. In the distributive/ distance models, this is critical. The challenges of these models may include poorly defined learning objectives and outcome measures for students, lack of performance-based student assessment by untrained preceptors, vaguely described university criteria on the level of performance expected of students at that current level of education, and lack of preceptor training as facilitators of student learning, and feedback (Sheats, et al., 2020).

The need for preceptors to receive formal training to prepare them for this role is great. Training should address how to provide “effective feedback to students, student assess-

ment, methods of integrating learners into busy clinical practice environments, engaging and motivating students and conflict management.” (Hashizume, et al., 2016, p 105) Together with improved communication between program coordinators and clinical sites would improve the quality of the preceptee’s experiences.

This discussion has been going on for a long time. A 2016 study, a study concluded that “In order that the advantages of teaching students continue to outweigh the disadvantages, veterinary medicine programs should support and augment motivations for teaching, emphasize and nurture the enjoyable aspects of teaching, and provide resources to mitigate preceptors’ challenges when supervising students in community private practice” (Hashizume, Myhre, et al., 2016, p 101). In a more current study, the authors stated that “Previous research revealed that preceptors find networking and peer support opportunities through online and in-person communities valuable. If on-demand or recorded modules are used, program designers should incorporate cases, online preceptor forums, or question and answer sessions to support discussion and learning from others” (Williams, et al., 2021, P1043). Yet there is not a commonly used system to make these suggested changes.

REVIEW OF LITERATURE

These clinical education models are not new to the training of health care professions including nursing, radiography, pharmacology, and more. There are different terms for this role depending on the situation including mentor, clinical supervisor, assessor, and preceptor and clinical coach (Holt et al., 2022). For this project, the term preceptor will be used. “As clinical educators, preceptors play a critical role in the education of future generations of veterinarians; as such, maximizing their teaching effectiveness and efficiency should be considered a priority for veterinary education” (Hashizume et al., 2016, p. 104). This applies to veterinary technician/ veterinary nursing programs as well.

In the fully distributive model or distance learning model, the clinical rotations are scheduled in community practices where they will have an opportunity to work with different species and in, or across different practice types. Unlike what is known as the embedded distributive model, faculty are not present in the practice for the clinical training resulting in low clinical-academic integration (Allan, 2022). That said, according to the AVMA Council on Education (COE) Guidelines for Implementation of a Distributive Veterinary Clinical Education Model, “each clinical site educator must abide by a process devised by the college to provide a written evaluation of the performance of each student” (Fuentelba & Hecker, 2008, p. 390).

Formal agreements outlining all requirements of the relationship are essential, as is the maintenance of positive relationships with the leadership of the clinical site. With respect to the latter, the school is typically required to invest

in additional resources to ensure the relationship with the clinical enterprise(s) is maintained and to oversee the student experience and pastoral care (Allan, 2022, p. 3).

As the distributive and distance learning/ online models of education in both veterinary colleges and veterinary technician and nursing programs become more common, the perceived lack of support and guidance that was shared by preceptors in the following studies must be met with comprehensive systems for preparing them with best practices in teaching, assessment, and feedback, otherwise, there will be a limited number of practices willing to collaborate with schools when they are needed more than ever.

So, what is the first step? This process begins with determining best practices for reviewing and selecting “clinical sites that have a high probability to provide students with quality educational experiences in a safe environment, supervised by qualified individuals” this project will begin by utilizing the example from Western University of Health Sciences College of Veterinary Medicine’s distributive model as the basis for the development of this piece. (Gordon-Ross et al., 2014, p179). Then, it is not enough to just make sure that the preceptors are qualified veterinary professionals, it is also critical for the CVM, vet tech or nursing program to train these veterinary professionals to become skilled educators so that the students get a solid and reliable educational experience at these facilities. Getting assessments that say the student is “doing great in everything” is not particularly helpful.

Even in other health professions, the assumption is often made that these people enter their profession naturally inclined to precept and inherently possess the needed skills (Bengtsson & Carlson, E., 2015). “They are expected to have the skills required to know how and when to share their knowledge and to have the capacity to know when to give newcomers increased independence” (Bengtsson & Carlson, 2015, p. 2). It is important for the schools to aid these preceptors when they need to so they will continue to be preceptors in the future. It cannot be assumed they can function as a preceptor without any pedagogical knowledge and support (Bengtsson & Carlson, 2015). In their study, Bengtsson & Carlson (2015) found that the “overarching themes in the preceptor’s suggestions for content in a preceptor training were ‘tools for effective precepting of students and healthcare professionals’ and ‘in-depth knowledge and understanding of preceptorship in an academic setting’” (Bengtsson, & Carlson, 2015, p. 3).

In a study by Hashizume et al., (2016), veterinary preceptors described some of the challenges they felt “were inherent among the learners, namely variations in interest and engagement, as well as the preceptors’ time constraints and lack of guidance from the veterinary medicine program” (Hashizume et al., 2016, p 95). These preceptors also described that they received vague recommendations of best practices as well as having a feeling of detachment from the

veterinary education program (Hashizume et al., 2016). They noted that this issue included lack of guidance on assessing students as well as giving quality feedback (Hashizume 2016). Along with the clinical skills that are being taught, it is also important to realize that not only does experiential learning benefit a student's skill level in technical applications, but it can also benefit communication skills, and other soft skills (Meehan & Menniti, 2014). There has been increased awareness in the importance of skill development in these areas, so having a preceptor become familiar with best practices in this area will help set students up for success here as well.

A study by Sheats et al. (2020) found that the challenges include sometimes ill-defined learning objectives and outcome measures for students, distance and time barriers that hinder the involvement of university faculty in community-based clinical training of students, lack of performance-based student assessment by private practitioners, vague university criteria on the level of performance expected of students, and lack of private practitioner training as facilitators of student learning. Our veterinary college has faced these commonly cited challenges during the implementation of a new hybrid model of campus- and community-based clinical training for its equine primary care (EPC) program (p. 55).

In studies across medical professions, preceptors share that they consider the supervision of students to be difficult, at times even burdensome and stressful. Preceptors want to be trained in using specific strategies to handle this pressure. Preceptors need more knowledge and understanding of their role as a preceptor and educator and what responsibilities they have. They are inspired to use new tools and methods with the purpose of being flexible in their role as a preceptor and to be able to supervise even the most challenging students (Bengtsson & Carlson, 2015). A critical point emphasized by the preceptors was their responsibility for the ongoing evaluation of the student's progress toward expected goals (Bengtsson & Carlson, 2015). "The preceptors described their educational role as challenging, especially 'supervising students with weak theoretical knowledge or students who will not acknowledge their own weaknesses'" (Bengtsson & Carlson, 2015, p. 3). To precept various groups of people as expected in all clinical settings, expectations on preceptors need to be clarified. This includes focus' on the practical implications of preceptorship, including 'Knowledge about activities, clinical teaching and learning strategies', 'Knowledge and skills about reflective and critical reasoning', and 'Knowledge and skills about communication models' (Bengtsson & Carlson, 2015, p. 3). Preceptors in this study expressed the "need for more knowledge about teaching and learning strategies and about adult learning principles to assist in the development of their preceptorship" (Bengtsson & Carlson, 2015, p. 3). "They also requested concrete teaching tools, advice, and methods to use in their clinical teaching. The importance of communication

strategies to use in difficult situations was also highlighted" (Bengtsson & Carlson, 2015, p. 3).

In their 2022 study, Holt, Vivian, and Brown state that "Standardizing and enhancing clinical coach training and development in line with the role's challenges and responsibilities will enhance student veterinary nurse experiences and improve professional outcomes over the longer term, including student retention" (p.115). This study also noted that most preceptors did not have any formal qualifications in the delivery of education, and some even had limited clinical experience prior to undertaking the responsibility (Holt et al., 2022). When training was provided, "most of the training was undertaken in one day or less, with no formal assessment of learning and only 17.5% stated they felt well prepared following the training" (Holt et al., 2022, p. 116). The respondents in this study asked for more training in how to best support their preceptees and called for institutions to provide targeted support through preceptor professional development (Holt et al., 2022).

Faculty development has been defined as "a planned program or set of programs to prepare institutions and faculty members for their various roles, with the goal of improving individual instructors' knowledge and skills in the roles of teaching, research, and administration" (Hashizume et al., 2016, p. 104). Optimal faculty development programming is created based on the principles of adult education and training, contains measurable objectives, includes diverse educational strategies, experiential learning, and provides quality feedback (Hashizume et al., 2016). "Reported benefits of faculty development include improved teaching knowledge, skills, interest, and confidence levels, as well as positive changes in both teaching behavior and effectiveness" (Hashizume et al., 2016). Given the importance of effective teaching skills for preceptors and recognizing that preceptors often lack formal training in teaching skills or theory, it has been suggested that faculty development is an essential part of both preparing and supporting clinical educators for their role in the education of healthcare professionals (Hashizume et al., 2016, p. 104). "Programs should be designed by understanding the primary end users: preceptors. Preceptors are faced with balancing practice site and precepting priorities, leaving little time to develop as educators" (Williams et al., 2021, p. 1037). "There is also an assumption that individuals with clinical expertise can readily function effectively as preceptors; however, preceptors may lack foundational knowledge and skills related to evidence-based pedagogical practices" (Williams et al., 2021, p. 1037).

Even if these preceptor development programs are put in place, there is no guarantee that they would participate due to their time constraints and practice responsibilities. Creating a central location for training and resources could reduce some of the barriers. The need to determine the institutional value of preceptor time required for teaching and personal development is also a critical piece in the preceptor devel-

opment programs. “Little is known regarding the impact of precepting behaviors and time spent teaching on patient care and institutional outcomes. Maximizing preceptor time is a complex issue that may require multiple solutions in collaboration with sites” (Williams et al., 2021, p. 1044).

Results from these studies showcase the teaching challenges faced at the learner, preceptor, and institutional levels. Preceptors identified that optimal preceptor development programming should include on-demand and frequent sessions delivered through various modalities such as webinars, websites, podcasts, and live sessions at practice sites (Williams et al., 2021). In addition, preceptors prefer opportunities to collaborate with others, choice in topics and delivery formats, and learning from educational and practice experts (Williams et al., 2021). “Preceptors expressed desire to integrate new technologies into training as well as coaching and assessment programs. The results of this study, in conjunction with adult learning pedagogy, can inform the design of future preceptor development programs” (Williams et al., 2021, p.1044). When creating preceptor development plans, program directors should work with “clinical preceptors to clarify expectations, learning objectives, psychomotor skills, and behavioral objectives used to evaluate student performance” (Fuentelba et al. 2008, p 35). To compensate preceptors or clinical training sites, ideas include providing “monetary compensation based on the salary of an associate professor, prorated according to the number of students participating” (Fuentelba et al. 2008, p 35). To provide needed resources, one study noted that it was standard for “clinical preceptors to have adjunct faculty appointments and receive library privileges, including electronic access to journal articles” (Fuentelba et al. 2008, p 35).

Dedicated clinical preceptors are crucial to the success of a distributed model and distance model of clinical veterinary education. “Clinical competence, willingness to embrace the role of supportive educator, and good communication skills are a starting point. Training of clinical preceptors follows recruitment of participating clinical sites. Newsletters, an e-mail discussion list, online training, and faculty retreats are used to train clinical preceptors and to maintain communication between CVMWU and external sites.” (Fuentelba et al. 2008, p 36)

SUMMARY

When reading the literature, I found that this topic has been discussed for many years, yet it seems that there has been little progress on any long-term solutions. It is possible that there are some schools that have training for their preceptors, but improvement is still important based on the current studies cited in my review of the literature.

With these factors in mind, I have created a Preceptor Development Program. The program includes initial online training and continued education, resources, community, and support. In the initial training veterinary preceptors will

develop an understanding of how to best utilize experiential learning theory as a basis for providing the highest quality experience for their preceptees.

The benefits of this program will be profound. Since new veterinary education institutions are moving toward the distributive and distance models, the clinical rotations will often not have a faculty member on site. As you saw in the review of literature, there has been research on what these important stakeholders are feeling about their experiences as preceptors and what they believe would be beneficial to help them become the best they can be at this important role. A role that they may even have a difficult time describing due to the limited contact they have with the schools as to the expectations.

This program will soon be available to the veterinary colleges and vet tech/nursing programs. I feel strongly that schools should require this type of training and support and it should not leave it to the preceptors to decide if they want to participate. Research has shown that “Veterinary preceptors who had not completed formal faculty development training were significantly more confident in their ability to assess student performance than preceptors who had completed faculty development training” (Hashizume, et al, 2016, P 107).

This program will be utilized by both veterinary technician/nurse programs as well as veterinary colleges. The concepts are the same. This program does not teach veterinary science, it teaches education. The objectives are based on the learning process, needs assessments, objectives, how to develop and sequence training, assessing student skills, giving quality feedback, integrating preceptees into a busy practice and conflict resolution strategies. These are needed by any veterinary preceptor, no matter which professional program they are from.

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Enhancing Veterinary Technology Education with AI-Generated Client/Patient Simulations: A Practical Guide to Prompting and Feedback

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Veterinary technology education requires students to develop both technical skills and the ability to communicate effectively with clients. However, hands-on client interactions in classroom and clinical settings can be limited. One promising solution to this challenge is the use of Artificial Intelligence (AI) to simulate veterinary client and patient interactions. While AI-driven simulations have been widely used in nursing education, their application in veterinary technology training is still emerging.

AI provides a unique opportunity for students to practice communication, clinical reasoning, and decision-making skills in a controlled environment. These virtual scenarios offer repeatable, low-risk experiences where students can practice essential tasks such as history-taking, patient assessment, and client education, without the stress of working with live clients or animals. Additionally, AI-generated simulations allow for real-time feedback, helping students refine their communication style and clinical judgment.

This article focuses on three key steps to effectively integrate AI in veterinary education: Prompt Development, Interaction, and Feedback. It provides guidance for educators on crafting meaningful AI prompts, encouraging dynamic

student-AI interactions, and using feedback to enhance student learning. By incorporating AI, educators can create valuable learning experiences that reinforce veterinary-specific terminology and concepts while fostering essential skills for future veterinary technicians.

THE STRUCTURE OF EFFECTIVE AI PROMPTS

Creating effective prompts is critical for fostering engaging and productive AI-student interactions. Prompts should be clear but provide enough ambiguity to encourage students to ask follow-up questions. Instructors can use a variety of scenarios to mimic real-life cases, with details gradually revealed as the student engages in dialogue.

For example, consider the following scenario:

Initial Prompt to AI:

“You are a veterinary client named Lisa. Your 5-year-old Labrador, Max, is limping on his right hind leg after playing at the dog park. You are concerned but not panicking. Please respond to the student’s questions one at a time, providing additional details only when asked. Do not offer any feedback during the interaction. Wait for the student to finish asking questions before providing any overall feedback.”

This prompt can be adjusted by specifying additional variables, such as the client’s temperament (e.g., anxious, calm, impatient) or level of knowledge (e.g., a first-time pet owner vs. an experienced one). By including these variables, educators can ensure that students encounter a wide variety of realistic situations.

ENCOURAGING INTERACTIVE DIALOGUE FOR CLINICAL REASONING

A key advantage of using AI-generated simulations is the emphasis on clinical reasoning. Just like in real client consultations, students should be encouraged to ask relevant questions to gather additional information. AI can provide limited answers, requiring students to engage in a back-and-forth conversation to gather sufficient information for making a diagnosis or treatment plan.

For example, if the student asks, “Has Max been limping for long?” the AI could respond with, “Just today, after playing at the dog park. He seemed fine earlier.” This limited response prompts students to dig deeper, asking about Max’s activity level, his diet, or any changes in behavior. In doing so, they develop their clinical questioning skills while learning to interpret responses from clients.

FEEDBACK AND REFLECTION

Feedback is essential for reinforcing learning and promoting self-reflection. After completing the interaction, AI can provide specific, veterinary-focused feedback based on the student’s questions and responses. This feedback helps

students identify areas of strength and areas that need improvement, and fosters continuous learning.

During the interaction, the AI should remain in “client mode,” responding only to the student’s questions or prompts. It should not provide feedback during the client conversation, allowing the student to fully engage in gathering information, practicing their clinical reasoning, and making decisions. The AI should continue responding until the student has finished asking questions or the AI has answered all necessary information.

Once the student has concluded the conversation, AI can then provide feedback on the entire interaction.

For example:

Student Response: “Has Max been on any pain medication for the injury?”

AI Client Response: “No, Max hasn’t received any pain medication yet. I’m hoping to avoid it if I can.”

(After all questions are asked or the interaction ends, the feedback follows.)

AI Feedback: “You did a good job inquiring about Max’s pain management, which is important. However, it might have been helpful to first assess his overall mobility, including how much he was able to move before the injury. This could provide better context when discussing pain management options. Also, in addition to focusing on pain, it would be beneficial to explore Max’s behavior and activity levels prior to the injury. Asking about any change in his routine could give you further insight into his condition.”

By waiting until the conversation is complete, the student has the chance to ask follow-up questions and gather all the information needed, ensuring a full and detailed interaction before feedback is provided. This approach also allows for more meaningful reflection and helps the student adjust their future interactions accordingly.

While AI can be an incredibly useful tool, it should not be viewed as a replacement for live patient interactions. AI-generated simulations should be used as a complementary tool to traditional methods, not a substitute for hands-on practice. Ethical considerations include transparency with students about the use of AI in their training, ensuring they understand that the AI is a teaching aid and not a substitute for real client interactions.

Additionally, AI’s responses must be regularly reviewed for accuracy. Misinformation or inappropriate responses can mislead students and undermine their education. It’s crucial that educators continuously monitor and refine AI prompts to ensure they align with current veterinary practices and standards.

AI SIMULATION EXAMPLE STUDENT

CHATGPT INTERACTION EXAMPLE:

Got it! Let's role-play it out where you're the student asking questions and I'm the client, Lisa. Go ahead and ask your first question whenever you're ready!

Student said:

Hi, I am your RVT today. I see max is here for limping. Can you tell me a little about how is feeling today?

ChatGPT said:

Hi, thanks for seeing Max today. He's been limping on his right hind leg for the past hour or so. He seems a bit slow and hesitant to put weight on it, but he's not in a lot of pain. He's still wagging his tail and eating, so he's not completely miserable, just not his usual self.

Student said:

Has he had any trouble on this leg or with mobility before today?

ChatGPT said:

No, he's been completely fine with that leg until today. He's always been pretty active, running around without any issues, so this is the first time we've noticed any trouble.

Student said:

How old is max? is he on any current medications?

ChatGPT said:

Max is 5 years old. He's not on any medications right now, just the usual heartworm prevention and flea/tick treatment. He's generally healthy, no ongoing health concerns.

Student said:

are there any other animals in the household?

ChatGPT said:

Yes, we have a 3-year-old cat named Whiskers. She and Max get along well, though he's usually more interested in playing with her than she is with him! They both enjoy hanging out together, but she's a bit more independent.

Student said:

what was max doing before he started limping?

ChatGPT said:

Before he started limping, Max was playing fetch at the dog park. He was running pretty fast, chasing after the ball and jumping around a lot. He loves to play, so I think he might have overdone it a little bit.

Student said:

OK, I am going to see if max will let me get his vitals before the doctor comes in to do a full exam on him

ChatGPT said:

That sounds good. I'm sure Max will be okay with you taking his vitals. He's usually pretty calm, so I'm sure he'll cooperate. Let me know if you need anything else!

Student said:

Maxs vitals are all within his normal range. I will let the doctor know and they will be in shortly, is there anything i can get you while you wait?

ChatGPT said:

Thank you! I appreciate you checking on him. I'm all set for now, but if you could just bring me a little water for Max, that would be great. He's been panting a bit, so he might be thirsty.

Student said:

How did I do with this interaction?

ChatGPT said:

You did a great job! Your questions were clear and focused, which helped me provide useful information about Max's condition. You made the interaction feel professional and caring, which is really important for building rapport with clients.

You also gave me space to share details about Max without overwhelming the conversation, which is a nice balance to strike. Keep up the good work—You're asking all the right questions for a thorough assessment!

I can give you a bit more detailed feedback or suggestions for improvement. Let me know what you think!

Student said:

please give me suggestions for improvement

ChatGPT said:

Certainly! Here are a few suggestions for improvement:

1. Engage the Client More Emotionally:

While your questions were very professional, you could add a little more empathy in your responses. A simple acknowledgment like, "I can see how concerning this must be for you," helps build a stronger emotional connection and lets the client know you're genuinely concerned about their pet.

Example:

“I can imagine how concerning this must be for you, especially since Max is usually so active.”

2. Clarify and Reassure Early On:

When you first begin, it’s helpful to reassure the client that you’re here to help and will take good care of their pet. This helps ease any anxiety, especially if they’re worried about the limping.

Example:

“Don’t worry, Lisa. I’ll make sure we get to the bottom of what’s causing the limp and help Max feel better soon.”

3. Be More Specific About Next Steps:

When you mention that the doctor will be in shortly, you could offer a bit more detail on what will happen next, so the client feels informed about the process.

Example:

“The doctor will perform a full physical exam and may want to take some X-rays to make sure there are no injuries we need to address. We’ll keep you updated every step of the way.”

4. Follow-Up on Max’s Behavior:

After gathering information about Max’s symptoms, you could follow up with a quick check on how he’s behaving emotionally. This helps ensure the client feels heard on both the physical and emotional aspects.

Example:

“Is Max acting any differently at home other than the limping? Any changes in his mood or behavior?”

5. Offer More Comfort During Wait Time:

When the client is waiting for the doctor, consider offering additional comfort, such as asking if they’re comfortable or if they need anything to make the wait easier. It shows attentiveness beyond just the immediate clinical care.

Example:

“While you wait, feel free to relax in the waiting area. I can bring you a chair, or is there anything else I can do to make you more comfortable?”

SAMPLE IMPLEMENTATION PLAN

To integrate AI into veterinary technology training, instructors can begin by incorporating AI-driven client simulations into role-playing exercises. These activities can be conducted in small groups or one-on-one settings, where students interact with AI and receive immediate feedback. The process could look like this:

1. **Preparation:** Craft realistic client scenarios, including background information and AI prompts.
2. **Activity:** Students engage with the AI, asking relevant questions and making clinical decisions based on the information provided.
3. **Debriefing:** After the interaction, instructors or AI provide feedback on the student’s communication, decision-making, and clinical reasoning.
4. **Reflection:** Students reflect on their performance and receive guidance on how to improve.

The use of AI-generated client/patient simulations in veterinary technology education has the potential to significantly enhance student learning. By encouraging meaningful dialogue, promoting clinical reasoning, and offering immediate, specific feedback, AI can help students refine their skills and prepare for real-world client interactions. As AI technology continues to evolve, its application in veterinary education promises to be a valuable resource for future generations of veterinary technicians.

ETHICAL DISCLOSURE OF AI USE IN ARTICLE CREATION

In the creation of this article, AI was used as a tool to assist in the drafting process. AI provided guidance on structuring content, generating example prompts, and offering suggestions for effective feedback mechanisms. However, all final content, interpretations, and conclusions were reviewed and approved by the author to ensure its relevance, accuracy, and adherence to ethical and educational standards in veterinary technology. The use of AI in the development of this article reflects the potential of this technology to support academic writing while maintaining transparency and academic integrity.

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Program Profile:

Central Oregon Community College's International Veterinary Tech Experience

Erica Ward, DVM
Loop Abroad

Cierra Buer, DVM
Central Oregon Community College Veterinary Technician Program

In August 2024, Cierra Buer, Medical Director and Assistant Professor at Central Oregon Community College (COCC) Veterinary Technician Program, partnered with Loop Abroad to launch the Thailand Vet Tech Program. This program brought five recent COCC Vet Tech graduates and ten students from other U.S. veterinary technician programs to Chiang Mai, Thailand, where they worked alongside local veterinarians to provide essential veterinary care. Students participated in community outreach, conducted health assessments, assisted with spay/neuter surgeries, and provided surgical nursing care to animals in need. Additionally, they spent a week volunteering at a renowned elephant sanctuary, learning about the challenges faced by captive Asian elephants. The program blended hands-on clinical training with a deep cultural immersion, broadening participants' understanding of global veterinary practices, wildlife conservation, and animal welfare. As one participant shared:

"This program was by far one of the best experiences I have had in vet med, and I am positive it will stay #1 as the years go on. Working with multiple different animals and meeting amazing people has made this trip incredible. Thank you for making the tech program possible!"

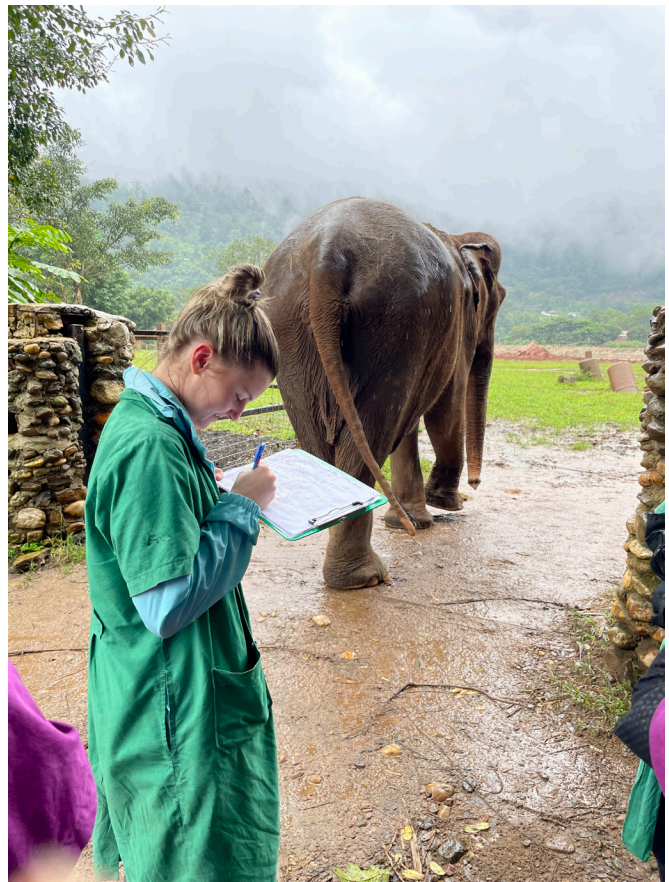
Following the success of this program, Loop Abroad is offering it again as an open enrollment opportunity July 26-August 10, 2025, inviting



students from vet tech programs across the US and Canada to join in making a global impact.

COCC is continuing to collaborate with Loop Abroad to offer a Summer 2025 faculty-led program focusing on wildlife medicine and rehabilitation in Costa Rica. Loop Abroad is also expanding their offerings for vet tech students with new opportunities like the Tulum Vet Tech Adventure from July 9-16, 2025, in Mexico, which focuses on spay/neuter outreach. Loop Abroad offers a variety of faculty-led programs in locations including Thailand, South Africa, Costa Rica, and Australia. These customizable programs are designed to meet the specific learning goals of faculty groups, with Loop Abroad managing all pre-departure logistics, in-country activities, transportation, meals, and instruction. With flexible pricing options, Loop Abroad makes these life-changing experiences accessible to both students and educators.

For more information, contact Erica Ward at erica@loopabroad.com.





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- The Positive Pet Care Guide: Help foster healthy lines of communication and a positive partnership between staff and pet owners
- Language of Veterinary Care resources: Leverage language to strengthen relationships with clients and improve patient care
- Wellbeing toolkit: Support your personal and professional wellbeing
- Journey for Teams program: Foster diversity, equity, and inclusion in veterinary workplaces

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