

Using AI in Clinical Veterinary Communication Training

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In programs that rely heavily on clinical simulation, the hurdles are almost always the same: achieving true standardization and capturing genuine realism. At the Texas Tech University School of Veterinary Medicine, we dedicate extensive resources to training students in communication and professionalism. Why? Because becoming a great veterinarian means more than just understanding the animal; it means successfully navigating the human expectations, thoughts, ideas and concerns as well.

To build these critical skills, students need hours of realistic practice and observation before they demonstrate skills and competencies through the Objective Structured Clinical Examinations (OSCEs) and eventually clinical practice.

The Challenges and Limits of Human Simulation

Historically, we've relied on Standardized Clients (SCs), human actors trained to simulate real-life cases. While invaluable, this approach comes with inherent challenges:

- **Resource Intensity:** Training SCs on complex medical cases requires a significant investment of money, time and resources to provide students with valuable multiple simulated encounters.
- **The Standardization Myth:** Humans are wonderfully unique, which means true standardization is difficult to achieve considering that each SC tend to also naturally bring their own experiences and communication style to the exact same scenario.
- **The Stress Factor:** While simulations are designed to provide a safe learning environment, stepping into a room with a SC remains incredibly stressful for a novice learner trying to demonstrate communication and other clinical skills.
- **Missing Nuance:** Authored clinical scenarios can overlook important variables such as socioeconomic status, healthcare literacy, experience with animal husbandry, ethnicity, religion, and family dynamics, all contributing to the authenticity of the scenario.

Looking at these distinct but overlapping challenges, we saw a clear opportunity to bring Artificial Intelligence (AI) into the fold. Leveraging the ability to train chatbots within Chat GPT, we began to design to fit our needs.

The Strategy: A Three-Pronged AI Integration

Instead of trying to replace human interaction, we wanted to use AI to help prepare learners for the in-person simulated encounter. We designed and trained specific AI personas using detailed prompt engineering, targeting three distinct groups in our veterinary communication program:

1. The Low-Stakes Practice Partner (For Students)

We gave students access to an AI engine trained to portray a specific client. Through text or voice-to-text, students could conduct full interviews. The catch? The AI was programmed to only reveal critical information if the student asked the appropriate type of questions (e.g. open-ended questions). Furthermore, the AI provided immediate, personalized feedback based on the Calgary-Cambridge Guide (CCG). It became a safe space to fail, try again, and master the process of the medical interview.

2. The Case Sandbox (For Standardized Clients)

Actors need to rehearse, too. Instead of just reading a static case file, our SCs used the AI engine to role-play, with the AI acting as the veterinarian or student. They could ask AI questions about their own character's backstory, assess fidelity of their portrayal, and even ask for feedback:

"How realistically did I portray this case?"

3. The Case Development Assistant (For Faculty)

To help with the issue of underdeveloped scenarios, we designed a chatbot to build scenarios based on specific geographic locations. By inputting a ZIP code, the AI pulled from reliable statistical databases and public records demographically accurate details into the client's background, bringing depth and accurate human variables to scenarios.

What We Learned: AI as an Empathy Engine?

The results exceeded our expectations. When we examined the practice logs, we found that the dialogue included *more emotional responses* during their conversations with the AI as compared to traditional SC-student in-person simulations.

Our SCs loved the AI Veterinarian; they found the AI to be an incredibly helpful partner that uncovered facets of their characters they hadn't even considered. Meanwhile, the scenarios generated for faculty were richer, highly specific, and deeply nuanced in human factors.

A Note on Consistency:

Even with extensive guardrails, AI isn't perfect. Hallucinations happen. We framed this as a feature, not a bug. We warn learners and SCs to recognize these moments and actively train the

AI by providing feedback to the chatbot. If the chatbot stumbled, it could usually correct itself; occasionally, it just needed a reboot. Just like human interactions, it requires some adaptability.

The Takeaway: Offload the Mechanics, Elevate the Human

The lesson here is a simple formula for the future of clinical training: *Use AI for repetition, and humans for nuance.*

By positioning the AI as the prerequisite practice ground, students can build the mechanical muscle memory of clinical interviewing. By the time they step into a room with a SC, they aren't worried about *what* question to ask next. They can focus entirely on attending to the client needs and building rapport, structuring the flow, displaying genuine empathy, collecting a thorough history, and sharing explanations and negotiating mutually agreed treatment plans improving adherence and enhancing patient outcomes. SCs, in turn, can enter the room more prepared to portray their roles.

Ultimately, this integration was never about replacing human interaction; it was about elevating it. By offloading the technical repetitive practice to an AI engine, the time our students and SCs spend face-to-face has become more impactful.