A LIFLESS DUMMY HARDLY SEEMS the likely hero in a story about award-winning innovation in nursing education.

Until you meet Stanley Sim.

The low-end, durable patient simulator has crowd-surfed at a Duke men’s basketball game; dressed as a vampire to promote a blood drive; and posted to Twitter his thoughts about love, health, and the pursuit of pulled pork sandwiches.

By doing so, he engaged his followers in a dialogue about core nursing competencies, patient-centered care and safety, and HIPAA (Health Insurance Portability and Accountability Act) regulations. He also impressed the higher education community and helped the Duke University School of Nursing win a 2010 Campus Technology Innovators Award for the creative use of social media in education.

“This award is a big deal for us because it shows that the School of Nursing is willing to embrace new technology and explore new ways of teaching and learning,” says Mary Barzee, the program coordinator for Innovative Nursing Education Technologies (iNET) at the School of Nursing. iNET is a federally funded collaborative effort among the nursing programs at Duke, Western Carolina University, and the University of North Carolina at Charlotte, to integrate technology into nursing education.

By Jim Rogalski

As technology transforms the classroom, person-to-person connections remain vital.
Student Jean Schenkkan explores the Duke Education and Learning in Virtual Environments (DELVE) computer program with assistant professor Beth Phillips.
Duke was the lead team and designed and scripted Stanley’s adventures in Sim Soap: A Twitter Soap Opera. With computer technology seemingly advancing every nanosecond and today’s students as committed to their Internet-enabled cell phones as Ozzie was to Harriet, it’s just not enough to learn by rote memory anymore, nursing experts say.

So one of the school’s strategic goals “is to be at the forefront of innovation,” says Marilyn Lombardi, PhD, director of academic and strategic technology. “Technology can help us create critically aware and creative health care providers and make nursing education more of a personalized experience.”

Within the past 18 months, the school has upgraded its Center for Nursing Discovery (CND) patient simulation lab to include more realistic, programmable patient mannequins; developed a highly detailed avatar-based 3D virtual nursing lab and patient scenario; taught the creation of Web-based portfolios; embraced Facebook and Twitter, and more.

“Seeing so much innovation in the last year or so makes it really clear that there will be a lot more in the future,” says Meredith Park, a student in the Accelerated Bachelor of Science in Nursing (ABSN) degree program. “Our generation grew up with Facebook, Twitter, and computers, and it’s great to see the school embracing them.”

ABSN student Jean Schenkkan says of the CND staff: “I haven’t met any other team of people who are more dedicated to the students and to embracing new technology.”

Stan’s face on Twitter

Stan’s the Man on Campus
Sim Soap: A Twitter Soap Opera was designed as an experiment for nurse educators to use the popular social medium Twitter to reach students and reinforce key competencies of Quality and Safety Education for Nurses.

For six days in February of 2010, Barzee posted a total of 488 “tweets,” or short text messages, on Stanley’s behalf in a fully scripted soap opera story. Close to 100 nurse educators and students followed Stanley Sim’s creative and imaginary drama in which he wrote about his growing anxiety over acute indigestion and about non-medical interests like Duke men’s basketball and finding his long-lost high school sweetheart.

Duke staff hauled Stanley to various campus events as a way to give him life beyond the lab and cyberspace. Students around the university campus were eager to get their photos taken with him.

“They were very curious about him, and it served as an opportunity for us to explain to others how we use these simulators,” says CND Coordinator Margie Molloy, MSN, RN. “It helped us promote nursing education at Duke.”

Molloy drew the line at what she would allow Stanley to do. Crowd surfing with the Cameron Crazies was fine, but, she says with a chuckle, “when students wanted him to smoke the hookah, we didn’t let him.”

In accordance with the script, Stanley eventually suffered a heart attack, and details of his condition and treatment were updated regularly on Twitter. When the script called for a nurse to post a little too much personal information about him, the online discussion turned to the importance of knowing HIPAA guidelines.

The soap opera ended on Valentine’s Day on a happy note: Stanley was released from the hospital in good health and finally connected with his lost love, Cookie.

“Students today are so drawn to social media like Facebook and Twitter, and we’re realizing it’s a great way for us to get our message to them and to reinforce core competencies in a fun way,” Molloy says.
On the Facebook front, Molloy breathed life into another low-end mannequin named Ivy Sim by creating a Facebook account for her. Molloy—posing as Ivy—posted Ivy’s thoughts about her successes and struggles as a first-semester Duke ABSN student. Ivy’s followers interacted with her by posting messages of encouragement and ruminating about the difficulties of particular homework assignments. Promoting student interaction was the main goal of the Facebook project.

Ivy, too, was brought to campus events and spent a weekend in Krzyzewskiville during the graduate student basketball campout. Like Stanley, she was quite popular.

The feedback from both the Stanley Sim and Ivy Sim experiments was so positive that faculty members are discussing ways to make student participation in similar social media projects mandatory in the future, perhaps as early as this spring.

“It’s important that students have fun learning and that we make teaching points memorable and meaningful,” Barzee says.

Realism Breeds Competency, Compassion
The CND recently added several new patient mannequins with more life-like qualities, including chest movement when they breathe and the ability to converse with nurses via a live person speaking through a microphone in the observation room.

Students say the improved realism helps them to envision the mannequins as real people, making patient scenarios more impactful as they prepare for their clinical rotation with real patients.

“The new human characteristics help to personify them,” Park says. “We’ve really gotten to the point where we’re comfortable talking to them and treating them like real patients.”

During a recent patient scenario with a team of students, during which the mock patient suffered from an undetected intestinal blockage, Molloy recounted how back in August of 2009 the students would barely approach the mannequins, partially because the simulators were unrealistic. “Now, they’re even placing their hands on the mannequins’ shoulders to comfort them.”

Matt Wright, a nursing simulation and technology specialist, often provides the patients’ voices.

He’ll say things such as, “my stomach really hurts,” and “that IV bag doesn’t look like what I usually get.” Students say being able to respond to a patient makes the scenarios much more real.
Of course, actual clinical experience is the best form of teaching, Molloy says, but practice scenarios done in a high fidelity simulation environment make for a smoother transition to real patients.

Other new technology recently added to the CND are video cameras and computer software that allow students to go online afterward to watch a recording of their session, complete with visuals of all of the room’s monitors. If students made mistakes during the session, they can go back and learn exactly where things started to go wrong and why.

“This is extremely valuable,” says ABSN student Beth Helgeson. “Sometimes in these simulations we do a good job as a team, but this helps me understand what I need to do better. The next time, I’ll be more cognizant of it.”

Another valuable addition is debriefings following the sessions in which faculty give kudos for jobs well done and point out where mistakes were made. Students share their thoughts about their own performance and the performance of the team.

Says Schenkkan: “Like Margie (Molloy) always says, ‘If you make a mistake here, you’ll never make that same mistake with a real patient.’”

**Virtual Reality a Reality**

Schenkkan was one of the first students to take a test drive of DELVE (Duke Education and Learning in Virtual Environments), the state-of-the-art 3D Duke virtual nursing lab—an online computer game-like program in which students enter a detailed virtual replica of a Duke Hospital room and treat a patient whose medical chart is accessed by a click of the mouse. All diagnostic devices and monitors mimic what’s used at Duke University Hospital and are placed precisely where they would be in a real hospital room.

If medication needs to be dispensed, students click on the medication drawer, select what they need, and adjust the dosage. If the IV pump needs adjusting, students click on it and adjust the controls.

DUSON hopes to roll out the new computer program to students this spring.

Like in the CND, sessions will be recorded and made available online afterward, a feature that Schenkkan says is invaluable.
People are jumping into new technology because it’s exciting and fun. But we’re looking at the theory behind it and whether students can really learn with it.”

— BETH PHILLIPS

“This is a great way to do self-testing and clinical practice at home and watch what you’ve done in the past,” she says. “This is done very well. There’s so much detail.”

All sounds—from running water in the hand wash sink to blood pressure cuff Velcro—were recorded and input into the program by Beth Phillips, MSN’93, RN, CNE, who heads the development of the computer program.

Phillips says the 10 different patient scenarios that will be programmed are designed to teach basic nursing competencies. Users create an avatar to represent themselves and move freely throughout the virtual hospital room simply by moving their computer mouse.

“This certainly is not a substitute for clinical experience but is a great way to prepare them to go to clinical,” she says. “You feel a real sense of presence in here and a sense that you are really with a patient.”

Other Tech-Savvy Advances

Sharon Hawks, DNP’10, RN, CRNA, associate director of the Nurse Anesthesia Specialty in the Master of Science in Nursing degree program, mandates that all of her students create an electronic portfolio—an online CV that is made accessible to potential employers. She teaches them how to do it.

Hawks says e-portfolios allow students to represent the full scope of their experience and strengths and not simply document that they have met minimum competencies to become a nurse.

“My ultimate goal would be that all students who come through the nursing program create an e-portfolio when they enter to show exactly what they are capable of doing,” she says. “It allows things that are normally invisible to be seen, and that is really exciting because it captures the full scope of a person.”

Feedback has been positive from her students who have created e-portfolios.

“It helped me to better realize my accomplishments and demonstrate how I have shaped myself professionally,” says Lisa Tatko, a senior in the Nurse Anesthesia Specialty. “I liked that I could individualize my portfolio with a specific layout and attach examples of my work.”

Luke Sutton, also a student in the Nurse Anesthesia Specialty, said he was “able to provide a link to my portfolio to potential employers, and I have received positive reactions. I was told that it is very impressive.”

Assistant Professor Helen Gordon, MS, RN, CNM, used the free video conferencing software Skype to connect ABSN students in her Nursing Care of the Child Bearing Family course to Jennifer Block, the author of a book she had assigned.

Gordon’s class of 68 students sat in an auditorium equipped with a large-screen projector. The video image from Block’s Web-camera was visible on the large screen, and Block was able to see the class on her computer screen. Gordon moderated a 30-minute real-time question and answer session between Block and the students.

“It felt like Block was in the room as a guest speaker, and the students were engaged and interested,” Gordon says. Using Skype, she says, cuts down on travel costs and encourages informal dialogue with experts from outside the area.

Phillips says the ultimate goal of using new technology for nursing education is to make a difference in learning.

“People are jumping into new technology because it’s exciting and fun. But we’re looking at the theory behind it and whether it can improve students’ learning. We believe that ultimately these students will go out and improve the quality of patient care.”

— BETH PHILLIPS