



medical schools, because it cuts costs while getting students excited about learning, which can improve learning outcomes.

**Florida State University College of Medicine:**

The Department of Geriatrics at FSU's College of Medicine is making smart use of games for its graduate students. Students enrolled in the program play ElderQuest, a role-playing game in which players have to nurse the Gray Sage, a wizard with a number of health issues, back to his full power. The game helps students to learn geriatric-care principles while still having fun, and even incorporates some of the staff members at the school into gameplay.

**Duke University Medical Center:**

The Human Simulation and Patient Safety Center at Duke's teaching hospital in [North Carolina](#) is employing gaming as a key part of teaching students to interact with patients and improve their performance on the job. Center director Jeffrey M. Taekman, M.D., works with students in game-style environments to help them learn and grow in a consequence-free space. The center is actively working to build more immersive learning environments, and has even put out a call for designers and programmers who can build tools used in collaboration, learning, and simulation.

**University of Minnesota Medical School:**

Students and faculty at the University of [Minnesota](#) Medical School aren't just using games to learn, they're also studying the effectiveness of those games on learning. In 2011, a team of researchers studied the educational effects of a video trivia game on the psychopharmacology knowledge of 29 third-year medical students. The results? While games weren't the answer to all issues with learning at the school, they did improve involvement, motivation, and interest in learning in the students across the board.

**Queen's University:**

This Kingston, Ontario school is one of the many universities in Canada that are embracing gaming as a learning tool for medical students. Instead of learning in a hospital or practicing on each other, students use the school's clinical simulation center to clock hours of hands-on training before they

ever set foot in a hospital. At the clinic, students can use plastic mannequins to learn how to insert an IV, perform resuscitation, birth a baby, or to assess causes of distress. The mannequins can be programmed to exhibit a wide range of health issues, so students get exposed to a variety of situations without the risk posed in real-life. In addition to the mannequins, students use a video game that allows them to practice their surgical skills, wielding a Wii-like device to try out procedures.

**University of British Columbia:**

At UBC, medical students can get a leg up on practicing critical skills through the MedIT program. The program's director, Dave Lampron, said that the school is working to add more interactive web lessons to their curriculum, but that students can already get a little practice through gaming in a simulation program that teaches students how to perform a diagnosis. Administrators have said that the interactive games have helped students who live in rural areas not have to travel to campus quite as often, with lectures and practice via the games taking place online.

**MIT:**

MIT boasts some of the best academic research and development being done on educational games in the U.S. One of the coolest initiatives at the school is the [Education Arcade](#), a consortium of researchers, faculty, and students that helps to develop games for learning. Of course, not all games developed at MIT are meant to be used outside of the school. MIT's Sloan School of Business is using games to help MBA students learn the ropes. Students get to play [Platform Wars](#), a simulation game that challenges students to play the role of a senior manager at a video game hardware producer, and teaches a variety of lessons about how to manage competition and develop strong technology strategies.

**European Institute of Business Administration:**

Students seeking out a business education in Paris, Singapore, or Abu Dhabi, will get a chance to interact with other students and faculty through the online virtual world Second Life. The INSEAD Learning Innovation

Centre has begun to introduce Second Life into the school's curriculum, using it as a learning tool. There's a virtual camp where students can attend lectures, meet MBA students all over the world, and just have fun. The ability to create an avatar and act outside of the boundaries of the real world can make the experience fun and interesting for students.

#### **Charles University in Prague:**

The Laboratory of Biocybernetics at Charles University in Prague is developing web-based simulation games that medical students at the school and others can use to learn. The first tool designed by the lab helps students to learn about the functions of individual physiological systems, using interactive multimedia that's connected with a simulation model. Eventually, researchers want to link the simulation model to vast reference systems that will allow students to look up any information they need while playing an interactive game.

#### **University of Washington:**

The University of Washington has been using [business simulation games](#) in classes since 1957, but as technology has evolved, so have the games. In 2011, the Foster School of Business at UW in a partnership with Novel developed and piloted new enterprise simulations that will take business lessons from local companies like Starbucks, Nike, and [Alaska Airlines](#), and combine them into a playable, fun simulation game. In order to succeed at the game, students will have to show off their skills at collaboration and management, skills they'll need in the real world, too.

#### **Medical College of Georgia:**

This medical school has teamed up with BreakAway, a gaming company, to build a PC-based simulation that allows dental students to hone their skills without practicing on real-life patients. The program helps students to improve their outcomes in diagnostics, decision-making, and treatment protocols and is designed to ultimately ensure that the school's dentists are well versed in patient therapy outcomes and risk management. To

play, students guide a 3D avatar into a dental office to meet with a patient, ensure that the patient is ready for any procedures, and, if necessary, perform procedures in a realistic simulated environment.

#### **Texas A&M University, Corpus Christi:**

This branch of Texas A&M is using games to help students in health-care majors learn valuable on-the-job skills. Called Pulse!!, the game provides a virtual learning space for training health care professionals in clinical skills. Students can guide a 3D avatar through the medical setting to care for patient needs and to practice some of the most critical patient care skills they'll need once they move into traditional clinical practice.

#### **University of Central Florida:**

Undergraduate and graduate students in education can get a little practice being a teacher without actually having to set foot in a real-life classroom. With the help of the STAR Classroom Simulator, student teachers simply need to strap on a headset to engage with five simulated students from urban middle schools. Student actions are actually controlled by actors outside of the classroom and are often instructed to challenge student educators through a variety of different behaviors, all while faculty look on.

#### **Armed Forces Simulation Institute for Medicine:**

The AFSIM is working to build and study simulated environments for learning, therapy, and socializing that students and patients can use. One of the key goals of the projects at AFSIM is to help reduce the number of medical mistakes doctors make, which has driven the development of simulations that help medical professionals learn how to care for patients both on the battlefield and in a hospital setting. So far, partnerships have yielded Healthcare Caesar, an interactive combat trauma mannequin, Vitalize!, an Xbox Kinect powered game that can help rehabilitate patients, and an incident response game that helps medical students learn how to manage mass casualties, patient care, triage, and emergency response in military hospitals.