

## 3 ways medical schools are embracing gamification

AUG 24, 2018

**Tanya Albert Henry**

Contributing News Writer

---

Taking design elements from traditional games and applying them to a nongame setting—commonly known as gamification—continues its rise in popularity in medical education and the games are constantly evolving. Gamification in medical school is a way to engage students and help them learn outside the traditional book or lecture setting.

The AMA Accelerating Change in Medical Education Consortium schools are adapting technology in new ways to solve key problems and advance physician training. Learn more about making technology work for learning.

Here is a glimpse of how three medical schools are fostering the gamification approach to teaching.

### Competing against others and yourself

Five years ago, University of Alabama Birmingham (UAB) School of Medicine associate professor James H. Willig, MD, MSPH, and colleagues rolled out an online, multiple-choice quiz game—called Kaizen—to test the clinical knowledge of their internal medicine learners. Kaizen is a Japanese business philosophy involving continuous improvement of working practices, personal efficiency and the like.

Over the years, due to interest from other specialties, game creation and management tools were created for other disciplines to host games on the platform. Soon, emergency medicine, obstetrics and gynecology, surgery professors created their own quizzes. The UAB nursing and public health schools made their own versions too.

There's a "marathon badge" that makes bonus points available for students who answer questions every day, encouraging learners to study a little at a time rather than taking the less effective binge-

learning approach.

Students can play in teams or as individuals and earn "level badges" when reaching predetermined point thresholds and they can earn "hot streak badges" for answering a number of questions correctly in a row. Soon, there will be badges available for team performance, rewarding global accuracy and participation and users will be able to engage in "boss battles" to try to defeat a computer-controlled enemy by answering a certain percent of questions correctly in a set period of time.

This fall the once online-only game is scheduled to roll out an app available for educators to create games all their students can play on either the Android or iPhone platforms.

"We need to change the way we train students and be open to evolving by meeting students where they are at with technology," Dr. Willig said. "They come in with different experiences with technology than students did 10 or 20 years ago. With gamification comes the opportunity to analyze the 'data trail' students leave and determine best practices to enhance retention of knowledge through educational analytics."

## Scoring learners in virtual reality

At Stanford University School of Medicine, emergency medicine clinical instructor Henry A. Curtis, MD, is gamifying the virtual reality (VR) experience. For his latest project—VR Pediatric Casualty Care Point—he filmed a 3D, 360-degree pediatric mass casualty experience.

One hundred and fifty pediatric actors created what the scene would look like at a casualty care point, where triage and emergent interventions are taking place around the corner from the site of an incident.

There are 10 points in the virtual reality story where the user picks a triage category and decides on an intervention for the patient. Once they register their choice, learners see what was done in the field to treat the child. And users earn points and achieve levels based on their responses.

"Once you gamify it, it adds another level to the immersion of the VR experience. Gamification motivates people," Dr. Curtis said.

## Using teamwork to escape

Nine emergency medicine residents and one senior emergency medicine faculty member at Thomas Jefferson University Hospitals in Philadelphia in January participated in an "escape room" to boost

team-building skills.

Recreational escape rooms have become a popular game-like setting where groups work together to solve puzzles and complete tasks to “escape the room” in a set amount of time and the group saw parallels to the multitasking and teamwork essential for a successful emergency department shift. Teamwork is a core competency in the Accreditation Council for Graduate Medical Education requirements.

Emergency medicine participants said they were engaged in the activity and believed the escape room reproduced an environment analogous to the ED.

“It allowed learners to immerse themselves in an engaging, fun, nonthreatening, nonclinical, low-stakes activity that rewarded teamwork and effective leadership,” authors of a paper concluded about the experience “Trapped as a Group, Escape as a Team: Applying Gamification to Incorporate Team-building Skills Through and ‘Escape Room’ Experience,” published at the online open access medical journal *Cureus*.