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"Integration of an Audience Response System into Simulation-Based Training: An Educational Technology Enhancement"
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Simulation is quickly becoming a standard component of undergraduate and graduate medical curricula nationwide, with increasing offerings for continuing medical education and credentialing of various health professions.

A simulation session may involve the instruction of 2-20 learners during a given session. Typically, a subset actively participates in a simulation case while remaining learners observe. In a traditional debriefing, as is taught at internationally-recognized courses such as the Institute for Medical Simulation Comprehensive Instructor Workshop (www.harvardmedsim.org), immediately following a simulation the course facilitator focuses on collecting initial reactions to the case and tries to identify questions that arose during the scenario. These topics become the basis of the facilitator's subsequent debriefing and in doing so he or she can tailor learning objectives such that they will be relevant and personalized to a particular group of learners. Not surprisingly, those that participate in a scenario are often the most vocal given the inherent emotional activation that comes from active involvement in the simulation (experiential learning), and observers often are more reticent to contribute their initial reactions or questions. The medical simulation literature supports that this is a well-recognized challenge (Dieckmann, Hober, Lasater), and proposed solutions have included roleplay and peer assessment, amongst others.

In order to enhance observer engagement while watching a simulation case, I have begun to employ an audience response system (ARS) into my simulation-based instruction. This novel approach allows trainees to remain engaged during observational periods, and I hypothesize that integrating this technology into simulation-based instruction will be positively received by trainees, allow instructors to more readily identify knowledge gaps, heighten engagement amongst observers, and ultimately lead to increased knowledge retention when compared to sessions observed without ARS integration. This offers a solution to a challenge 8 faced by educators in medical simulation and has the potential to impact simulation-based instruction broadly. It proposes the elegant integration of a readily available technology to help create a paradigm shift in simulation-based education for all levels of learners across the health professions.