Background: Human patient simulation has emerged as a powerful educational modality across the continuum of learners. Literally, topics can be brought to life in front of students. Simulation is used to demonstrate physiologic principles, physical exam skills, along with bringing topics to life with regards to disease process or variants of physiology. Like other methods that work well with adult learners, it is typically used and most effective in very small groups. This limits the ability to use simulations with larger groups to simple demonstrations or participation by only a small team of students, while others observe. Small groups can be expanded if tools are put in place that permit simultaneous active participation in a learning event by all students. Audience response systems (ARS) are a technology that can provide this bridge to the entire audience.

Methods: We have developed an approach that combines the technologies of an audience response system with simulation-based technology to create an enhanced small group learning atmosphere with capabilities of hands-on learning along with cognitive participation. In this active learning model, a small group of students and faculty participate in hands-on learning at the bedside of the simulated patient. Those students not directly participating in the simulation are polled during the simulation to ask for input on the simulation using the audience response system, often during a pause in the patient’s care. The audience’s responses are pooled and fed back to the group. One use of their responses is to establish a group consensus on the next steps to undertake to treat the simulated patient. The audience response system response units are keyed back to an individual student and their responses can be recorded in individual student portfolios.

Results: The ARS-enhanced simulations have been received enthusiastically by learners. Participants reported that the use of the audience response system kept them focused on the simulation activity and the discussion at hand. Students described a high level of satisfaction with participation in simulation sessions, even if they were not at the bedside themselves. Faculty were able to incorporate the audience response system into ordinary PowerPoint presentations with minimal effort.

Conclusions: The integration of an audience response system with simulation-based training technologies, and the incorporating the data into students’ simulation learning portfolios was well received by learners and faculty. As a classroom technique, this approach was more effective small group interaction than simulation-based activities alone. The audience response system successfully provided an opportunity for students in the larger audience to become actively engaged in the simulation, and in learning. This innovative method presents an important set of possibilities for the future of simulation-based instruction and assessment.