

Avatar-Based Immersive Medication Reconciliation Experience Across Distant Campuses of a College of Pharmacy

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BACKGROUND

- Mursion is a virtual reality simulation platform that provides for experiential learning opportunities by blending artificial intelligence and live human interaction
- The simulations are both dynamic and personalized to each learner as well as scalable for a variety of settings such as educational, healthcare, customer service, and corporate environments
- Students note perceived benefit and increased confidence in communication skills when approaching similar situations after interacting with Mursion¹
- Research shows students feel emotional investment in scenarios, evoking anxiety, uncertainty, concern and empathy and a sense of realism after avatar-based interactions²
- Implementation of a Mursion simulation offers risk-free micro-teaching experiences for pre-service teachers and serves as a valuable addition to an introductory teaching course³
- Overall, research involving the use of Mursion has been positive in training students across diverse fields of study; however, there is little to no research on the use of avatar-based simulation or Mursion in the training of pharmacy students
- This project seeks to evaluate the novel use of a live-avatar-based immersive activity in a pharmacy skills laboratory setting



OBJECTIVE

Evaluate student learning via live, avatar-based virtual simulation for:

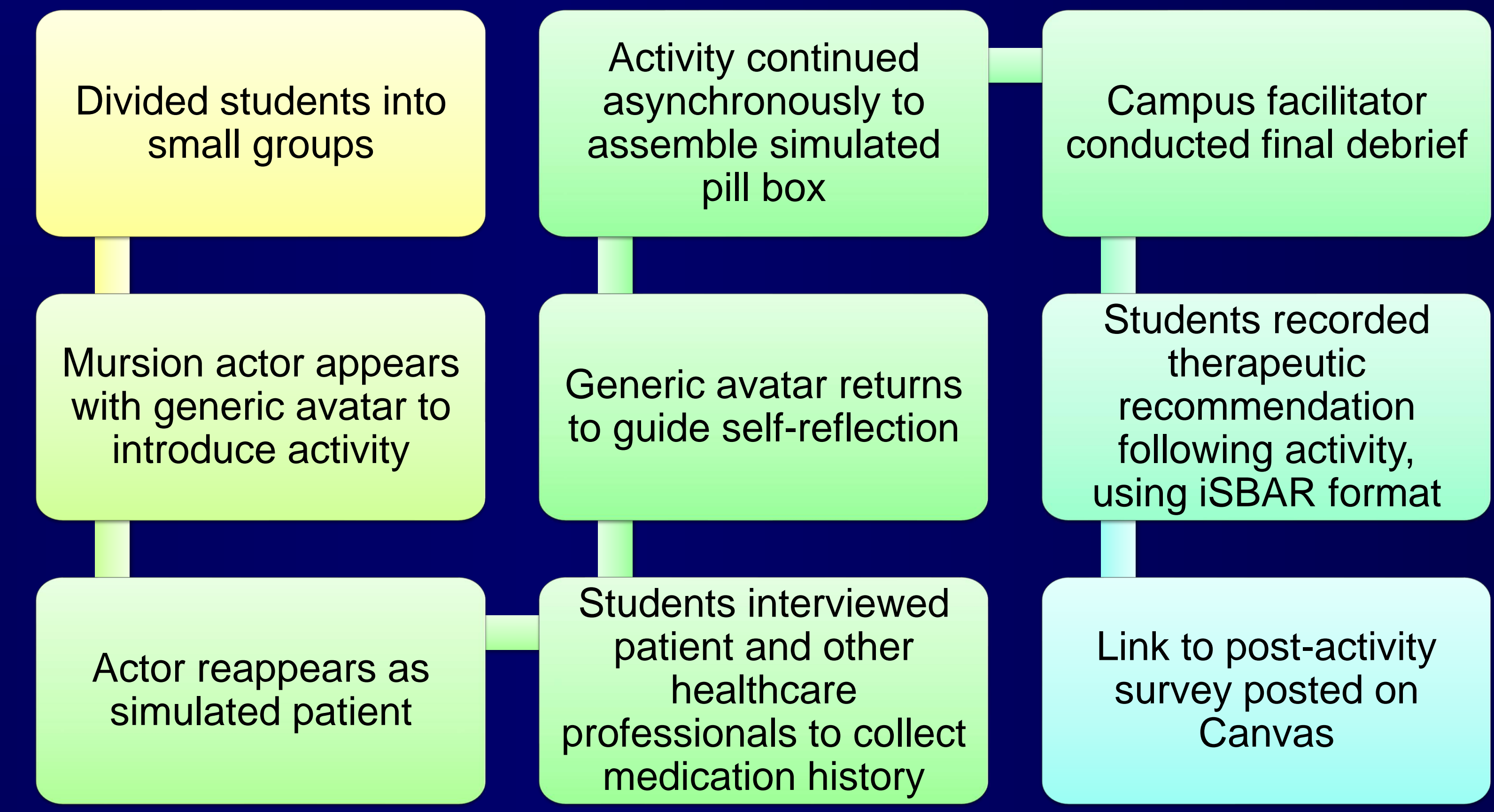
- Collecting patient information
- Interacting with other healthcare professionals
- Identifying and addressing drug-related problems
- Developing reasoning skills

METHODS

Activity Development

- Adapted MedEdPortal case⁴ into live, synchronous skills activity for second-year (P2) traditional and first-year (P1) advanced standing students
- Conducted logistics and feasibility meeting with Mursion, course faculty, and third-year student focus group
- Collaborated with information technology department to ensure asynchronous broadcasting capability
- Designed and obtained institutional review board (IRB) approval for voluntary and anonymous post-activity survey
- Created scripts and props for simulated patient actors
- Recorded separate pre-activity instructions for students, facilitators, and simulated patients
- Provided instructor guide, including post-activity debrief, to campus facilitators

Activity Implementation and Assessment



RESULTS

Student Perception Survey (N = 31)	Agreed (%)	Disagreed (%)	Neutral (%)
The simulation was effective for me to practice collecting information from various sources to compile a complete and thorough medication history	80.0	11.4	8.6
The simulation was a helpful tool to practice interacting with other healthcare professionals	78.1	3.1	18.8
The simulation was adequate to allow me to demonstrate empathy when communicating to a patient	64.7	8.8	26.5
The simulation helped me to conduct a focused patient interview, as opposed to a full medical / medication history interview	74.3	11.4	14.3
The simulation was helpful in developing my ability to identify and assess drug-related problems	71.4	11.4	17.1
The simulation provided an environment in which I could comfortably collaborate with peers	75.0	13.9	11.1
The simulation afforded me an opportunity to learn from my mistakes in a safe space	68.6	11.4	20.0
The simulation helped build my deductive reasoning skills when working through a patient case	76.5	8.8	14.7
The pill box activity was useful for developing my ability to utilize validated tools to identify medications	90.3	0.0	9.7
The activity helped develop my skills in generating a patient-centered plan to address a drug-related problem	77.8	13.9	8.3
I feel the virtual patient platform was more realistic than using in-person simulated patients played by faculty or residents	69.4	13.9	16.7
I felt that the ability to interact with a distant campus simultaneously was beneficial to my learning	56.1	24.4	19.5
I felt that working with my peers to identify and solve the problems within the case was helpful	77.4	0.0	22.6
I feel this format would be beneficial in future classes	71.4	11.4	17.1

- 189 P2 traditional and P1 advanced standing students participated across three campuses; 31 (16.4%) responded to survey
- Students perceived the activity favorably overall; 80% agreed offered effective practice in collecting information from various sources to compile a medication reconciliation
- 78.1% felt helpful to practice interprofessional interactions
- 77.8% and 90.3% agreed developed skills in recognizing and addressing drug-related problems and using validated tools to identify medications, respectively
- 69.4% agreed virtual platform was more realistic than in-person simulated patients, played by faculty or residents, with 56.1% agreeing the synchronous design was beneficial

DISCUSSION/CONCLUSION

- Students were generally positive about the activity, stating it was enjoyable and realistic, offering opportunity to apply knowledge from prior semesters
- Future iterations will conduct the activity asynchronously
- A live, immersive avatar-based virtual simulation provides an innovative, engaging tool for developing key communication and patient assessment skills and was perceived favorably

REFERENCES

