



Capirig, Christian John¹; Ali, Abulhassan¹; McCardell-Malone, Reed¹; Kondo, Shunsuke¹; Clarke, Collin¹; Kadamoto, Blake¹; Wong, Sharon¹; Tacata, Rachel²; Garcia, Joshua¹; Corpuz, Austin¹; Matsuda, Brent¹

¹University of Hawai'i Internal Medicine Residency Program, Honolulu, Hawai'i, USA. ²University of Hawaii Primary Care Internal Medicine Residency Program, Honolulu, Hawai'i, USA.

Medical Residents face challenging tasks in the ICU including septic shock management

Traditional didactic methods often limit engagement and retention.

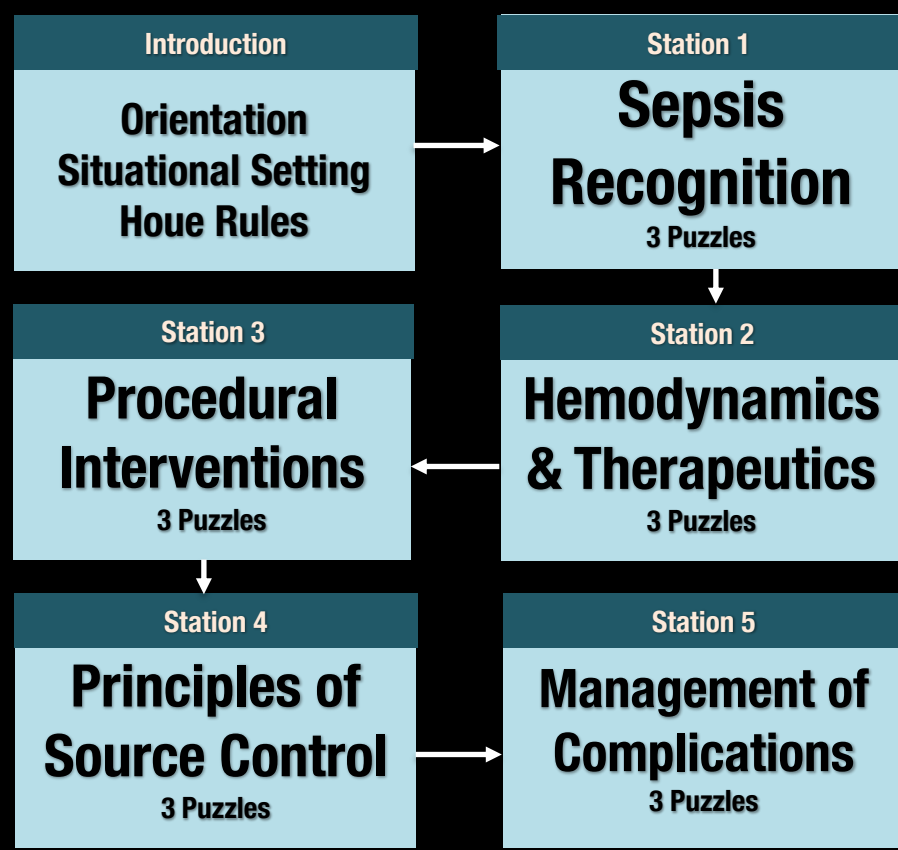
Gamification, which is integrating game design elements into education, offers a novel way to enhance active learning, critical reasoning, and collaboration in high-acuity settings.

Innovation Overview

Pre-test & Initial Survey

Escape Room

Learners assume the role of healers tasked with stabilizing Kaia, a guardian stricken by septic shock, by completing five sequential healing trials that mirror core ICU management principles under time pressure.



Debriefing

Post-Test & Post-Evaluation Survey

- Resident-designed gamified ICU escape room for septic shock education.
- Teams of 6-8 first-year internal medicine residents (total of 24 residents) complete five time-pressured stations using resident-created puzzles.
- Gameplay integrates clinical reasoning, teamwork, and communication, framed by a Hawaiian mythology-inspired narrative.
- Teams have 50 minutes and five coins for clues, with learning reinforced through peer-facilitated debriefing.

Objective 1: To evaluate acceptability and satisfaction as a learning tool



*SAS – Scholarly Activity Session/Academic Half-Days

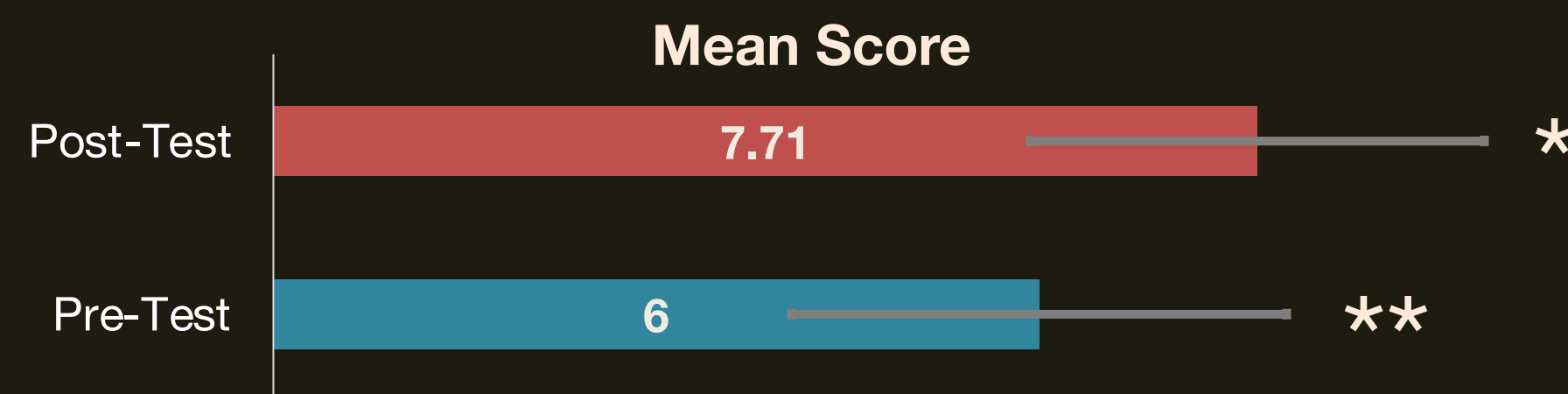
Learners reported uniformly high acceptability and satisfaction (92–100% favorable responses) with the ICU Escape Room.

Objective 2: To evaluate Team Communication, Collaboration, & Psychological Safety



Learners reported strong team communication, collaboration, and psychological safety during the ICU Escape Room (83–96% favorable responses).

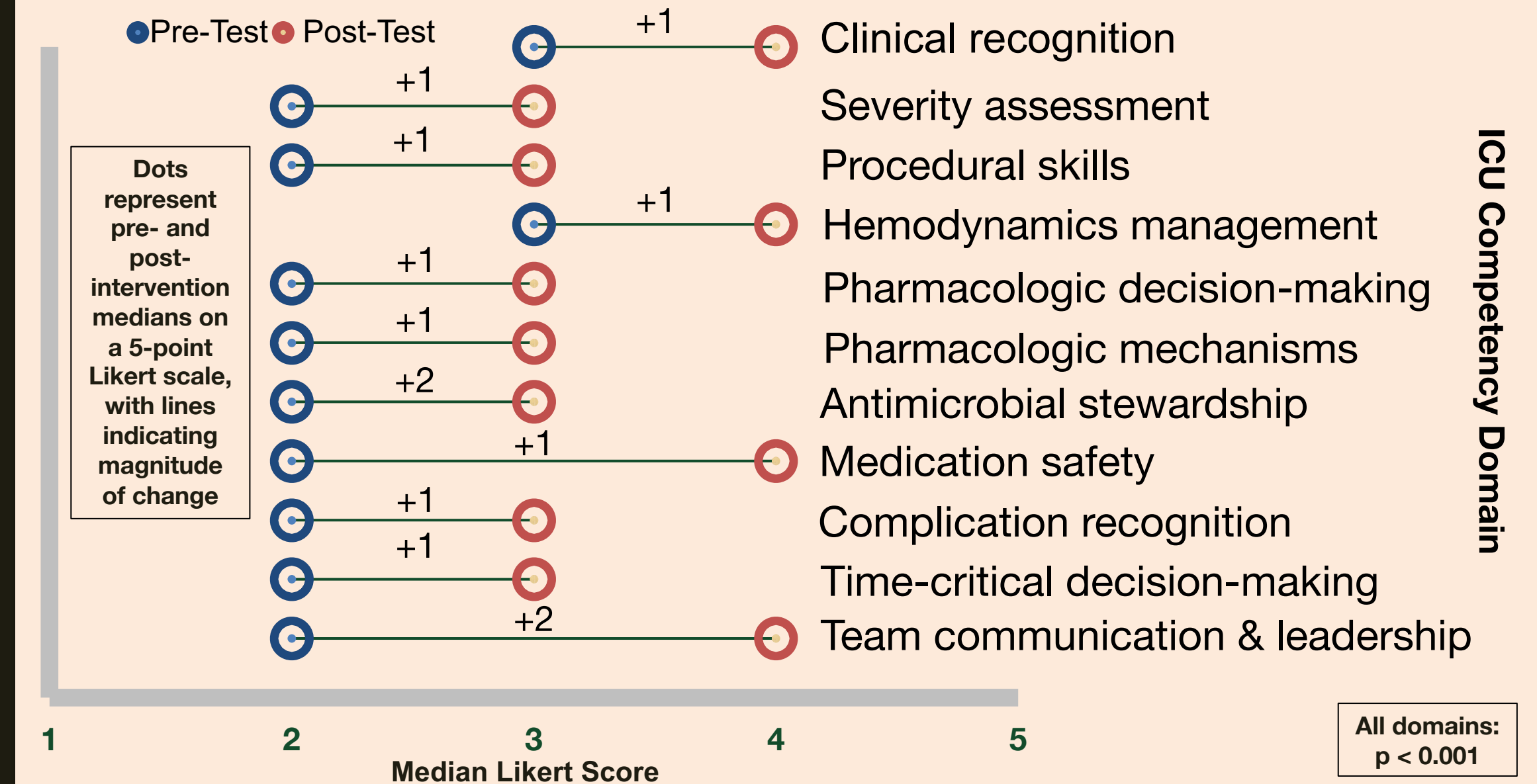
Objective 3: To evaluate knowledge impact



Knowledge scores improved significantly following the ICU Escape Room (pre-test 6.0 ± 1.94 vs post-test 7.7 ± 1.78; Wilcoxon signed-rank test, p < 0.001).

Objective 4: To evaluate changes in learner confidence across core ICU competency domains

Pre-Post Changes in Learner Confidence Across Core ICU Competency Domains



Median self-reported confidence across core ICU domains improved following the sepsis escape room. All domains demonstrated statistically significant improvement (Wilcoxon signed-rank test, p < 0.001).

Key Message and Implications

The ICU Escape Room is a feasible, engaging, and educationally impactful approach to teaching septic shock management.

Learners demonstrated significant improvements in knowledge and confidence across cognitive, procedural, and teamwork domains.

The activity required minimal specialized equipment and was successfully implemented within protected simulation time.

This gamified format is adaptable and scalable for other clinical topics and training programs.

References:

- Gil Y, Iguina M, Wong R, et al. Virtual escape rooms in pulmonary and critical care education. J Med Educ Curric Dev. 2025.
- Kaul V, Morris A, Chae JM, et al. Medical education escape rooms at national conferences. Chest. 2021;160:1424–1432.
- Gabriel PM, Lieb CL, Holland S, et al. Teaching evidence-based sepsis care using an escape room. J Contin Educ Nurs. 2021;52:217–225.

This project was generously funded by the Creative Pedagogy Award by the HMSA Center for Learning Innovation at The University of Hawai'i at Mānoa – John A. Burns School of Medicine (JABSOM).

