

Hospitalist Games: Application of game design to medical education material at resident noon conference

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An educational noon conference/morning report is an enduring and ubiquitous component of didactic instruction in internal residency training programs. Yet there is a paucity of literature establishing its most effective format and optimal instructional methods. One common criticism of noon conference is its lack of learner engagement (McNeill 2013). In the past decade, novel formats in medical education have emerged to foster engagement, increase active learning, and promote retention. One such innovation—gamification—is the application of game design to traditionally non-game contexts. This teaching technique, selective and purposeful in its methods, is borrowed from K-12 education theory, and has potential for application to residency noon conference.

At Denver Health, the Hospitalist Games Task Force has been established with the intent of increasing learner engagement at noon conference. Based on existing literature describing the effective application of gamification to promote engagement in medical education (Gorbanev 2018), select noon conferences were redesigned to incorporate Medical Jeopardy and “DermBanz” as instructional tools. In Medical Jeopardy, groups of learners compete with one another to answer questions covering core clinical topics. In “DermBanz,” there are two teams, with 1 “guesser” each. A dermatologic image is shown to all participants except the guesser. Team members give the guesser dermatologic physical exam descriptors and relevant clinical information about the condition in an attempt to help them arrive at the correct diagnosis.

We hypothesize that, compared to traditional noon conference format, these two modalities of delivering material will 1) more effectively engage learners, 2) increase faculty involvement at noon conference, and 3) increase knowledge retention. Residents and medical students will be given a survey assessing engagement and pre-conference preparation at the beginning and end of their rotation, and the survey results between the learners who received noon conference in the usual format alone compared to those who were part of Medical Jeopardy and/or DermBanz will be analyzed. Dermatologic knowledge retention will be assessed through a brief multiple-choice test. The results of the test given to learners who have been through a DermBanz game session will be compared with results of learners who received the same material via a Powerpoint presentation. Lastly, hospitalist faculty attendance will be recorded to assess faculty engagement. Preliminary survey data assessing engagement during a “DermBanz” session (n=13) collected pre-COVID indicates 100% of participants responded that DermBanz is a “fun way to learn” and “increased their engagement at noon conference.” Additionally, there was a 25% increase in the number of respondents stating they would “study/prep for the next “DermBanz”. The initial results are promising, but the limitations in group gatherings due to COVID has limited the ability to gather additional data. Next steps are contingent on the resumption of normal inpatient rotations after the pandemic. Data will be collected for a period of 6 months with an option to extend to a full year if survey response rates are not robust. Overall, we are hopeful that this intervention will create an engaging and useful academic enrichment exercise for residents and faculty alike.

References:

Ali Abdool M, Bradley D. Twelve Tips to Improve Medical Teaching on Rounds. Medical Teacher. 2013; 35: 895-899.

Bochennek K, et al. More than Mere Games: a review of card and board games for medical education. Medical Teacher. Nov 2007; 29(9), 941-948.

Cayce R, et al. Dermatology Curriculum for Internal Medicine Residents: a randomized trial. Journal of Graduate Medical Education. June 2014; 6(2), 296-300.

Friedlander M, et al. What can Medical Education Learn from the Neurobiology of Learning? Academic Medicine. 2011; Vol 86, no. 4: 415-420.

Gorbanev, I, et al. A systematic review of Serious Games in Medical Education: quality of evidence and pedagogical strategy. Medical Education online. 2018; 23(1): 1438718

Goyal Amit, Garibaldi Brian, et al. Morning Report Innovation: Case Oriented Report and Exam Skills. Diagnosis 2019; vol. 6, no. 2: 79-83.

Kamel El-Sayed S, Loftus S. Using and Combining Learning Theories in Medical Education. Medical Science Educator. March 2018; vol. 28, no. 1: 255-258.

McNeill M, Ali S, et al. Morning Report: Can an Established Medical Education Tradition be Validated? Journal of Graduate Medical Education. Sept 2013: 374-384.

Olszewski A, Wolbrink T. Serious Gaming in Medical Education. Journal of the Society of Simulation in Healthcare. Aug 2017; vol 12, no 4: 240-253.

Trachtman Howard. Morning Report: Is the Time Ripe for a Change? Teaching and Learning in Medicine; vol. 24, no. 2: 163-164.