Title
See One, Articulate One, Simulate One - Teaching Procedural Skills in Small Training Groups

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Authors
Fox, B
Haber, J

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9 Removing the Writer's Block: The Clinical Image Write-a-Palooza

MacVane C, Kring R /Maine Medical Center, Portland, Maine

Background: Scientific writing is an essential component of academic practice in emergency medicine (EM), yet formal methods for teaching this skill are lacking. In addition, traditional didactic lectures on manuscript preparation do not allow learners to practice new skills in a mentored setting. Further, many residency programs struggle to meet scholarly activity requirements, especially where robust resources are lacking.

Educational Objectives: To develop a structured, mentored academic writing skills workshop incorporating adult learning theory. Goals included: enhancing resident understanding of the process of preparing a clinical image for submission; enhancing faculty knowledge of the role of academic mentors; working in teams to prepare a clinical image submission; and completing the process of manuscript submission, revision, and publication.

Curricular Design: We developed a novel format using adult learning theory principles, team-based learning, and flipped classroom strategies. Workshop preparation began with assignment of brief reading for both residents and faculty, with residents focused on the basics of image and case preparation and faculty focused on academic mentoring. The 2-hour workshop consisted of a brief review of readings; discussion regarding manuscript and image preparation, formatting, author guidelines, and submission logistics; and team-based work, including 6 assigned roles, on preparing the submission. Handouts included examples; summaries describing team member roles; instructions for image preparation and manuscript submission; citation examples; and cases for submission. Mentors and a medical librarian were present at the workshop.

10 See One, Articulate One, Simulate One - Teaching Procedural Skills in Small Training Groups

Fox B, Haber J, /University Medical Center of Southern Nevada, Las Vegas, Nevada

Background: Skills lab training is a common modality for teaching procedural skills in emergency medicine residency curriculum. There is no formalized way to teaching these procedures. In addition, there is variability in the size of learning groups, and teacher-student ratios. Peyton's four-step approach to skills-lab training has gained much recognition in medical education literature, however it is designed to follow a 1:1 teacher-to-student ratio, which is not practical for most training sessions. A modified Peyton's four-step approach was developed to allow for smaller group training, ensuring engagement of all learners, and maintaining the core steps of Peyton's original approach.

Educational Objectives: To increase engagement and efficacy during small group skills training lab for emergency medicine procedures.

Curricular Design: The modified Peyton's approach (table 1) was applied to a 4-station skill lab training session which included the following procedure stations: tube thoracostomy, cricothyrotomy, pericardiocentesis, and transvenous cardiac pacing. There were a total of 5 groups, consisting of 3-6 learners per group, who rotated through each of the 4 stations. There was one faculty instructor per station. Learners included emergency medicine residents, off service residents, and 4th year medical students. A survey was distributed to all learners after the training session to evaluate engagement and efficacy.

Impact/Effectiveness: 100% of learners (n=26) stated that they improved their skills during the training session. Out of this response, 65% strongly agreed that the session improved their skills. 57.7% (n=5) strongly agreed that they were continuously engaged. The majority of the remaining leaners (n=10) agreed that they were continuously engaged. 88.5% (n=23) strongly agreed that repetitive observation was helpful and no learners had disagreed. All leaners agreed that teaching the skills was helpful in learning. The majority of learners agreed that they feel comfortable performing the procedures after the session. (Figure 1) The modified Peyton's four-step approach for small groups is a practical method for teaching procedural skills and will likely increase engagement and efficacy of small group training sessions.

Table 1. Modified Peyton's[1] approach for small group teaching.

STEP 1:
The teacher demonstrates the skill at a normal pace without any comments (Demonstration)

STEP 2:
The teacher repeats the procedure, this time describing all necessary sub-steps (Deconstruction)

STEP 3:
The teacher performs the procedure following the instructions of Trainee 1, while all other Trainees are observing (Comprehension, tutor's performance and observation)

STEP 4:
Trainee 1 now performs the procedure with Trainee 2 providing instructions, while the other trainees are observing (Comprehension, trainee performance and observation)

STEP 5:
Trainee 1 receives feedback by peer trainees, followed by tutor feedback (Feedback)

STEP 6:
All trainees move though the model of providing instruction and performing the procedure, followed by feedback, until all trainees have completed the procedure and received feedback. (Circulation, completion, and conclusion)

[1] Nikendei et al. BMC Medical Education 2014, 14:68

End of Skills Session Survey
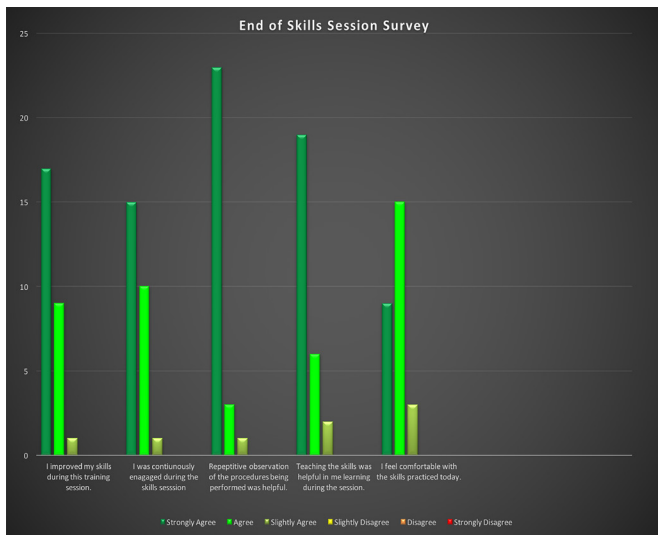
11 Statewide Oral Boards Examination: A Quarter of a Century of Practice

Amin D, Thomas N, Bowman S, Smith L, Fernandez R, Sergel M, /Cook County Health and Hospital Systems, Chicago, Illinois

Background: Oral board examinations are a mandatory requirement for national board certification in emergency medicine (EM). Many EM residency programs have incorporated some aspect of oral boards preparation as part of the standard educational curriculum. There is an inherent bias in conducting the exam with someone that a resident is familiar with at their home institution. The American Board of Emergency Medicine (ABEM) does not allow the examiner and examinee to have any familiarity so over 25 years ago Cook County Emergency Medicine began to host the 7 EM programs in illinois at annual statewide oral board examinations.

Educational Objectives: Create a curriculum for oral boards practice that would simulate the true environment of the national oral board examinations.

Curricular Design: We begin with sending invitations to the 7 accredited emergency medicine programs in Illinois. Each program offers a volunteer faculty from their institution for each senior resident that will be participating. Additionally, each institution submits an oral boards case to our inventory to allow us to use in future examination days. Cook County emergency medicine faculty leaders work over months to create a schedule grid spanning over 2 days to allow all senior residents to be examined by a faculty examiner they do not know. Each examinee is tested with two single cases and a triple case presented to them by 3 different faculty, emulating the national oral board examination. The testing is timed and in private rooms. The scores are tabulated and sent to individual EM programs to distribute to their residents.

Impact/Effectiveness: The Illinois statewide oral board examination curriculum has been a success for over 25 years. Cook County Emergency medicine has always hosted it and we truly believe it is an invaluable experience for the senior residents. The statewide approach for oral boards practice is more effective in emulating the environment of the ABEM oral board examinations. Senior residents are expected to study, prepare, dress professionally and take the day as serious as the actual exam. This approach to oral boards preperation could easily be replicated in other cities/states to benefit an even larger number of EM residents across the country.

12 Student Simulation Observer Form: A Novel Tool to Enhance the Observer Role in Simulation-Based Education

Moadel T, Pollack S, Cassara M, /Zucker School of Medicine at Hofstra/Northwell Health, Manhasset, NY

Background: While simulation at most programs is characterized by learners taking an active role within a simulation scenario, many programs utilize the observer role. It has been reported that learning outcomes and role satisfaction of observers is improved by the use of observer tools, however, few studies document the development or use of simulation-based observer tools in UGME or GME.

Educational Objectives: The Student Simulation Observer Form (SSOF) aims to: (1) Provide a structured form for use by learners, (2) guide observers to examine teamwork and communication behaviors and (3) facilitate learner development of a differential diagnosis and deliberation on clinical management while observing peer group participation in a simulation scenario. (4) Provide specific prompts for faculty facilitators to incorporate observer discussion and feedback for peers during a post-simulation debriefing session.

Curricular Design: The SSOF was created by expert consensus, with 6 questions on teamwork, communication, differential diagnosis and clinical management (Figure 1). The tool was piloted with 18 fourth-year medical students on an emergency medicine (EM) rotation, during a high-fidelity simulation session that occurred during each of 2 clerkship blocks. Students were broken into groups of 3-4 and randomly selected to participate in one of two simulations, observing the other. Observers were given the SSOF. After each simulation, participants and observers gathered for a faculty-moderated debriefing session, where faculty members prompted observer contribution with use of the SSOF. Students were surveyed on their experience with the SSOF after the session.

Impact/Effectiveness: Eighty-nine percent of participants stated the SSOF helped them identify important issues while observing. Ninety-four percent stated that receiving peer feedback by using the SSOF was a positive experience. All participants reported the overall experience was positive and would participate again in both participant and observer roles.