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Integration of NB and Moodle to Create Online Literature Modules for Individual Interactive Instruction

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## 38 Innovations in Undergraduate Medical Education: A Novel Elective for Third Year Medical Students, Emergency Critical Care

*Leuthauser A / Mount Sinai School of Medicine, New York, NY*

**Introduction:** Until now, there have been no third year medical student emergency medicine (EM) electives at our institution. There were a number of students that wanted to explore EM, and so the need for this elective to fill that void became obvious.

**Education Objectives:** To expose the learner to the emergency department (ED) in a way that was unique and different from the required clerkship, giving the student and exposure to emergency critical care and comfort with the ED prior to their required clerkship.

**Curricular Design:** The elective is entitled Emergency Critical Care and has a two week designed curriculum, which has a unique offering for the learner in that they divide their time in the resuscitation area of the ED, and follow their patients through their hospital course in the intensive care units. The students round with the intensive care unit teams and gain a unique perspective on the patients disease processes and can better understand the critical interventions performed in the ED and how that translates to outcomes for those patients. They also benefit from direct teaching from the ED attendings and critical care resident on their clinical shifts, as well as a didactic curriculum focused on the critically ill patient, which includes a critical care textbook, an introduction and debrief with the course director. The learner is required to write a case report on a memorable patient with the goal of presenting it at their medical school student research day.

**Impact/Effectiveness:** At this time, two students have completed the elective, and their feedback was exceedingly positive, and they have both made their application to EM residency. At present this elective is offered at two of our health systems locations, and as a future direction we hope to expand to all the campuses, offering the learners unique clinical experiences. We feel that this elective would be an important addition to other institutions and offers the learner an experience that is unique and different from a tradition EM rotation.

## 39 Integration of a Dedicated Education Rotation into an Emergency Medicine Residency

*Wagner J, Bavolek R / Washington University School of Medicine, St. Louis, MO*

**Background:** Traditional methods to create medical educators have fallen short. Educational theory is a growing field that is changing the landscape of medical education. Gone are the days of, "See one, do one, teach one."

**Educational Objectives:** All physicians need to be good

educators. To this end we implemented a rotation exposing residents to the principles of effective adult education. We address areas of teaching and evaluation, creation of effective didactics, creation of "alternative education" (i.e. simulation and team based learning) curriculum, as well as clinical teaching skills.

**Curricular Design:** The rotation is led by faculty who are focused on education. Residents are given resources on effective slide design and presentation creation. Resident material is improved through a series of directed faculty sessions. Residents are filmed delivering lectures to perform self-assessment. The resident receives faculty and resident feedback from the talk to incorporate into the following week's lecture. They are also responsible for delivering medical student sessions ranging from didactics to simulation. In the final week of the rotation, the resident creates either a simulation session or a team based learning session. Curricular style is modified to fit the education objectives and is guided and modified through faculty feedback. Finally, residents are exposed to bed-side teaching methods during shifts with a faculty member from the education team.

**Impact:** After the rotation residents are more effective educators and communicators. This is demonstrated in higher evaluations in lecture given after the education month. Review of reflective writing after the rotation reveals that residents find the experience invaluable. An unintended consequence of our curriculum is that it has raised the bar for educational delivery in our program. The residents now expect a higher level of excellence at conference from residents, guest lecturers, and faculty alike.

## 40 Integration of NB and Moodle to Create Online Literature Modules for Individual Interactive Instruction

*Khadpe J, Willis J, Silverberg M, Smith T / SUNY Downstate Medical Center, Brooklyn, NY*

**Introduction:** The Accreditation Council for Graduate Medical Education (ACGME) allows twenty percent of planned didactic experiences to be completed by Individual Interactive Instruction (III). There is a need to design activities that comply with the structural requirements of the ACGME and meet the educational goals of the program director (PD). We describe a web-based tool that reviews core Emergency Medicine (EM) literature in a forum that allows interaction with faculty and residents as well as evaluation of comprehension.

**Objectives:**

1. To describe the creation of online literature modules as part of an III curriculum.
2. Demonstrate compliance with ACGME requirements and Frequently Asked Questions (FAQ) for III activities.

**Design:** The ACGME FAQ for EM lists the required

components for III. Along with these requirements, our educational goals are to expose the residents to core curriculum EM journal articles. Online literature modules were developed that could be completed asynchronously and accessed using Moodle, a free learning management system. Subject matter is chosen within each module that links to NB, a collaborative annotative website that hosts the PDFs of the journal articles. Using NB, the residents can read, annotate and collaborate with each other and the supervising faculty. Once finished reviewing the articles, the resident then completes a quiz that serves to evaluate the resident's comprehension of the material. Participation is monitored through New Innovations, our institutional procedure-tracking software. Through this workflow, all required elements for an III activity are met while fulfilling our educational goals for the residents as well.

**Impact:** During the 2013-2014 academic year, 50 out of 85 residents chose to complete the online modules as part of their III curriculum for a total of 540 hours. The use of NB and Moodle allows for the creation of interactive learning that PDs can utilize in the development of a more robust III curriculum.

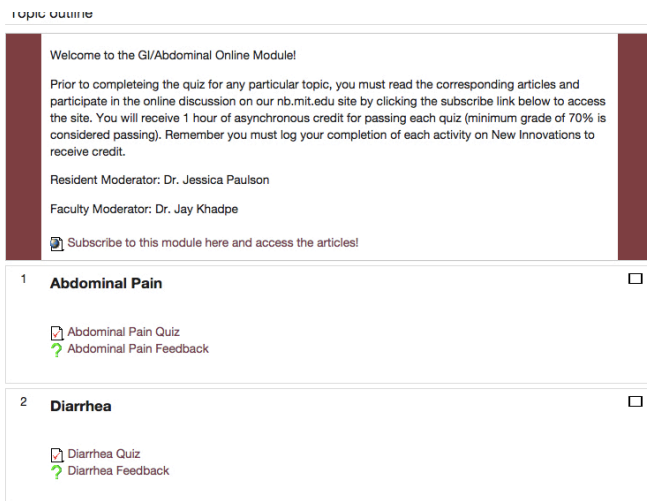


Figure 1.

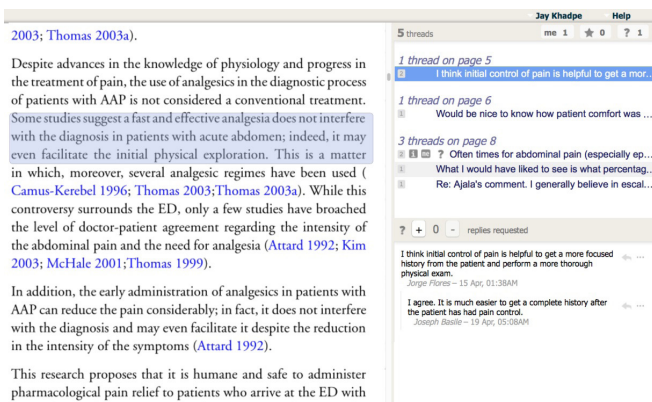


Figure 2.

## 41 Integration of Team-Based Learning (TBL) into a Residency Didactic Curriculum

Dora-Laskey A, Vance S / Central Michigan University, Saginaw, MI

**Introduction/Background:** Traditional lecture formats employed in educational conferences may not adequately ensure the degree of resident engagement necessary for mastery of emergency medicine core content. Team-based learning (TBL) strategies have been shown to improve knowledge acquisition and critical thinking skills among medical students, however their application to postgraduate medical education is not yet well defined.

**Educational Objective:** This curricular intervention was intended to improve resident participation and performance during textbook-based content review sessions, with the goal of increasing subject area expertise and improving future performance on summative assessments, including the American Board Emergency Medicine (ABEM) In-Training examination.

**Curricular Design:** TBL sessions are 90 minutes in length and scheduled monthly. Chapters from a major emergency medicine text organized by core content area are assigned in advance, and residents and faculty are oriented to the theory and mechanics of TBL prior to the first session. Teams are assigned randomly by post graduate year.

Residents begin each TBL session with an Individual Readiness Assessment Test (IRAT) composed of 10 board-style questions prepared by the faculty facilitator. During the Group Readiness Assessment Test (GRAT), teams take the same test collectively. Teams then have the opportunity to defend and debate their answers, then synthesize and apply this knowledge to higher-order case based questions (Application Exercise).

Challenges encountered include required faculty time to prepare the session materials, and the duration of conference time necessary to successfully complete each of the TBL elements.

**Impact/Effectiveness:** Impact of TBL curriculum is measured by quarterly resident feedback surveys. Results to date are summarized in Figure 1. Ongoing work will study educational effectiveness measured by resident trends on ABEM In-Service scores, board pass rates and clinical evaluations.

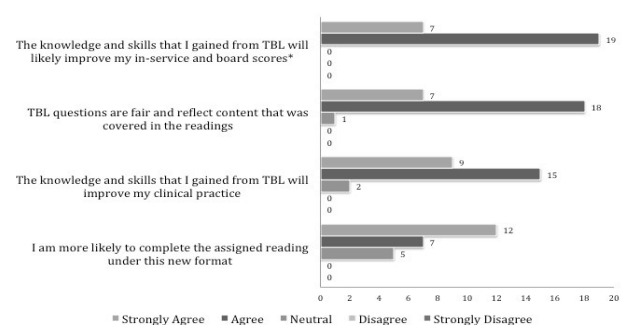


Figure 1. Team-based learning (TBL) resident feedback survey.