

11 Asynchronous Case-based Learning Using Slack: A Pilot

Katia Johnston, MD; Neeraj Chhabra, MD; Tarlan Hedayati, MD

Learning Objectives: We prospectively evaluated the feasibility and usability of Slack as an e-learning platform for case-based learning (CBL) for PGY-1 EM residents.

Abstract:

Introduction/Background: The use of internet technologies to facilitate asynchronous learning is common in graduate medical education. Advantages to virtual learning in EM include accommodating shift schedules and remote learning in the setting of the COVID-19 pandemic. Slack is a channel-based messaging application used in many industries to facilitate communication. The use of Slack has been described by EM residency programs as a recruitment tool, but little is known about the use of Slack as an educational tool.

Educational Objectives: We prospectively evaluated the feasibility and usability of Slack as an e-learning platform for case-based learning (CBL) for PGY-1 EM residents.

Curricular design: Clinical case vignettes for common EM chief complaints were written by a senior resident and reviewed by two EM board-certified faculty for content. Cases consisted of a prompt and residents progressed through cases by asking questions and requesting diagnostic studies. Additionally, prompts were provided to discuss clinical controversies in diagnosis and management. Slack was chosen as the platform due to free cost, ease of uploading multimedia, and the ability for anonymous participation. Cases were discussed as a group, one at a time, asynchronously, without dedicated participation time. Three cases were covered in the one month pilot period. The system usability scale (SUS), a validated ten-question survey that classifies tool usability, was then distributed to all interns via SurveyMonkey.

Impact/effectiveness: Fifteen of seventeen interns completed the survey. Mean SUS score was 77.2 (95% CI 70.6-83.7) indicating above average usability.

This pilot study indicates that Slack is a feasible and usable platform for asynchronous CBL learning. Further study is needed to better understand how to maximize resident learning using Slack. Plans for implementation and evaluation of Slack-based cases for all resident classes and medical students is ongoing.

12 Bridging The Gap: Incorporating An Interactive Student-Led Teaching Session Into A Virtual Clerkship

Natasha Wheaton, MD; Andrew Grock, MD; Stephen Villa, MD; Ignacio Calles, MD

Learning Objectives: Our objective is to create a teaching activity in which students effectively teach their

peers, creatively involve their audience, and express their own interests and personality. We also used the activity to allow student implementation of course content regarding online teaching and learning.

Abstract:

Background: The progression and incorporation of technology into education in conjunction with the COVID19 pandemic has made virtual learning vitally important. However, it lacks the interactions of a traditional rotation that highlight the intangible qualities that often influence both program rank lists and student views of a residency. Here, we provide students the opportunity to express their own creativity and unique characteristics despite the virtual learning modality.

Curricular Design: The exercise provides a break from traditional lectures while allowing students an opportunity to leave a unique impression. Students created a five minute presentation teaching a non-medical topic. We provided example slides and video demonstrations ahead of time. Students received multiple days of content on effective teaching modalities and learning strategies in preparation for effective presentation in the virtual environment. They each discussed ideas with a resident mentor, allowing them to feel comfortable and confident in their topic selection and teaching plan. Students presented to peers with a resident or faculty facilitator. Topics included a live cooking show, kickboxing class, and guided meditation. Presenters received individual feedback from the facilitator. The students evaluated the session in the post-rotation survey. They were informed prior to the exercise that they would not be formally graded, but would be provided feedback for improvement purposes.

Impact: Of 25 survey respondents, 92% agreed or strongly agreed that the session was worthwhile and should be repeated. 24% listed the teaching session as their favorite aspect of the rotation. Students felt it made the rotation enjoyable despite the limits of virtual learning. The teaching session in our virtual clerkship will remain a cornerstone of future virtual efforts as it proved effective in helping bridge the digital gap and made our students feel closer to the program and their peers.

Closing Rotation Feedback Response to "What was my favorite thing about this rotation?"

The teaching sessions! I really enjoyed the creative outlet for people to pick any topic and teach it in any way they like. I think this was especially effective in making the rotation enjoyable even with the limitations of this being a virtual rotation.

My favorite day of the rotation was definitely the teaching session. I loved being able to get to know everyone a little better that day and it was just a fun way to learn something new.

The teaching exercise. It was amazing to see what everyone else was passionate about and definitely learned some new things.

I also really liked the teaching session. It was a great way to get to know more about my peers and build a bond.

Table. Participants filled out a feedback survey at the conclusion of the rotation. Shown above are selected responses when asked about their favorite aspects of the course.

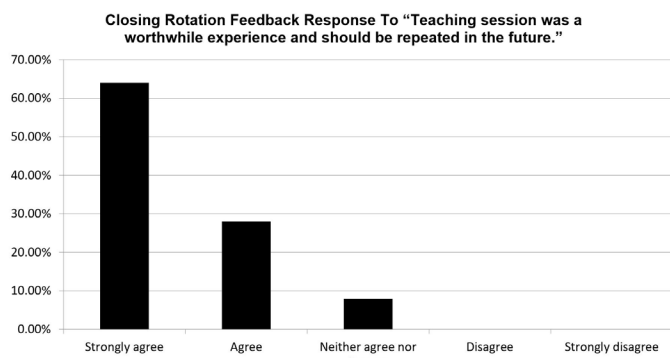


Figure. Participants filled out a feedback survey at the conclusion of the rotation. Shown are aggregate responses to a multiple-choice questions assessing the reception of the teaching session. 26 participants were sent the survey. 25 participants responded. 64% of respondents answered "strongly agree" and 28% answered "agree" for a total of 92% positive response. 2% of respondents responded "neither agree nor disagree".

13 Chest Cavity Model for Thoracotomy Simulation

Danica Zold, MD

Learning Objectives: To create a reusable chest cavity model for thoracotomy simulation that is realistic to the procedure's inherent challenges; To limit out of pocket cost by implementing recycled materials from within the emergency department; To enhance resident medical education and improve thoracotomy proficiency.

Abstract:

Introduction: The ED thoracotomy is rarely performed, but a critical procedure well within our scope of practice, and one for which every resident must be prepared.

Objectives: To create a chest cavity model that can be used in the simulation of an ED thoracotomy. Importance was placed on creating a budget-friendly, near life-size model, with limited resources, which could be used with and withstand the repetitive use of actual thoracotomy tools.

Design: This model is designed to repurpose commonly found emergency departmental supplies. Limited additional supplies required were easily found at a local grocery store for a very low cost. Examples of supplies include endotracheal tubes as "ribs", individually packaged and sealed chicken breasts as "myocardium", jello as "blood" and chuck pads as "skin". Obstacles while using the model simulate real-life challenges such as working within a confined space, exsanguination, and delivering the myocardium from the pericardial sac while avoiding phrenic nerve injury. Each material "incised" during performance of the procedure can easily be refreshed or replaced, creating a new, reliable experience for each participant, every time. Strengths include cost, simplicity, and versatility. Materials

can easily be substituted or exchanged for those more readily available or accessible. Like most first time creations, this prototype would benefit from many modifications, including ways to increase durability.

Impact: Overall, this educational tool successfully provided residents with the ability to practice the ED thoracotomy. It withstood 10+ uses throughout the day, and could likely withstand more depending on the number of additional exchangeable "skin" layers and "myocardiums" prepared in advance. It enhances the educational experience for residency programs with limited training resources, builds confidence and skill proficiency, and prepares residents for success prior to a real-life clinical encounter.



Figure 1.



Figure 2.