
Raising the BAR: Radiology Education



Medical student education in radiology has long been underrepresented in the curriculum despite the increased use of imaging in clinical medicine. To address this gap, the University of Colorado School of Medicine has created a novel educational space, the Beginning to Advanced Radiology Lab (BAR Lab), dedicated to the purpose of teaching radiology to undergraduate medical students.

An article published online in the journal *Academic Radiology* describes how the project was conceived, the problems encountered during the construction of the Lab, and how this project has been successful in establishing a safe learning environment and facilitating open communication between students and the faculty.

"The name – BAR Lab – reflected our intention to develop a laboratory environment; defined by Webster as 'a place for experimentation, observation and practice'. This vision was a paradigm shift in radiology education as we intended to create both a space and curriculum that would allow students to practice interpreting images using the same tools available to a radiologist rather than observing radiologists as spectators," write article authors Nicole Restauri, MD (Department of Radiology, Division of Thoracic Imaging) and Rustain Morgan, MD (Department of Radiology, Division of Nuclear Medicine), University of Colorado School of Medicine, Aurora, CO.

The BAR Lab has a dedicated teaching simulation picture archiving and communication system (PACS), which allows students to review deidentified radiologic examinations in small groups and render interpretations in a way that simulates the work environment of a clinical radiologist. The classroom is flexible in its design in that students working in small groups can then simply rotate their stools from the far wall toward the three 72-inch monitors, mounted on the opposite wall thereby converting the classroom to a larger group learning environment.

According to the authors, students attend required BAR Lab sessions during key third-year clinical clerkships (neurology, internal medicine, women's care, and surgery) and spend a total of 14 hours of their third-year clinical rotations in the BAR Lab where they review radiologic cases pertinent to the clinical rotation using both flipped classroom methods and team-based learning.

Anonymous online surveys are conducted following BAR Lab sessions to get student feedback. Students overwhelmingly reported that the BAR Lab sessions integrated into clinical clerkships were relevant and engaging because they covered content that prepared them to succeed on their non-radiology clerkships.

"Imaging education enhances students' understanding of anatomy and pathophysiology, which also teaches diagnostic reasoning," note Drs. Restauri and Morgan. "Our experience suggests that as educators we may have undervalued the potential of imaging education to reinforce more general principles of anatomy and pathophysiology of disease processes."

Moreover, medical student evaluation of this programme showed substantial increases in satisfaction with their radiology education and marked improvements in confidence interpreting and utilising imaging following the BAR Lab workshops, the authors add.

"While technology and a novel space provided the structure for this project, we learned that it was the intangibles, such as creating a safe learning environment, where curiosity and creativity are encouraged and learners were empowered to experiment, engage, and make mistakes that were the foundations of the BAR Lab's success," the authors explain.

Drs. Restauri and Morgan also note that large-scale collaboration with their institution's community of medical educators' served to increase the diversity of learners benefiting from the innovative space and "made those of us in radiology better educators."

Source: [Academic Radiology](#)
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