

Intersecting Technology and Evidence-Based Education for Assessment During Resident Didactic Sessions

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Abstract

Background: Didactic lectures continue to be an essential compliment to hands-on clinical experiences in a post-graduate medical education curriculum. Cognitive psychology experiments suggest that introduction of information, followed by repeated “retrieval” through active recall is the best way to generate long-term retention. The objective of this study was to build an app-based platform that could be implemented in conjunction with resident didactic lectures to 1) promote active recall and 2) provide individualized assessment of the material in real time.

Summary of Work: An interactive, retrieval-based smart phone learning application was developed to supplement didactic lectures being presented to orthopaedic residents. The application employed gamified quiz and survey-based functions that prompted participation from learners. Both the presenter and residents received instantaneous feedback about their performance or survey responses through the application.

Results: Participating residents (N=18) reported that standard didactic lectures had variably effectiveness, while lectures given in conjunction with interactive application were rated as much more effective than standard lectures (88.9%- much more effective; 11.1%- somewhat more effective). Importantly, all residents found the application easy to use (83.3% strongly agreed; 16.7% somewhat agreed), and noted that they would like to incorporate such a tool when they give future lectures (55.6% very likely to use; 44.4% somewhat likely to use). Presenters (N=3) commented that they found the application “helpful for guiding discussion” and “identification of areas of deficiency in the audience” aligning with the real-time assessment capacity.

Conclusion & Take home message: A gamified, interactive, learning application has the potential to improve individual learning experiences and participation during resident didactic lectures. Incorporating technology in residence lectures was both feasible and impactful to the learner’s experiences. Based on these positive results, our team aims to expand the use of this smart phone application to additional residency lectures, in aims of providing longitudinal assessment.

References (maximum three)

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