Short Description: The medical education literature has not addressed the comparative educational effect of closed-response (multiple-choice) and open-response (short answer/essay) exam formats. Both NBME and open-response examinations were administered as final summative assessments in the Reproductive Systems Module, and student reported data on comparative study strategies were obtained. The majority of students reported differing approaches to preparation, with narrative descriptions supporting approaches consistent with more robust learning in preparation for the open-response format.

Abstract: Purpose:
The medical education literature has not addressed the comparative educational effect of closed-response (multiple-choice) and open-response (short answer/essay) exam formats (Hift 2014). It is increasingly important that medical educators use assessments that drive learners to maximize their learning. This exploratory work aims to compare the student-reported educational effect of these types of testing.

Methods:
For the last 3 years, an open-response summative “diagnostic reasoning examination” (DxRx) has been administered in the Reproductive Systems Module consisting of unfolding cases requiring short answers and a final explanation of pathophysiology. The Module also uses an NBME summative examination. Each year, questions regarding student preparation processes for these examinations have been included in end-of-course evaluations. Narrative responses were examined qualitatively.

Results:
For each year, survey response rates were 47% (n=54), 82% (n=94), and 88% (n=106), respectively. The percentage of respondents who indicated their study strategy for the DxRx differed from that of the NBME was 81.6%, 84.0%, and 92.4% each year, respectively. A total of 195 of 254 respondents provided comments comparing study strategies between the two formats. We categorized learning effects using 2 of 6 categories delineated by Cilliers et al.- cognitive processing and resource use. On cognitive processing, 28 reported re-organizing course content by clinical presentation (rather than disease or basic science discipline) and 34 described developing and/or practicing the generation of differential diagnoses for different clinical presentations. Eleven students referenced more memorization of “key words” in NBME preparation. Regarding resources, 27 students reported studying the 10 case-based discussions within the course and sought other case-based resources. Thirteen students offered metacognitive insights pointing to more robust learning from studying for the DxRx.

Discussion/Conclusion:
The majority of students reported that they prepared differently. Narrative responses suggest approaches supporting robust learning from the DxRx preparation, including re-organizing material and constructing new knowledge. (Mastascusa, 2011).

Level of Audience: Mid-career
Focus of Presentation: UME


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