4-27-2015

Using team based learning in resident board review, the perfect marriage

Patrick Rendon

Justin Roesch

Team-Based Learning & Clinical Reasoning in Resident Board Review– The Perfect Marriage

Patrick Rendon MD, FACP & Justin Roesch MD
University of New Mexico School of Medicine
Department of Internal Medicine

OBJECTIVES

1. Review the standard vehicle/model of board review and it's limitations
2. Demonstrate how the blend of adult learning theory with interactive learning cane increase retention of information.
3. Highlight the efficacy of blending team-based learning with elements of test-taking strategy during board review sessions

THE PROBLEM

Board review is a recognized educational staple in many internal medicine training programs. The classic format employs a standard review of multiple choice questions (MCQ) in the following format:

Ask Question ➔ Query Audience for Answer

Limitations:

- **Focuses on the end-product (right vs. wrong) instead of the process and often only affirms what residents know (or not)**
- **Minimal opportunity for discourse of clinical reasoning**
- **Minimal opportunity for faculty to evaluate and provide feedback on reasoning processes**
- **Few if any occasions to provide corrective insights to promote knowledge retention**

THE INNOVATION

Board review redesign based on adult learning theory and principles of Team-Based Learning (TBL)

- **MCQs chosen based on illustration of clinical reasoning principles in medicine and board topics**
- **MCQs adjusted to increase difficulty and create 'dissonance'**
- **Individual Readiness Assurance Test (IRAT) taken after MCQs**
- **Group Readiness Assurance Test (GRAT) taken after group discussion**
- **General internists chosen as instructors based on resident feedback and request for teachers being similar to test-takers**
- **Elements of test-taking strategy and clinical reasoning developed in advance**

PREVIOUS vs CURRENT MODEL

	Prior Model of Board Review	Current Model of Board Review
Participants	10 PGY 1 – PGY 3 residents in 1 group	12 PGY 3 residents in 4 groups
Timing	March-June, 1 session / month	Year-round, at least 1 session/month
Format of session	• Residents independently take 20 question exam • Answers revealed & discussed in 5 question intervals • Management pearls and caveats to questions discussed	• Focus on one clinical discipline for each session • 5 questions representing high-yield topic areas selected for each session • 6 minute IRAT and 8 minute GRAT • Small groups share their insights • Facilitators provide feedback on reasoning process and highlight salient points in each question • Facilitators conclude with comparing/contrasting illness scripts and management pearls
Facilitators	Subspecialty fellows and attending physicians	General internists with knowledge in medical education
Learning Principles	Active learning	TBL, active learning, social learning theory, constructivist learning theory

RESULTS

Figure 1: Percentage correct answers from IRAT to GRAT for one selected session

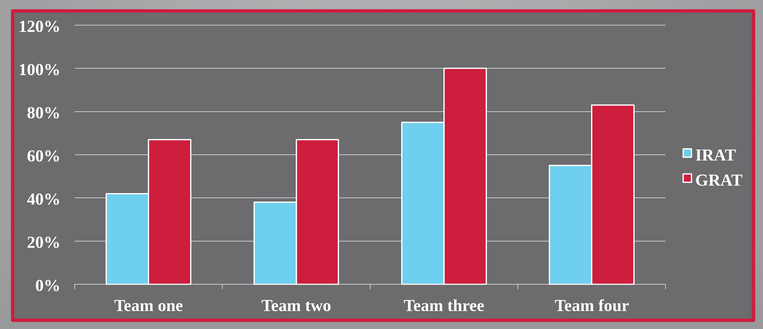
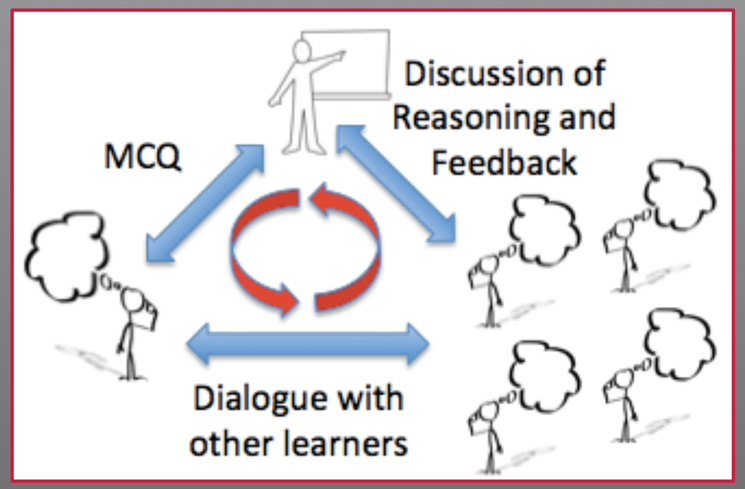


Figure 2: Model of revised Board Review



PERCEPTION OF CHANGE

Anonymous Housestaff Feedback:

"Great test-taking strategies reviewed on how to process through questions"

"Enjoyed the group discussion, eliminating each option, and explanation for every option"

"This board review format needs to be integrated into all Thursday School didactics!!!"

LESSONS LEARNED

- **Implementation of TBL-based format alongside test-taking strategy greatly enhanced individual and group learning for resident physicians**
- **Resident satisfaction greatly increased with use of a TBL-based format for board review**
- **Residents perceived an appreciable difference in their test-taking abilities post-intervention**
- **Using an interactive learning strategy residents perceived that the process of board review can be a fun learning experience**

REFERENCES

1. Chung EK, Rhee JA, Baik YH, A OS. The effect of team-based learning in medical ethics education. Med Teach 2009. 31(11):1013-7.

2. MKSAP 16. 2013 American College of Physicians, Inc.

3. Paul G. Koles, et. al. The Impact of Team-Based Learning on Medical Students' Academic Performance. Acad Med. 2010;85:1739–1745.