

2019

Medical Education Board Game: Interactive Learning

Ulysses Davila

Virginia Commonwealth University

Follow this and additional works at: https://scholarscompass.vcu.edu/med_edu

Part of the [Medicine and Health Sciences Commons](#)

© The Author(s)

Downloaded from

https://scholarscompass.vcu.edu/med_edu/68

This Poster is brought to you for free and open access by the School of Medicine at VCU Scholars Compass. It has been accepted for inclusion in Health Sciences Education Symposium by an authorized administrator of VCU Scholars Compass. For more information, please contact libcompass@vcu.edu.

Medical Education Board Game: Interactive Learning

Ulysses Davila, MD¹, Brooke Farquhar, MD¹, Tim Lukenbill, MD¹, Avni Sharma, MD¹, Azam Siddiqui, MD¹, Clifton Lee, MD¹, Department of Pediatrics, Children's Hospital of Richmond at VCU



Background

Researchers have been interested in promoting improved retention of medical knowledge through custom designed board games for a number of years (Bochennek, et al 2007, Karbownik et al, 2016, and Shaw et al 2013). Studies demonstrate at least a subjective medical student desire to continue to develop study methods like board games for routine use in medical education.

Objective

The overall objective of the study is to improve retention of pediatric knowledge and thus pediatric patient care by providing MS3 students with an interactive game to improve their performance on the Shelf Exam. Our study will explore the question: "Does playing a board game during a medical student's pediatric clerkship-- in addition to attending already required lectures-- increase his/her long-term retention of pediatric knowledge as measured by performance on the shelf exam as compared to the average of his/her peers who only attended required lectures?" Our aim will be for those MS3s who participated in the board game to demonstrate, on average, a 10% improvement in shelf exam score as compared to their peers who did not participate in the board game, as well as a subjective preference for the board-game style of learning over traditional lecture format.

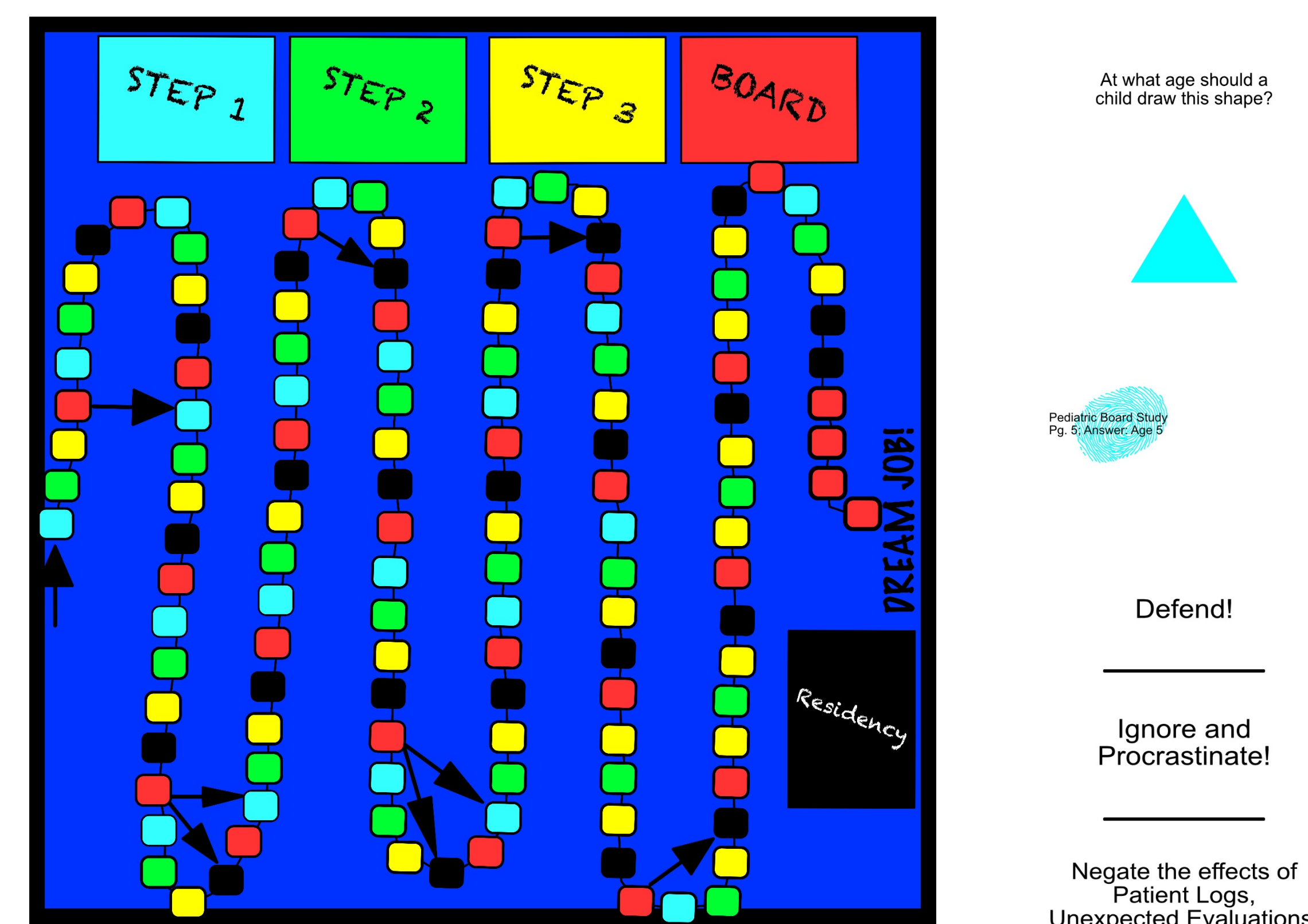
Methods

Volunteers will be divided into 2-3 person teams and play the board game for 1 hour during Week 3 of the 6 week rotation. The board game involves questions written to address the core objectives as outlined by the American Board of Pediatrics in the General Content Outline for initial certification, maintenance and in-patient training exams. The students will answer the questions as a team. Correct answers merit another turn; winner is first to the end of the board. Following their playing session, an email with survey questions will be sent out to garner subjective feedback in addition to the more objective measure of their improvement through Shelf Exam scores.

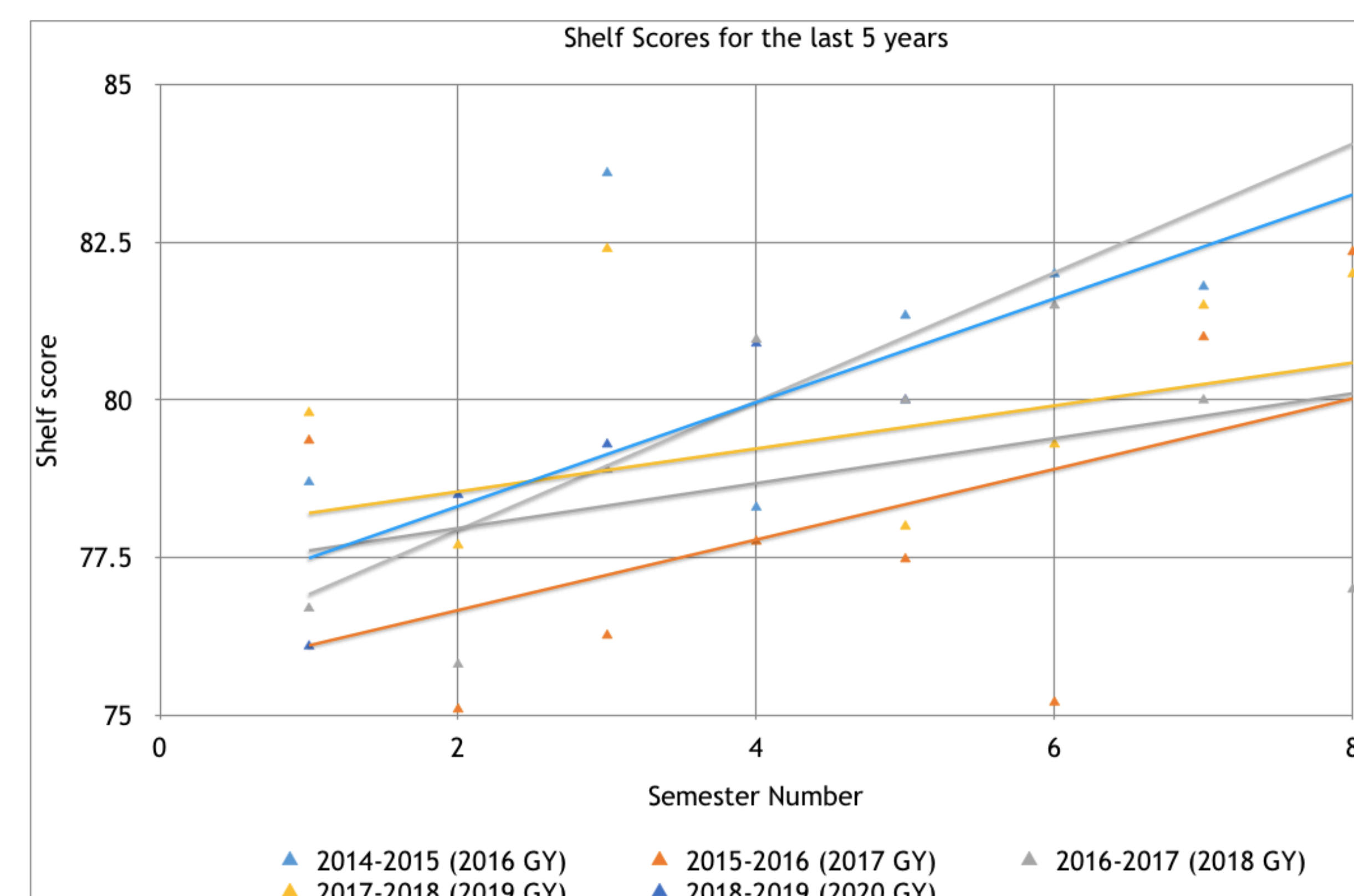
Rules of the Board Game

The question asked is based on the spot (if on red at the start of the turn then question asked from red pile, if on a black, then free roll). The person to the right of the player asks the question with finger over the answer. Every player, except the question asker, has a chance to steal. If the player whose turn it is missed the question, then the next player to the left of the player that answers the question correctly gets the credit. The player that steals rolls the dice instead and advances. Each player draws a residency responsibility card at the end of each turn; if on a black space, he/she draws a card at the beginning as well. Attack cards must be played before the end of a turn. Defend cards can be stored face up or down.

Board Game and Cards



Shelf Scores 2014-2019



Preliminary Results

Students who participated were asked to answer the following questions, on a scale of 1-10, with 10 being strongly agree and 1 being strongly disagree. Of the 40 students who participated, only 8 students sent survey responses.

- 7.00 The game's organization helped me to easily identify my areas of weakness
- 7.50 I was motivated to research further after playing the game
- 8.13 The game helped expose areas I ignored during my earlier studies
- 8.50 I find the game very interesting
- 8.50 I recommend the game be adapted as a supplementary review material
- 8.38 The game is highly informative
- 6.13 Components such as attack / defend cards enhance the game
- 6.88 The game improved significantly my knowledge of pediatrics
- 7.25 The game positively improved my perception and attitude to pediatrics
- 6.38 The game has improved my level of concentration while studying pediatrics
- 6.00 The game has improved my confidence in pediatrics
- 6.13 The game has improved my interest in pediatrics
- 6.38 The game has reduced the fear I had toward studying pediatrics
- 8.38 I learned more from the game playing as a team
- 8.38 I would benefit from playing the game repeatedly
- 9.13 The game generated group discussions on various topics of pediatrics
- 4.00 I would learn more from the game playing as an individual
- 2.00 The game became boring after I played it once
- 1.13 The game was quite boring and a total waste of time

Reflective Critique/Future Implications

There is no way to control which cards are drawn and what topics they cover.

Only 20-25 questions are covered in a 1 hour period.

Subjective evaluations will be blinded in future studies.

Authors plan to incorporate the board game into existing mandatory MS3 lecture time and eventually include it in the weekly resident lectures.

Ongoing research should be targeted towards solidifying the relationship between retention of pediatric knowledge and the use of our board game as a study modality with objective performance measures, ie Shelf test, ITE, Board test scores.

References

Bochennek, Konrad et al. More than mere games: a review of card and board games for medical education. 2007: Medical Teacher, 29:9-10, 941-948.

Karbownik, Michael et al. Board game versus lecture-based seminar in the teaching of pharmacology of antimicrobial drugs—a randomized controlled trial. 2016: FEMS Microbiology Letters, Volume 363, Issue 7.

Swiderska, Nina et al. 2013: Randomised controlled trial of the use of an educational board game in neonatology, Medical Teacher, 35:5, 413-415.