Increasing Active Learning in the OB Clerkship: A Pilot Project

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Executive Sponsor: Dean Toni Ganzel
ACTIVE LEARNING

BACKGROUND

• Need within the medical school curriculum
• Approach within the OB clerkship
• Benefits perceived by students, faculty, SOM
• Competition to our approach
ACTIVE LEARNING: NEED
ACTIVE LEARNING: NEED

Diagram showing the average retention rate after 24 hours for different learning methods:

- **Verbal Processing**
  - Lecture: 5%
  - Reading: 10%
  - Audiovisual: 20%
  - Demonstration: 30%
  - Discussion Group: 50%
  - Practice by Doing: 75%
  - Teach Others/Immediate Use of Learning: 90%

- **Verbal and Visual Processing**
DESIGN THINKING

- Empathize
- Define
- Ideate
- Prototype
- Test
Design Thinking: Focus Groups

Dr. Rabalais
Staci Saner

Medical Students

Dean Ganzel

Clerkship Directors

Dr. Shaw & Dr. Ellis

Team Active Learning
LESSONS LEARNED FROM STAKEHOLDERS

Meeting with Dean Ganzel (12/3/18)

• Self-directed learning is an LCME requirement (Standard 6.3)

• Current state
  – Lecture attendance generally poor
  – Better attendance for lectures perceived to be active and lecturers perceived to be engaging
  – Majority of students are watching lectures
  – PBL meets self-directed learning definition

• Barrier: Perception that active learning requires more work
  – Need to obtain buy-in from/convince students and teachers
Meeting with students (12/4/18)

- Feedback regarding lectures
  - Want more iClicker usage to engage audience
  - Enjoy clinical cases and patient panels
  - Enjoy using a clinical case to start/end a lecture

- Students are not engaged with current strategies
  - Softchalk: extremely dry; feels like a Cliffnote/textbook version of a topic
    - Single question at the end can be useful
  - Articulate: rave reviews, want more of these online
  - PBL: low-stakes (not taken seriously, ‘just show up’ mentality)
Meeting with Drs. Shaw and Ellis (12/13/18)

- Current state
  - 20 hours of contact/week (includes virtual, SP/sim center, and lecture)
    - Lectures are not mandatory; active sessions are
    - All lectures are taped on Panopto

- What are some reasons students aren’t attending class
  - Each has their own learning style, some don’t get anything out of attending class
  - Students self-select depending on how they learn best

- Perceptions
  - Softchalks are very helpful
  - Students always want more ‘exam type’ questions
  - Barriers to active learning are time, energy, unwillingness of faculty to change

- Wish list
  - Shelf exam preparation
DESIGN THINKING

- Empathize
- Define
- Ideate
- Prototype
- Test
Methods

- Medical students (n=285) in Human Immunology course
- QUESTOURnament
  - Moodle module that allows teachers to organize contests
  - Challenges or questions that students must solve in a time-constrained way

Results

- Students using the competitive learning tool had better academic performance, and they were satisfied with this type of learning

Conclusions

- Competitive learning motivates medical students, improves their academic outcomes and may foster the cooperation among students
APPROACH: Gamification of Concepts

• Competitive learning
  – Educational tool that increases students’ motivation and satisfaction
  – Competitiveness is a characteristic of medical environment and schools
What is KAHOOT?
Easy-to-use free online game platform used in classrooms to increase student engagement

How will we use KAHOOT?
• OB/GYN clerkship
• Students test themselves on key concepts
• Students engage in competition
**BENEFIT**

- **UME**
  - Opportunity to increase active learning within the curriculum (clerkship years)
  - Includes a self-directed component

- **Medical Students**
  - Guide to high yield topics
  - Potential increased retention of material
    - Recall, spaced learning, self-directed question development
  - Easy to use (can complete on computer or phone, free)

- **Clerkship Directors**
  - Reusable, inexpensive
  - Quick method for guiding clerkship curriculum

- **All**
  - Improved clerkship exam scores (hopefully) and improved educational experience
Increasing active learning

Multiple interactive and game-based learning platforms are available

LIMITATIONS WITH MANY OF THESE:
• Not free
• Learning curve in development
• Availability/portability
• Lack of synchronous and asynchronous learning options
DESIGN THINKING

1. Empathize
2. Define
3. Ideate
4. Prototype
5. Test
PROTOTYPE: OB-GYN clerkship pilot

Hypothesis

Introduction of Kahoot tournaments into the OB-GYN clerkship will...

• Be well received by students
• Result in improved knowledge acquisition of clerkship material, as evidenced by increased shelf exam scores
PROTOTYPE: OB-GYN clerkship pilot

Design & Implementation

- 2 randomly assigned teams
- Instructions, resources, timeline distributed at orientation
- Weekly Kahoot tournaments

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Tournament Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Preconception Counseling &amp; Immediate Care of the Newborn</td>
<td>Friday, April 5, 12:30 pm Auditorium</td>
</tr>
<tr>
<td>2</td>
<td>Lactation &amp; Breast Disorders</td>
<td>Friday, April 12, 12:30 pm Auditorium</td>
</tr>
<tr>
<td>3</td>
<td>STI &amp; Puberty/PAG</td>
<td>Friday, April 19, 12:30 pm Auditorium</td>
</tr>
<tr>
<td>4</td>
<td>Gestational Trophoblastic Disease &amp; PMS/PMDD</td>
<td>Friday, April 26, 12:30 pm Auditorium</td>
</tr>
<tr>
<td>5</td>
<td>Late Pregnancy Complications*</td>
<td>Tournament Due: Monday, April 29th</td>
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<tr>
<td></td>
<td></td>
<td>Friday, May 3, 12:30 pm Auditorium</td>
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<tr>
<td>6</td>
<td>Topic Review</td>
<td>Wednesday, May 8th during afternoon didactics (time TBD)</td>
</tr>
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TEST: Evaluation Plan

Qualtrics Survey

- Demographics
  - Completed clerkships
  - Specialty plans
  - Learning style
  - Barriers to self-directed learning in clerkship setting
- Previous experience with Kahoot
- Current experience with Kahoot
- Future directions

OVERALL

>96% completion rate
RESULTS: Knowledge acquisition

1st Clerkship

Average Kahoot Score

Team 1
Team 2

Shelf Score

Team 1
Team 2

60000 80000 100000

1st Clerkship

50 70

2nd Clerkship

Team 1
Team 2

60000 80000 100000

Shelf Score

Team 1
Team 2

50 70
RESULTS: Knowledge acquisition

Clerkship Shelf Exam Average Compared to Last Year:

<table>
<thead>
<tr>
<th></th>
<th>1st Clerkship (April)</th>
<th>2nd Clerkship (May)</th>
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<tbody>
<tr>
<td>2018 Average</td>
<td>75.6</td>
<td>77.7</td>
</tr>
<tr>
<td>2019 Average</td>
<td>77.2</td>
<td>77.9</td>
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</table>
RESULTS: Learning style

- Visual: things I can read (written information, articles, reading lists, etc.)
- Auditory: things I can listen to (podcasts, recorded lectures, etc.)
- Kinesthetic: things that are interactive
RESULTS:
Was Kahoot well-received by students?

• I enjoyed using Kahoot:  95%
• I found Kahoot to be a helpful tool for learning clerkship content: 80%
• Would you like to see Kahoot used in other 3rd year clerkships?

Yes 95%
RESULTS: Self-directed learning

- I felt that using Kahoot encouraged self-directed learning: 55%
- I felt that generating my own Kahoot questions encouraged self-directed learning: 55%
- What percentage of the provided resources did you use prior to the weekly tournament? 85% used half or less than half of provided resources

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<thead>
<tr>
<th>Answer</th>
<th>Frequency</th>
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<tbody>
<tr>
<td>90-100%</td>
<td>5%</td>
</tr>
<tr>
<td>75%</td>
<td>10%</td>
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<tr>
<td>50%</td>
<td>30%</td>
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<tr>
<td>25%</td>
<td>25%</td>
</tr>
<tr>
<td>Less than 25%</td>
<td>30%</td>
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RESULTS: Barriers to self-directed learning

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Time Management</th>
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<tbody>
<tr>
<td>TIME</td>
<td>Time management</td>
</tr>
<tr>
<td></td>
<td>Lack of free time</td>
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<tr>
<td>Clerkship environment</td>
<td>Exhaustion</td>
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<td>Pressure of studying for the shelf</td>
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<td>Distractions; hard to concentrate</td>
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<td>Too little reinforcement/repetition</td>
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What’s next?

- IMPLEMENTED INTO THE 2019-2020 OB-GYN CLERKSHIP CURRICULUM
- EXPANSION TO OTHER CLERKSHIPS
  - Presentation at the clerkship directors meeting
  - Toolbox to guide implementation
- REFINE QUESTION/HYPOTHESIS
  - Pilot looked at aggregate data
  - Individual-level question: Is there a correlation between individual Kahoot score and individual shelf score?

Student Suggestion: Use of Kahoot in Students as teachers?
THANK YOU!

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