SESSION #:  F124
TITLE:  FUN AND GAMIFICATION IN PA EDUCATION

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OBJECTIVES

- Understand the term gamification and application of game techniques to topics in PA education.
- Learn to adapt common games to didactic topics in the first-year PA curriculum.
- Experiment with game techniques utilized in a PA education setting.
- Discuss new ideas for the application of game techniques in the PA classroom.
We teach it,

but do they learn it?
GAMIFICATION

What is it
How it applies to education
GAMIFICATION DEFINED

adding game elements to non-game activities
WHERE YOU’VE SEEN IT

- Frequent flier programs
- Company loyalty rewards programs
- Social apps
  - FourSquare
GAME ATTRIBUTES

- Goal or outcome to achieve
- Rules
- Levels
- Feedback
GAME ATTRIBUTES

• Unknown outcomes
• Multiple paths to one goal
• Problem context construction
• Multiplayer collaboration
• Immersion with limited real-life consequences

http://www.gc-solutions.net/blog/making-learning-games-effective-5-ways-of-ensuring-that-players-learn/
RESEARCH ON GAMES

- Pharmacy games
  - Price is Right
  - Family Feud
  - $100K Pyramid
- Used as review tools or paired with didactic lecture
- Games well-received
- Enjoyable interactions
- Collaborative efforts
RESEARCH ON GAMES

• Game-based learning similar to problem-based learning
• Intrinsic motivation
• Makes learning activities enjoyable
  • Incorporates challenge and curiosity
GAME RESEARCH

• Study on civil engineering educational game software

• Undergrad students in Austria, Germany, Switzerland (N=47)

• Compared online participants, lecture only and lecture-volunteer game players

• Equivalent learning results with game learners

• ‘fun factor’ and motivation higher with game (p=0.033)
LET THE GAMES BEGIN!
Jeopardy

Antiretroviral Therapy
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Classy Drugs</th>
<th>MOA</th>
<th>ADRs</th>
<th>Mystery</th>
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<tr>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>
Faculty member is a fabulous 50 yo female who appears much adjective ending in er than her stated age. She presents to the office with a one-month history of htn symptom. Her PMH is consistent with history of comorbid condition for which she takes medication. FH is positive for CV disease, endocrine disease, rheum disease. Upon PE, you note Stage 1 B/P and B/P eye finding. This is the second time her B/P has been elevated. You prescribe diuretic with dose. During patient education, you explain the medication works by diuretic MOA and has possible side effects of side effect, side effect, side effect. Pt verbalizes understanding and f/u visit is scheduled for appropriate f/u time later.

Pt is seen in the ER one week later by your partner, classmate, for a medical adj arrhythmia caused by diuretic electrolyte imbalance. She is treated and released to f/u with you the next day.
ANTIHYPERTENSIVE PICTIONARY
CATCH PHRASE

fast-passing, fast-talking game!
APPLES TO APPLES

Party Edition

Over 3 Million Games Sold!

APPLES to APPLES

The Game of Hilarious Comparisons!
HEADBANZ

Liothyronine

Levothyroxine
PSYCHOTROPIC
IT WAS A DARK AND STORMY DAY AT THE FRANCIS CENTER.......
YOU ALL ARRIVE TO FIND THE BUILDING....

Quiet

and

creepy
YOU BEGIN CHECKING THE ROOMS....

• To see what’s going on
Something is terribly wrong
THE ROOMS
WITHIN EACH ROOM...

You find one faculty member who appears comatose
NEXT TO EACH FACULTY MEMBER...

Is an empty pill bottle
YOUR JOB...

• Determine which drug was in each bottle based on a series of clues
• Determine which faculty member is in each room
CLUES

• You will form teams of 6 – 7 members.
• Your team will ‘enter’ a room by spinning a spinner and may ask for a clue regarding the drug or faculty member.
• Inquiries will be related to the following categories
  • Neurotransmitter affected by the drug
  • Indications/uses
  • Adverse effects
  • Drug interactions
  • Class of drug
  • Brand name
• You may NOT use notes or technology.
You are a team of CDC scientists. The world as we know it is in chaos. Zombies have taken over the planet. The cause of zombieism is unknown...there currently is no treatment and no cure. You and your team are locked inside the CDC building in Atlanta, desperately racing to find a cure and solve this crisis before there are no humans left.
STUDENT FEEDBACK
SURVEY RESULTS

- 18 of 37 students responded
- 17 age 21 – 30
- One 31 – 40
- 16 women, 2 men (class distribution: 33 women, 4 men)
Please choose the answer which best fits:

1. I enjoy playing games for fun.
2. I consider myself a serious gamer.
3. I was familiar with the format of many of the games played in class.
4. I prefer online games to board games.
5. I prefer multiplayer or team games to individual player games.
6. I enjoyed playing pharmacology games for review of material.
7. I prefer a traditional lecture type review.
8. I feel playing pharmacology games helped me in reviewing the course material.
9. Playing pharmacology games helped improve my test score.
<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Responses</th>
<th>Weighted Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>I enjoy playing games for fun.</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>12</td>
<td>18</td>
<td>4.61 / 5</td>
</tr>
<tr>
<td>I consider myself a serious gamer.</td>
<td>2 (11.11%)</td>
<td>6 (33.33%)</td>
<td>4</td>
<td>5</td>
<td>1</td>
<td>18</td>
<td>2.83 / 5</td>
</tr>
<tr>
<td>I was familiar with the format of many of the games played in class.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td>7</td>
<td>18</td>
<td>4.39 / 5</td>
</tr>
<tr>
<td>I prefer online games to board games.</td>
<td>1 (5.56%)</td>
<td>9 (50.00%)</td>
<td>6</td>
<td>2</td>
<td>0</td>
<td>18</td>
<td>2.50 / 5</td>
</tr>
<tr>
<td>I prefer multiplayer or team games to individual player games.</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>8</td>
<td>4</td>
<td>18</td>
<td>3.83 / 5</td>
</tr>
<tr>
<td>I enjoyed playing pharmacology games for review of material.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>11</td>
<td>18</td>
<td>4.61 / 5</td>
</tr>
<tr>
<td>I prefer a traditional lecture type review.</td>
<td>0</td>
<td>8 (44.44%)</td>
<td>9</td>
<td>1</td>
<td>0</td>
<td>18</td>
<td>2.61 / 5</td>
</tr>
<tr>
<td>I feel playing pharmacology games helped me in reviewing the course material.</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>11</td>
<td>4</td>
<td>18</td>
<td>4.06 / 5</td>
</tr>
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<td>Playing pharmacology games helped improve my test score.</td>
<td>0</td>
<td>1 (5.56%)</td>
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My favorite game played in class was:

- Jeopardy: 10
- Pictionary (Win, Lose or Draw):
- Catch Phrase:
- Apples to Apples:
- Clue:
- None of the above:
- I did not enjoy any of the games:
UPCOMING AREAS

• Online games
• Immersive experiences
• Augmented reality
• Wearable devices
REFERENCES


• Ebner, M. and Holzinger, A successful implementation of user-centered game based learning in higher education: An example from civil engineering. Computers & Education. 2007;49:873-890.

• Chavez, B. et al. Popular game shows as educational tools in the pharmacy classroom. Currents in Pharmacy Teaching and Learning. 2012:146-149.