



Educational Board Games Adjunct to Traditional Lectures for Learning Infectious Diseases

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BACKGROUND

- Philadelphia College of Osteopathic Medicine–Georgia Campus School of Pharmacy (PCOM SOP) is a four-year program utilizing the trimester schedule within the didactic curriculum
- Two Infectious Disease (ID) courses (3 credit hours each), ID-1 in the Winter Term and ID-II in the Spring Term, are taught in the second year
- Infectious disease is a difficult subject for students and various methods have been utilized to increase retention and knowledge of learned material
- Games are a powerful teaching strategy to develop creative and vigorous learning experiences to:¹
 - Engage students, challenge, and motivate¹
 - Increase student accountability for learning¹
 - Exhibit increased knowledge, skills, and performance among professional healthcare students¹

OBJECTIVE

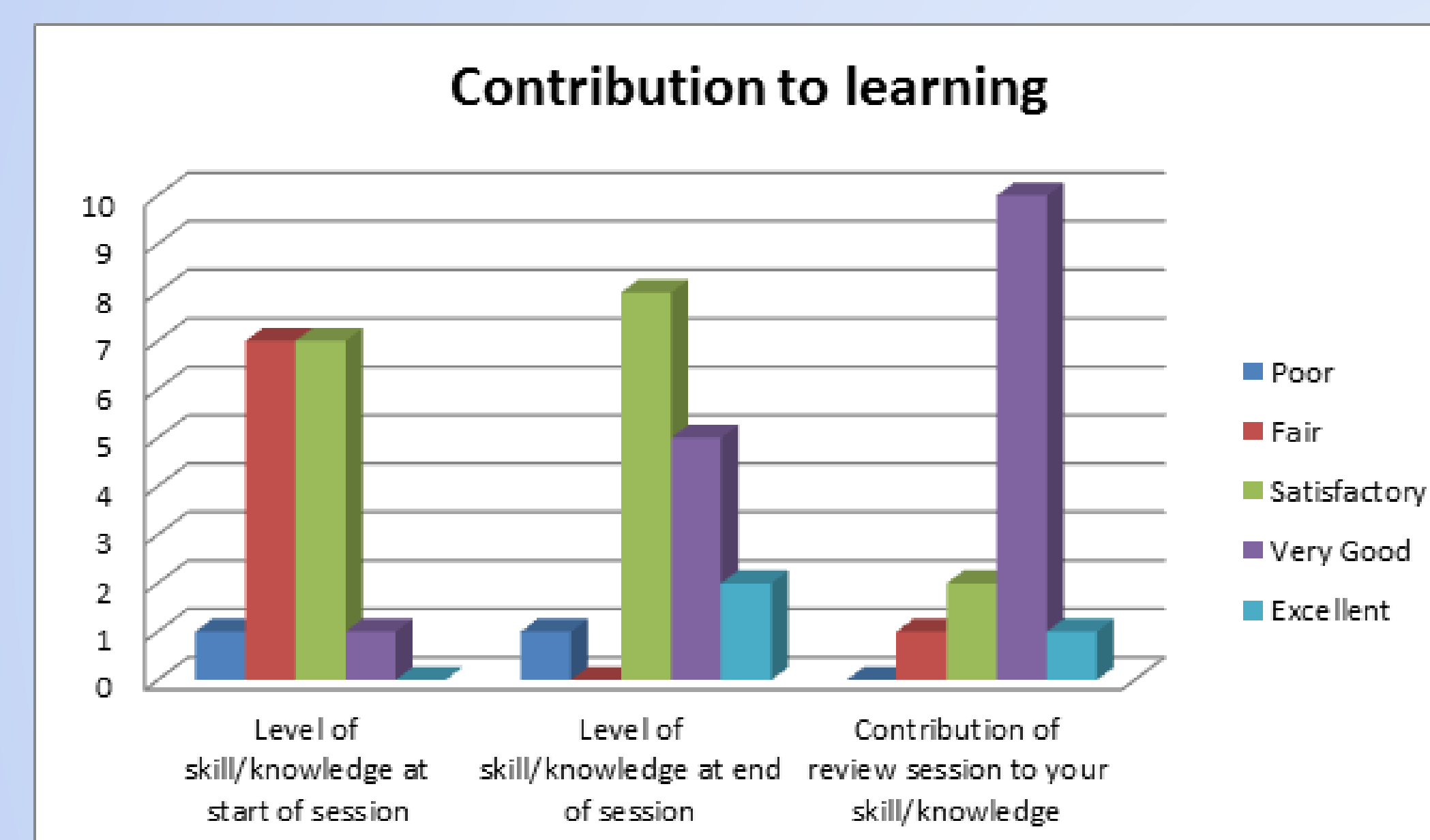
- To determine if the utilization of modified games, such as ID-Candyland and ID-Taboo, are effective methods to reinforce student knowledge gained in traditional Infectious Diseases (ID) lectures by
 - Applying knowledge to clinical practice
 - Extending learning opportunities and promoting a fun and competitive environment
 - Developing creative learning experiences

METHODS

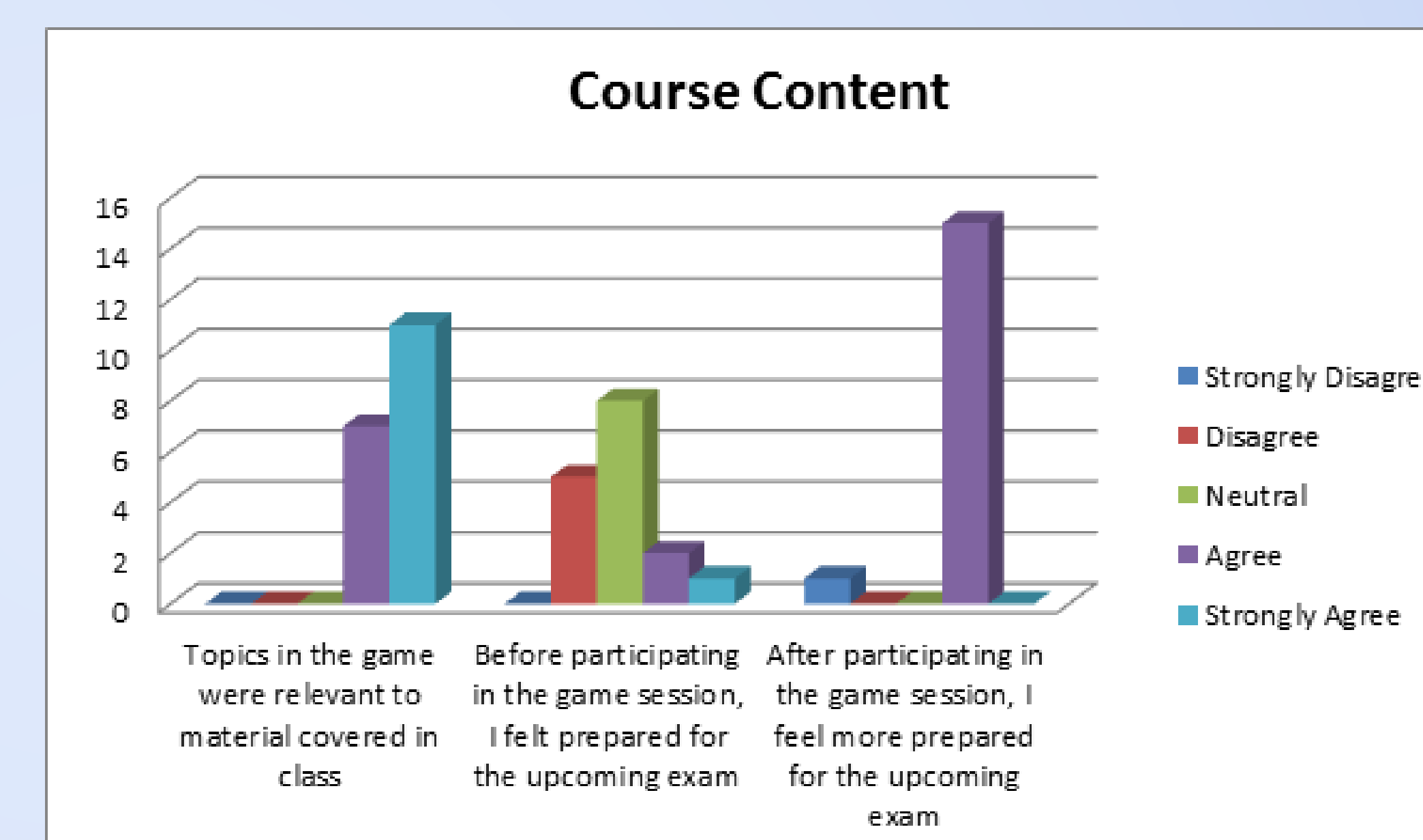
- Before each exam, ID-1 students were provided opportunities for educational review games
- Surveys were administered after each session to determine the impact of games on knowledge and retention of material learned in ID-1 course
- ID-Candyland
 - Rules were similar to the actual Candyland® rules
 - Each person needed to correctly answer an ID-related question prior to drawing a card to move
 - Winner was the furthest along the “Infectious Disease Trail”
 - Example question:
 - “What is the first-line treatment for acute otitis media?”, correct answer being “amoxicillin”
- ID-Taboo
 - Mimicked original game, except clues and words were ID-based
 - For each Guess Word correctly identified within one minute, one point was awarded to the team
 - Team with the most points at the end was declared the winner
 - Example:
 - If the Guess Word was “vancomycin” associated Clue Words included “MRSA”, “trough”, and “nephrotoxicity”

RESULTS

- Four Game Review Sessions were provided, which resulted in a total of thirty-nine participants
- Sixteen students completed surveys (eleven participated in ID-Candyland; five participated in ID-Taboo)
 - 93.8% of students recommended fellow students to participate in future game review sessions
 - 87.5% felt the sessions were either “very good” or “excellent” with regards to “Contribution to Learning”
- When asked if felt prepared for the upcoming exam after sessions, all but one student answered “agree”
 - 93.8% of students felt prepared
 - 6.2% of students did not feel prepared
- Suggestions for improvement:
 - Prizes, multiple choice answers, more exam-style questions, Guess Who® style games



Graph 1: Student reported levels of skill/knowledge related to Game Review Session.

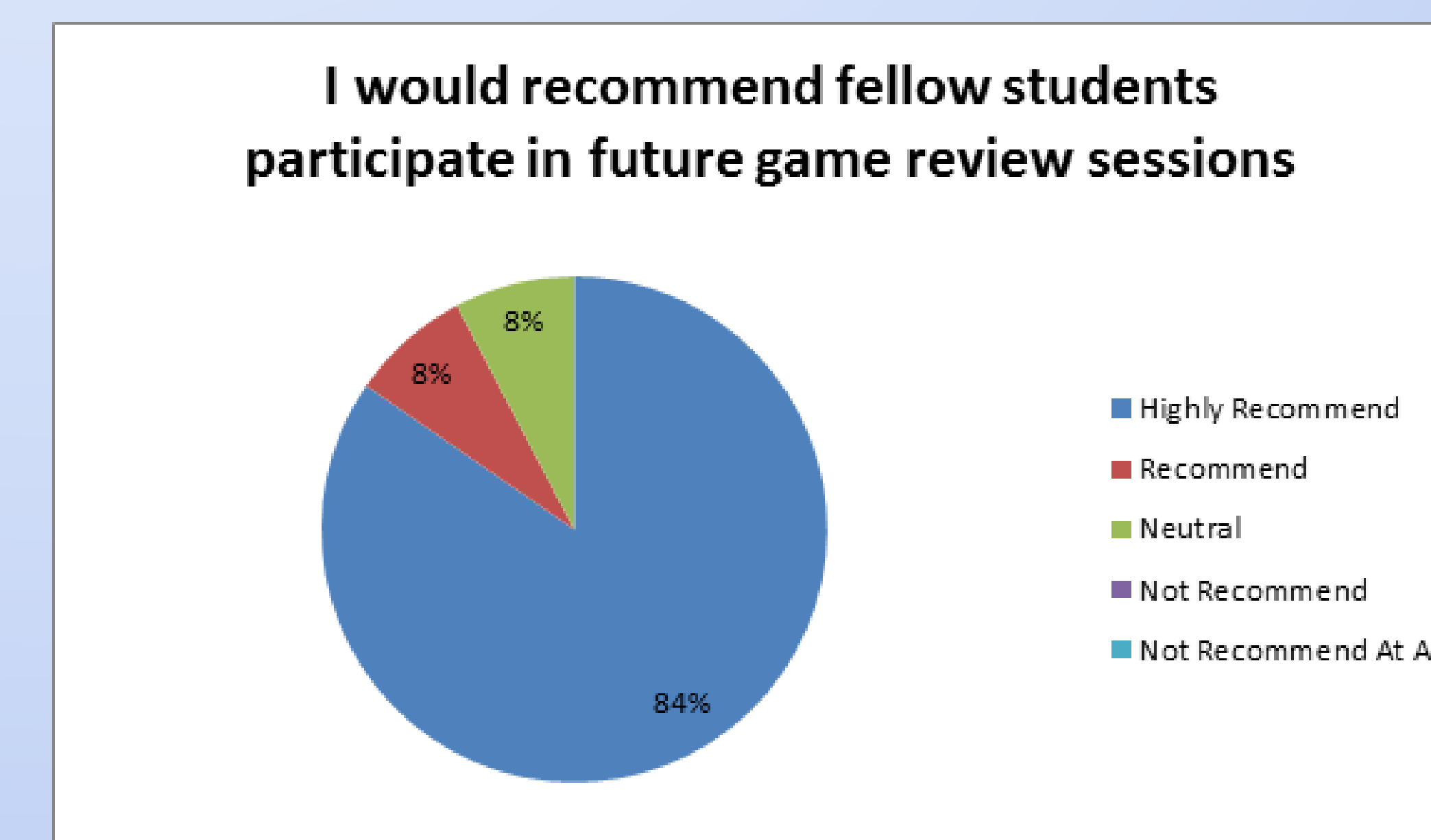


Graph 2: Student reported game topic relevance and preparation felt for the upcoming exam.

PHAR 241G: Infectious Disease I – Games Review Session Evaluation

- Which game did you participate in during the Infectious Diseases 1 game review session
 - Candyland
 - Taboo
- Contribution to learning
 - Level of skill/knowledge at start of session
 - 1 = Poor, 2 = Fair, 3 = Satisfactory, 4 = Very Good, 5 = Excellent
 - Level of skill/knowledge at end of session
 - 1 = Poor, 2 = Fair, 3 = Satisfactory, 4 = Very Good, 5 = Excellent
 - Contribution of review session to your skill/knowledge
 - 1 = Poor, 2 = Fair, 3 = Satisfactory, 4 = Very Good, 5 = Excellent
- Course content
 - Topics in the games were relevant to material covered in class
 - 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree
 - Before participating in the game review session, I felt prepared for the upcoming exam
 - 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree
 - After participating in the game review session, I felt more prepared for the upcoming exam
 - 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree
- What aspects of the game review session were most useful or valuable?
- I would recommend fellow students to participate in future game review session
 - 1 = Highly recommend, 2 = Recommend, 3 = Neutral, 4 = Not Recommend, 5 = Not Recommend At All
- How would you improve the game review sessions?
- What other games would you like to have included in future review sessions?
- Are the various times provided for these review sessions convenient with your schedule?
 - Yes
 - No
- If not, what other times should be added?

Data Collection Survey.



Graph 3: Student reported positive recommendations for Game Review Session participation.

DISCUSSION

- Traditional lectures are unable to effectively reflect real-life situations²
- Games are models of complex systems, simplifying challenging issues and have the potential to motivate students by including competition and surprise²
- When compared to a traditional lecture, games, in combination with reading, are equally effective at reinforcing short-term knowledge³
- Games improved knowledge to greater extent than lecture-based seminar³
- Although only a small number of students participated in the games, the review sessions at PCOM-GA Campus during the ID-1 course showed the added benefit games have assisting students to better learn infectious disease topics
- Most students who participated in the games highly recommend future sessions to their classmates

CONCLUSION

- Positive response from students
- Will take suggestions for improvement into account for future ID courses
- Future plans include:
 - Promoting game sessions early in course to allow students to plan more in advance
 - Incorporating Game Review Sessions into other courses at PCOM SOP
 - Planning for additional time slots for each session to allow more flexibility
- Paves the way for future review sessions with higher student attendance

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DISCLOSURES

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