

POPEDU: ID# 99692

Title:

"Game On!" In the Classroom: Evaluating the Use of Serious Games for Exam Preparation

Patricia Bachmeier, MSN, RN, CMSRN, SCR�N¹

Carol Toliuszis Kostovich, PhD, RN, CHSE²

Jeanne Van Denack, MSN, RN²

(1)Marcella Niehoff School of Nursing, Loyola University Chicago, Chicago, IL, USA

(2)Marcella Niehoff School of Nursing, Loyola University Chicago, Maywood, IL, USA

ACCEPTED

Session Title:

Education Poster Session 2 (Monday/Tuesday, 18 & 19 November)

Slot:

EDU PST2: Monday, 18 November 2019: 8:00 AM-8:45 AM

Abstract Describes:

Completed Work/Project

Applicable Category:

Academic

Keywords:

classroom, exam review and serious game

References:

Gómez-Urquiza, J. L., Gómez-Salgado, J., Albendín-García, L., Correa-Rodríguez, M., González-Jiménez, E., & Fuente, G. A. (2019). The impact on nursing students opinions and motivation of using a "Nursing Escape Room" as a teaching game: A descriptive study. *Nurse Education Today*,72, 73-76.doi:10.1016/j.nedt.2018.10.018

Kinder, F. D., & Kurz, J. M. (2018). Gaming Strategies in Nursing Education. *Teaching and Learning in Nursing*,13(4), 212-214. doi:10.1016/j.teln.2018.05.001

Nicholson, S. (2018). Creating Engaging Escape Rooms for the Classroom. *Childhood Education*,94(1), 44-49. doi:10.1080/00094056.2018.1420363

Reade, T. (2017). The clock is ticking: Library orientation as puzzle room. *Knowledge Quest*,45(5), 48-53.

Strickland, H. P., & Kaylor, S. K. (2016). Bringing your a-game: Educational gaming for student success. *Nurse Education Today*, 40, 101-103. doi:10.1016/j.nedt.2016.02.014

Abstract Summary:

Faculty teaching an Adult Health Nursing course developed a serious game to engage students in a classroom setting. As an exam review, the game incorporated multiple diseases and topics that were discussed prior to the exam. Pre-post tests using next generation NCLEX-RN questions evaluated the effectiveness of the serious game.

Content Outline:

I. Introduction

- A. Engaging students in the classroom
- B. Using a serious game as an exam preparation

II. Implementing Serious Game

- A. Pre-test given one week prior to game (traditional-style NCLEX-RN questions)
- B. Students divided into small groups (5-7 students)
- C. Initiating the game:
 - i. Handoff report given to students. Students play the role of Breast Cancer Navigator for patient diagnosed with breast cancer undergoing mastectomy
 - ii. Case study approach used. Designed to assist the students in differentiating the phases of surgery
- D. 'Challenges' must be met to move patient with breast cancer through the phases of surgery
 - 1. Traditional NCLEX-style questions
 - 2. Riddle
 - 3. Crossword puzzle
- E. Winner of 'The Amazing Race' is the first group to move through all phases
- F. Post-test: 2 versions

1. Version 1: Traditional NCLEX style question (5 questions)
2. Version 2: Next generation style NCLEX questions (10 questions)

III. Conclusion

- A. Improvement of post-test scores (traditional NCLEX-RN questions) over traditional-style NCLEX-RN pre-test scores.
- B. Statistically significant improvement in NGN-style post-test scores over traditional-style NCLEX-RN pre-test score
- C. Students' evaluation of experience was overwhelmingly positive
- D. Serious games can be an effective teaching strategy for pre-licensure nursing students

Abstract Text:

Faculty teaching the first level Adult Health course developed and implemented a serious game as a strategy to engage students in a classroom setting. The game was designed based on the concept of the television show, *The Amazing Race*, allowing students to race to three locations, those being of the three phases of a surgical experience: pre-operative, intra-operative and post-operative. During the race, students played the role Breast Navigator Nurse, caring for a patient with breast cancer undergoing a mastectomy. The content of the game was derived from topics that were discussed during the didactic course and served as an interactive review for a unit exam. Students were divided into small groups and expected to complete three 'challenges' in order to move the patient through each phase of the surgery. For each 'challenge', the group was given an envelope with a case study and relevant questions to answer. Once the case study was complete, the faculty would review the answers for accuracy. Students had an opportunity to revise their answers if they were incorrect. Once the case study questions were answered correctly, the students would then receive a multi-question traditional NCLEX-RN style quiz. Each correct answer would provide a clue to answer a riddle. The final 'challenge' included a crossword puzzle and the first group to complete this task was deemed the winner of *The Amazing Race* game. To determine the effectiveness of this teaching strategy, a pre-test was given one week prior to the game with results being compared to a post-test given at the conclusion of the game. Five traditional NCLEX-RN style questions served as the pre- and the post-test for one group of students. The same questions served as the pre-test for three additional groups of students, who then completed a 10-question post-test consisting of next generation NCLEX (NGN)-type questions designed to test clinical judgment using extended multiple response and cloze questions. Using paired samples t-tests, students' individual pre-and post-test scores were compared. There was an increase in scores for the group of students (N=35) who completed the pre-test and post-test consisting of traditional NCLEX-RN style questions, but the increase was not statistically significant ($p=.15$). However, there was statistically significant improvement ($p=.04$) in post-test scores over the pre-test scores for students (N=64) completing the test consisting of NGN questions. The students' evaluation of the serious game experience was overwhelmingly positive. After finishing the game, students completed a faculty-developed survey where the students rated their level of agreement with items reflecting their

satisfaction with the experience. On a 1 (strongly disagree) to a 5 (strongly agree) Likert-type scale with a possible range in scores from 10-50, the mean score was 43.05 (SD=6.64). Faculty concluded that using the serious game as an examination review can be an effective teaching strategy for pre-licensure nursing students.