

EXPERIENCE EXCHANGE

An innovative learning strategy for improving clinical judgment among undergraduate nursing students: A reflection

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ABSTRACT

The National Council of State Boards of Nursing developed next generation (NextGen) NCLEX questions to improve the clinical judgment of pre-licensure nursing students. In an innovative group assignment in a public university, second-semester ABSN students used case scenarios to write NextGen questions in various styles. Students were prepared for this project in the first semester. Each student group completed the group assignments every week. After the faculty review, the completed assignments were shared with the entire class every week. A six-item Qualtrics survey evaluated the project learning outcomes with two open-text questions. The combined response rates for the agree and strongly agree responses ranged from 76% to 94%, indicating that the students had a positive perception of this assignment. In open-text analysis, the students reported improvement in critical thinking skills, teamwork, collaboration, positive experiences, group dynamics, and exam preparation.

Key Words: Pre-licensure nursing program, NextGen, Clinical judgment

1. INTRODUCTION

The American Association of College Nursing^[1] essentials include clinical judgment as an expected competency of a professional nurse. Current patient presentations in acute care settings are extremely complex, and nurses must utilize their clinical judgment skills to make quick decisions when a patient's condition deteriorates in a clinical environment. Although nursing programs aim to prepare nursing students to meet the complex needs of patients, studies have highlighted deficiencies in nursing students' clinical reasoning and judgment skills.^[2,3] In the present study, accelerated BSN (ABSN) students were given an innovative group assignment to help them improve their clinical judgment skills. This manuscript focuses on explaining the details of this innovative project and aimed to evaluate the learning outcomes

of this group project via a quantitative descriptive study.

The Clinical Judgment Measurement Model (CJMM), which was developed by the National Council of State Boards of Nursing (NCSBN),^[4] was used as a framework to guide this study. According to CJMM, in addition to knowledge, effective clinical judgment is essential for maintaining patient safety through nursing practice. Furthermore, NCSBN^[5] considers clinical judgment a combined outcome of decision-making and critical thinking skills. CJMM involves a process through which nursing students are expected to recognize and analyze patient cues based on subjective and objective data, prioritize their actions, and then plan and execute the priority actions. Lastly, they are expected to evaluate the outcomes of their actions.^[5] Recently, NCSBN^[4] added

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next generation (NextGen) questions to the National Council Licensure Examination (NCLEX) that utilizes clinical scenarios to measure the clinical judgment of nursing students. Therefore, nursing faculty members are expected to prepare students to promote their clinical judgment using innovative learning strategies.

2. METHODS

2.1 Pre-preparation of innovative learning strategy

The authors of the present study co-teach Pathophysiology and Pharmacology Part I and Pathophysiology and Pharmacology Part II courses for ABSN students in a public university in the United States. Part I is offered in the summer, and Part II is offered in the fall so that the content of the second course builds on that of the first one. Each week, students are expected to take an open book quiz based on prerecorded lecture content on the Canvas learning platform before attending the in-person class. We introduced different types of NextGen questions, such as case study, drag and drop, match the following, fill in the blank, and ordering questions, using various case scenarios based on the content covered in the prerecorded lectures each week.

Each week throughout the 11-week summer semester of 2023, we held two-hour in-person office hours. Using a structured format, we created traditional and NextGen NCLEX questions, including matrix questions, based on the content covered in the previous week. The students practiced these questions together and clarified their doubts during our office hours. During this time, we emphasized the CJMM components, including identifying cues based on a given scenario, planning specific interventions, identifying priority interventions, and discussing strategies for identifying the expected outcomes of the interventions.^[5] Through this approach, we provided the students with ample exposure to clinical judgment via NextGen questions. Additionally, we included NextGen questions in the four examinations, including the final examination of the Pathophysiology and Pharmacology Part I course.

2.2 Innovative learning strategy

In the Pathophysiology and Pharmacology Part II course, the students are expected to write an individual assignment, which is usually a paper on pharmacological applications. On the first day of class in Fall 2023, we proposed an innovative learning strategy to promote students' clinical judgment based on their exposure to this topic in the first course in Summer 2023. Instead of an individual assignment, we gave them a group assignment in which the students had to write NextGen questions based on the content covered in class as a group project.

We provided sample templates, detailed instructions, and a grading rubric for this assignment. We divided the students into 13 groups of eight members, each based on their obstetrics and gynecology clinical groups, and assigned the content for the group project to each group based on the course content. Only one group completed the group project each week, so all the groups (13 of them) completed their project by the 13-week Fall term. Each group had one week to work on the project in person or via Zoom, and the deadline was the following Thursday at 8 AM. The date details were available on Canvas. We graded the group assignments within one week of submission, and if needed, corrected any mistakes in the case scenarios, question stems and answer choices, and posted the assignments on Canvas. The posted assignment in Canvas could then be accessed by all the students and utilized as a strategy to prepare for upcoming course exams.

2.2.1 Part I: Unfolding the case study

We instructed the students to develop a case study related to their assigned topic. The case study had to include the patient history, chief complaint, physical assessment findings, vital signs, and labs (if applicable). We also instructed them to create two relevant questions: one select all that apply NCLEX question and one NextGen NCLEX question (fill in the blank, ordering, categorization, matching, matrix, drag and drop, etc.).

The students had to employ the following question creation process. First, they developed the select all that apply NCLEX question based on the information in the case study. Next, they unfolded the case study by determining what additional information the nurse would need to consider. Based on this information, the students then constructed another NextGen NCLEX question of their choice. Both questions had to address all elements of the concept, such as pathophysiology, clinical manifestations, lab interpretations (if applicable), and pharmacology. In addition, the students had to develop an answer key for both questions and explain the rationale for the correct answers.

2.2.2 Part II: Writing another nextGen NCLEX question

For this step, we instructed the students to write one NextGen NCLEX question using a case scenario that addressed all elements of the assigned concept. The style of the question had to be different from the style of the NextGen NCLEX question developed in Part I. For example, if the students wrote a drag-and-drop question for the case study in Part I, the question in Part II could not have a drag-and-drop format. In addition, the students had to develop an answer key for the question and explain the rationale for the correct answer.

2.2.3 Part III: Writing another nextGen NCLEX question

For this step, we instructed the students to write another NextGen NCLEX question using a case scenario that addressed all elements of the assigned concept. The style of the question had to be different from the styles of the NextGen NCLEX questions developed in Parts I and II. In addition, the students had to develop an answer key for the question and explain the rationale for the correct answer.

2.3 Post-implementation of group project

The course faculty used CJMM concepts^[5] to create six Likert-type questions to assess the students’ experience with the group project and how it promoted clinical judgment regarding the course content. We obtained the Institutional

Review Board approval of the University prior to surveying the students. Two open-text questions were included to capture details that could not be evaluated by the Likert-type questions.

3. RESULTS

The course faculty emailed the ABSN students, inviting them to participate in an optional survey via Qualtrics at the end of the Fall 2023 semester. Of the 97 ABSN students contacted, 72 responded. Descriptive statistics, such as frequency and percentage, were calculated for the responses. The combined response rates for the strongly agree and agree responses for all six items ranged from 76% to 94% (see Table 1).

Table 1. Results of the qualtrics survey

Survey Questions (N = 72)	Strongly Agree Frequency & %	Agree Frequency & %	Neutral Frequency & %	Disagree Frequency & %	Strongly Disagree Frequency & %
1. The group project based on ‘NextGen’ questions stimulated my interest in N352 subject matter corresponding to the content we worked as a group.	31 (43%)	32 (44%)	7 (10%)	2 (3%)	0%
2. The group project based on ‘NextGen’ questions helped me to recognize and analyze cues related to N352 pathophysiology and pharmacology concepts more clearly.	40 (56%)	26 (36%)	4 (6%)	2 (3%)	0%
3. The group project based on ‘NextGen’ questions were helpful to make a connection between N352 pathophysiology and pharmacology concepts to prioritize the patient needs.	39 (54%)	28 (39%)	2 (3%)	3 (4%)	0%
4. The group project based on ‘NextGen’ questions were helpful to identify the possible solutions of a given problem and then to determine the actions that are required.	37 (51%)	31 (43%)	3 (4%)	1 (1%)	0%
5. The group project based on ‘NextGen’ questions were helpful to evaluate the outcomes of a pharmacological intervention related to N352 content.	36 (50%)	31 (43%)	3 (4%)	2 (3%)	0%
6. The group project based on ‘NextGen’ questions helped me to prepare for N352 examinations.	34 (47%)	21 (29%)	13 (18%)	4 (6%)	0%
What skills do you think you developed being part of this group project?					
How would you describe your overall experience of working on this group project?					

The thematic analysis^[6] of the open-text questions revealed the following common themes: improvement in critical thinking skills, teamwork, collaboration, positive experiences, group dynamics, and exam preparation.

4. DISCUSSION

The learning strategy used in this study was innovative in a number of ways. First, it was well aligned with CJMM because the students were instructed to develop NextGen questions using case scenarios that matched CJMM con-

cepts, such as analyzing and recognizing cues, prioritizing and executing actions, and evaluating the outcomes of those actions.^[5] Second, it offered an avenue for peer-to-peer learning because, after the faculty reviewed them, the NextGen questions created by each group were shared with the whole class as study aids for upcoming exams.^[7] Third, as evident from the thematic analysis, the students had an opportunity to learn to work collaboratively, examine various perceptions of a concept, and develop leadership and delegation skills.^[8]

The current trend in pre-licensure programs is to improve students' clinical judgment to help them provide care to complex patients. Rather than focusing on individual paper-based assignments, this innovative learning strategy was helpful to achieve this goal, as evident in the survey results. After providing initial training to the students, pre-licensure program faculty can adopt this innovative strategy to promote clinical judgment among students. One weakness of this project is that the study setting was limited to a single University setting, and it was only implemented within one cohort of students. Future studies are recommended with multiple sites with additional student cohorts.

5. CONCLUSION

This short paper described an innovative learning strategy for developing NextGen questions through group work that helped pre-licensure students develop critical thinking skills. The survey results indicated that the students positively perceived this assignment.

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AUTHORS CONTRIBUTIONS

Dr. Suja Davis and Dr. Bethany Davis were responsible for creating and implementing the project. Dr. S. Davis was responsible for the study design and data collection. Data analysis was performed by both Dr. S. Davis and Dr. B. Davis. Dr. S. Davis and Dr. B. Davis drafted the manuscript and

revised it. All authors read and approved the final manuscript. Dr. S. Davis contributed more to the study than Dr. B. Davis.

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DATA SHARING STATEMENT

No additional data are available.

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