The Immunity Game: Conceptual Learning Through Learner Engagement

Immunity affects the health and well-being of all individuals. For this reason, few would argue that this concept is foundational to nursing practice. However, it is complex, and finding ways to teach this concept to undergraduate nursing students in a meaningful way is challenging. Learning is most effective when students are actively engaged, when learning incorporates emotion (Zull, 2004), and when learning activities are perceived as useful and purposeful by students (Tanner, 2007). This article describes an immunity game—a fun, inexpensive, and purposeful student-centered learning activity that integrates the concept of immunity in a clinical context. In this game, students analyze an encounter between a client and potential immunological threat, and they consider the outcome based on multiple variables.

To develop this game, two sets of game cards are needed. One set of cards (client cards) describes the immunologic status of individuals (one individual per card). Client information includes age, immunizations, health status, environmental factors, and behaviors. The second set of cards (pathogen cards) describes an immunologic threat (Figure).

To begin the game, each student gets one card (pathogen or client). Students holding a pathogen card take on the role of the immunologic threat written on their card. An effective way to visually identify students holding pathogen cards is to ask them to wear cone-shaped party hats. Not only is this fun, but it actually offers an enhancement to this role identity. The objective of students holding pathogen cards is to “attack” students holding client cards by seeking out and presenting their card to a student not wearing a cone hat (the client). The point of learning occurs during the pathogen–client encounter.

Students consider the effect of the pathogen on the client (based on characteristics described on their cards) and discuss the likely consequences of the encounter. Students must decide what the likelihood and extent of exposure would be, and whether the client has adequate immunologic integrity to withstand the pathogen threat or will succumb to infection. If students are unable to reach a decision, the instructor (acting as a facilitator) helps students think through the encounter. If needed, students are encouraged to use references to make their decisions. If the pathogen is likely to overtake the client, the pathogen wins; if the client is likely to resist the pathogen, the client wins. If an encounter could go either way, a coin toss is used to determine the winner—reinforcing the notion that at times, an encounter can go either way.

Winners collect the game cards of the losers and continue in their original roles for another encounter with another opposing student. Students who lose the encounter follow their victor to the next encounter, thus staying actively involved in the discussions.

The amount of time devoted to this game is controlled by the instructor; it can continue until either all clients or pathogens have been eliminated or the designated time has passed. During the game, all students are out of their seats interacting, problem solving, and negotiating. The level of energy in the classroom is truly amazing. A debriefing session following the game allows for further conversations and dialogue between students and instructor.

Feedback from students is overwhelmingly positive, and the activity is consistently listed as one of the notable learning activities in the end-of-semester course evaluation. Students like this learning activity because it forces them to apply concepts of immunity to real-life situations. It drives home the importance of immune status to infection risk and highlights

Figure. Sample game cards. HIV = human immunodeficiency virus; MRSA = methicillin-resistant Staphylococcus aureus.
the importance of the multiple variables that affect immune status. This game can be incorporated in small and large classrooms and can be adapted to online courses; the game format could also be easily adapted to other course content, if desired. This learning activity incorporates analysis, application, and clinical reasoning. It exemplifies experiential learning through the application of a concept in a clinical context—consistent with integrative pedagogy.

References

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Involving Students in the Real World of Evidence-Based Practice

Nursing research provides the scientific basis for the practice of nursing (AACN, 2006), but evidence-based practice (EBP) further requires the integration of research evidence with clinical practice and patient values (Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000). In their report, Health Professions Education: A Bridge to Quality, the Institutes of Medicine (IOM) (2003) identified the focus on quality improvement and the practice of evidence-based medicine as two of the five core areas in which proficiency among health care providers is essential. To promote needed proficiency in EBP, the Academic Center for Evidence-Based Practice (ACE) has developed essential competencies for EBP in nursing at undergraduate, masters, and doctoral levels (Stevens, 2006). It is the responsibility of educational programs to promote the development of these competencies in their nursing students.

Adult learning theory suggests that problem-centered experiences that have real-world application will most effectively help students learn and, thus, achieve essential EBP competencies (Knowles, 1984). Faculty at one midwestern university have developed a teaching-learning strategy for use in our online graduate nursing program that provides students with the opportunity to participate in an ongoing faculty-directed research project while addressing several ACE EBP competencies.

The goal of this innovative teaching strategy is to involve all graduate nursing students in an ongoing faculty-directed EBP research project. This annual evaluation project involves longitudinal evaluation of selected health care that has been provided to offenders incarcerated in state prisons. The quality of care provided to offenders is evaluated using an indicator matrix, developed in the beginning phases of the project and reflective of both processes and outcomes of care. All students enrolled in a required online graduate nursing research course participate in the current phase of the project through an assignment in which they review selected indicators from the state Department of Corrections indicator matrix. The graduate research course is taught by one faculty member and has a typical enrollment of 20 to 25 students. Students from the nurse educator and family nurse practitioner degree programs are enrolled in the course concurrently.

In addition to evaluation of quality indicators and related literature and standards of practice, participation in this educational initiative exposes students to an alternative population and important concepts associated with the correctional health care system that include factors related to high risk lifestyle and diversity. In addition to the primary course faculty member, the primary investigator on the Department of Correction grant is enrolled in the online research course to respond to student questions about operational aspects of their assignment.

It is not unusual for faculty to involve students in their research endeavors. However, typically only a few selected students benefit from their involvement in real-world research projects. This teaching strategy allows all graduate students to benefit through participation in faculty-guided research.

In the graduate research course, students are first introduced to the project through assigned reading of the final report from the previous phase of the project. This report includes the project history, review of literature, theoretical framework, study design, data analysis methods, findings and trend analyses, and recommendations for the following year. Review of this report provides students with an overview of the research process as applied to this project.

Each student is then assigned one or two quality indicators to evaluate, based on their review of current literature, standards and guidelines from multidisciplinary databases and the public domain. The assigned literature review is limited to the past 5 years and is based on the Stetler hierarchies of evidence, requiring students to rate the strength of the evidence identified from the literature search (Stetler, 2001).

As part of the final assignment, students draw conclusions about the continued appropriateness of their assigned indicators and suggest any revisions that need to be made to the indicators for consistency with current practice standards. Students are also asked to reflect on how they envision that their advanced nursing role will incorporate elements of the EBP process used in this project. These activities address several ACE masters-level EBP competencies related to primary research, evidence summary, and the translation of evidence.

The program outcome for the graduate research course is managing information. Achievement of this outcome requires students to organize, store, retrieve, evaluate, synthesize, and annotate professionally related information from print, electronic, and other sources. To help students develop or enhance literature search skills, graduate library science students from
a collaborating university are embedded in the course and available to students. A library liaison is also available to faculty, nursing, and library science students. Achievement of the managing information outcome is measured using an evidentiary table, developed by each student, that documents the literature identified and search methods used in the review of the evidence for assigned quality indicators. This evidentiary table is then used in the development of a final EBP paper. The papers are later used by the project research team to update the literature review and revise the quality indicator matrix, ensuring ongoing consistency with current practice standards and guidelines.

Assessment surveys are administered before and after completion of the EBP assignment to measure changes in student self-perceptions related to their ability to manage information. Student feedback has been positive to date, with students indicating that they appreciate the opportunity to work on a project with practical application.

Upon completion of the research course, two to three students are invited to join the research team for the next phase of the grant, in which they have the opportunity to complete course requirements for their graduate research project. Working with students in the graduate research course provides faculty with an opportunity to identify those students who are most qualified to participate in the next phase. Students are selected based on their academic and writing ability, interest, and the ability to participate in on-site data collection. Prior exposure to the project is also a major advantage to both students and faculty on the research team, as students joining the team are already familiar with the project and its overall goals.

Upon completion of the project, graduate students on the research team use current findings and the literature reviews completed by students in the previous graduate research course to suggest revisions to the Department of Correction quality indicator matrix for the next measurement period. Under faculty supervision, the students are required to develop a final report and make a formal presentation to Department of Correction personnel. Students on the research team are listed as co-authors on the final report. The contributions of students from the graduate research course are acknowledged in the presentation and in the final project report.

References

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