



## Can Serious Games be Used in Teaching Clinical Reasoning to Nursing Students?

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### Dear Editor

Clinical reasoning refers to the method of utilizing knowledge and experience in a clinical context to address a specific issue. This skill includes the ability to think critically, analyze complex situations, and make informed clinical decisions. In the field of nursing, clinical reasoning abilities are regarded as essential competencies for both experienced and proficient nurses (1). In other words, nurses with clinical reasoning competence can provide safe and person-centered care on time. Consequently, it is imperative to develop these clinical reasoning skills before engaging in clinical practice (2). Clinical reasoning is neither temporary nor linear, but a cyclical nursing process within the scope of patients' conditions and nurses' knowledge or experience. Learning environments that encourage nursing students to promote their clinical reasoning skills are challenging (3). Improving clinical reasoning techniques is an effective approach to facilitate decision-making in terms of prognostic, diagnostic, and therapeutic perspective (4). In nursing, clinical decision-making is essential for ensuring both safe and effective patient care.

Many teaching methods are used in the education of nursing students and staff, the most popular of which is the traditional lecture

method, as a time-efficient method (5). Since nursing students are less inclined towards traditional teaching methods and prefer experiential learning methods, active teaching methods can be used (4). An example of an active teaching method is the use of games in learning, sometimes called "serious games", and they have become very popular at all levels of medical education (6). One of the educational strategies employed in nursing education is the use of card games (5). The use of card games is a type of supplementary education that, if well designed, will have potential benefits for students involved in the learning process, including the development of problem-solving skills (7). Some of the features of these games help to challenge learners, address complexity, and provide continuous feedback (8). Card games can create a fun method of teaching that frees learners from their daily routines while simultaneously making a deep impression on them. Card games include designing different clinical nursing scenarios in the form of different cards, such as pathophysiology, diagnosis, treatment, and care, each scenario being related to one of the students' subject areas. By grouping students, cards related to each scenario are randomly provided, and they receive points for each correct answer. This type of game design in teaching can help motivate

and interest students in learning the relevant scenario. This teaching method can be used to train nursing students' decision-making ability in the face of a clinical situation (internship). After completing the internship, students are asked to answer the questions by designing questions and sending them electronically (9).

Using this valuable educational method to teach clinical reasoning to nursing students may lead to a better nursing diagnosis, drug order rechecks, prioritization of care, fast decision-making, and nursing actions. Clinical reasoning is a vital competency for nursing students, and active learning methods are effective in the teaching-learning process. Therefore, it is recommended that the educational development offices of nursing schools include both active learning methods, such as serious games and clinical reasoning education, as part of their academic priorities.

### Authors' Contribution

N.Kh, M.A, M.MGh conceived and designed the study; F.J, N.Kh, M.MGh Wrote the paper; N.Kh, M.A, M.MGh, F.J Final check. All authors gave final approval and agreed to be accountable for all aspects of the work.

### Conflict of interest

All authors declare that they have no conflict of interest.

### Declaration of use of AI

No Artificial intelligence was used in the writing this work.

### References

1. Brentnall J, Thackray D, Judd B. Evaluating the clinical reasoning of student health professionals in placement and simulation settings: A systematic review. *International journal of environmental research and public health*. 2022;19(2):936.
2. Odajima Y, Furuichi M. Development and validation of a chronic disease nursing education program for enhancing clinical reasoning ability in undergraduate nursing students. *Nagoya Journal of Medical Science*. 2020;82(3):399.
3. Mohammadi-Shahboulaghi F, Khankeh H, HosseinZadeh T. Clinical reasoning in nursing students: A concept analysis. *In Nursing Forum*. 2021;56(4):1008-14.
4. Marcomini I, Terzoni S, Destrebecq A. Fostering nursing students' clinical reasoning: a QSEN-based teaching strategy. *Teaching and Learning in Nursing*. 2021;16(4):338-41.
5. Chang YS, Hu SH, Kuo SW, Chang KM, Kuo CL, Nguyen TV, et al. Effects of board game play on nursing students' medication knowledge: a randomized controlled trial. *Nurse Education in Practice*. 2022;63:103412.
6. Xu M, Luo Y, Zhang Y, Xia R, Qian H, Zou X. Game-based learning in medical education. *Frontiers in public health*. 2023;11:1113682.
7. Muthiyan G, Kasat P, Vij V, Solanki RS, Kirubhanand C, Sontakke B. Effectiveness of an Innovative Card Game as a Supplement for Teaching Factual Content to Medical Students: A Mixed Method Study. *Cureus*. 2023;15(10):e47768.
8. Almashayek I, Al-Khateeb H, Bader M. Effective Method for Nurses Education: Gaming versus Lecturing. *Asian Pacific Journal of Cancer Prevention: APJCP*. 2022;23(8):2633.
9. Cosimini MJ, Collins J. Card and board game design for medical education: length and complexity considerations. *Korean journal of medical education*. 2023;35(3):291.