Potential Effects of Cooperative Learning and Situational Simulation on Nursing Competence in Clinical Practice among Nursing Students

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Abstract: The integration of cooperative learning and situational simulation in nursing education has been proposed as an effective strategy to enhance nursing students' competence in clinical practice. This paper explores the potential effects of these educational approaches on nursing competence, drawing upon empirical studies and theoretical frameworks. The findings suggest that combining cooperative learning with situational simulation can significantly improve clinical skills, critical thinking, teamwork, and self-confidence among nursing students.

1. Introduction

Nursing education plays a crucial role in preparing students for the challenges of clinical practice, where they must apply theoretical knowledge in high-pressure, real-world environments. As the healthcare industry continues to evolve with advancements in medical technology and patient care methodologies, the need for well-trained, competent nurses has never been greater. Traditional nursing education methods, which primarily rely on lectures and passive learning, often fail to provide students with the hands-on experience and critical thinking skills necessary for effective clinical practice [1].

Given these challenges, nursing educators have increasingly turned to innovative pedagogical approaches such as cooperative learning and situational simulation. These methods have been designed to bridge the gap between theoretical learning and practical application, fostering deeper comprehension and skill mastery. Cooperative learning emphasizes peer collaboration and interactive problem-solving, encouraging students to develop teamwork skills and engage more actively in their learning process [2]. On the other hand, situational simulation provides students with realistic clinical scenarios, allowing them to practice procedures, make critical decisions, and learn from their mistakes in a controlled environment [3].

By integrating cooperative learning and situational simulation into nursing curricula, educators can create a more dynamic, engaging, and effective learning environment. These approaches not only enhance students' technical and procedural skills but also improve their critical thinking, communication, and decision-making abilities—essential competencies for professional nursing

practice [4]. Furthermore, studies suggest that students exposed to these innovative teaching strategies demonstrate greater confidence and lower anxiety levels in clinical settings.

This paper examines the potential effects of cooperative learning and situational simulation on nursing competence in clinical practice. Through a review of existing literature and empirical studies, this paper aims to highlight the benefits, challenges, and best practices associated with these approaches in nursing education. By understanding their impact, nursing educators can refine teaching strategies to better prepare students for the demands of the healthcare field.

2. Cooperative Learning in Nursing Education

Cooperative learning is an instructional approach that promotes active student engagement by organizing learners into small groups where they work together to achieve shared learning goals. Unlike traditional, instructor-centered teaching methods, cooperative learning shifts the focus to student-driven knowledge construction, emphasizing peer interaction and collaboration. This approach has been widely recognized as an effective way to develop higher-order thinking skills, enhance retention of information, and improve students' attitudes toward learning [5].

2.1. Key Features of Cooperative Learning in Nursing Education

Cooperative learning in nursing education is characterized by five key elements [6]:

Positive Interdependence – Students recognize that their success is tied to the success of their group members, fostering a sense of accountability and mutual support.

Individual and Group Accountability – Each student is responsible for their contributions to the group, ensuring that all members participate meaningfully.

Face-to-Face Interaction – Students engage in direct communication, discussion, and problem-solving activities to deepen their understanding.

Interpersonal and Social Skills Development – Cooperative learning helps nursing students develop essential teamwork, leadership, and conflict-resolution skills.

Group Processing-Teams periodically reflect on their effectiveness, identifying areas for improvement and strategies for enhancing performance.

2.2. Benefits of Cooperative Learning in Nursing

Research has shown that cooperative learning offers numerous advantages in nursing education, particularly in the development of clinical reasoning, communication skills, and confidence in performing nursing procedures. According to related research, nursing students who engaged in cooperative learning demonstrated improved decision-making skills and a stronger ability to apply theoretical concepts in clinical settings.

Furthermore, cooperative learning fosters a supportive learning environment, reducing stress and anxiety among nursing students. By working collaboratively, students gain exposure to diverse perspectives and problem-solving approaches, which enhances their ability to handle complex patient cases in real-world scenarios. Cooperative learning also aligns with the principles of constructivist learning theories, which emphasize active knowledge construction through experience and social interaction [7].

2.3. Challenges in Implementing Cooperative Learning

Despite its benefits, implementing cooperative learning in nursing education presents several challenges. One common issue is resistance from students who are accustomed to traditional lecture-based instruction and may be reluctant to engage in peer collaboration. Additionally, group dynamics

can sometimes be problematic, with unequal participation among members leading to conflicts or imbalances in workload distribution.

Moreover, effective cooperative learning requires skilled facilitation by instructors to ensure that group interactions are productive and aligned with learning objectives. Nursing educators must be trained in cooperative learning strategies, including how to structure group activities, manage conflicts, and assess individual contributions within group work.

Overall, while cooperative learning is a valuable approach to nursing education, its success depends on careful planning, instructor support, and continuous evaluation to ensure positive student outcomes.

3. Situational Simulation in Nursing Education

Situational simulation has emerged as a powerful educational tool in nursing, providing students with realistic, hands-on training experiences in a controlled, risk-free environment. Simulation-based education involves replicating clinical scenarios using mannequins, standardized patients, virtual reality, or computer-based simulations to enhance learning outcomes [3]. These simulations range from low-fidelity (simple case-based discussions) to high-fidelity (computerized mannequins that mimic real-life physiological responses), allowing students to develop practical skills, clinical judgment, and confidence before entering actual clinical settings.

3.1. Theoretical Framework of Simulation-Based Learning

Simulation-based learning in nursing is grounded in several educational theories, including:

Experiential Learning Theory (Kolb, 1984) – Emphasizes learning through experience, where students engage in hands-on activities, reflect on their performance, and refine their skills through iterative practice.

Constructivist Learning Theory [7] – Supports the idea that learners construct knowledge through interaction with their environment, making simulation an ideal method for active learning.

Deliberate Practice Theory [8] – Highlights the importance of repeated practice and expert feedback in skill acquisition, reinforcing the value of simulation in clinical training.

3.2. Benefits of Situational Simulation in Nursing Education

Improved Clinical Competence – Studies have shown that simulation-based education significantly enhances nursing students' ability to perform clinical procedures accurately and safely. found that students who engaged in high-fidelity simulations demonstrated superior technical skills and clinical judgment compared to those who relied solely on traditional instruction.

Enhanced Critical Thinking and Decision-Making – Situational simulation encourages students to apply critical thinking and problem-solving skills in real-time. By working through complex patient cases, students develop the ability to assess situations quickly and make informed decisions [9].

Reduction in Anxiety and Increased Confidence – Many nursing students experience anxiety when transitioning from the classroom to clinical practice. Simulation allows them to familiarize themselves with clinical procedures in a stress-free environment, boosting their confidence and reducing fear of making mistakes [10].

Development of Communication and Teamwork Skills – Effective communication and collaboration are critical for safe patient care. Simulation exercises that mimic real-life healthcare team interactions help nursing students develop these essential skills, preparing them for interdisciplinary teamwork in professional settings [11].

3.3. Challenges in Implementing Situational Simulation

Despite its effectiveness, situational simulation faces several challenges in nursing education. One major barrier is the high cost of simulation equipment, including high-fidelity mannequins and virtual reality technology. Additionally, simulation-based education requires trained faculty to design and facilitate realistic scenarios, provide immediate feedback, and assess student performance effectively [12].

Another challenge is ensuring that simulations accurately reflect real-world clinical situations. Poorly designed simulations may fail to provide meaningful learning experiences, limiting their impact on student competence [13]. Therefore, continuous evaluation and refinement of simulation scenarios are necessary to maximize their educational benefits.

4. Conclusion

Both cooperative learning and situational simulation offer transformative benefits for nursing education, equipping students with the clinical, critical thinking, and teamwork skills necessary for success in the healthcare field. By integrating these methodologies, educators can create a more effective, student-centered learning environment that enhances nursing competence in clinical practice. However, successful implementation requires careful planning, adequate resources, and faculty training to overcome existing challenges and optimize learning outcomes.

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