IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Simulation Linked Problem Based Learning- An Innovative Pedagogy in Nursing Education

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Abstract: The use of simulation strategy in nursing education is required due to the transitional hurdles and real-world problems that are currently threatening the future of nursing education. the rising illness burden, most recently the corona virus disease (COVID 19) pandemic, as well as technological advancements and shifting rules and regulations

A cutting-edge teaching strategy known as simulation-based problem-based learning helps students develop their ability to critically apply cumulative knowledge to real-world clinical problems. It also makes them work harder to understand and resolve clinical problems as they develop because they are based on actual situations.

(Key words: Simulation, Problem Based Learning, innovative, critically)

Introduction

The burdens of disease and the quick changes in healthcare systems present new difficulties for medical personnel. In order to accomplish educational goals, staffing standards and student placement in hospital wards are affected by the rapidly rising disease burden on the healthcare system and nursing school institutions.. Because students do not comprehend how to use the knowledge they have learned from academic components, the theoretical and practical components of nursing education are separated in this case.[1]

As medical technology continues to evolve, nurses must possess sophisticated and dependable abilities like critical thinking, problem-solving, and clinical decision.-making. More than ever, colleges throughout the world are searching for cutting-edge teaching strategies that would enable their students to learn more, keep learning, and make self-centered clinical decisions.. One idea for closing the performance gap between academic and clinical settings is to implement a problem-based learning approach in place of the current educational model (PBL).[1]

A practice-oriented curriculum is used in nursing education, with a focus on both theoretical knowledge and psychomotor abilities. The integration of theoretical information into practise is crucial in skill-based education, where learning via practise plays a key role. A technique called simulation-linked problem-based learning can improve the educational outcome (S-PBL). PBL is learner-centered rather than teacher-centered without the simulation component; issues are tackled in light of knowledge, skills, and experience, and are eventually resolved through conversations and collaborative activities with peers.. S-PBL, which combines simulation and PBL, teaches students how to effectively troubleshoot while also receiving training in professional nursing methods. S-PBL is a method of problem-solving that draws from examples of real-world circumstances. It aids nurses in developing the problem-solving abilities required to address the many health issues encountered in clinical practice. In terms of resolving various patient health issues after graduation, nursing students who have been exposed to simulations of clinical circumstances they have not personally experienced have an edge. Problem circumstances must resemble actual clinical scenarios for S-PBL to be effective.[2]

Problem Based Learning

In problem-based learning, students gain knowledge about a subject by working through an open-ended challenge that they find in the trigger material. Instead than focusing on problem solving with a clear solution, this approach enhances other desirable abilities and qualities, such as knowledge acquisition, improved group collaboration, and communication.1

With the help of this educational approach, students can build abilities for their future work. It improves critical thinking, facilitates literature retrieval, and promotes ongoing learning in a collaborative setting.

The PBL process includes term clarification, problem definition, brainstorming, hypothesis structuring, learning objectives, independent study, and synthesis. It helps them by letting them know what they already know, what they need to know, and where and how to get new information that may be helpful.[3]

The tutor's job is to support, direct, and oversee the learning process in order to facilitate learning. The tutor wants to increase pupils' understanding while also helping them feel more confident when facing challenges.. Constructivism is the foundation of this technique. PBL is a paradigm change from the traditional, frequently lecture-based teaching and learning approach. 3

The teaching methods used in PBL differ significantly from those used in typical classroom or lecture settings, and they frequently call for greater preparatory time and materials to facilitate small group learning. PBL can help students learn and comprehend difficult theories and concepts.

Simulation based learning.

According to Webster's (2003) to stimulate is to look or act like. Simulation is a technique that attempts to create characteristics of the real world (Alden and Durham, 2008). Through practise scheduling, feedback, and reducing or creating environmental distractions, simulation enables the instructor to manage the learning environment . A device that simulates a patient or a portion of a patient and may react to and interact with the learner's actions is referred to as a simulation in the healthcare industry. In order to demonstrate procedures, encourage decision-making, and foster critical thinking, simulation can also refer to activities that simulate the realities of a healthcare setting . Simulation can be either complicated or quite basic in health care teaching. [2]

A number of studies have validated the use of simulation-based learning (SBL), a paradigm commonly employed in nursing education, as an instructional tool to accomplish a wide range of learning objectives. Improved patient deterioration management and recognition are crucial nursing outcomes that students should start to achieve while in nursing profession education. Students require a broad range of knowledge to identify and respond to the indicators of deterioration.

In professional education, bridging the gap between theory and practise is a challenging task. This is a well-known "gap" that has been extensively studied. The integration of theoretical knowledge and real-world experience is necessary to reduce this gap. SBL is a cutting-edge pedagogical strategy that can be viewed as a "third learning space" in between coursework and practicums. Using this strategy, theoretical study and practical training may become more similar in terms of their content and processes.[3]

For the development of evaluation skills for the care of patients with deteriorating illnesses, SBL has reportedly been found to be a more successful teaching technique than traditional classroom instructions.. Through simulation, students can experience challenging settings and learn about the clinical symptoms and signs they will encounter in these circumstances. It gives inexperienced students the chance to apply their knowledge in a virtual setting that closely resembles the clinical setting without running the risk of endangering real patients. According to the situated learning hypothesis, learning is influenced by the environment in which it takes place. [5]

According to numerous research, SBL may enhance the learning of theoretical information. Foronda, Liu, and Bauman's review concluded that simulation was a successful andragogical method for imparting knowledge and skills, and they urged further investigation to strengthen the evidence regarding the kinds of nursing knowledge and nursing content that could be developed successfully through SBL..[6]

Simulation linked Problem Based Learning

Through the use of situations resembling those found in actual hospital settings, simulation education gives students the chance to comprehend the steps required in problem-solving in a professional setting (Kim, 2017).

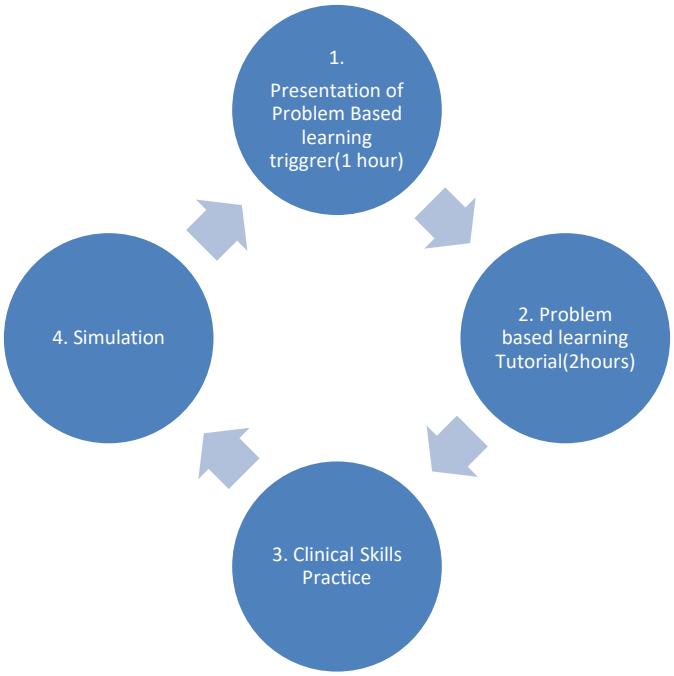
The theoretical and practical components of curriculum are still separated in the nursing literature rather than being combined as a whole (Ehrenberg & Haggblom, 2007). More active learning methods are needed in nursing courses, claim Sinclair and Ferguson (2009), in order to advance students' knowledge and abilities. Although didactic instructional methods are best known for delivering knowledge, students have a passive role in learning about clinical reasoning and decision-making (Arundell & Cioffi, 2005)[5]

Growing patient acuity and patient care prioritising are two current health care concerns in clinical settings. As a result, students might only be able to see the acute occurrence rather than taking part in patient care. In these circumstances, students' learning is passive and non-participatory. For students to utilise their theoretical knowledge to critically evaluate clinical scenarios, we as nurse educators think it would be ideal to present situations in which the intrinsic learning within the experience can be increased. With the integration of PBL and simulation, we hope to provide students the opportunity to brainstorm and generate information on patient problems in tutorial groups (PBL), and then practise acting out how they would handle that problem in a safe environment (simulation). This ensures parity within the curricula by allowing students to participate in active learning and allowing crucial scenarios to be replicated to satisfy programme learning outcomes.[4]

Importance of Simulation Linked Problem Based Learning Pedagogy

- • Without jeopardising the patient's wellbeing, it gives nursing students the chance to hone their clinical and decision-making abilities through a variety of real-life situations encounters.
- •S-PBL encourages active learning, memory retention, and the development of abilities for lifetime learning.
- By presenting pupils with challenges and stimulating the growth of deep learning, it promotes self-directed learning.[5]
- • By integrating students in the interaction of learning materials, it promotes learning. They deepen their knowledge and understanding by connecting the concepts they study to routine tasks. Additionally, students draw upon already established conceptual knowledge frameworks and activate their prior knowledge.
- • Students show more interest in and ownership of their learning when they solve the challenges that are assigned to them.
- • It enables students to study at their own pace, to freely make mistakes, and to continually practise their clinical skills until they feel proficient.
- • It can help them improve their capacity for critical thought and clinical judgement.
- SPBL offers a hands-on, clinical teaching strategy to assist students in developing their practical skills and critical thinking. However, this method alone cannot duplicate a real-world setting; in contrast, simulation is the means by which classroom knowledge is transferred into a secure learning environment.. [4]

Simulation Linked Problem Based Education Cycle



Implication for Nursing Education

- It enables academics to assess the viability and feasibility of fusing two widely utilised approaches that can be applied in other clinical research areas.
- While PBL and simulation used separately have educational benefits, combining them provides the ability to link learning elements that advance and transform knowledge

. For Educators

- • In order to align their teaching strategies with the objectives of global academic organisations, nursing educators must incorporate learning approaches that put a strong emphasis on learning into their philosophical foundation.
- • By using this process, educators can enable students to investigate and assess the multiple theoretical foundations and real-world applications of knowledge and skills to issues..

For Students

It facilitates self-directed learning by presenting students with challenges and promoting the development of deep learning.

It fosters student confidence through an efficient learning process from expert supervision through theoretical and practical components of important situations.

Conclusion

Simulated problem-based learning should be used to promote reflective knowledge sharing. When addressing complicated health-related challenges, students from many disciplines can learn about new breakthroughs, exercise creativity, and sharpen their critical thinking skills.

A tool for enhancing the instruction of clinical skills is simulation. The focus has been on developing plans that will guarantee the delivery of high-quality nursing care while enhancing patient safety. A step toward success in the aforementioned directions is the development of simulation technology and tactics. The goal of developing student nurses' and even practicing nurses' competencies in their areas of specialization is to be achieved through simulation.

Without compromising on quality, simulation technology can assist nursing instructors in improving the learning experience for their students. The transition from formal education to professional practice can be facilitated through simulation, allowing for the acquisition of experiences that are sometimes hard to come by but are necessary to advance to the level of competence and further than Via practice and experience gained through the use of simulation, nurses can become skilled nurses, build confidence, and learn how to respond in an emergency. Carefully created simulations can be developed by staff development instructors to help students get the knowledge necessary to handle the current difficulties in nursing and healthcare..[6]

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