

Bridging the Theory-Practice Gap in Nursing Education using the Simulation-based Pedagogic Approach in Ghana

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Abstract

Pedagogical accuracy influences the development of instructional methods to guide and assist instructors in carrying out their roles, which has an impact on teaching and learning. Unfortunately, it appears that there is a lack of commitment in Ghanaian nursing education to making provisions for the use of accurate instructional methods in health training institutions which compel nurse educators in public nursing training colleges to use outdated models and conduct clinical skills in classrooms using instruments from the skills laboratory. We argue in this paper that the theory-practice gap is growing in nursing and is not getting the attention it deserves. We observe that nursing education has evolved, and the use of antiquated techniques in developing the clinical skills of the nurse trainee should give way to a method that takes advantage of modern technology. The data for this paper were gathered from secondary sources and the experiences of nurse educators using the desk review approach. The study concludes that public nursing training colleges concerned with providing high-quality nursing education should invest in simulated practical teaching in a high-quality laboratory.

Keywords: simulation, nursing education, pedagogy, skills laboratory

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1. Theory-Practice Gap in Perspectives

The clinical learning environment is arguably an important component of a nursing program because it allows students to demonstrate classroom theory and skills in a unique way. The gap phenomenon in nursing is undeniably present, and it can be improved by aligning the theoretical nursing approach with clinical practice. Clinical learning is an important area that formulates the importance of a nursing student's performance in the clinical setting and allows students to practice their skills, develop their nursing identity, increase their knowledge, and apply theoretical and practical knowledge in the clinical setting (Akram et al. 2018). The theory-practice gap, which is a universal problem in nursing, is the most difficult challenge for nursing as a profession. Professional knowledge is introduced in the classroom as theory, but it is translated into practice in nursing education during laboratory sessions. These skills are also transferred in clinical practice in hospital settings to provide patients with meaningful need-based care. As a result, the theory-practice gap in nursing education can be seen during laboratory sessions and clinical practice. This theory-practice gap is concerning because it jeopardizes patient safety and contributes to an unsatisfactory clinical experience in the clinical setting for the inexperienced nursing student (Saifan et al. 2021). The theory-practice gap has reduced the quality of patient care and patient satisfaction, tarnishing the image of the nursing profession. The theory-practice gap indicates a lack of knowledge and skills, insufficient equipment, insufficient time to complete procedures, and insufficient clinical supervision (Aththilgoda et al. 2012).

The nursing skills laboratory is a common teaching strategy for equipping students with the psychomotor skills required for patient care in clinical practice. Effective clinical learning is a key goal in preparing professional nurses to provide health care services (White & Ewan 1991). The skills laboratory training follows a structured teaching concept that occurs under supervision and in consideration of methodological-didactic concepts, ideally creating an atmosphere that allows repeated, anxiety-free, and risk-free practice of targeted skills (Bugaj & Nikendei 2016). Because clinical environments are where students spend the majority of their time learning, proper clinical education management is critical (Dinmohammadi et al. 2016). The importance of using the skills laboratory to develop the nurse trainee's nursing skills cannot be overstated. Many studies have consistently shown that using clinical skills laboratories during practice placements helps students integrate theory to practice (Morgan 2006).

Unfortunately, research has revealed that newly graduated nurses are underprepared for the workplace due to a gap in nursing education and clinical skill competence (Bennett et al. 2017). Nursing as practiced is task-centered, and students are rarely involved in anything resembling total patient care, either because the facilities are unavailable or inadequate, resulting in a theory-practice gap (Hatupopi & Nuuyoma 2019). Many educational institutions lack appropriate models to ensure that the acquired knowledge is effectively applied in a wide range of health care units or settings. As a result, there is a need to reconsider clinical skills training in nursing education (Sharif & Masoumi 2005). Most existing training processes fail to provide students with adequate clinical skills that can be used in a variety of practice settings. Meanwhile, extra hours in laboratory settings are

not encouraged for nurse trainees. This gap explains why these students are frequently unable to provide their patients with high-quality care and support (El Hussein & Osuji 2017). When this happens, these students frequently encounter a clash between the college-bound training for which they have been prepared and the more flexible, intuition-driven clinical reality they encounter on the job. Without insightful clinical faculty guidance, the student's reaction to this dissonance may be disillusionment with clinical nursing practice or devaluation of the academic ideal of nursing (Meyer & Xu 2005).

The rapidly evolving and technologically advanced nursing practice necessitates the employment of efficient nurses in medical facilities, requiring nursing institutions to improve strategies to meet the needs of various stakeholders, particularly employers and patients (Estrada et al. 2005). This makes preparation for clinical practice an essential component of undergraduate nursing education, with clinical laboratories widely used as a strategy to support student development of clinical skills (Wellard et al. 2007). The Nightingale model of nursing education used an apprenticeship approach to prepare students for clinical practice. This was the dominant approach until nursing education was transferred from hospital-based programs to institutions of higher learning. Nurse educators have practiced with low-fidelity objects such as mannequins, anatomical models, oranges, and many others since that time. For decades, they have used oranges to demonstrate intramuscular injections and foams to demonstrate suturing among other things. Mannequins with low fidelity only represent anatomical structures and do not provide realistic physiological or vocal feedback (Grady et al. 2008).

According to one study, one average, clinical laboratories prepare students for clinical practice. However, the study found that there is a need to increase the amount of simulation with the skills practiced, and that learning on mannequins is vastly different from learning on a 'real person' (Maginnis & Croxon 2010). Based on this, appropriate didactic methods in nursing education are required (Ekebergh et al. 2004). The instructional strategies used in both didactic and clinical components of nursing education courses, have a significant impact on determining critical thinking and clinical decision-making ability, as well as developing new graduates' psychomotor skill performance. Human patient simulation is a relatively new teaching strategy that allows students to develop, refine, and apply knowledge and skills in a realistic clinical setting while engaging in interactive learning experiences tailored to their specific educational needs. Students engage in simulated patient care scenarios within a specific clinical environment, gaining experience, learning and refining skills, and developing competencies; all of this is done without the risk of endangering a live patient. The use of simulation as a teaching strategy can improve patient safety and care outcomes by allowing learners to experience scenarios and intervene in clinical situations in a safe, supervised setting without putting patients at risk (Durham & Alden 2008).

1.1. Practice implication for simulation in nursing education

Simulation in nursing education has recently grown in popularity as an educational tool (Sanford (2010). Learning laboratories provide a safe environment for the development of knowledge, skills, and attitudes that are fundamental to clinical practice by simulating the clinical setting. High-fidelity simulation, which was introduced decades ago, has transformed health care education and appears to be one of the technologies of the future. The constructivist approach to education, as well as lessons learned from training pilots, military special forces teams, and students preparing to administer anaesthesia or perform surgery, support the use of simulation in nursing education as an instructional strategy. Simulation has been widely used in health care worker education. They approximate reality in simulation training by having trainees react to problems or conditions as they would in real life. The educational value of simulations has been established (Munshi et al. 2015). Another reason nursing programs should reconsider what they teach in the clinical classroom is the reality of what students will actually face-the limitations of what they will face - in the clinical setting. "When we send nursing students to clinical, we are completely at the mercy of the patients. They may not see a patient, for example, with an irregular heart rate," but nurse educators can create and provide consistent, repeatable experiences for students through simulation in the clinical laboratory and other virtual environment learning platforms. "In the classroom, simulation of clinical teaching provides consistent ways to provide feedback to students" (Phillips 2021).

Students learn more deeply when they can experiment with various therapeutic communication techniques in a safe setting. There is no risk in the virtual environment, either to real-life patients or to the students themselves. Students benefit from a safe environment because they are less likely to have negative transference reactions. Live role-playing in front of peers can make students feel embarrassed or judged when they make mistakes. These negative emotions have been shown to impair cognitive performance, as well as learning and retention. Students benefit from consistent, accurate interactions when practicing with virtual humans. Virtual humans never get tired, are always neutral, and can always be relied on to provide appropriate feedback (Bakely 2021). Extensive research has shown that knowledge is best learned when it is actively constructed. The traditional model of a teacher lecturing and students passively learning simply cannot compare to situations in

which students actively participate in learning. Students are actively constructing their knowledge based on their personal decisions through virtual-human interactions (Williams-Abrams 2021).

Simulations are frequently used today to train professionals in aviation (flight simulators), engineering, information technology, nuclear energy, law enforcement, and the military, as well as nursing, medicine, and a variety of other fields (Kincaid & Westerlund 2009). One of the primary motivations for using simulation in health care education, as in military training, flight instruction, and other educational contexts, is a desire to improve public safety (Lateef 2010). According to the findings of a study titled "Skill Acquisition and Retention Following Simulation-Based Training in Pavlik Harness Application," the simulation-based learning module was shown to be an effective tool for teaching the application of a Pavlik harness, and learners demonstrated retainable skills post-intervention. It was also stated that the learning module can serve as the foundation for formal teaching of the Pavlik harness application for developmental dysplasia (Moktar et al. 2016). According to another study, the use of simulation allows students to practice their clinical and decision-making skills for some significant issues they may face in their daily work. The safe environment and sense of security boost students' self-esteem and confidence, which promotes learning. The gap between theory and practice is thus significantly reduced. It was concluded that further development of simulation, in conjunction with other instructional techniques, can significantly aid students' efforts to become integrated and successful health care professionals (Koukourikos et al. 2021).

The use of simulation in training benefits students, educators, and the individuals, groups, and communities they serve, as well as educational and health organizations. The primary goals of simulation as a teaching method are to improve care quality and patient safety. The World Health Organization strongly advised the use of simulation in health professional training. It asserted in recommendation five (5) of its document on 'Transforming and Scaling up Health Professionals' Education and Training' that health professionals' education and training institutions should use simulation methods of contextually appropriate fidelity levels (high fidelity methods in settings with appropriate resources and lower fidelity methods in resource-limited settings) in the education of health professionals (WHO 2013). Because of technological advancements in health care and increased patient awareness of their rights, nursing training and nursing care must adopt a training method that simulates a full-life situation. As a result, the faculty of nursing training program should embrace patient simulation as an instructional strategy and work to effectively implement it in nursing education programs (Edward & Chukwuka 2020).

1.1.1. Discussion

The challenges confronting nurses in today's rapidly changing health care environments have highlighted the necessity for students to feel both competent and prepared for practice. This necessity has in turn highlighted the increasing significance of the nature and quality of student clinical learning experiences. Therefore the culture of the clinical learning environment to which students are introduced, has a powerful influence on what is learned and how this is expressed as professional behaviour. Nurse educators are challenged to teach students to think critically, to go beyond knowing and to advance to knowledge synthesis and application as they assess, plan, implement, and evaluate nursing care. The use of a patient simulator as an instructional strategy has a lot of potential in nursing education. It offers an alternative to the traditional teacher-centered approach to nursing education by focusing on the learning needs and preferences of today's nursing students, allowing students to experience and act out common scenarios that they will encounter in the clinical setting.

Similarly, simulation can be used to teach students how to respond in situations that are relatively uncommon but require immediate action to avoid negative consequences. The patient simulator allows for deliberate exposure to critical care scenarios that the learner might not encounter during clinical practicum. This type of experience is important because the nurse must intervene quickly to prevent adverse patient outcomes. Despite the fact that most nursing students have few opportunities to work in a critical care setting during their clinical practicum, it is critical that they recognize signs of patient deterioration and are knowledgeable about appropriate assessments and interventions.

Furthermore, students on the clinical unit who have few chances to participate in life-threatening situations however have simulated learning experiences with the patient simulator that will enable the nurse educator to expose them to situations that they may never encounter during clinical practicum. Simulation standardizes cases, encourages critical thinking, and allows for mastery of patient care. It also provides immediate feedback, and assists students in integrating knowledge and experience and therefore offers an excellent synthesis learning opportunity. Because of its ability to improve patient care and patient safety, simulation should become an integral part of nursing education. Nurse educators in public nursing training colleges agree that a lack of facilities for experiential instructional methods results in a gap between theory and practice and the clinical acquisition environment in which nurse trainees are exposed may impact the development of psychomotor skills, assertiveness, and confidence.

1.1.1.1. Conclusion

The objective of nursing education, apart from the acquisition of solid theoretical knowledge, is the acquisition of clinical skills necessary for nurses to be promptly integrated into the workforce. Integrated learning, critical thinking, and optimal decision-making skills help nurses to provide quality health care. This can be achieved through the inclusion of simulation in the education process. The benefits of employing simulation as a teaching tool include avoiding risks to actual patients, standardizing cases, encouraging critical thinking, clinical decision-making, giving quick feedback, and integrating information and behaviour. Essential components of patient safety, such as the avoidance of medication errors, the encouragement of efficient communication, and the value of cooperation, can be stressed through patient simulation situations. Students can experience critical care situations and respond without worrying about hurting a live patient. Students can be better equipped to provide safe, effective care and work as part of the health care team if they are exposed to a variety of clinical situations through clinical practicum experiences and patient simulations. The school environment, in our opinion, is the starting point for skills acquisition, so igniting and developing interest in clinical skills with the appropriate method is critical. Using models that do not provide feedback when performing a procedure makes it difficult for students to develop appropriate feedback when faced with real-world scenarios. This surmises the point that simulation should be the sine qua non in nursing education.

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