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Teaching Strategies

Implementation of Deliberate Practice as a Simulation Strategy in Nursing Education

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Simulation is recognized as an effective educational strategy for prelicensure nursing students.[1] Although students are eager to develop proficiency in technical skills, the clinical reasoning required for safe and effective care is often undervalued. Therefore, nurse educators should provide learning experiences for students to help connect theoretical ideas with clinical practice to improve clinical reasoning. One strategy of simulation that can provide skills experience coupled with clinical reasoning is deliberate practice (DP). Deliberate practice is the repetition of a structured activity with the goal of improving performance; DP is based on the expert-performance approach framework, which suggests that dedicated repetitive practice of a skill over time is required for mastery. This effort to improve performance of a specific skill is the essence of DP.[2-4] Activities are designed to overcome specific weaknesses, whereas evaluation is conducted during the session to improve performance.[5] This article describes the implementation of DP by providing repetitive, consistent simulation experiences for students.

Deliberate Practice Sessions

Two cohorts of baccalaureate nursing students (n = 99) participated in 2 DP sessions. Cohorts included traditional and accelerated students in the third and fourth year of the program.

Through faculty feedback and student statements, 2 scenarios were developed. The primary learning goals of the sessions related to developing accurate medication administration, prioritization and performance of sterile procedures, and effective communication.

Before each DP session, students received access to the client's chart and a list of required skills. Students participated in pairs or triads in 2 simulations that were scheduled several weeks apart. Specific scenario tasks may be found in the Table.

DP Scenarios

In session 1, students administered medications to a client via jejunostomy tube, subcutaneously and intravenously. Interpretation of the medication administration record required clinical reasoning for a medication that could not be crushed, withholding medication for a contraindication, and checking compatibility before intravenous medication administration. After medication administration, students demonstrated a sterile procedure. The faculty provided minimal assistance during the simulation, with the exception of cues relevant to the client situation. Errors, such as incorrect medication dose, were not discussed until debriefing to allow the scenario to progress without interruption. Lack of correction during the scenarios permitted the students the opportunity to analyze and correct mistakes independently.[6]

Table. Overview of Tasks in DP Sessions

Opportunity	Tasks
Clinical reasoning	MAR interpretation
	Medication administration
Prioritization	Medication administration
	Respiratory assessment
	Provider orders
Skills	Communication
	Medication administration
	Nasogastric tube placement
	Tracheostomy suctioning
	Straight catheterization

DP, deliberate practice; MAR, medication administration record.

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In session 2, students planned and administered medications orally, subcutaneously, and intravenously. Subsequently, students were presented with an order for straight catheterization and updated vital signs for the client, which indicated that tracheostomy suctioning was needed. Students were expected to note the change, ask appropriate questions, and choose to suction the tracheostomy before catheterization. Debriefing followed immediately after the simulations concluded, and students received a group grade for the second session.

Debriefing

Debriefing is an essential component of DP to allow the students and the faculty to review performance. Without debriefing, learning may not be consistent among students and may occur simply by chance.[7] Students reflected on the experience, received faculty feedback, and had additional skills practice as needed. Students were asked to list what had been done well and to describe what could have been done differently. Clinical reasoning was analyzed, and students attempted to solve missed problems. Faculty also demonstrated correct technique for manual tasks because providing visual feedback for psychomotor skills in addition to verbal feedback is important to the learning process.[8] When time permitted, the students would redemonstrate the skill.

Student Feedback

At the conclusion of each session, students completed an anonymous online survey about the experience. Students answered 13 Likert-scale questions and provided open-ended feedback. Seventy-seven students (78%) completed the feedback survey. More than 94% of the students indicated that the DP was worthwhile and valuable. A representative comment was "these are so helpful for me to put what I am learning into practice."

In addition, more than 92% of student reported feeling more confident in nursing skills, and 87% believed the DP sessions improved their critical thinking abilities. A representative comment included "we didn't get to use a lot of different skills in our clinical practice… so it was good to have a review, and it keeps us confident in our skill level." Another student explained, "I truly learned how to critically think and prioritize the presented case."

In the sessions, students were allowed to make near misses and errors, which could not be done in client care settings. Students appreciated the opportunity to make an error and used it as a learning experience. Instructors were also able to observe the thinking process, identify when previous feedback was misinterpreted by students, and clarify misconceptions. For example, in 1 session, faculty discussed time management and clustering of tasks. Subsequently, when presented with 2 tasks, students considered completing the tasks simultaneously. During debriefing, students referenced the previous discussion on time management and considered clustering care. Overall, students recommended additional DP sessions and incorporating open laboratory sessions.

Implications

Simulation with DP provides opportunities for students to engage in performance of skills followed by immediate feedback and opportunities for repetition.[9,10] Students reported that DP was a valuable experience that promoted their confidence.[10-12] Future evaluation of DP should use quantitative measures including preassessments and postassessments to measure changes in critical thinking, clinical reasoning, and skills competencies. Finally, longitudinal evaluation of DP would demonstrate retention of knowledge and skill mastery.

The changing clinical environment necessitates that students are able to think critically, have confidence in their decisions, and evaluate errors in judgment and practice. Deliberate practice provides a strategy that enhances skill development and clinical reasoning within a safe environment for practice. Students are challenged in clinically realistic situations to perform a skill and evaluate what is happening with a patient clinically. The ultimate goal of nursing education is to create effective and safe caregivers, and DP adds another strategy to bridge the gap between theoretical learning and clinical practice.

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