

Increasing Student Self-Confidence and Perceived Competence with vSIM

Executive Summary

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- Virtual simulation (vSIM) increased nursing students' self-confidence in applying fall prevention and pressure injury prevention interventions.
- Students reported improved perceived competence in recognizing fall and pressure injury risks and implementing evidence-based interventions.
- Standardized virtual simulation provided consistent learning opportunities despite variability in clinical placements.
- Students reported high satisfaction with the virtual simulation learning experience.
- Virtual simulation demonstrated value as a supplement to traditional classroom and clinical instruction.
- Findings support integrating patient safety-focused virtual simulation throughout the nursing curriculum to improve practice readiness.

Background and Purpose

Patient safety is a fundamental component of nursing education (Park & Yeom, 2025), yet prelicensure nursing students often have limited opportunities to apply patient safety principles during clinical experiences due to variability in clinical placements. Traditional teaching methods can create a gap between classroom knowledge and the ability to confidently implement evidence-based interventions for fall and pressure injury prevention. Virtual simulation (vSIM) offers a standardized, experiential learning strategy that allows students to safely develop clinical judgment, decision-making, and patient safety competencies (Azizi et al., 2022).

The purpose of this quality improvement project was to evaluate the effectiveness of a patient safety-focused vSIM in enhancing prelicensure nursing students' self-confidence and perceived competence in applying fall- and pressure-injury-prevention interventions. Developed for prelicensure nursing students, the project findings provide evidence to support curriculum planning and the full integration of virtual simulation to enhance student confidence, assist in clinical judgment, and better prepare graduates to deliver safe, evidence-based patient care.

Methodology

A quality improvement project was conducted with a convenience sample of 33 second-semester associate degree nursing students at a community college in eastern North Carolina. Implementation was guided by Kolb's Experiential Learning Theory, which provided opportunities for active learning, reflection, and knowledge application (Ahn & Jeong, 2025). Students completed a patient-safety-focused vSIM during the 12-week implementation. Before beginning the simulation, faculty provided instruction on evidence-based patient safety practices, including the Morse Fall Risk Scale and Braden Pressure Injury Scale. The simulation emphasized the use of the Morse Fall Risk Scale and Braden Pressure Injury Scale to assess patient risk and implement evidence-based nursing interventions. Following the simulation, faculty led a structured debriefing to reinforce objectives and encourage reflection. The students then completed the National League for Nursing Student Satisfaction and Self-Confidence in Learning Scale and the Simulation Effectiveness Tool–Modified (SET-M) anonymously. Descriptive statistics were used to summarize quantitative data, while qualitative comments were reviewed to identify common perceptions of the learning experience.

Results

Thirty-three students participated in the project, and all completed both evaluation instruments. The mean satisfaction score on the Student Satisfaction and Self-Confidence in Learning Scale was 4.85 (SD = 0.36), indicating the simulation was viewed as an engaging and valuable learning strategy. The mean self-confidence score was 4.61 (SD = 0.48), which demonstrated that students felt better prepared to recognize patient safety risks and implement evidence-based interventions. Qualitative feedback from the SET-M supported these findings. Students described the simulation as beneficial for increasing confidence when caring for patients at risk for safety-related complications.

Strengths and Limitations

Several strengths contributed to the success of this project. All eligible students participated and completed the evaluation instruments, resulting in a 100% response rate. The use of validated survey instruments enhanced the reliability of the outcome measurements. Standardized simulation scenarios ensured that every student experienced identical learning, reducing variability in educational exposure. Faculty-led debriefing further strengthened learning by promoting reflection and clinical reasoning.

Several limitations should also be acknowledged. The project was conducted at a single community college using a convenience sample, limiting generalizability to other nursing programs. Outcomes were based on students' self-reported perceptions rather than on objective measures of clinical performance. Additionally, data were collected immediately following the simulation, preventing evaluation of long-term knowledge retention or transfer of learning to clinical practice.

Implications and Conclusions

Virtual simulation offers faculty a standardized approach to patient safety instruction, particularly in settings with limited clinical placement opportunities. The project partner will continue to incorporate patient safety-focused simulations throughout the curriculum to reinforce evidence-based practice and improve students' readiness for clinical practice. Incorporating virtual simulation throughout the nursing curriculum can enhance student confidence and better prepare graduates to deliver evidence-based, patient-centered care. More confident, better-prepared nurses have been shown to improve patient safety outcomes (Alsharari et al., 2025; El Hussein et al., 2022). Improved patient outcomes lead to higher patient satisfaction and lower overall healthcare costs. Future quality improvement projects should evaluate the long-term effects of virtual simulation, including knowledge retention, transfer of learning to clinical practice, and clinical judgment.

Overall, this quality improvement project demonstrated that a patient safety-focused virtual simulation can enhance nursing students' self-confidence and perceived competence in applying evidence-based interventions. The standardized simulation experience provided opportunities for deliberate practice, clinical reasoning, and application of evidence-based interventions without risk to patients. Integrating patient safety-focused virtual simulation into prelicensure nursing curricula may help bridge the gap between classroom learning and clinical practice. Incorporating structured simulation experiences may also improve the preparation of practice-ready graduates who can deliver safe, high-quality patient care, thereby improving patient outcomes and decreasing healthcare costs.

References

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