Enhancing Clinical Readiness in Nursing Students Through Case-Based Virtual Simulation

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SCAN ME

Introduction & The Gap

Clinical Readiness:
Requires not just psychomotor skills, but also communication, self-management, and confidence.

The Problem:
Traditional early nursing curricula focus heavily on repetitive psychomotor skills tasks.

The Gap:
Limited attention to **clinical reasoning** and **prioritization** in early years leaves students underprepared for the complexity of real-world patient care.

The Solution:
Case-Based Virtual Simulation (CBVS) can bridge the gap between theoretical knowledge and clinical action.
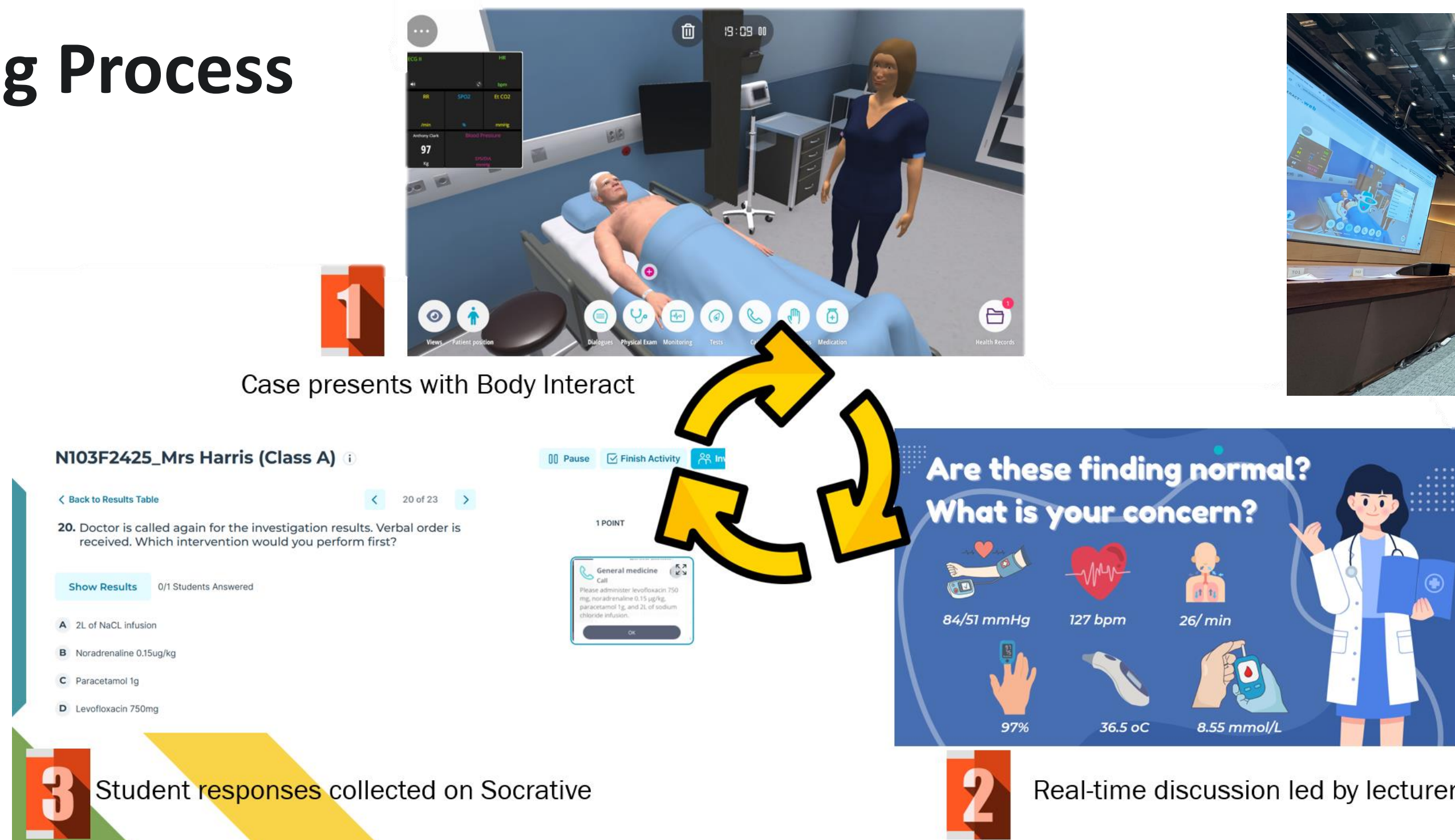
Objectives

1. Combine basic psychomotor instruction with clinical reasoning and prioritization development.
2. Expose early-year students to realistic clinical scenarios (Dehydration & Sepsis).
3. Pilot the integration of CBVS in a large-cohort foundation course (**>500 students**).

Methods

- **Participants:** Year 1 Undergraduate Nursing Students (N = 572).
- **Setting:** End of year-long foundation nursing skills course.
- **Platform:** *Body Interact* -virtual patient simulator - (combines visual representation with dynamic physiological models).
- **Procedure:**
  - Two clinical cases (45 mins each).
  - **Tools:** Canva (guidance), Socrative (real-time polling).

The Learning Process

Case presents with Body Interact

N103F2425_Mrs Harris (Class A)

Student responses collected on Socrative

Are these finding normal? What is your concern?

Real-time discussion led by lecturer

Quantitative Results

- **Response Rate:** n = 356 (62.2% of attendees)
- **Overall Satisfaction:** 84% agreed/ strongly agreed the session was effective and engaging
- **Statistical Significance:** One-sample Z-test confirms positive outcomes ($p < 0.0001$) across all domains

Survey Domain	Positive Rate*	Z-Score	P-Value
Knowledge & Motivation	84.0%	12.82	<0.0001
Case Analysis Ability	83.2%	12.51	<0.0001
Prioritization Skills	82.6%	12.30	<0.0001
Decision Making Skills	82.3%	12.17	<0.0001
Confidence in Judgment	76.1%	6.96	<0.0001

Note: Positive rate = % of "Strongly Agree" or "Agree"

Qualitative Feedback
Students reported the session was:
- **Interactive:** "Very interesting" "It's fun"
- **Motivating:** "So good! I will work harder."
- **Useful for Revision:** "Good for revising the course."
- Students requested more case-based learning and suggested integration into lab sessions

Discussion & Implications
- **Readiness:** Early-year students demonstrated the capacity to engage in higher-order clinical reasoning.
- **Scalability:** The method is highly effective for **large cohorts**, addressing resource limitations in nursing education.
- **Bridging the Gap:** The realism of virtual simulation helps students associate learned theory with decision-making processes before entering clinical sites.

Limitations
- No control group for comparison.
- Reliance on self-reported survey data.
- Short-term evaluation only.

Conclusion
CBVS is a feasible and effective pedagogical strategy for early-year nursing students. It successfully scaffolds essential decision-making skills and enhances engagement, preparing students for the dynamic clinical environment.

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