PROJECT VALIFY

Evaluating Gamified Clinical Simulation for Sepsis Education in Pre-Registration Nursing Students

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Abstract

Project VALIFY is an immersive, gamified clinical simulation designed to enhance critical thinking, clinical reasoning, and teamwork in pre-registration nursing students. Grounded in experiential learning theory (Kolb, 1984) and constructivist principles (Vygotsky, 1978; Piaget, 1950), the intervention places students in a time-pressured scenario centred on sepsis recognition and management, requiring them to gather clues, analyse clinical information, and apply evidence-based decision-making in a safe, structured environment.

Project VALIFY responds to a gap in the literature regarding gamification's specific effect on clinical decision-making confidence and knowledge application under pressure. Its findings have implications for curriculum development, student preparedness for clinical placement, and the broader evidence base for serious gaming in nursing education.

Background & Educational Challenge

Imagine a third-year nursing student: their patient is confused, breathing fast, skin mottled. Their mentor is busy. The clock is ticking. For too many students, this is the very first time they have ever had to lead that decision: not practise it, but lead it, for real.

Making safe, sound and timely decisions is crucial to nursing practice, especially when recognising and managing patient deterioration. Benner (1984) highlighted in her "Novice to Expert" framework that students begin with rule-based thinking and need time and real experience to develop clinical intuition. Yet expertise does not come from theory alone, it requires exposure, repetition, reflection, and practice.

Introducing Project VALIFY

Project VALIFY is a 30-minute immersive, gamified clinical simulation in which final-year adult nursing students respond to a deteriorating patient with sepsis. The experience is designed with four deliberate design principles:

- Deliberate ambiguity — the clinical picture is intentionally unclear, mirroring real-world presentations.
- Time pressure — real-time decision-making with meaningful consequences.

- Clues and consequences — choices have outcomes; decisions feel real.
- Teamwork — students navigate together, mirroring clinical reality.

The intervention is grounded in three key educational theories:

- Kolb (1984) Experiential Learning Theory — deep learning comes from experience and reflection.
- Vygotsky (1978) Zone of Proximal Development — students benefit from structured challenge slightly beyond their comfort zone.
- Piaget (1950) Constructivism — knowledge is actively built through engagement, not passive reception.

Key References

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