Developing & Incorporating Simulation-Based Learning

An In-Depth Qualitative Study in an Undergraduate Physiotherapy Programme in Hong Kong

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Presentation Agenda

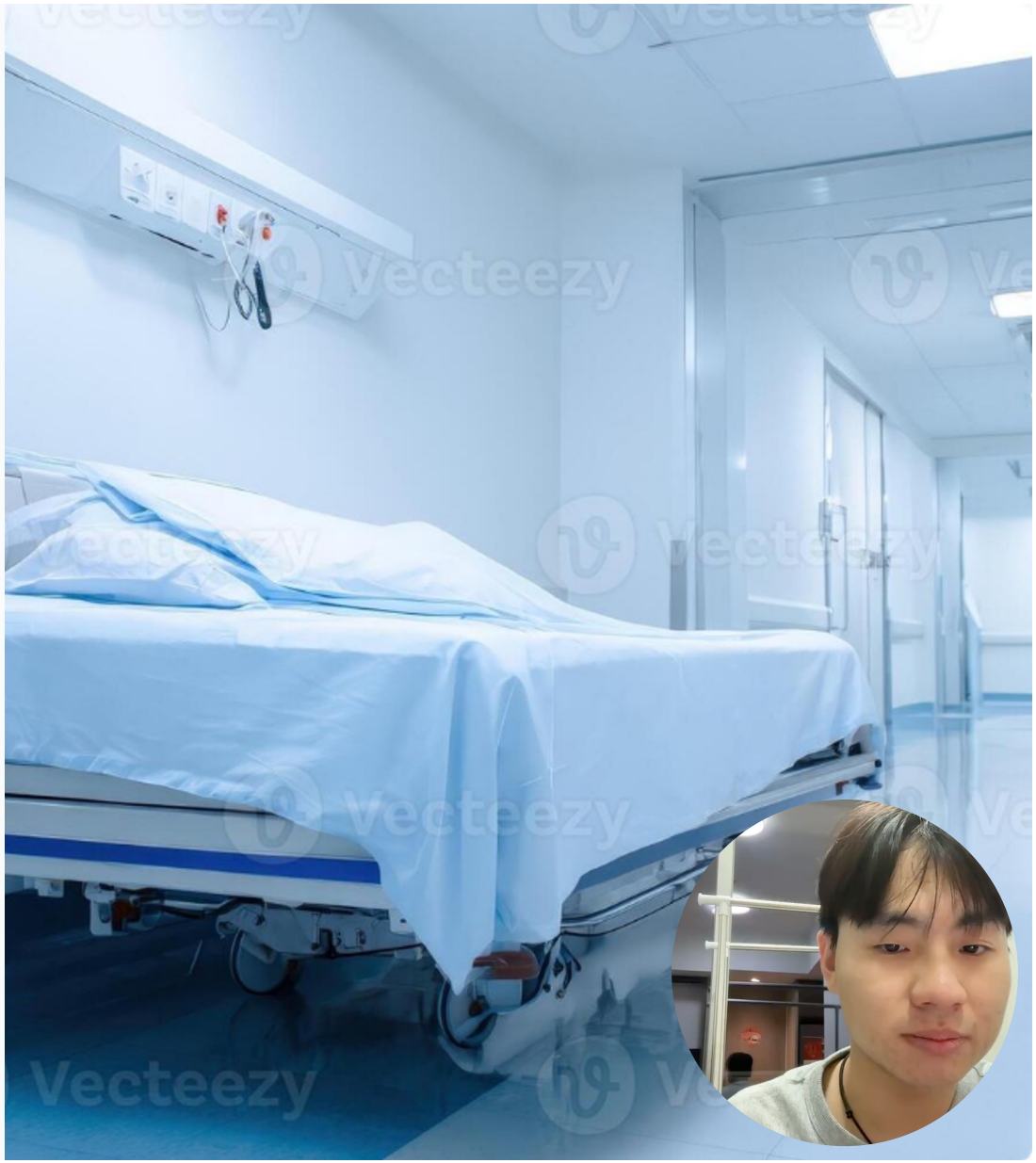
- 1. Research Background & Gap
- 2. Methodology
- 3. Key Findings (Learners & Team)
- 4. Implications & Recommendations

The Clinical Challenge

Transitioning from classroom theory to high-stakes clinical environments (e.g., Acute Wards) is notoriously stressful for undergraduate students.

Traditional skills-based labs often leave students with "fragmented knowledge", making it difficult to manage complex, holistic patient cases.

Simulation-Based Learning (SBL) emerges as a solution, offering a safe, controlled environment to practice critical clinical reasoning before treating real patients.



Identifying the Research Gap

Lack of Qualitative Data

Existing literature heavily focuses on quantitative skill metrics, often overlooking the nuanced, lived experiences of students and facilitators.

The Bilingual Context

Hong Kong presents a unique challenge: students learn complex medical theory in English, but must execute clinical practice in Cantonese.

Knowledge Integration

Limited investigation exists on exactly how SBL transforms isolated, fragmented clas skills into cohesiv reasoni

Research Aims & Objectives

Primary Question: How can SBL be effectively developed, implemented, and incorporated into an undergraduate physiotherapy programme in Hong Kong?

Learner Objectives

- **Perception:** Explore how Year 3 students perceive and value SBL within the Cardiopulmonary curriculum.
- **Competency:** Examine SBL's influence on clinical reasoning, practical skills, and confidence.

Institutional Objectives

- **Implementation:** Identify key facilitators and barriers to executing SBL in the existing curriculum.
- **Resource Allocation:** Analyze the impa
  staff support, technology, and fundi

Methodology

A Qualitative Approach to Understanding the SBL Experience

Study Design & Participants

Purposive Sampling

We conducted semi-structured, 60-minute in-depth interviews in Cantonese to preserve cultural and linguistic nuances.

- **6 Year-3 BSCPT Students** (Completed CP I & II)
- **3 Simulation Team Members** (Coordinator & Facilitators)

Analysis: Braun & Clarke's 6-step thema

Conceptual Framework

Kolb's Experiential Learning

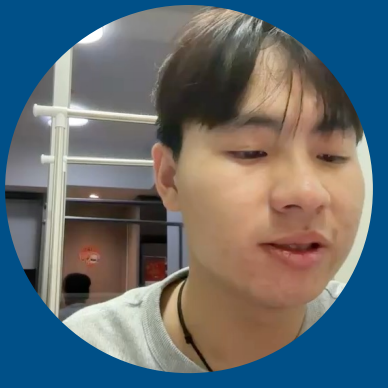
SBL aligns with Kolb's cycle: providing concrete experiences (scenarios), facilitating reflective observation (debriefing), and allowing active experimentation.

Bandura's Social Cognitive Theory

Focuses on "Self-Efficacy". Through vicarious learning and structured feedback during debriefs, students build the confidence necessary for high-stakes placements.

Key Findings

Learner Perceptions, Competencies, and Implementation Dynamics



Objective 1: Learners' Perceptions

Immersive Environments

100% of learners emphasized the realistic ward-like settings, noting that managing spatial constraints and equipment drastically reduced pre-placement anxiety.

Integrated Learning

SBL was viewed as vastly superior to traditional labs. It forced students to manage full cases holistically, linking fragmented skills into cohesive workflows.

Developmental Trajectory

Students reported a clear emotional shift: moving from intense initial anxiety and cognitive overload to control and pro
maste

The Power of Authenticity

> **The distance between the beds and the layout felt very similar to what I saw later in HA wards. Even the presence of the wall-mounted oxygen and suction looked like what we encounter in a hospital.**

— Learner D, Year 3 Physiotherapy Student

Impact on Competencies

Clinical Reasoning Development

SBL shifted student mindsets from following fixed checklists to dynamic, problem-focused prioritization. Students learned to anticipate constraints before treating.

Practical Skill Integration

Allowed safe rehearsal of handling lines, tubes, and drains alongside primary cardiopulmonary treatments, mimicking complex real-world multi-tasking.

The Bilingual Advantage

A distinctive finding unique to the Hong Kong context: SBL addresses the critical gap between English-medium education and Cantonese-medium clinical practice.

> *"You run a case and must deliver chest physio instructions in Cantonese, even though we learn in English in class. Translating clearly to patients is something Sim Lab trains."*

Students highly valued SBL as a psychological "safe space" to practice medical translation, drastically improving their communication competence.

Confidence & Readiness

8/10

Post-Simulation Confidence

Significant Shift in Readiness

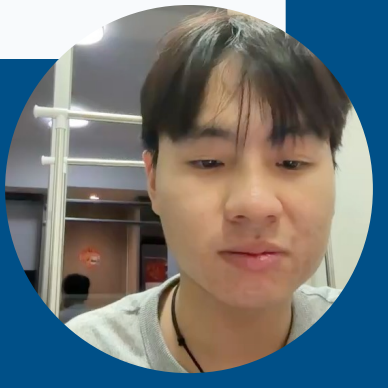
Students reported their self-perceived confidence jumping from an average of 5/10 prior to SBL, up to 7 or 8/10 post-intervention.

Experiences in SBL directly transferred to placements, reducing the "first-day shock" and allowing students to engage in patient care immediately rather than with environmental orientation.

Objective 3: Implementation Factors

Key Facilitators

Primary Barriers



Facilitators to Success

Dedicated Leadership

A committed course coordinator acting as an "SBL champion" alongside strong Dean-level administrative support was deemed fundamental.

Strategic Funding

Education Bureau Enhancement Grants provided the essential foundation for dedicated space, clinically relevant equipment, and specialized technician hires.

Faculty Clinical Currency

Facilitators who maintain active hospital practice ensure scenarios remain authen
technically relevan
HA stand

Implementation Barriers

- **Resource & Time Intensity:** SBL demands massive manpower. Preparing scenarios, setting up equipment, running sessions, and conducting thorough debriefs places a heavy burden on teaching staff.
- **Physical Space Constraints:** Ideal setups require adjacent discussion rooms for immediate debriefing and dedicated AV control rooms, which are often limited by campus infrastructure.
- **Authenticity Limitations (Peer Role-Play):** Using healthy, high-comprehension peers as "patients" fails to replicate the communication challenges associated with real elderly or cognitively impaired patients.

Implications & Recommendations

Shaping the Future of Physiotherapy Education

Recommendations for Education & HA

Formalize Bilingual Practice: Explicitly build English-to-Cantonese translation into SBL learning outcomes and rubrics.

Invest in Debriefing: Constructive debriefing is the core of SBL. Institutions must provide protected time and specialized training for facilitators.

Standardized Patients: Gradually replace peer role-play with hired actors to improve the authenticity of patient communication scenarios.

Hybrid Clinical Models: With HA placement capacity strained, regulatory bodies should consider replacing a defined percentage of clinical hours with high-quality, standardized SBL.

Thank You

Questions & Discussion

Group 7 • Year 4 Physiotherapy
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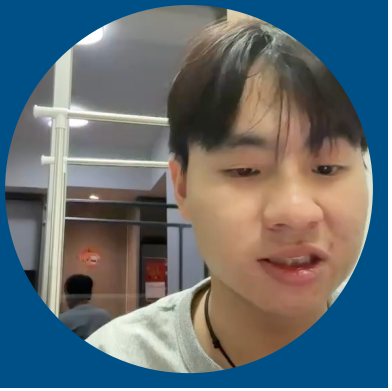

Image Sources

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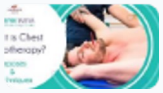

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