Breaking free from tradition: An expansion of simulation-based learning in an undergraduate nursing program

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What is simulation-based learning (SBL)?

According to Gaba[1], "**simulation is a technique**, **not a technology**, to replace or amplify real experiences with guided experiences, often immersive in nature, that evoke or replicate substantial aspects of the real world in a fully interactive fashion".

Considered a signature pedagogy of the profession of nursing[2], **SBL has been deemed a disrupter in the way nurses are educated**[3]. SBL in nursing has gained prominence in the past 20 years and has challenged the traditional ways nurses approached teaching and learning.

Benefits of SBL

Sullivan et al.[4] found that students spent more time in the higher level of competence of Miller's pyramid (i.e., **students spent more time applying their knowledge as opposed to fact gathering**) in SBL experiences compared to traditional clinical. This study supported a 2:1 clinical to SBL ratio (that is, every hour spent in SBL equates to 2 hours of practice in clinical).

Hayden et al.[5] suggested that **up to 50% of traditional clinical practice can be replaced by high-quality SBL**.

Purpose of the Project
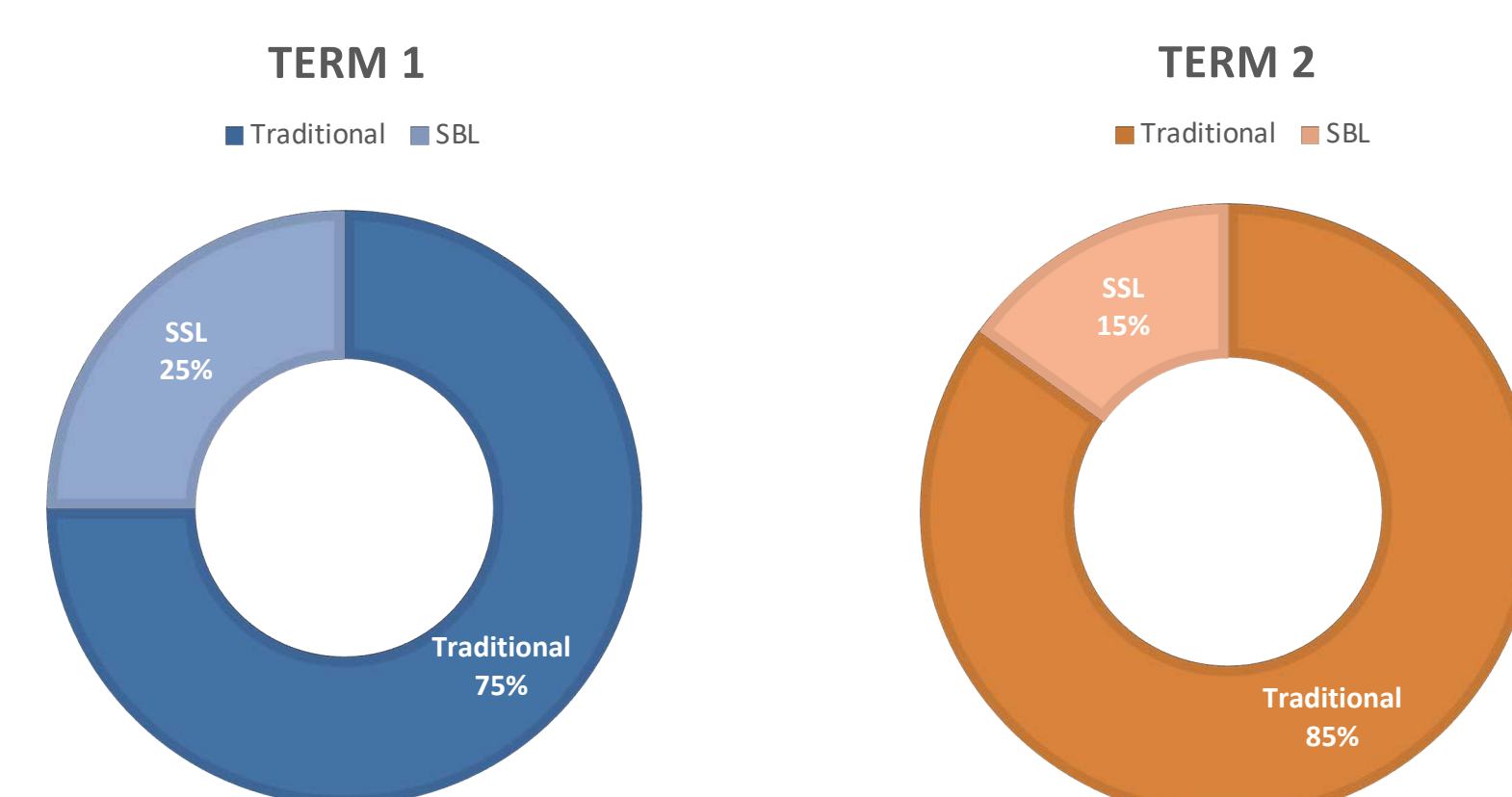
The aim of this project is twofold.

- First, to **explore students' experience of the effectiveness of simulation** as a learning tool.
- Second, to explore faculty's experiences of using simulation as a teaching tool and their perceived **faculty development needs**.

SBL in the School of Nursing

In September 2022, SBL was integrated into the undergraduate nursing curriculum and **replaced 15-25% of traditional clinical practice time.** We called these experiences '**Standardized Simulation Learning' or SSL.**

STANDARDIZED SIMULATION LEARNING
UBC-V NURSING

Total number of practice hours: 160

TERM 1
Traditional ■ SBL

SSL 25%

Traditional 75%

Total number of practice hours: 240

TERM 2
Traditional ■ SBL

SSL 15%

Traditional 85%

We used both **low and moderate fidelity** SBL experiences which included the use of case-studies, screen-based (virtual) simulations, and manikins that mimic certain physiological functions. Majority of the SBL experience offered took place in-person in the Clinical Skills and Simulation Learning spaces set up to replicate an acute care hospital setting.

The Learning Day

Each SBL experience is structured to include preparatory work to be completed prior to the simulation day. Each SBL day unfolds in the following manner:

PREBRIEF
"An **activity immediately preceding the start of a simulation activity** where the participants receive essential information about the simulation scenario, such as background information, vital signs, instructions, or guidelines"[6]
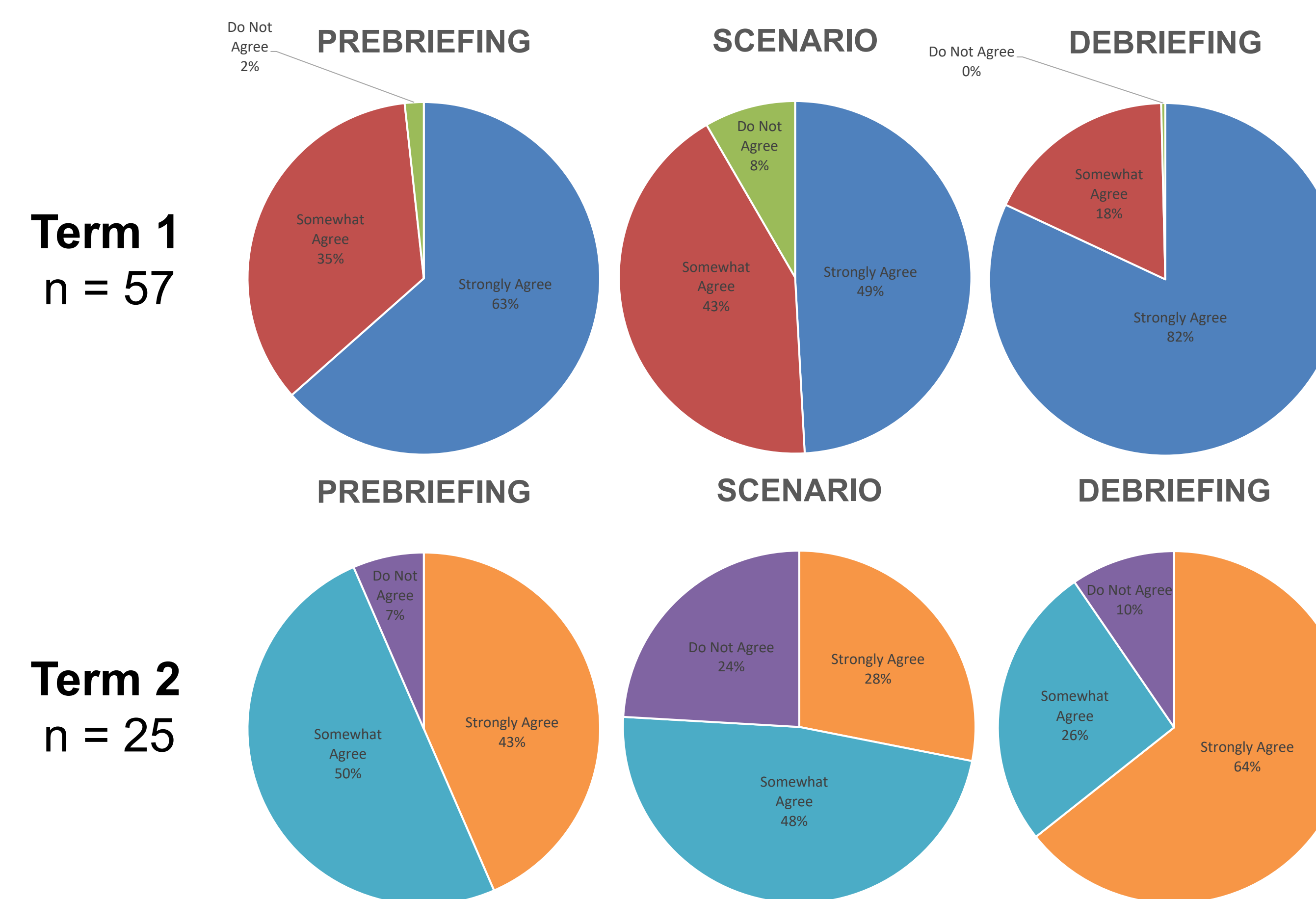
UNFOLDING THE CLINICAL SCENARIO
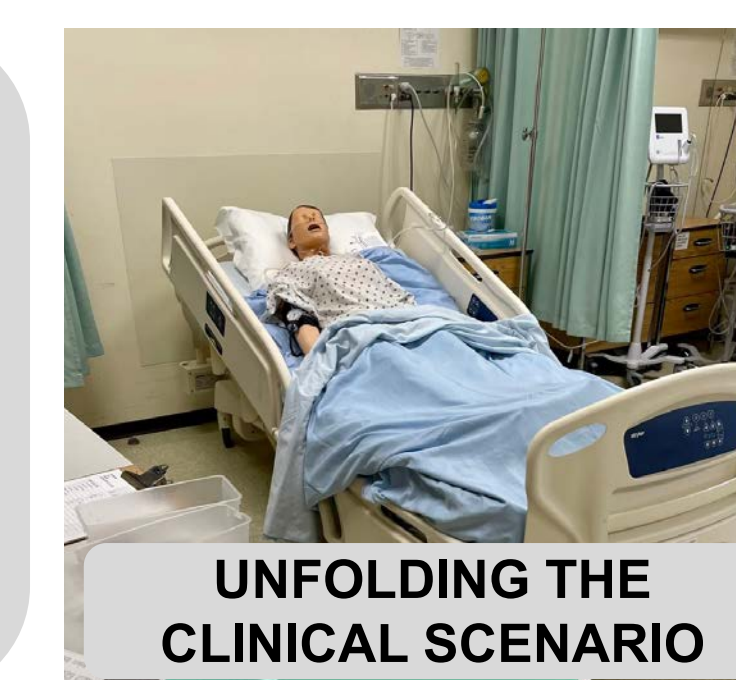
DEBRIEF
"An **activity that follows a simulation experience** and is led by a facilitator"[6]
"To **encourage participants' reflective thinking** and **provide feedback about** their **performance**, while various aspects of the completed simulation are discussed"[6]

What did the participants say about their SBL experience? (Preliminary Findings)

Using the Simulation Effectiveness Tool – Modified (SET-M), a 19-item, three-point Likert scale tool, the participants rated whether they agreed that the pre-briefing, clinical scenario, and debriefing had a positive effect on their learning. In addition, participant responses also highlighted aspects of the SSL that supported or inhibited their learning.

Term 1 n = 57

PREBRIEFING — Do Not Agree 2%, Somewhat Agree 35%, Strongly Agree 63%

SCENARIO — Do Not Agree 8%, Somewhat Agree 43%, Strongly Agree 49%

DEBRIEFING — Do Not Agree 0%, Somewhat Agree 18%, Strongly Agree 82%

Term 2 n = 25

PREBRIEFING — Do Not Agree 7%, Somewhat Agree 50%, Strongly Agree 43%

SCENARIO — Do Not Agree 24%, Somewhat Agree 48%, Strongly Agree 28%

DEBRIEFING — Do Not Agree 10%, Somewhat Agree 26%, Strongly Agree 64%

"I liked that there were curveballs thrown our way because it made me reflect on what I would do if I was in that situation. It gave me an opportunity to reflect on different scenarios that I have yet to experience in clinical"

"I learned a lot in the debrief and that is probably my favourite part, being able to talk about why I did what I did and then hearing how my facilitator would have done it the same or differently and why is really helpful and makes me feel more confident in situations like that in clinical"

"…the instructor makes or breaks the simulation"

"It is hard to participate very well when there are 3 student nurses in one group assessing 1 patient. I feel as though I barely contributed at all and did not enhance my learning"

What's on the horizon?

As we enter the second year of the project, we will be engaging in focus group interviews of both students and facilitators. We will also be addressing the importance of ongoing professional development for simulation facilitators.

References

1. Gaba, D. M. (2004). The future vision of simulation in health care. *Quality & Safety in Health Care, 13*(suppl 1), i2-i10. https://doi.org/10.1136/qshc.2004.009878

2. Chick, N.L., Haynie, A., & Gurung, R.A.R. (2012). Exploring more signature pedagogies: approaches to teaching disciplinary habits of mind. Stylus Publishing.

3. Waxman, K. T., Bowler, F., Forneris, S. G., Kardong-Edgren, S., & Rizzolo, M. A. (2019). Simulation as a nursing education disrupter. *Nursing Administration Quarterly, 43*(4), 300-305. https://doi.org/10.1097/NAQ.0000000000000369

4. Sullivan, N., Swoboda, S. M., Breymier, T., Lucas, L., Sarasnick, J., Rutherford-Hemming, T., Budhathoki, C., & Kardong-Edgren, S. (. (2019). Emerging evidence toward a 2:1 clinical to simulation ratio: A study comparing the traditional clinical and simulation settings. *Clinical Simulation in Nursing, 30*, 34-41. https://doi.org/10.1016/j.ecns.2019.03.003

5. Hayden, J. K., Smiley, R. A., Alexander, M., Kardong-Edgren, S., & Jeffries, P. R. (2014). The NCSBN national simulation study: A longitudinal, randomized, controlled study replacing clinical hours with simulation in prelicensure nursing education. *Journal of Nursing Regulation, 5*(2), S3-S40. https://doi.org/10.1016/S2155-8256(15)30062-4

6. Lioce L. (Ed.), Lopreiato J. (Founding Ed.), Downing D., Chang T.P., Robertson J.M., Anderson M., Diaz D.A., and Spain A.E. (Assoc. Eds.) and the Terminology and Concepts Working Group (2020), Healthcare Simulation Dictionary –Second Edition. Rockville, MD: Agency for Healthcare Research and Quality; September 2020. AHRQ Publication No. 20-0019. DOI: https://doi.org/10.23970/simulationv2.

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