

# **Transitioning to an integrated anatomy and physiology, and physical examination course: Cognitive integration and assessment performance of undergraduate nursing students**

Jeanette Ignacio

Tanushri Roy<sup>1</sup>

<sup>1</sup> National University of Singapore

## **Abstract**

### Background

In the traditional nursing curricula, the physical examination course stands alone. It is not linked to the anatomy and physiology course. However, as students transit from the university environment to the clinical setting during postings, there is an expectation that these students have integrated of the various knowledge and skills from their different courses. This does not easily happen as cognitive integration takes time (Ignacio and Chen, 2020). It is thus imperative that the curriculum design helps facilitate cognitive integration in students. As such, an integrated anatomy and physiology, and physical examination course was conceived. This course integrated these three disciplines not only in how they were taught, but also in the design of the course's assessment/examination.

### Objectives

The aims of this study were to determine the effects of integrating anatomy and physiology, and physical examination in teaching and assessments.

### Methods

The integrated assessment/examination scores were compared with results from the previous semester when there was no integration. Students' perceptions on how the integrated course in terms of teaching and assessments facilitated learning were also elicited through focus groups.

### Findings

Performance based on assessment results were compared between two cohort of students: those who attended anatomy and physiology, and physical examination as two separate courses, and those who attended these subjects as an integrated course. The comparison shows a significant difference ( $p < .00001$ ) in the average scores between the two groups. This aligns with the previous findings that show an improvement in student success following content integration in health science courses (Finn, et al., 2017). Thematic analysis from the focus group discussion generated three themes: (1) forming better conceptual links; (2) learning through the senses and (3) translating into clinical practice.

### Conclusion

Integrating disciplines through teaching practices and assessment/examination design is a promising strategy to promote cognitive integration.

**References (maximum three)**

Finn, K. E., FitzPatrick, K. & Yan, Z. Integrating Lecture and Laboratory in Health Sciences Courses Improves Student Satisfaction and Performance. *Journal of College Science Teaching*, 47(1), 66-75.

Ignacio, J. & Chen, H.-C. (2020). Cognitive integration in health professions education: Development and implementation of a collaborative learning workshop in an undergraduate nursing program, *Nurse Education Today*, 90. doi.org/10.1016/j.nedt.2020.104436