



The impact of applying unfolding case-study learning on critical care nursing students' knowledge, critical thinking, and self-efficacy; a quasi-experimental study

Maysa` Kassabry^a, Mahmoud Al-Kalaldeh^{b,*}, Ahmad Ayed^a, Ghada Abu-Shosha^c

^a Faculty of Nursing, Arab American University/ Palestine (AAUP), Palestine

^b Faculty of Nursing, The University of Jordan-Aqaba Campus, Jordan

^c Faculty of Nursing, Zarqa University, Jordan

ARTICLE INFO

Keywords:

Unfolding case-study
Critical thinking
Self-efficacy
Knowledge
Nursing students

ABSTRACT

Background: The unfolding case-study learning approach is a growing modernized learning strategy implemented in different health disciplines. However, there is a lack of existing research that examines the effects of unfolding case studies in advanced nursing courses.

Aim: To examine the impact of applying an unfolding case-study learning approach on critical care nursing students' knowledge, critical thinking, and self-efficacy.

Methods: This posttest-only, quasi-experimental study was conducted at XXX University in Palestine. A single-stage cluster sampling was used to assign nursing students enrolled in the critical care nursing course into experiment and conventional groups. The intervention group (n= 91) underwent unfolding case-study learning for selected cardiovascular topics, whereas the conventional group (n= 78) was taught using the traditional teaching methods. The posttest assessment was conducted using Knowledge Acquisition tests, Yoon's Critical Thinking Disposition Instrument (YCTD), and the Self-Efficacy for Learning and Performance instruments. The Social Constructivist Theoretical Framework was integrated into the study.

Results: Homogeneity was achieved between both groups concerning Age, Gender, and GPA. The experiment group scored significantly higher than the conventional group regarding the posttest knowledge acquisition tests (7.12 vs. 5.49, respectively, $t=-12.7$, $P<0.001$, CI: -1.89 to -1.38), critical thinking (4.32 vs. 3.63 respectively, $t=17.390$, $p<0.001$, CI: -77 to -61) and self-efficacy (6.12 vs. 4.4 respectively, $t=-30.897$, $p<0.001$, CI: -1.82 to -1.60). Multivariate analysis revealed that 69 % of the variations of posttest scores were influenced by critical thinking scores (Adjusted R Squared=0.690, $F=3.47$, $P=0002$, $\eta^2=0.969$). Similarly, self-efficacy has been shown to contribute by 74 % to the variations of scores after conducting the study program (Adjusted R Squared=0.743, $F=4.21$, $P=0001$, $\eta^2=0.974$). However, the variations of both critical thinking and self-efficacy scores were not significantly influenced by the contribution of knowledge acquisition ($p=0.772$ and 0.857 , respectively) and students' GPA ($p=0.305$ and 0.956 , respectively).

Conclusions: Irrespective of knowledge level and GPA, the unfolding case-study learning approach can enhance the critical thinking and self-efficacy of students enrolling in advanced nursing courses.

1. Introduction

Nursing education is a constantly evolving field, adapting to the changing healthcare landscape and the intricate needs of patients and communities (Cusson et al., 2020; Jager et al., 2020). Given this reality, educational institutions demonstrate a strong dedication to prioritizing

the delivery of essential information and expertise to nursing students, enabling them to meet the demanding requirements of the profession (Tanner, 2007). This requires advancing the teaching methodology to integrate both theoretical knowledge along essential skills and competencies of actual nursing care (National Council of State Boards of Nursing [NCSBN], 2018; Sellars et al., 2018).

* Correspondence to: The University of Jordan-Aqaba Campus, Aqaba, Jordan.

E-mail addresses: maysa.kassabry@aaup.edu (M. Kassabry), m.kalaldeh@ju.edu.jo (M. Al-Kalaldeh), ahmad.juma@aaup.edu (A. Ayed), ghada_abushosha@zu.edu.jo (G. Abu-Shosha).

<https://doi.org/10.1016/j.nepr.2024.104015>

Received 27 February 2024; Received in revised form 5 April 2024; Accepted 30 May 2024

Available online 3 June 2024

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