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ORIGINAL RESEARCH

ISSN: 2477-4073

## A VARIETY OF TEACHING-LEARNING STRATEGIES TO IMPROVE THE CARING BEHAVIOR OF NURSING STUDENTS

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### Abstract

**Background:** Caring is the essence of nursing that is believed vital in improving the health and well-being of patients and in facilitating health promotion. Nursing education has a fundamental role in shaping a positive student's caring behavior.

**Objective:** This study identified the caring behavior of the final-year nursing students after completing a critical care nursing course unit by implementing assorted teaching-learning strategies.

**Methods:** This study was a descriptive research using a comparative design. Samples were recruited from a group of 152 final-year students using a random sampling technique (n=76). Data were collected using a valid and reliable Indonesian caring instrument consisting of 32 items based on Watson's ten carative factors. Data were analyzed using descriptive statistics by calculating mean scores of students' caring behavior. A paired t test was performed to evaluate the difference between caring behavior before and after completion of the course unit involving a diverse teaching learning strategy, such as face-to-face lectures in the class, quizzes and practicums, facilitated small group case-based discussions, and expert reviews.

**Results:** Results showed that more than half of the students had negative caring behavior before (59.22%) and after (54.55%) participating in learning process. There was also a barely statistical insignificance in the change of caring behavior following the course unit that involved various learning strategies (p value = 0.276). Further analyses of the 10 carative factors revealed that there was a significant change in transpersonal teaching-learning, provision for a supportive, protective, and/or corrective mental, physical, sociocultural, and spiritual environment, and spiritual environment and existential-phenomenological spiritual forces (improved, p value <0.05).

**Conclusions:** Student-centered learning is a good approach to enhance the students' critical thinking skills. However, in implementing the approach, there is a need to reevaluate appropriate method so as to simultaneously develop students' critical thinking skills, caring behavior, and empathy.

**Keywords:** caring behavior; teaching-learning strategies; nursing students

## INTRODUCTION

Caring is the core or the soul of nursing; and it is expected that all nurses value the essence of caring and always perform caring behavior throughout their lifetime, especially when providing nursing care to the patients to

facilitate the healing process ([Brilowski & Cecilia Wendler, 2005](#)). Caring behavior should be cultivated since nursing students undertaking their basic education. A study in Iran suggested exploring students' caring

behavior related to acquired curriculum and learning strategies ([Nouri, Ebadi, Alhani, & Rejeh, 2014](#)).

The final-year (enrolled in 2011) undergraduate students of Faculty of Nursing Universitas Padjadjaran were received their training program according to the (2010) AINEC (Association of Indonesian Nursing Education Institutions) curriculum that claimed to adopt a student-centered learning model. Starting from the second semester, most of the course units were offered in a block system that lasted within 3-4 weeks for each block (course unit/subject), involving various learning strategies such as mini-lectures, tutorials (mainly applying the seven-jump in problem-based learning (PBL)), and laboratory practices. Students reported that they were overwhelmed and had difficulties in remembering and understanding given materials. Correspondingly, lecturers reported that the majority of the students were lack of cognitive retention as the course progressed in each semester. Moreover, with respect to the students' clinical placement, more than 60% of the preceptors in the hospital reported that most of the students showed poor communication skills with their preceptors and nursing staffs. It was also reported that during their clinical rotations, the students tended to show disfavored ethics, discipline, empathy, and teamwork ([Labrague, 2012](#)). This situation is upheld by previous study that identified caring attitudes of first-year, second-year, and third-year undergraduate students at Faculty of Nursing Universitas Padjadjaran (n=82). The study found that there were no significant differences in caring attitudes among the students (p value >0.05) despite the expectation that caring attitude should gradually be more developed and enhanced as the students advancing through their academic training ([Susilaningsih, Agustina, Komariah, & Somantri, 2013](#)).

The student-centered learning model is beneficial in optimizing different potentials of each student through various learning strategies, such as self-directed learning, concept mapping, problem-based learning and

case-based learning. These learning strategies aim to encourage students to think critically and to be able to solve problems. In addition to learning strategies, the role of tutor or facilitator is also very important. Specifically, in the implementation of problem-based learning, tutors play a very small role in directing students ([Russell, Comello, & Wright, 2007](#)). It is mainly believed that there is no learning strategy that is better than the other or fits for all students; and therefore, various learning strategies are usually applied to support the development of students' cognitive, psychomotor, and behavioral skills ([Russell et al., 2007](#)). Pertaining to the formation of nursing students' caring behavior, diverse learning strategies can be utilized in strengthening the 10 carative factors of student caring behavior.

This research aimed to identify the difference of nursing students' caring behavior before and after completion of a Critical Care Nursing (Advanced Nursing) course unit that involved various learning strategies. This course unit is an advanced subject offered in the fourth year of undergraduate nursing course at Faculty of Nursing Universitas Padjadjaran. It weighs 4 credits and was allocated for 5 hours every week during a semester.

## METHODS

### *Study design*

This study was a descriptive research with a cross-sectional approach which compared nursing students' caring behavior before and after completing a critical nursing course unit for one semester. A simple random sampling technique was used to recruit samples from 152 final-year students, and by being drawn we obtained 76 respondents (n =76; 95% CI; p = 0.05). Learning strategies applied were varied, including: (1) lectures and discussions; (2) tutored small group discussions to discuss different fictitious cases related to lecture materials; (3) case presentations; (4) independent study assignments, for example reading some

materials from textbooks or journal articles; (5) quizzes (to evaluate independent study assignments); (6) laboratory practices, involving pre-lab activities (reading or watching videos related to specific procedures) and supervised by tutors. Assessments for this course unit were done using CBTs (Computer-Based Tests) that largely comprised of case analyses. Procedural skills evaluations (CPR—Cardiopulmonary resuscitation and initial assessment) were also performed.

#### *Instruments*

To measure student's caring behavior, an Indonesian caring questionnaire adopted from previous study ([Susilaningsih et al., 2013](#)) was used. The questionnaire was developed from Watson's caring theory ([Watson, 1985](#)), and was tested on nursing students with validity test result of 0.349 and reliability test 0.94. This questionnaire consists of 32 statements requiring responses in accordance with a four response Likert scale, ranging from strongly agree to strongly disagree. Students were asked to fill in the questionnaire after a learning contract was agreed at the beginning of the course unit and after completion of the unit.

#### *Data analysis*

Descriptive statistics by calculating mean scores and percentage were used to describe students' caring behavior. The paired t tests were performed to analyze caring behavior and its carative factors before and after completing the Critical Care Nursing course unit.

#### *Ethical consideration*

Ethical clearance was submitted to the research unit of the Faculty of Nursing Universitas Padjadjaran and the submission of a research permit addressed to the Dean of the Faculty of Nursing Universitas Padjadjaran to obtain a research permit and information publication. Informed consent in writing is filled after the lecture contract is approved by all students, and the identity will be kept confidential. Respondents have the right to participate or decide not to participate in the middle of the ongoing research process.

## RESULTS

This study was conducted in July – August 2016. Participants were 76 final-year nursing students aged 22-23 years old, mostly females and only 9 males. The results of this study are presented in the tables below.

**Table 1** Students' caring behavior before and after completing critical care nursing course unit

Students' caring behavior	Positive	%	Negative	%	Total	%
Before	31	40.78	45	59.22	76	100
After	35	45.45	42	54.55	76	100

It can be inferred from Table 1 that more than half of the students had negative caring behavior prior to and following the course unit. Table 1 also indicates that the proportion

of students with negative caring behavior decreased around 5% after completion of the unit.

**Table 2** Students' caring behavior average score before and after completing a critical care nursing course unit (n=76)

Caring behavior	Mean	Std. Deviation
Pre-test	101.7	8.7
Post-test	103.1	9.2

**Table 3** Difference between students' caring behavior before and after completing a critical care nursing course unit (n=76)

Caring behavior	Mean	Std.Deviation	95% Confidence interval		p
Differences pre-post test	-1.407	11.17	-3.96	1.14	0.276

Table 2 and 3 displays a bivariate analysis result utilizing a paired t test to examine the difference of students' caring behavior before and after participating a critical care nursing course unit. At table 2 it can be seen that the mean value of caring for students is higher in the post-test, but based on the table 3, it can be seen that the average pre-test and post-test values are negative (-1.407), this indicates that there is an increase in the post-test value. However, this post-test score increase has not been significant, this is shown by p value of more than 0.05.

The analysis yielded a barely statistically insignificant difference of the mean scores of students' caring behavior before and after completion of the course unit, notwithstanding the fact that the mean score of caring behavior at the end of the course unit were slightly improved. Subsequent analyses using paired t tests were also conducted to obtain more detailed information regarding students' caring behavior based on 10 carative factors. The results are described in Table 4 below.

**Table 4** Difference between students' caring behavior based on carative factors before and after completing a critical care nursing course unit (n=76)

Carative Factors	Mean	Std.Deviation	95% Confidence interval of the Difference		p
			Lower	Upper	
Humanistic altruistic system of value	-0.21	2.33	-0.74391	0.32286	0.434
Faith and hope	-0.16	1.59	-0.52170	.020591	0.390
Sensitivity to self and others	0.01	1.81	-0.39984	0.42615	0.950
Helping-trust relationship	0.13	2.56	-0.45291	0.71607	0.655
Expressing positive and negative feelings	0.04	1.53	-0.31145	0.39040	0.823
Creative problem solving	-0.03	1.22	-0.30549	0.25286	0.852
Transpersonal teaching-learning	-6.353	1.28	-6.64865	-6.06188	0.000*
Supportive, protective, and/or correct	-0.54	1.95	-0.98483	-0.09412	0.018*
Human need assistant	-0.16	1.69	-0.54398	0.22819	0.418
Existential-phenomenological spiritual forces	6.84	1.13	6.58343	7.10078	0.000*

\*significant at  $p < 0.05$

Table 4 reveals that there were significant changes in students' caring behavior within three carative factors, namely the transpersonal teaching-learning, provision of supportive, protective, and/or corrective mental, physical, sociocultural, and spiritual environment, and existential-phenomenological spiritual forces ( $p$  value  $< 0.05$ ). Interestingly, within the helping-trusting relationship factor, there was a decline in the students' mean score, it can be seen that the mean score is positive 0.13. Contrariwise, the transpersonal teaching-learning increase quite sharply which the score

is negative (-6.353) and this rise is very significant ( $p$  value 0.000).

## DISCUSSION

Results of this study showed that more than half of the students exhibited negative caring behavior before and after the learning process. Although there was a decrease in the proportion of students with negative caring behavior, a further analysis indicated that after receiving various learning strategies during a

semester of critical care nursing course unit, there was no significant change in students' caring behavior. It is even more intriguing that students demonstrated a declined score within human care (helping-trusting) relationship component of the 10 carative factors. However, although in general, caring behavior students have no statistically significant changes, but there are 3 domains of the 10 carative factors that change significantly, namely the transpersonal teaching-learning, provision of supportive, protective, and/or corrective mental, physical, sociocultural, and spiritual environment, and existential-phenomenological spiritual forces. These findings could be attributable to the implementation of the student-centered learning approach involving various learning strategies that are intended to encourage students to think critically and to be able to solve problems. Nevertheless, in PBL tutors engaged minimally in directing students ([Russell et al., 2007](#)); and thus might inhibit the development of the human care relationship.

It is also stated that in relation to caring, nurses cannot work alone, they need work with others in order for the interaction of caring ([Favero, Pagliuca, & Lacerda, 2013](#); [Watson, 2008](#)). Transpersonal teaching learning is inter-subjectivity of the human to human relationship which each person is influenced by another person. There is a moral commitment to each other, so they use of the self: self-knowledge, self-growth, self-control, self-recuperation and self-recovery. To develop this relationship, a caring moment is requisite, where a human-to-human transaction occurs ([Watson, 2008](#)). Study affirms that caring is an interpersonal process depicted through intimate relationships and interpersonal sensitivity ([Finfgeld-Connett, 2006](#)). Encountering therapeutic relationships where the students are valued as human is important ([Costello & Haggart, 2008](#)). Accordingly, regardless of a variety of learning strategies applied in the learning process; tutors play an essential role in shaping students' caring behavior. As stated by previous study ([Benner, 2001](#)), caring cannot

be compelled, instead it should be comprehended and facilitated in practice. In addition, students' experience related to classroom or clinical learning activities along with adequate support from peers, faculty, and healthcare professionals in the field; can contribute to students' caring development ([Berman & Snyder, 2015](#)). Further investigation on the role of tutors or facilitators in developing students' human care relationship is needed.

In contrast, in terms of provision for a supportive, protective, and/or corrective mental, physical, sociocultural, and spiritual environment; results indicated that students' behavior was significantly improved after completion of the learning process. Watson expresses that this carative factor is strongly related to the intention of "doing" for another and "being" with another who is in need by utilizing particular skills and comportment ([Watson, 2008](#)). This finding may well represent that to some extent, the learning activities allowed the students to learn how to promote and create a holistic healing environment and anticipate others' needs. For instance, students received immediate and direct feedback after completing each quiz (individual) and laboratory practice (group); in this way, they realized their strengths and weaknesses as well as the "rights" and "wrongs". Moreover, the students' improvement of this carative value could stem from small group discussion activities. By engaging to the discussion process, students had the opportunity to develop numerous interpersonal skills, such as listening to others when they were talking and maintaining a comfort environment during discussions (cleanliness, noise, safety, etc.). Once more, tutors play a vital function in supporting students develop this carative factor. This situation is relevant with an article by Costello and Haggart explaining that as role models, teachers nurture relationship with their students, interpret difficult concepts and help students to apply concepts into practice ([Costello & Haggart, 2008](#)). Therefore, both teachers and students create a learning (helping) environment to mutually work

towards students' personal and professional growth. Furthermore, the learning contract was given at the first time of learning; it is a written mutual agreement between lecturer and students and states explicitly what a learner will do to achieve specific learning outcomes. Russel et.al considered that learning contract is one of some form of self-directed learning that encourages student to active learning. Student will take an increased responsibility for their own learning with use of learning contract ([Russell et al., 2007](#)). Unfortunately, contemporary nursing education with rigidly designed learning modules and large numbers of students constrain the exploration of students' learning experiences through reflective practices; and may further stall the development of their caring culture ([Russell et al., 2007](#)).

Additionally, a qualitative study regarding facilitating factors of role-modeling process in Iran involving nursing students (bachelor, master, and doctoral) and instructors from five nursing colleges in 2011, discussed the importance of teachers' ability to manage various effort for student's humanistic (emotional, spiritual, and intellectual) and professional growth. In addition, model teachers are considered to have special abilities such as excellence in scientific and professional quality; long-term experience in teaching, research, and clinical; respectable family background; being creative and innovative; and being charismatic. Other identified facilitating factors including student's effort and motivation; strategies governing the education system; and appropriate equipment and facilities ([Nouri et al., 2014](#)). Overall, to establish a suitable environment for enhancement of students' caring behavior, learning strategies should be implemented in conjunction with sufficient role-modeling process.

## CONCLUSION

Results of this study indicated that prior to and following a learning program of critical nursing subject utilizing various learning

strategies, more than half of the students' demonstrated negative caring behavior. There was also no significant difference in students' caring behavior before and after completion of the learning program. However, according to the 10 carative factors, the transpersonal teaching-learning factor, provision of supportive, protective, and/or corrective mental, physical, sociocultural, and spiritual environment, and existential-phenomenological spiritual forces significantly improved. It can be concluded that the effectiveness of a variety of learning strategies in improving nursing students' caring behavior could greatly be affected by the role performance of tutors/facilitators or lecturers. Hence, the tutors may need a quality enhancement program (scientific meeting, training of trainer [ToT], and regular performance evaluation). It is recommended incorporating a holistic humanistic approach in implementing learning strategies throughout the course of undergraduate study to enable students strengthen their caring behavior.

## Declaration of Conflicting Interest

None declared.

## Funding

This study is supported by Faculty of Nursing, Universitas Padjadjaran, Bandung, Indonesia

## Author Contribution

All authors equally contributed in this study.

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1

**Cite this article as:** Anna, A., Nuraeni, A., Praptiwi, A. (2018). A variety of teaching-learning strategies to improve the caring behavior of nursing students. *Belitung Nursing Journal*, 4(6), 545-551. <https://doi.org/10.33546/bnj.568>