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Reflective Learning with Constructivism Theory Approaches through Reflective Writing Journal to Enhance Nursing Students' Resilience

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ABSTRACT

Approximately 79.8% of nursing students in Indonesia experience moderate stress while studying in a clinical environment. Resilience refers to the ability to rise from negative experiences when faced with difficult situations. This study aims to determine the optimisation of the ability to write reflective journals with constructivism theory approaches to increase the resilience of nursing students. This study, with a quasi-experimental one-group pre-test and post-test design, was conducted on 57 students. The results revealed a significant increase in the ability to write reflective journals and resilience level ($p = 0.000$), as well as a significant relationship between the ability to write reflective journals and an increase in the resilience of nursing students studying in a clinical environment ($p = 0.000$, $r = 0.829$). The constructivism theory views knowledge as something built in a person's mind based on their interpretation of their experiences. This theory was applied in this study by optimising the experiences of respondents who had taken various experiences in the previous clinical environment to serve as material for self-reflection. Workshops using the constructivist theory approach improve nursing students' resilience and ability to write reflective journals.

Keywords: *Social media, Learning, Personal and professional development, Medical students*

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INTRODUCTION

Learning in the clinical environment is an essential and inseparable part of achieving graduate competency in nursing students (1). The clinical environment provides students with the direct experience of applying various theories and concepts during the academic stage, facilitating their transition towards skilled and competent graduate (2). An optimal clinical learning environment positively impacts students' professional development (2). However, 52.3% to 64.1% of nursing students were found to experience stress during the learning process in a clinical environment (3). A study conducted in Iran stated that 65%

and 13% of the participating nursing students experienced stress in the moderate and high categories, respectively (4). Research has shown that during the learning process, the stress level of nursing students is higher compared to that of students in other study programmes (5–8). Other studies have revealed that 79.8% of nursing students in Indonesia experienced moderate stress during learning in a clinical environment (8, 9). The inability of students to identify problems and use adaptive coping mechanisms during learning in the clinical environment are triggers for an increase in dropout rates (10). Yazdannik et al. (11) suggested that nursing students suffered from an inferiority complex after entering the learning stage in the clinical environment.

Self-awareness and early recognition of the stressor are the first steps in determining an individual action plan to address problems. Self-reflection can improve and develop the understanding and analysis of challenges to formulate action plans (12). Self-reflection helps students express their emotions and feelings, identify issues accurately and understand themselves better during clinical learning. If performed continuously, it could form a pattern and increase the individual's ability to overcome challenges, which has implications for their overall resilience (13).

Resilience refers to the ability to rise from negative experiences when faced with difficult situations (14). Numerous educational methods to improve resilience abilities have been implemented, but more evidence is required to identify the most effective methods (15–17). The constructivism theory views knowledge as something built in the mind based on the interpreting lived experiences. Hence, the constructivist theory approach is suitable for teaching reflective journal writing, which could lead to improved resilience.

This study aimed to determine the effect of reflective learning based on the constructivist theory through workshops on the ability to write reflective journals and increase the resilience of nursing students during learning in a clinical environment.

METHODS

Design and Setting

This study used a quasi-experimental one-group pre-test and post-test design. It was conducted from April to June 2023 at Universitas Pembangunan Nasional Veteran Jakarta.

Respondents

Sampling was conducted on a population of nursing students in a clinical setting comprising 81 students. The sample size was determined using an online application (18) (<https://sample-size.net/>) by calculating the sample size for the before-after study (paired *t*-test). The confidence level was set at 95%, the research power at 80%, and the effect size at 40%. The required minimum sample size was calculated to be 52 respondents. To account for a potential 10% dropout rate, the study included a sample of 57 respondents.

Respondents were selected using the consecutive sampling method. The inclusion criterion was all nursing programme students at the clinical stage (fifth year) with active status in the 2022/2023 academic year—respondents who have experienced learning in a clinical environment in one semester. At the time of data collection, the students studied in a clinical environment. The exclusion criterion was nursing students who were on leave during the study.

Interventions

The reflective learning intervention model is structured by combining the stages of guided reflection, which include (a) introduction and guide to reflection; (b) identification of experiences that trigger reflection; (c) individual reflection process; (d) reflection process with others; and (e) feedback on reflection (19), including significance of self-awareness (20) and development of the ability to practice reflection for nursing students (21). Reflective learning interventions were performed through workshop activities conducted in several stages. The first stage included explaining reflective learning, writing reflective journals, scoring rubrics, and providing supervisor feedback. The second stage explained the concept of self-awareness, self-reflection and the stages of writing reflective journals for respondents. The third stage included the practice of writing reflective journals with an overview of the implementation, as follows: (a) respondents were given worksheets related to the development of self-awareness, the ability to describe situations (description), critical analysis skills, the ability to perform synthesis, and the ability to evaluate and develop action plans; (b) conduct discussions with colleagues regarding reflective journals that have been compiled to obtain feedback. Make improvements to reflective journals after receiving input from colleagues. The fourth stage assessed the ability to write reflective journals and provided feedback from researchers. The resource persons and facilitators involved in delivering the intervention included medical and health education and psychology experts. The total duration of the self-reflection journal writing workshop was 450 minutes or 7.5 hours.

Before collecting the pre-test data, respondents received a brief explanation regarding the format for writing a self-reflection journal. The pre-test data collection was conducted one week before the intervention by assessing the respondent's ability to write reflective journals and their level of resilience. A team of experts evaluated the ability to write reflective journals, while the level of resilience was measured based on a questionnaire survey. Post-test data collection on the respondents' level of resilience and ability to write reflective journals was conducted after four weeks of the intervention.

The instrument for measuring the level of resilience was the Connor Davidson Resilience Scale (CD-RISC) questionnaire, which was translated into Indonesian with a Cronbach's alpha value of 0.886 (22). Additionally, a team of experts assessed the respondents' ability to write reflective journals using the reflection on action rubric (23).

RESULTS

Most of the respondents were female (94.7%); the ability of all the respondents to write self-reflection journals before receiving the intervention was in the poor category; and most respondents' resilience level before receiving the intervention was in the moderate category, which was 54.4% (Table 1).

The analysis using the Wilcoxon test (Table 2) shows that the respondents' ability to write reflective journals and their level of resilience significantly increased after they received an intervention through a workshop, as evidenced by the p -value of 0.000 each.

The analysis results using Spearman's rho show a significant relationship between the ability of self-reflection and nursing students' resilience level, as evidenced by the value of $p = 0.000$ (Table 3).

Table 1: Description of the ability to write reflective journals and the level of resilience before and after receiving the intervention

Variable	Category	Frequency			
		Before		After	
		n	%	n	%
Self-reflection ability	Good	0	0	24	42.1
	Poor	57	100	33	57.9
Resilience level	Low	13	22.8	3	5.3
	Moderate	31	54.4	22	38.6
	High	13	22.8	32	56.1

Table 2: Differences in the ability to write reflective journals and the resilience level of nursing students before and after receiving an intervention

Variable	Before	After	Z	p-value
	Median (min-max)	Median (min-max)		
Self-reflection ability	3 (2-4)	4 (2-6)	-6.273	0.000
Resilience level	88 (64-102)	98 (70-123)	-6.455	0.000

Table 3: The relationship between the ability to write reflective journals and the resilience level of nursing students

Variable	Statistic test	Correlation coefficient	p-value
Self-reflection ability	Spearman's rho	0.829	0.000
Resilience level			

DISCUSSION

This study aimed to determine the effect of reflective learning through workshops on nursing students' resilience and reflective journal writing ability in a clinical learning environment. The research results show that reflective learning using the workshop method with the constructivism theory approach improved the respondents' resilience and reflective journal writing ability. This aligns with the results of another study (24) that experience-based learning programmes can improve students' self-reflection abilities in China. These results also concur with the findings of another study (25), which stated that training in writing reflective journals in the context of clinical learning environment can improve students' skills, adaptability, empathy, awareness, sensitivity and professionalism.

The intervention was performed by increasing the respondents' understanding regarding the stages of self-identification and the reflective journal writing process. The reflective learning process involves the experiences gained in the learning process by giving a specific prompt. Furthermore, the respondent conducts a situation analysis related to the current conditions and devises an action plan for the conditions experienced. The intervention also enables respondents to discuss the results of their reflective journal writing analysis with the group and the facilitator to obtain feedback. This stage is proven to increase the ability and confidence of respondents in preparing reflective journals.

The difference between the intervention in preparing self-reflection journals carried out by researchers and the previous preparation of self-reflection journals is that the intervention developed respondents' abilities in terms of self-awareness. Self-awareness will influence respondents' interpretation of the experiences they undergo during the process of preparing journals. The effectiveness of the interactive workshops must be based on four theories: the constructivism theory, constructive alignment, scaffolding and authenticity (26, 27). The constructivism theory views knowledge as something built in a person's mind based on their interpretation of their experiences. This theory was applied in this study by optimising the experiences of respondents who had taken various experiences in the previous clinical environment to serve as material for self-reflection. Through reflection, respondents interpret their experiences and through discussion with colleagues and receiving constructive feedback from the facilitator, learning can occur effectively and objectively. Additionally, this theory interprets the function of the facilitator as scaffolding—that is, providing a solid framework to support individual learning processes to achieve mastery of specific skills or understanding. This function is gradually reduced along with the independence of the respondents in performing the learning process (28).

These results are supported by another study (29), which stated that self-reflection training for nursing students on internship can improve their critical thinking skills and readiness in dealing with various demands in the clinical learning environment. Additionally, the optimisation of resilience levels through training can improve resilience and professionalism (30).

Work-based education or workshops that integrate factors of work relations, positivity training, self-awareness, setting learning goals, developing thinking and behaving processes, and community involvement have proven to be effective in increasing resilience (31). The level of resilience and well-being can be optimised through education by emphasising five fundamental aspects of resilience: self-awareness, goals, attention, self-care and establishing relationships (32). Mindfulness, self-awareness and stress management education are associated with increased resilience in nurses and doctors (15, 33). This concept is in line with a previous study (20), which suggested that while integrating resilience capability development into the curriculum, it is necessary to increase the level of self-awareness, proactive application of learned concepts and assessment or provision of feedback.

Data analysis in this study has revealed a significant relationship between students' self-reflection ability and resilience. Previous studies support this result that positive self-reflection interventions can increase levels of resilience and self-confidence (14, 34). The systematic self-reflection (SSR) in the resilience level reinforcement model proposes that self-reflection is an active introspective practice that aims to understand and evaluate one's emotions, cognitions and actions through adaptive coping mechanisms. The SSR model provides evidence that self-reflection is significantly related to levels of resilience and well-being (13, 34).

The level of resilience is the outcome of the practice of self-reflection, which includes (a) self-awareness of one's initial reactions to stressors, resources and coping strategies applied, and situations relevant to set values and goals; (b) identification of events triggers; (c) consideration of learning opportunities; (d) evaluation of the resilience level applied to manage stressor demands with the values and goals that are set; and (e) self-development involving plans to improve coping mechanisms in the future (action plan) (34). Additionally, self-awareness has a mediating role in optimising the resilience level (35).

Reflective journals represent a type of reflection performed in writing. It can develop the attributes required for health services, including innovation, problem-solving, independence, and critical thinking, and encourage self-reflection writers to create meaning from events, which could guide writers in the future (21, 36).

This study has a limitation. It did not use a control group to compare the given intervention; this could not be optimised because the distribution of student rotations that had already been running could not be modified.

CONCLUSION

Reflective learning interventions through workshops based on the constructivism theory approach improve nursing students' ability to write reflective journals and their resilience during clinical learning. Additionally, the ability to self-reflect through reflective journal writing is significantly related to the level of resilience in nursing students studying in a clinical environment. This study recommends integrating reflective learning into the nursing curriculum and reviewing the impact of reflective learning on the achievements of graduate profiles.

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ETHICAL APPROVAL

This study was approved by the Research Ethics Committee of the Faculty of Medicine Universitas Pembangunan Nasional Veteran Jakarta (45/III/2023/KEPK).

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