The effect of reflective learning in nursing and health students: a literature review

Uswahzulhasanah¹, Fitri Arofiati²*

INTRODUCTION

Reflective learning is an activity or process that aims to recall the actions and processes of learning that have been carried out in the form of observation.¹ Based on experiential learning theory Kolb 1984, higher education is where the learning process is conducted as learner-centered, self-motivated, and independent. Reflection has some characteristics like proactive, inspection, and others. The reflection method can occur during or after an event, which supports learning from personal experience to facilitate problem-solving. Several studies have shown that the most crucial advantage of reflective learning is stimulating practical learning and knowledge, increasing professional responsibility, enhancing students’ knowledge, confidence, and improving critical thinking skills.²,³ Some researchers state that the reflection learning method can effectively facilitate thinking critically, even compared to other learning methods.³ Because the responsibility of educators is to understand the problems faced by students and know that reflection learning is a factor that drives professional learners. This literature review aims to see the effect of reflective learning methods on health and nursing students, especially critical thinking, problem-solving, and another positive impact of reflective learning.

METHODS

The methodology used is a literature review. The study sources consist of relevant journals from several databases Google Scholar, Proquest, and ScienceDirect. The author searches with keywords and synonyms reflective learning OR reflective practice OR reflection AND critical thinking AND problem solving AND nursing students OR medical students OR health profession students OR undergraduate nursing students. Inclusion criteria used for data collection were full text, journal publishing from 2015 to 2020, using English and Indonesian.

RESULT

Six studies were included in the final analysis, two studies with nursing students as respondents, and four with medical students as respondents. Three studies have a quantitative design, and one has a Quasi-Experimental Study randomized. one uses a controlled trial design and a mixed methodology. Most studies evaluate or test the effectiveness of reflective learning. In addition, several studies also discuss related to reflective measurement using questionnaires and their application. A complete description of the results of the literature review is explained as follows:

ABSTRACT

Background: Reflective learning can be defined as an activity or process that aims to recall the actions and methods of learning that have been carried out in the form of observations. Students mostly obtain and improve their knowledge and skills through experiential learning or reflection. This literature review aims to determine whether there is an effect of the reflective learning method in nursing students and health students, especially on critical thinking.

Methods: This research is a type of literature review conducted by searching for articles related to the reflective learning method in health and nursing students. This literature review is conducted by searching articles associated with the reflective learning method in health and nursing students. The database used to prepare the literature review was Google Scholar, ScienceDirect, and Proquest. The search technique was use specific keywords from the research question: reflective learning OR reflective practice OR reflection AND critical thinking AND problem solving AND nursing students OR medical students OR health profession students OR undergraduate nursing students. Inclusion criteria used for data collection were full text, journal publishing from 2015 to 2020, using English and Indonesian.

Result: The literature review results show that reflective learning is very effective in improving some aspects in health and nursing students, where students learn through their experiences in clinics.

Conclusion: Reflective learning can be used to reference learning models for health and nursing students.

Keywords: Health education, nursing, reflective learning, teaching method.


¹ Student Master of Nursing, Post Graduate Program, Universitas Muhammadiyah Yogyakarta, Daerah Istimewa Yogyakarta, Indonesia; ² Lecturer Master of Nursing, Post Graduate Program, Universitas Muhammadiyah Yogyakarta, Daerah Istimewa Yogyakarta, Indonesia; ² Corresponding author: Fitri Arofiati; Lecturer Master of nursing, Post Graduate Program, Universitas Muhammadiyah Yogyakarta, Daerah Istimewa Yogyakarta, Indonesia; fitri.arofiati@umy.ac.id

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Reflective Learning
A study in Qatar used mixed-method combining quantitative and qualitative analyses to determine the effectiveness of applying a reflective model by using a self-reported questionnaire design tested for reliability and validity. Two hundred thirty-six participants filled out the questionnaire, followed by a semi-structured interview with 10 participants. The results showed that participants who took part in reflective conversations and debriefing education had a meaningful effect on critical care's clinical reasoning decision skills.4

Another research that discusses the application of reflective learning is conducted by Ruitan et al. with quantitative descriptive design and a research sample of 100 active students from the 2016 Medical Education in Sam Ratulangi University. They were using the Reflection-in-Learning questionnaire, that study aims to determine the students’ learning reflection ability. The results of that study are that most of the respondents consider that they can reflect on learning and show that medical students have carried out several stages of reflection, but further evaluation may still be needed to improve the ability of reflection to be more effective.5 Similar research is supported by a quantitative descriptive study with 150 medical students as respondents. This study aims to examine reflection in student learning. In this study, a questionnaire was used, which tested the validity and reliability of the reflection-in-learning scale with r=0.195 and =0.896. This study indicates that the average ability of reflection in learning still requires an introduction in the beginning as the concept of reflection in medical and health education. It can be one way to improve academic achievement and better diagnostic thinking skills when becoming a doctor.6

A quantitative study measured the effectiveness of the reflective learning questionnaire with 150 respondents from medical students at Rocky Vista University, US. The study discusses the development of the Reflective Practice Questionnaire to measure students’ reflection ability and develop it according to the characteristics of medical students. The results obtained are that the RPQ can be used as a self-reported tool in medical education. These results underlie that the RPQ applies to program evaluation, especially those aimed at improving the effectiveness of reflective practice.7

Effectiveness of reflective learning
A quantitative study using a one-group, pre-post-test design was conducted at a university in Central Taiwan, with 103 nursing students participating in the study. The “Taiwan Critical Thinking Disposition Inventory” (TCTDI) developed by other research is used to measure the perception of critical thinking in nursing students. TCTDI consists of 20 questions and has four themes: systematicity/analysis, openness, curiosity, and reflective thinking. The results of this study indicate that the total score of self-reflection and critical thinking has a high positive correlation (p <0.001), respondent self-reflection and critical thinking increased after implementing ELP.2

A randomized controlled trial study was conducted in China to evaluate the effect of a reflective training program on critical thinking as a teaching method in the clinical area of undergraduate nursing students. One hundred fifty-seven undergraduate nursing students from Hainan Medical University in China participated in the study. The result is that the intervention group that completed the reflective training intervention improved critical thinking instead of the control group.3

DISCUSSION
The reflection process includes self-assessment during clinical practice, evaluating nursing experience and identifying positive sides and weaknesses to make improvements.2,8 The literature review results show that the effectiveness of reflective learning can be measured by a questionnaire developed according to the characteristics of the students.6 One study developed a Reflective Practice Questionnaire (RPQ) that can be used for education in which students fill out a questionnaire as part of self-reflection. The RPQ was created as a more comprehensive measure of reflective practice. The result of the study was that medical students reported higher reflective capacities. Several things that can affect reflection are self-confidence, stress, and the desire to make improvements from reflection.6 The effectiveness of the application of reflective learning cannot be separated from the application model to measure the extent to which students have understood and taken reflective actions.1
The study said there are many advantages of using reflective learning in a review. Students can identify their own learning needs and therefore improve practice outcomes. Students can also learn from their life experiences and understand patient needs by understanding their point of view and their ability as nurses to provide care.1,10

Several studies related to the reflection picture of medical students conducted in Indonesia explained that the concept of self-reflection has not been fully found in the medical education curriculum, so a better approach is needed in learning and is committed to self-reflection in every performance carried out.1,5

Some effects of reflective learning are reported by several studies. The effectiveness of reflective learning, such as improving clinical reasoning and critical care, is influenced by the application of a structured reflection model, students participating in thoughtful conversations and debriefing education learning activities, where a reflection guide must support this, the reflection process must reflect good and bad experiences, have sessions reflection is less than one hour, has enough reflection, and has a reflective

### Table 1. The summary of the included six studies

<table>
<thead>
<tr>
<th>Researcher Name, Year</th>
<th>Title</th>
<th>Researches Design</th>
<th>Respondent</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emad Ali, 2020</td>
<td>Enhancing Clinical Reasoning Skills through Structured Reflection Models</td>
<td>Mixed methodology</td>
<td>236 critical care nurses dan ten nurses Qatar- Hamad Medical Corporation</td>
<td>Following reflective learning with conversations and educational debriefing methods has a high and positive impact on improving clinical reasoning</td>
</tr>
<tr>
<td>Ruitan et al., 2020</td>
<td>The Description of Student Reflection Learning Ability Class of 2016 Faculty of Medicine, University of Sam Ratulangi</td>
<td>Descriptive quantitative</td>
<td>100 Medical Students Medical School Sam Ratulangi University</td>
<td>The results obtained by most of the respondents considered that they were able to reflect on learning and showed that medical students had carried out several stages of reflection</td>
</tr>
<tr>
<td>Polii, 2020</td>
<td>Student Learning Reflection Level, Class of 2018 Medical Education Study Program, Sam Ratulangi University Using Reflection In Learning Scale</td>
<td>Descriptive quantitative</td>
<td>150 medical education students Sam Ratulangi University</td>
<td>The results of this study indicate that the average ability of reflection in learning still requires an introduction to the concept of reflection in medical education</td>
</tr>
<tr>
<td>Rogers, 2019</td>
<td>Applications of the reflective practice questionnaire in medical education</td>
<td>Quantitative</td>
<td>150 medical education students Rocky Vista University, US</td>
<td>The results obtained are that the RPQ can be used as a self-reported instrument tool in medical education. These results underlie that the RPQ applies to program evaluation, especially those aimed at improving the effectiveness of reflective practice.</td>
</tr>
<tr>
<td>Cheng, 2020</td>
<td>Experiential Learning Program to Strengthen Self-Reflection and Critical Thinking in Freshmen Nursing Students during COVID-19: A Quasi-Experimental Study</td>
<td>Quasi-Experimental Study</td>
<td>103 Nursing students University in Taiwan</td>
<td>The total critical thinking and self-reflection score positively correlated (p &lt;0.001). Participants’ self-reflection and critical thinking increased after following the ELP</td>
</tr>
<tr>
<td>Zhang, 2017</td>
<td>The Effects of Reflective Training on the Disposition of Critical Thinking for Nursing Students in China: A Controlled Trial</td>
<td>Randomized Controlled trial</td>
<td>157 undergraduate nursing students Hainan Medical University</td>
<td>The result is that the intervention group that completed the reflective training intervention improved critical thinking compared to the control group.</td>
</tr>
</tbody>
</table>
session moderator or preceptor with good knowledge and the presence of a supervisor or teacher who has more skills or expertise in the field of reflection. The results of this study are in line with research in China by Zhang et al. The results of reflective training can encourage nursing students in China to explore more, enhance thinking, and do problem-solving activities during practice. In a systematic reflection training program, the supervisor will provide feedback by writing or making a diary containing experiences during the clinical trial, and students create an evidence-based portfolio. The training section is where the supervisor directs students to find clinical problems in nursing during the consultation process with students and gives feedback from students’ portfolios. There are at least two or three meetings.

The research entitled “Experiential Learning Program (ELP) to Strengthen Self-Reflection and Critical Thinking” explained that ELP can create an interactive learning environment. Students get feedback and reflections from supervisors during clinical practice and freely consult with their preceptor, learn about the knowledge and critical thinking skills related to nursing, enhance the learning experience and increase self-confidence.

Although the reflective practice has a positive influence, especially in improving students’ critical thinking, its application has several obstacles. Writing professional portfolios is inefficient, and students need guidelines regarding writing to develop portfolios. Handling these obstacles can be done by prioritizing both students and supervisors and making clear guidelines for the portfolio format. The results of this literature review are supported by literature review research that has been carried out previously; reflective learning tends to rely on clear guidelines, adequate assistance, and the existence of constructive feedback. In addition to barriers in guidelines and portfolios, there are also obstacles in conducting reflection training, such as time constraints, feelings of shame or insecurity.

The limitation of this literature was the number of data based, there was only three data based where it may cause some related articles not included in the search. In addition, further study is needed to describe more about the application of reflection learning in health institution.

CONCLUSION

The study results prove that reflective learning has a positive and effective influence in improving students’ critical thinking, and it has some positive aspects for students in nursing education. Health education should be able to apply reflective learning in their institutions by teaching and introducing the reflection process first.

CONFLICT OF INTEREST

The author declares that there is no conflict of interest in the writing of this article.

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ETHICS APPROVAL

Not applicable.

AUTHOR CONTRIBUTION

All authors carried out the review process. Authors 1 and 2 conducted an article search together and conducted a literature review. After completing the manuscript, each author reread the results of the review

REFERENCES

7. Suwanbamrung C. Learning Experience of Student Nurses through Reflection on Clinical Practice: A Case Study in Pediatric Nursing, Southern Thailand. 2015;8.