

ORIGINAL ARTICLE

## Content Validation of Guided Reflection in Clinical Nursing Education (GRCNE) Module.

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### Abstract

Reflective practice is an essential learning process that enhances critical thinking, adaptation and problem-solving skills among nursing students to face the ever-evolving healthcare system. The Guided Reflection in Clinical Nursing Education (GRCNE) module is developed as part of the effort to empower nurse educators of the nursing training institutions, Ministry of Health, Malaysia to nurture this practice among students in clinical settings. The module is designed to provide a comprehensive and interactive learning experience, focusing on the theoretical foundations, practical application and facilitation of reflective practice in clinical nursing education. This paper presents the content validation of the newly developed GRCNE module involving seven (7) national and international experts with diverse expertise in nursing, education and module development. The content validity achievement (CVA) was calculated and comments on the module were assembled. The GRCNE module scored 85.1% of CVA with individual item scores ranging from 77.1% to 91.4%. The experts further supported the module's efficacy in the open-ended section, with unanimous agreement on its clear and effective presentation. Some amendments were made based on their constructive feedback to enhance real-world applicability. Overall, the GRCNE module shows great promise for enhancing the teaching practices of nurse educators and promoting the integration of reflective practice in nursing education.

## Introduction

The global healthcare system is constantly evolving and adapting due to new emerging challenges and opportunities. Among the factors contributing to the transformation of the system are technological advancement [1], changing disease patterns [2,3], ageing population [4], and the rising disease complexity [5]. As healthcare providers, nurses face numerous challenges in the current healthcare system since it requires them to adapt rapidly and effectively to ensure safe and high-quality patient care.

Nursing education programmes play an integral role in preparing future nurses to meet the dynamic demands of the healthcare system. The nursing students must be well-equipped with not only a solid foundation of knowledge and nursing skills but also with soft skills, including critical thinking and problem-solving skills, lifelong learning skills, and the sense of independence in facing the future transformation of the healthcare system. Despite realising the importance of these soft skills in students' development and ensuring safe and quality nursing care, some nursing education institutions still struggle to convey effective teaching and learning strategies to enhance soft skills among their graduates [6].

Reflection or reflective practice has been regarded as an essential component in the development of critical thinking and problem-solving skills in education. Numerous literatures suggest the application of this practice in clinical education, including in nursing, as it has a great potential to impact personal and professional development in the healthcare setting [7,8,9]. Additionally, it has been associated with a reduction of stress and anxiety, as well as an increase in students' learning capacity, competency, and self-awareness [10].

Reflection is the process of leveraging previous experiences to deliver greater insights and comprehension of the issue or problem so that the newly gained understanding can guide and enhance future actions [11]. Meanwhile, reflective practice is a thinking process that transforms unconscious forms of knowledge and

practices into conscious, clear, and rationally defined knowledge and practices that enables transparent and justified clinical decision-making [12].

The concept of reflective learning traces back to Dewey's work in 1933, emphasising reflection as a systematic approach grounded in scientific inquiry [13]. Reflection in professional practice education was established through the work of Donald Schön in 1983, also known as *The Reflective Practitioner*, where new knowledge emerges from experiential learning [13,14]. In light of Schön's and Dewey's work, Kolb (1984) presented the *Experiential Learning Theory*, which describe learning as a process by which knowledge is formed through the transformation of experience [15]. Grounded in Kolb's work, Gibbs' *Reflective Cycle*, promotes learning through a six-stage cyclical learning framework using questions to guide reflection [16]. Later, Johns' *Model of Structured Reflection* (2009), rooted in the *Fundamental Way of Knowing*, was developed. The model employs more focused questioning to promote detailed reflection and a holistic approach to the learning process [17]. A qualitative study employing Johns' model reveals cognitive and affective processes improving the understanding of theory and practice among participants [18]. These models collectively enrich educational practices of reflection.

The literature emphasises the importance of structured guidance and effective facilitation by nurse educators who comprehend the reflective practice process [19]. Literature on reflective learning interventions have indicated that nurse educators should first acquire reflective skills and self-reflection capabilities before they can effectively guide others [20,21]. Despite having clinical expertise, some nurse educators face challenges in facilitating reflective learning among their students because clinical teaching and learning such as reflective practice, require its own sets of skills [22]. It was found in the previous study that reflective practice training programme improve the critical thinking

disposition and teaching efficacy of nurse educators [23]. Thus, a tailored training module is needed to enhance Malaysian nurse educators' reflective abilities, promote their grasp of reflective learning, and develop facilitation skills that may create a learning environment conducive for students to practice critical reflection [19].

The Ministry of Health (MOH) Malaysia has imbued reflective practice into its Diploma Nursing Programme curriculum, exposing students to its meaning, process, and significance in professional nursing development before their final semester clinical placement [24]. However, reflective practitioner was not a compulsory qualification in nurse educator recruitment, and there was limited dedicated training on guided reflection upon joining nursing education institutions. Nurse educators had to take the initiative to explore reflective practice through self-study and participation in related training programme. This approach potentially restricted the application of reflective practice in clinical teaching and learning, with possible negative consequences, particularly in relation to critical thinking, problem-solving and clinical decision-making for nursing students, and eventually compromising patient safety [19]. A critical need exists for a training module to assist nurse educators in nurturing their reflective capacity, thereby enhancing their grasp of reflective practice and their facilitation skills, creating an environment conducive to reflection for their students [19,22].

Thus, a module of Guided Reflection in Clinical Nursing Education (GRCNE) is developed to assist nurse educators of the nursing training institutions, MOH Malaysia, to become a reflective practice in clinical nursing education. In Malaysia, the MOH training institutions offer nursing programmes at the diploma level for nurses in the public healthcare sector. Guided reflection is a form of reflection that occurs between facilitators and practitioners or students in a structured way [18]. This module adopts Johns' Model of Structured Reflection and applies the reflective process by describing,

analysing, and evaluating the clinical experience as part of informed learning.

This paper focuses on the content validation of a newly developed GRCNE, as it takes a critical step in ensuring that the module is reliable, credible, and fit for its purpose. Content validation is typically defined as the degree to which components within a specific assessment or programme depict the construct they are designed to address (25). It involves a systematic process of assessing the relevance, accuracy, and alignment of module content with predefined objectives. This process provides a rich dataset for evaluating and rectifying any inadequacies or weaknesses in module content, thus enhancing the possibility of module feasibility and effectiveness.

#### **Guided Reflection in Clinical Nursing Education (GRCNE) Module**

Prior to the module development, a literature review of reflective practice in clinical nursing education and to identify the relevant needs related to its implementation, the level of reflective practice among the nurse educators and their perception and experience on the practice was investigated. By adapting the reflective thinking questionnaire [26] the level of reflective thinking among 221 nurse educators in the Malaysian training institutes was determined using a quantitative survey. In addition, a set of open-ended items were also included in the survey to gain more comprehensive information on their understanding, experience and attitude towards reflective practice in clinical nursing education. The data obtained through the quantitative survey was analysed quantitatively using Statistical Package for the Social Sciences (SPSS) 25 and the data from open-ended items were analysed qualitatively using content analysis. Overall, the findings indicated that nurse educators in Malaysia have engaged in reflective practice to some extent but are not comprehensive. Their understanding and skills of the reflective practice as well as familiarity with the model also could be enhanced. They also have positive attitudes and willingness to improve their

knowledge and skills in this practice which may potentially contribute to the advancement of reflective practice in clinical nursing education. Based on the findings of the assessment of the level of reflective thinking, understanding, experience and attitude of the nurse educators on reflective practice, the researchers designed and developed the guided reflection in clinical nursing education (GRCNE) module. Johns' Model of Structured Reflection was utilised for the development of this guided reflection module, as it facilitates relationships between facilitator and students, as well as promotes a holistic approach to reflection [17]. The process of development involved setting objectives, selection of content, delivery methods and module activities.

#### *Module description*

The GRCNE module is devised to reinforce the importance of reflective practice among nurse educators, as well as to prepare them for their roles as a facilitator in students' development of reflective practice skills. It also serves as the guideline tool for the implementation of the reflective model in clinical teaching and learning. The objectives of the GRCNE module are to help nurse educators to:

- Understand the purpose and importance of reflective practice in clinical nursing education;
- Understand the role as a nurse educator in promoting reflective practice in clinical nursing education;
- Explain the concept of reflective practice in clinical nursing education;
- Apply Johns' Model of Structured Reflection in clinical teaching and learning activities;
- Improve their reflective practice skills; and
- Facilitate students' development of reflective practice skills through guided reflection in clinical nursing education.

This module is proposed to be conducted as a two-day synchronous face-to-face training workshop to foster the incorporation of reflective practice among students by nurse educators in clinical nurse education. It consists of eight (8)

integrated activities that should be completed in order, as presented in Table 1.

To ensure the effectiveness of the module, different teaching and learning methods are involved, which require active interaction between the facilitator(s) and the participants. Among the teaching and learning methods employed in this module are lecture, video presentation, socratic questioning, group discussion and presentation, roleplay, as well as individual writing assignment and presentation.

#### **Methodology**

The development process of the module is based on Sidek Module Development Model [27] and ADDIE Instructional Design Model [28]. Both models provide significant frameworks for producing modules with good content validity and reliability in education including nursing education [29,30]. Although there was a difference between the models in the number of study phases, the development process was similar started with need assessment, followed by the process of designing and developing the module, and last but not the least, module testing that includes validity and reliability tests. This paper presents the content validation of the newly developed GRCNE module.

#### *Content validity*

To ensure the relevancy of the newly developed GRCNE module in achieving its objectives, content validation was performed. A content validation form was developed based on the advocated criteria for content validity [31]. The form included five items and was scored using a 5-point Likert scale: 1) Strongly Disagree; 2) Disagree; 3) Neutral; 4) Agree; and 5) Strongly Agree. The items include the suitability of the target group, the suitability of the situation in the module implementation, the suitability of time allocation to the activities in the module, the ability of the content to improve academic and personal achievement, and the ability to help in changing participant's attitudes towards

excellence. Apart from the listed items, the experts also needed to provide written comments to further improve the relevance of the module in an open-ended section. These comments were taken into consideration for further improvement of the module. Seven (7) experts including two clinical nursing educationists, three nursing experts in reflective practice and two experts in module development from various nursing education institutions nationally and internationally were involved to review the module and validate the relevancy of the GRCNE module based on its objectives. The number of experts involved in validating the module concurred with the recommendation of 6–10 experts [32].

The non-face-to-face approach was selected, as it allows the experts to review the documents at their convenience. Upon receiving their agreement to participate, a complete set of module draft together with the content validation form were sent to the experts. For convenience, the delivery method was as per request by the experts. The majority of the experts were sent the soft copy of the related documents per request. A maximum duration of one month was given to the experts to return the validated module and completed form. The result of this content validity test will be calculated using a formula that was formulated by Sidek Mohd Noah and Jamaludin Ahmad as presented below [27].

$$\frac{\text{Total score from expert (x)}}{\text{Total maximum score}} \times 100\% = \text{Content Validity Achievement}$$

Figure 1. Formula for content validity achievement

The content validation form has five (5) items in the 5-point Likert scale, which makes the total maximum score for the content validation to be 25. A module has good content validity if the content validity achievement is more than 70% [27]. If a module scored less than 70%, the content must be rechecked based on the objectives.

### *Ethical Consideration*

This study was approved by the Kulliyah of Nursing Postgraduate Research Committee (KNPGRC), International Islamic University Malaysia (IIUM) Research Ethics Committee (ID No: IREC 2021-321) and Medical Research and Ethics Committee (MREC). Consent was also obtained from each expert to indicate their agreement to participate in this study prior to the content validation process.

### **Results**

The module was evaluated by experts from various specialisation related to the study. Table 2 shows that the value of content validity achievement for GRCNE module is 85.1% with values ranging from 77.1%–91.4%. Thus, this module is considered to have good content validity, as it scored more than 70% (27). The module achieved the highest CVA of 91.4% for item ‘*The content of the GRCNE module for nurse educators can be implemented successfully*’, while the lowest CVA of 77.1% is for item ‘*The content of the GRCNE module for nurse educators is compatible with the time allocated.*’

Moreover, the overall feedback in the open-ended section indicated agreement between all of the reviewers that the content of the module is presented in a clear and effective manner, rendering it useful in promoting the implementation of reflective practice in clinical nursing education.

*“Very instructive, [with] good structure and informative. I assess it as referring to the idea of ‘keep it simple.’”* (Expert 3)

*“Content of this module can promote the application of reflective practice.”* (Expert 2)

*“The module is well-written. It is straightforward and user-friendly. The module’s title corresponds with its objectives. The goals are specific and pertinent to the title. Each activity is organised and well-planned. Those who utilised this module will find it straight-forward and valuable. Providing evaluation at the end of the session is*

*also beneficial for the author to gain feedback.”* (Expert 6)

However, some comments reflect the need to amend the activities to improve the applicability of the module in real-world applications. Table 3 illustrates the comments of the reviewers and the amendments that have been made by the research team to address the comments.

## **Discussion**

The development and evaluation of educational modules in nursing education are imperative in ensuring high- quality education that aligns with the dynamic healthcare delivery system. Based on the review by seven experts from related fields, this module scored 85.1% CVA, thereby indicating a good validity and suitability of this module for achieving the determined objectives.

The GRCNE module is deemed to be appropriate for nurse educators with a CVA score of 85.1%, as it has been customised to address the needs and expectations of this target population. This comprehensive module covers the overall process of the reflective practice, including an in-depth introduction to the practice (e.g., definition, importance, the roles of nurse educators and students, and the components of the reflective process), models of reflective practice, the application of reflective practice in clinical nursing education, and providing effective feedback through eight interconnected activities. The theoretical knowledge of reflective practice is important to provide the foundational understanding among nurse educators and to encourage them to engage with a deeper level of reflection [33]. Subsequently, it can serve as a valuable resource and skill set for nurse educators to become facilitators of reflective practice among nursing students.

A notably high CVA score of 91.4% signifies that the GRCNE module can be implemented successfully. It demonstrates that this module is not only well-designed but also highly practical

and feasible for real-world applications as it is straightforward and user-friendly. Nurse educators are likely to find the module’s content suitable for implementation in their clinical teaching and supervision. This aligns with the module’s overarching goal of equipping nurse educators with the tools to guide student reflective practice effectively. The score also indicates that the module is likely to be well-received and adopted by nurse educators with the potential to impact their teaching practices positively.

In terms of time allocation, the CVA score of 77.1% suggests that there may be some room for improvement despite being moderately fair. As such, some amendments were made to ensure the module’s content is structured and delivered in a way that optimises learning within the allocated timeframes. Longer time was allocated for certain activities and a take home activity was added so that nurse educators to complement the in-session learning and they can engage deeply with reflective exercises.

The high content validity score of 88.6% in this module signifies that it is well-equipped to support nurse educators in their role as facilitators of students’ reflective practice in the clinical setting. It is likely to provide valuable insights, strategies, and tools for effectively guiding and nurturing reflective practice among students. Multiple educational methods are employed in this module based on the objectives of the activities and the nurse educators’ needs. By employing various teaching and learning strategies, the module aims to maximise its impact on enhancing the familiarity of nurse educators with reflective practice as well as their critical thinking and communication skills that are important in the implementation of reflective practice in clinical nursing education [34, 35]. This extensive exposure is anticipated to significantly elevate their engagement and proficiency in promoting reflecting learning.

The cumulative impact of these efforts shall create a profound impact on the quality of nursing education, and ultimately contribute to the development of competent and reflective nursing professionals. This GRCNE module also possesses the potential to promote the application of reflective practice in the clinical teaching and learning environments with CVA score of 82.9%. It is within the acceptable range, signifying that this module may be effective in encouraging the integration of reflective practice into clinical education. The GRCNE module equips nurse educators with the tools to translate reflective practice concepts into meaningful, real-world clinical teaching experiences as it involves active learning and covers not only a comprehensive theoretical knowledge but also relevant reflective practice skills [36]. Besides, by adopting Johns' Model of Structured Reflection this module will equip nurse educators with comprehensive guidance for the adoption of holistic reflective practice in clinical nursing education where critical thinking and complex decision-making skills are highly valued [17]. Ultimately the module enables nurse educators to guide nursing students to bridge the gaps between theory and practice toward becoming reflective practitioners who can critically assess and improve their clinical skills.

Overall, the CVA score of this GRNCE module indicates that it has the potential to be highly beneficial in facilitating nurse educators to be the change agent in their nursing institution towards reflection culture and to make a meaningful impact on nursing education especially in Malaysia.

However, it is essential to recognise certain limitations that warrant consideration especially on the generalisability of this module to other contexts. Different educational settings, cultural contexts, and different levels of experience among nurse educators could potentially influence the perceived relevance and adequacy of the module.

## Conclusion

In a nutshell, the results of the content validity assessment strongly support the potential, relevance, and practicality of the GRCNE module in the context of clinical nursing education for diploma nursing students in Malaysia. While the CVA and the qualitative experts' review have provided valuable insights into the content validity of the module, it is essential to acknowledge the limitations. It is important to recognise that the assessments in this research although rigorous, they are not exhaustive. Therefore, to further strengthen the module, it is recommended that future research to conduct pilot testing and reliability analysis of the module. Besides, while the results affirm its values, minor refinements can be considered to further solidify the module's efficacy in empowering nurse educators to guide and inspire the next generation of reflective nursing professionals. The module's applicability may also vary across different educational settings and the experience levels of nurse educators.

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*A: Conception and design; B: Analysis and interpretation of the data; C: Drafting of the article; D: Critical revision of the article for important intellectual content; E: Final approval of the article; F: Provision of study materials or patients; G: Statistical expertise; H: Obtaining of funding; I: Administrative, technical or logistic support; J: Collection and assembly of data*

Table 1. Summary of activities in the GRCNE module

Activity No.	Name of Activity	Objectives (At the end of the activity, participants will be able to:)	Duration
1.	Making sense of imagination	<ol style="list-style-type: none"> <li>1. Explain the importance of reflective practice in clinical nursing education.</li> <li>2. Explain the role as nurse educators to promote reflective practice in clinical nursing education.</li> </ol>	30 minutes
2.	Getting to know	<ol style="list-style-type: none"> <li>1. Define reflection in their own words.</li> <li>2. Identify five components of the reflective process.</li> </ol>	90 minutes
3.	Starting your engine	<ol style="list-style-type: none"> <li>1. Explain the function of using the reflective model in reflection.</li> <li>2. Explain Johns' Model of Structured Reflection.</li> <li>3. Understand the benefits of using John's model in facilitating reflection.</li> </ol>	90 minutes
4.	Ten Cs of reflection	<ol style="list-style-type: none"> <li>1. Explain the essential nature of reflection through the Ten Cs of reflection from Johns' Model of Structured Reflection.</li> <li>2. Explain the application of Ten Cs of reflection in facilitating reflective practice.</li> </ol>	60 minutes
5.	Journey to success	<ol style="list-style-type: none"> <li>1. Identify the benefits of reflective practice in clinical learning.</li> <li>2. Identify the barriers to reflective practice in clinical learning.</li> <li>3. Explain the role of nurse educators in reducing the barriers to enhance the benefits.</li> </ol>	90 minutes
6.	Writing your mind	<ol style="list-style-type: none"> <li>1. Write a reflective journal based on their previous experience in clinical teaching and learning.</li> <li>2. Understand the benefits of reflective writing.</li> </ol>	120 minutes
7.	Let's do the talking	<ol style="list-style-type: none"> <li>1. Understand the principles of giving effective feedback.</li> <li>2. Apply feedback model in giving feedback.</li> <li>3. Identify the method of giving feedback reflectively.</li> </ol>	60 minutes
8.	Guided Reflection	<ol style="list-style-type: none"> <li>1. Facilitate a reflective group discussion based on the John's Model of Structured Reflection.</li> </ol>	60 minutes



Table 2. Analysis of content validity achievement (CVA) for the guided reflection in clinical nursing education (GRCNE) module

Items	CVA (%)	Interpretation
1. The content of the GRCNE module for nurse educators meets the target population.	85.1	Good
2. The content of the GRCNE module for nurse educators can be implemented successfully.	91.4	Good
3. The content of the GRCNE module for nurse educators is compatible with the time allocated.	77.1	Good
4. The content of the GRCNE module for nurse educators can assist them in guiding student reflective practice.	88.6	Good
5. The content of the GRCNE module for nurse educators can promote the application of reflective practice in clinical teaching and learning.	82.9	Good
Overall score	85.1	Good

Table 3. Reviewers' comments and the related amendments

No	Name of Activity	Reviewer Comment	Amendment
1	Making sense of imagination	The image shown more about 'expedition.'	The word 'job' was replaced with 'expedition.'
2	Getting to know	<ul style="list-style-type: none"> <li>To assess a person's level of understanding of a subject, it is crucial to understand how they think rather than just what they think.</li> <li>Suggest for open up activity for participants own conclusion of reflective practice</li> </ul>	The first objective: define reflection in their own words, was changed to describe reflection according to their understanding. This objective will be used as an instruction during the activity.
3	Starting your engine	<ul style="list-style-type: none"> <li>The video included in this module may be more engaging if the audio were more distinct. Additionally, it would be preferable if the video was specifically relevant to Johns' Model.</li> <li>Provide extra time to practice reflection using Johns' model-maybe some take home activity in between two-day workshop.</li> </ul>	<ul style="list-style-type: none"> <li>A video of reflective practice using Johns' Model of Structured Reflection was created.</li> <li>A take home activity was added for reinforcement.</li> </ul>
4	Ten Cs of Reflection	Provide participant with a clinical practice role-play scenario to observe how nurse educators apply the Ten Cs of reflection to facilitate reflective practice among student nurses.	Role play and another 30 minutes was added in this activity.
5	Journey to success	In addition to discussing the case study, the facilitator may select participant to share their actual reflective practice experience with the student since this is a subject thought to nursing student as part of their curriculum (MOH).	A sharing session on previous experience in reflective session among participant was added.

## References

- [1]. Schwalbe N, Wahl B, Artificial intelligence and the future of global health. *The Lancet*. 2020;395(10236):1579-1586. [https://doi.org/10.1016/S0140-6736\(20\)30226-9](https://doi.org/10.1016/S0140-6736(20)30226-9)
- [2]. Mogharab V, Ostovar M, Ruszkowski J, et al. Global burden of the COVID-19 associated patient-related delay in emergency healthcare: a panel of systematic review and meta-analyses. *Global Health*. 2022;18, 58. <https://doi.org/10.1186/s12992-022-00836-2>
- [3]. Arsenault C, Gage A, Kim MK, et al. COVID-19 and resilience of healthcare systems in ten countries. *Nat Med*. 2022;28:1314–1324. <https://doi.org/10.1038/s41591-022-01750-1>
- [4]. Atella V, Piano Mortari, A, Kopinska, J, et al. Trends in age-related disease burden and healthcare utilization. *Aging Cell*. 2019; 18:e12861. <https://doi.org/10.1111/accel.12861>
- [5]. Prathapan S, Fernando GVMC, Matthias AT, Bentota Mallawa Arachchige Charuni Y, Abeygunawardhana HMG, Somathilake BGGK. The rising complexity and burden of multimorbidity in a middle-income country. *PLoS One*. 2020 Dec 11;15(12):e0243614. doi:10.1371/journal.pone.0243614
- [6]. Kantek F, Yıldırım N. The Effects of Nursing Education on Critical Thinking of Students: A Meta-Analysis. *Florence Nightingale Hemsire Derg*. 2019 Feb;27(1):17-25. [doi:10.26650/FNHN363168](https://doi.org/10.26650/FNHN363168)
- [7]. Von Colln-Applying C, Giuliano D. A concept analysis of critical thinking: A guide for nurse educators. *Nurse Educ Today*. 2017 Feb;49:106-109. doi: 10.1016/j.nedt.2016.11.007.
- [8]. Chen FF, Chen SY, Pai HC. Self-reflection and critical thinking: the influence of professional qualifications on registered nurses, *Contemporary Nurse*. 2019;55(1):59-70, doi: 10.1080/10376178.2019.1590154
- [9]. Goh AYS. Rethinking reflective practice in professional lifelong learning using learning metaphors, *Studies in Continuing Education*, 2019;41(1):1-16, doi: 10.1080/0158037X.2018.1474867
- [10]. Contreras JA, Edwards-Maddox S, Hall A, Lee MA. Effects of reflective practice on baccalaureate nursing students' stress, anxiety and competency: An integrative review. *Worldviews on Evidence-Based Nursing*. 2020;17:239-245. <https://doi.org/10.1111/wvn.12438>
- [11]. Sandars J. The use of reflection in medical education: AMEE Guide No. 44. *Medical Teacher* 2009;31(8)685-695. <https://doi.org/10.1080/01421590903050374>
- [12]. Mantzoukas S, Watkinson S. Redescribing reflective practice and evidence-based practice discourses. *International Journal of Nursing Practice*. 2008;14:129-134. <https://doi.org/10.1111/j.1440-172X.2008.00676.x>
- [13]. Van Beveren L, Roets G, Buysse A, Rutten K. We all reflect, but why? A systematic review of the purposes of reflection in higher education in social and behavioral sciences. *Educational Research Review*, (2018); 24: 1–9. <https://doi.org/10.1016/j.edurev.2018.01.002>
- [14]. Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. New York: Basic Books.
- [15]. Kolb D. *Experiential Learning: Experience As The Source Of Learning And Development*; 1984.

- [16]. Gibbs G. Learning by Doing: A Guide to Teaching and Learning Methods. Oxford Polytechnic, Oxford; 1988.
- [17]. Johns, C. Becoming a Reflective Practitioner (5<sup>th</sup> Edition). John Wiley and Sons Ltd; 2017.
- [18]. De Swardt HC, Du Toit H. S, Botha A. Guided reflection as a tool to deal with the theory–practice gap in critical care nursing students. Health SA Gesondheid. 2012;17(1), 1–9. <https://doi.org/10.4102/hsag.v17i1.591>
- [19]. Naicker K, van Rensburg GH. Facilitation of reflective learning in nursing: Reflective teaching practices of educators. Africa Journal of Nursing and Midwifery. 2018;20(2), 1–15. <https://doi.org/10.25159/2520-5293/3386>
- [20]. Kim YH, Min J, Kim SH, Shin S. Effects of a work-based critical reflection program for novice nurses. BMC Medical Education. 2018;18. <https://doi.org/10.1186/s12909-018-1135-0>
- [21]. Zhang C, Fan H, Xia J, Guo H, Jiang X, Yan Y. The effects of reflective training on the disposition of critical thinking for nursing students in China: A controlled trial. Asian Nursing Research. 2017;11(3):194–200. <https://doi.org/10.1016/j.anr.2017.07.002>
- [22]. Summers JA. Developing competencies in the novice nurse educator: An integrative review. Teaching and Learning in Nursing. 2017;12(4): 263–276. <https://doi.org/10.1016/j.teln.2017.05.001>
- [23]. Shin, S., Lee, I., Kim, J., Oh, E., & Hong, E. (2023). Effectiveness of a critical reflection competency program for clinical nurse educators: a pilot study. BMC nursing, 22(1), 1-8. <https://doi.org/10.1186/s12912-023-01236-6>
- [24]. Ministry of Health. Diploma in Nursing. Revised 2015.
- [25]. Haynes SN, Richard DCS, Kubany, ES. Content validity in psychological assessment: A functional approach to concepts and methods. Psychological Assessment. 1995;7:238–247. <https://doi.org/10.1037/1040-3590.7.3.238>
- [26]. Kember D, Leung DYP, Jones A, Yuen Loke A, McKay J, Sinclair K, et al. Development of a Questionnaire to Measure the Level of Reflective Thinking. Assess Eval High Educ. 2000;25(4): 381-39. [doi.org/10.1080/713611442](https://doi.org/10.1080/713611442)
- [27]. Mohd Noah S, Ahmad J. Pembinaan modul: Bagaimana membina modul latihan dan modul akademik. Universiti Putra Malaysia: 2005.
- [28]. Branch, R. M. (2009). Instructional design: The ADDIE approach (Vol. 722). New York: Springer.
- [29]. Mahfar M, Noah SM, Senin AA. Development of rational emotive education module for stress intervention of Malaysian boarding school students. SAGE Open. 2019;9(2). <https://doi.org/10.1177/2158244019850246>
- [30]. Ab Latif R, Mat Nor MZ. Using the ADDIE Model to Develop a Rusnani Concept Mapping Guideline for Nursing Students. Malays J Med Sci. 2020 Dec;27(6):115-127. doi: 10.21315/mjms2020.27.6.11.
- [31]. Ahmad J. Kesahan, Kebolehpercayaan dan Keberkesanan Modul Program Maju Diri Ke Atas Motivasi Pencapaian Dikalangan Pelajar Sekolah Menengah Negeri Selangor (dissertation on the Internet). Universiti Putra Malaysia; 2002 (cited 2022). Available from: <http://psasir.upm.edu.my/id/eprint/9348/>
- [32]. Yusoff MSB. ABC of content validation and content validity index calculation. Education in Medicine Journal. 2019;11(2):49–54. <https://doi.org/10.21315/eimj2019.11.2.6>

- [33]. Katajavuori N, Lindblom-Ylänne S, Hirvonen, J. The significance of practical training in linking theoretical studies with practice. High Educ. 2006; 51: 439–464. <https://doi.org/10.1007/s10734-004-6391-8>
- [34]. Bastable SB. Nurse as educator: Principles of teaching and learning for nursing practice. Jones & Bartlett Learning; 2021.
- [35]. Pivač, S., Skela-Savič, B., Jović, D. et al. Implementation of active learning methods by nurse educators in undergraduate nursing students' programs – a group interview. BMC Nurs. 2021; 20(173). <https://doi.org/10.1186/s12912-021-00688-y>
- [36]. Wrenn J, Wrenn B. Enhancing learning by integrating theory and practice. International Journal of Teaching and learning in higher education. 2009;21(2):258-65.