



## Adapting Reading Instruction to Meet the Needs of Nursing Students: Insights from a Targeted Educational Study

<sup>1</sup>Rizqi Amiroh, \*<sup>1</sup>Soni Mirizon, <sup>1</sup>Eryansyah

<sup>1</sup>Universitas Sriwijaya, Indonesia

**\*Correspondence:**

smirizon@unsri.ac.id

**Submission History:**

Submitted: April 9, 2024

Revised: August 20, 2024

Accepted: August 21, 2024



This article is licensed under a Creative Commons Attribution-Share Alike 4.0 International License.

### Abstract

Developing Higher-Order Thinking Skills (HOTS) and effective information transfer is crucial for nursing students, impacting their academic and professional competence. This study aims to identify the gaps in English reading materials used by nursing students at a Health Polytechnic, assessing their adequacy in supporting these critical cognitive skills. The research focused on 79 second-semester nursing students during the 2022/2023 academic year and employed a 25-item questionnaire to analyze target situations, deficiencies, current situations, and strategies. The results reveal that existing general English coursebooks need to meet the specialized needs of nursing education. Notably, these materials lack content that promotes HOTS and aids in information transfer, essential elements for nurturing the cognitive and professional skills required in nursing. The study underscores a significant need for more appropriate materials that support HOTS, highlighting the need for strategically revised material development. It is recommended that custom English reading materials integrating HOTS and effective information transfer techniques be developed to enhance comprehension and relevance in the nursing curriculum, thereby better preparing nursing students for their future roles.

**Keywords:** Needs analysis, higher order thinking skill, information transfer, health polytechnic

### INTRODUCTION

In the rapidly evolving healthcare landscape, nursing professionals are increasingly expected to exhibit technical proficiency and advanced cognitive capabilities such as critical thinking and problem-solving. These Higher-Order Thinking Skills (HOTS) are essential for effective patient care and decision-making in complex clinical environments (Fero et al., 2010). Additionally, integrating HOTS into nursing education through specialized English reading materials is critical for several reasons. Nurses equipped with HOTS are better prepared to handle the complexities of modern healthcare settings, where critical analysis, synthesis, and evaluation are essential for making informed decisions and delivering high-

quality patient care (Benner et al., 2009). The dynamic nature of healthcare, characterized by rapid advancements in technology and methodologies, demands that nurses acquire new knowledge and adeptly adapt it to their practice (Choi & Lee, 2009). Such adaptability is crucial for ongoing professional development and career advancement, enabling nurses to take on leadership roles that require advanced problem-solving skills.

Nursing programs can significantly improve learning outcomes by embedding HOTS in educational materials (Huang et al., 2022). Engaging students with content that challenges them to think critically and solve problems promotes a deeper understanding and retention of complex medical concepts, preparing them effectively for practical applications (Barnes, 2009). This approach meets stringent accreditation standards that mandate the inclusion of critical thinking skills in curricula and prepares graduates to meet professional demands competently. Importantly, nurses proficient in HOTS are more likely to anticipate complications and prevent errors, which directly contributes to improved patient outcomes and higher standards of safety and quality in healthcare settings (Kaddoura, 2011).

Recent studies further emphasize the critical importance of integrating HOTS into nursing education. For example, Choi and Lee (2020) demonstrated that incorporating structured problem-solving tasks into reading materials significantly enhances students' abilities to analyze and evaluate clinical situations. This finding is complemented by Kaddoura (2011), who assessed the efficacy of simulation and case-based learning combined with English medical texts, noting notable improvements in critical thinking, problem-solving, and decision-making abilities among nursing students. These studies, along with others like those by Barnes (2009), Kit and Ganapathy (2019), and Jailani et al. (2017) form a compelling case for the strategic enhancement of nursing curricula to include HOTS-focused reading materials, thereby preparing students more effectively for the demands of contemporary healthcare environments.

However, there is a notable gap in the educational resources available to nursing students, particularly in Indonesia, where existing English reading materials often fail to adequately incorporate HOTS. Thereby hindering students' preparation for the real-life challenges will encounter in professional healthcare settings. This deficiency underscores the urgent need for specialized reading materials that integrate these skills to enhance educational outcomes and clinical preparedness.

Accordingly, this study introduces novel elements to the field by focusing specifically on integrating HOTS within English reading materials for Indonesian nursing education—a context that has not been extensively explored in previous research. It fills a crucial gap by providing a detailed, context-specific analysis that tailors educational strategies to the unique needs and challenges of the Indonesian healthcare education system.

In short, this study aims to conduct a detailed needs analysis, drawing on insights from nursing students and educators to assess the current state of English reading materials and their alignment with essential HOTS. The implications of this study are profound, as it aims to directly influence the design and implementation of nursing curricula in Indonesia. By developing reading materials that are both contextually relevant and cognitively challenging, this research enhances nursing students' educational outcomes and clinical preparedness, thus contributing to the overall quality of healthcare delivery in the region.

## METHOD

This exploratory mixed-methods study was conducted at the Health Polytechnic, Ministry of Health, in Palembang. The study involved 79 nursing students from the second semester of the academic year 2022/2023. The study utilized purposive sampling, a strategy that enables researchers to selectively include participants expected to provide the most comprehensive insights into the phenomena under investigation (Patton, 2015). This sampling method is particularly effective in qualitative research as it collects rich, varied data from individuals with diverse perspectives (Bryman, 2016).

Data were collected through an integrated mixed-methods approach, which combines quantitative and qualitative data to yield a multi-dimensional understanding of the research questions (Teddlie & Tashakkori, 2009). Quantitative data were collected via a structured questionnaire with 25 multiple-choice questions to assess four key areas: Target Situation Analysis (TSA), Deficiency Analysis, Present Situation Analysis (PSA), and Strategy Analysis. This allowed students to indicate their specific needs and perspectives precisely.

The quantitative data were analyzed using statistical methods to identify general trends and outline predominant needs among the study population (Creswell & Plano Clark, 2011). Subsequently, qualitative data were gathered from open-ended responses to gain deeper insights into the participants' individual and specific educational requirements concerning HOTS-based reading materials (Saldaña, 2013). This qualitative analysis helped interpret the quantitative data within the context of actual student experiences and expectations, providing a nuanced understanding essential for designing effective educational interventions.

The dual-phase analysis of this exploratory mixed-methods study ensured a comprehensive evaluation, merging the broad, generalizable data from quantitative analysis with the detailed, context-rich insights of qualitative data (Kamimura, 2019). This methodological approach provided a robust foundation for developing targeted educational strategies optimally tailored to the nuanced needs of nursing students at the Health Polytechnic.

## FINDING AND DISCUSSION

### The Students' Needs Viewed by the Students

The data obtained from the students' perspectives were examined regarding students' needs in target situation analysis (TSA), deficiency analysis, present situation analysis (PSA), and strategy analysis. This article's data represented the highest percentage of students' responses to each questionnaire.

### Target Situation Analysis (TSA)

The TSA conducted among nursing students at the Health Polytechnic revealed significant insights regarding the role of English in their professional development. Specifically, 50% of the students identified learning English as crucial for supporting their future careers. Furthermore, 53.57% of the participants expressed the expectation to communicate effectively in English within their future professional settings. Additionally, 50.60% anticipate using English primarily for reading professional materials to enhance their nursing competencies. Notably, 65.48% of the students believe that an advanced level

of English proficiency is essential for their careers, underscoring the high linguistic standards expected in the healthcare industry.

The data underscore a strong recognition among students of English's critical role in global healthcare settings, where it often serves as the lingua franca. Over half of the student's expectations for communicating effectively in English highlight the necessity of language skills for professional interactions and patient care within diverse healthcare environments. This aligns with research suggesting that proficient communication in English is integral to effective teamwork and patient safety in international contexts (Johnson, 2021). Moreover, the anticipation of using English to access professional materials reflects the students' awareness of the importance of staying informed through up-to-date medical literature, which is crucial for maintaining competence in nursing practice (Ross & Estabrooks, 2008). The strong emphasis on advanced English proficiency demonstrates the students' understanding that high linguistic standards are essential for individual career advancement and the overall quality of healthcare delivery.

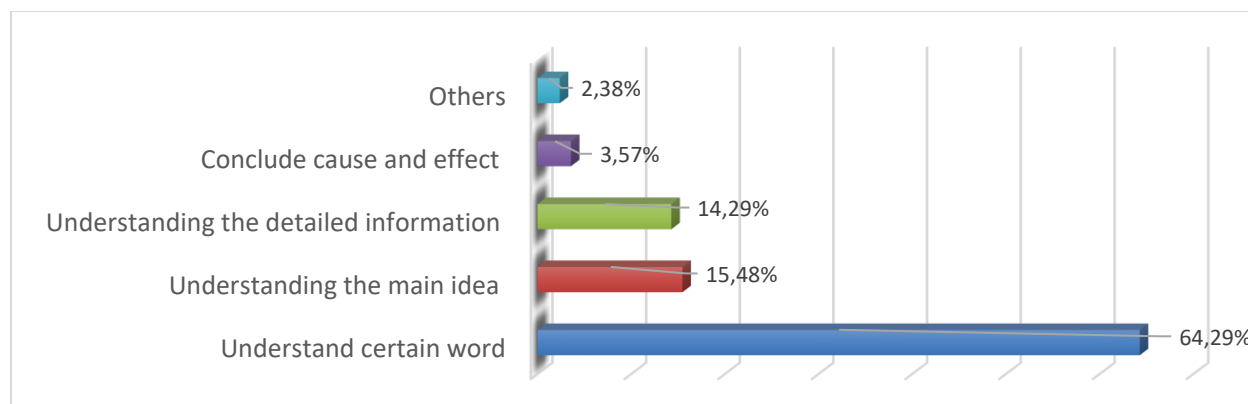
These findings indicate a clear need for targeted English language education that integrates career-oriented learning approaches, focusing on communicative competence and the effective use of professional literature in English. Such educational strategies would equip nursing students with the necessary skills to navigate and excel in the competitive and demanding global healthcare field.

### **Deficiency Analysis**

The Deficiency Analysis section highlighted specific preferences and needs of nursing students regarding their English reading materials. Notably, 33.33% of students were interested in reading materials incorporating daily life topics that resonate with their personal and practical experiences. Over half of the respondents (51.19%) preferred nursing-related texts, underscoring the importance of profession-specific materials that directly apply to their field of study. Furthermore, 52.38% of students considered integrating nursing-related topics in their English materials very important, highlighting a solid demand for curriculum alignment with professional requirements.

Additionally, 56.63% rated the integration of higher-order thinking Skills (HOTS) and information transfer as necessary, indicating a need for materials that enhance critical cognitive abilities essential for clinical decision-making. About 28.57% recognized the benefits of such materials in improving English language skills, particularly in reading comprehension, which supports their academic and professional development. Moreover, 41.67% of the students emphasized the importance of reading texts focusing on comprehension within the context of HOTS and information transfer, pointing to a desire for materials that challenge their understanding and interpretative abilities.

Furthermore, Figure 1 elucidates these findings, revealing that a significant majority, 64.29% of students, encountered difficulties understanding specific vocabulary. This highlights a substantial barrier to fully comprehending academic texts. Additionally, 15.48% of students reported challenges in grasping the main ideas of the texts, indicating struggles with fundamental reading comprehension skills. Another 14.29% found it challenging to assimilate detailed information, which suggests difficulties in processing complex content. Meanwhile, a smaller segment, 3.57% of the students, experienced issues concluding cause and effect, a critical skill in effectively analyzing text structures and implications.



**Figure 1.** Students Difficulties in Reading

These findings suggest a substantial alignment between the student's educational aspirations and their perceived deficiencies in the current English reading materials. The preference for content that integrates personal experiences and professional relevance reflects a broader trend in educational design, where context and applicability significantly enhance learning outcomes (Smith & Roberts, 2020). The demand for profession-specific materials and the emphasis on HOTS and information transfer highlight a critical need for curriculum developers to create resources that provide knowledge and foster essential cognitive skills. Such materials are vital for preparing nursing students to make informed decisions in clinical settings, where foundational knowledge and advanced analytical skills are crucial (Conger & Mezza, 1996).

The interest in improving English reading skills through HOTS-oriented texts suggests that students see a direct link between language proficiency and professional and academic success. This underscores the importance of developing reading materials that challenge students to enhance their comprehension and interpretative abilities, preparing them for the demands of their future careers in healthcare. Curriculum developers should focus on creating reading materials that are not only contextually relevant but also meticulously designed to build essential skills, ensuring that nursing students are adequately prepared for the complexities of modern healthcare environments.

### **Present Situation Analysis (PSA)**

The Present Situation Analysis focused on assessing students' self-reported English proficiency, understanding the topics taught, and knowledge of higher-order thinking Skills (HOTS) and information transfer. A significant 66.67% of nursing students at the Health Polytechnic reported that they consider themselves at the beginner level in English proficiency. Despite this, over half (52.38%) believe that their reading proficiency needs to be improved for their needs, suggesting a potential mismatch between perceived and actual language requirements for their future professional roles.

Further insights indicate that students generally find the English reading materials used in their courses easy, with 60.71% rating them as such. Additionally, 72.62% of the students found the topics in their English textbooks interesting. Despite the ease and interest, the most commonly encountered texts are descriptive, as noted by 55.95% of students. Particularly, 53.57% of students reported that their English lecturer frequently

provides general reading materials that include questions on HOTS and information transfer, indicating a regular effort to integrate these crucial skills into language learning.

Regarding familiarity with HOTS and information transfer, 46.99% of the students rated their knowledge as good. Comprehension is the most understood aspect of HOTS, as recognized by 41.67% of the students. Interestingly, 36.90% attribute their knowledge of HOTS to online media sources, while a slightly larger percentage (48.19%) have learned about these skills within their study programs. In addition, 55.95% of students suggested that enhancing their knowledge and understanding of HOTS and information transfer could further develop these critical skills.

The data reveals a significant gap between the student's self-assessment of their English language skills and the linguistic demands of their intended professional environments. Although many students feel their current level of English is sufficient, their self-identified beginner status highlights a possible underestimation of the requirements they will face in practice. The ease with which students understand current course materials might suggest that these resources do not adequately challenge them or effectively prepare them for the complexities of real-world nursing tasks.

Moreover, the frequent exposure to materials focusing on HOTS and information transfer suggests that while the curriculum attempts to address these educational goals, there may be room for improvement in how effectively these materials engage and develop student capabilities. This points to a need for curriculum enhancements that raise the difficulty level of reading materials and integrate them more deeply with practical nursing scenarios to better prepare students for the global professional landscape. This situation underscores the need for a strategic curriculum overhaul focusing on advanced, contextually relevant reading materials designed to build essential skills comprehensively. Such an approach would ensure that nursing students at the Health Polytechnic can meet the language requirements of their prospective careers and are well-equipped to navigate and excel in a globalized healthcare environment.

In addition, students at the Health Polytechnic have identified several activities that they believe are crucial for enhancing their understanding of higher-order thinking Skills (HOTS) and information transfer, as illustrated in Figure 2. 55.95% of students emphasize increasing their knowledge about HOTS and information transfer through more advanced educational content and specialized training sessions. Additionally, 32.14% suggest applying these skills to integrate and reinforce their learning in real-world contexts. Another significant aspect highlighted is the development of these skills through targeted reading practices; students believe that engaging with challenging texts can significantly improve their comprehension and analytical abilities. This comprehensive approach enhances their academic performance and equips them with essential skills for navigating the complex, information-rich environments they will face in their future careers, preparing them for the multifaceted problem-solving demands of the 21st century.

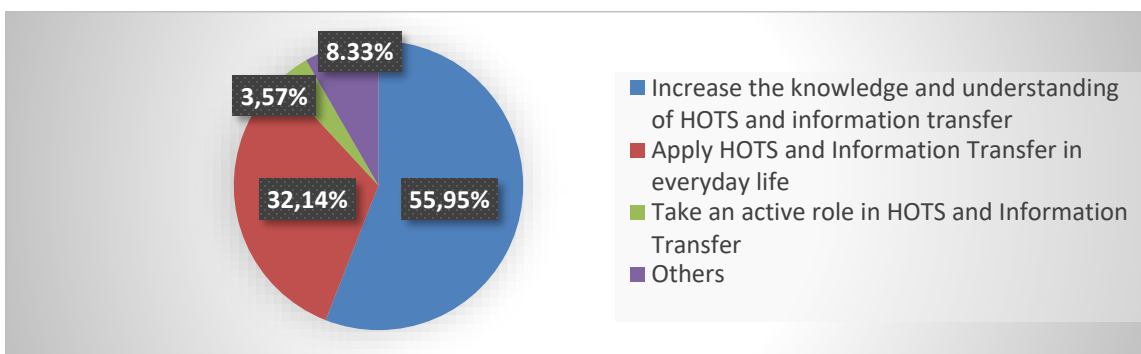


Figure 2. The Students' Activities in Developing HOTS and Information Transfer

**Strategy Analysis**

This section outlines the students' preferred learning methods for reading. Figure 3 presents the preferred methods for learning reading among students at the Health Polytechnic. The majority, 30.95%, prefer reading aloud with correct pronunciation and intonation, suggesting a strong inclination towards active and vocal engagement with texts. Close behind, 28.57% of students favor translating texts into Indonesian, highlighting their need for language comprehension aids in their learning process. Individual reading followed by answering questions is preferred by 19.05% of students, focusing on self-guided understanding and assessment. Group discussions to understand text content are chosen by 9.52% of students, underscoring the value they place on collaborative learning environments. Lastly, 7.14% of students opt for contextual assessment of unfamiliar vocabulary, pointing to a preference for targeted language skill development.

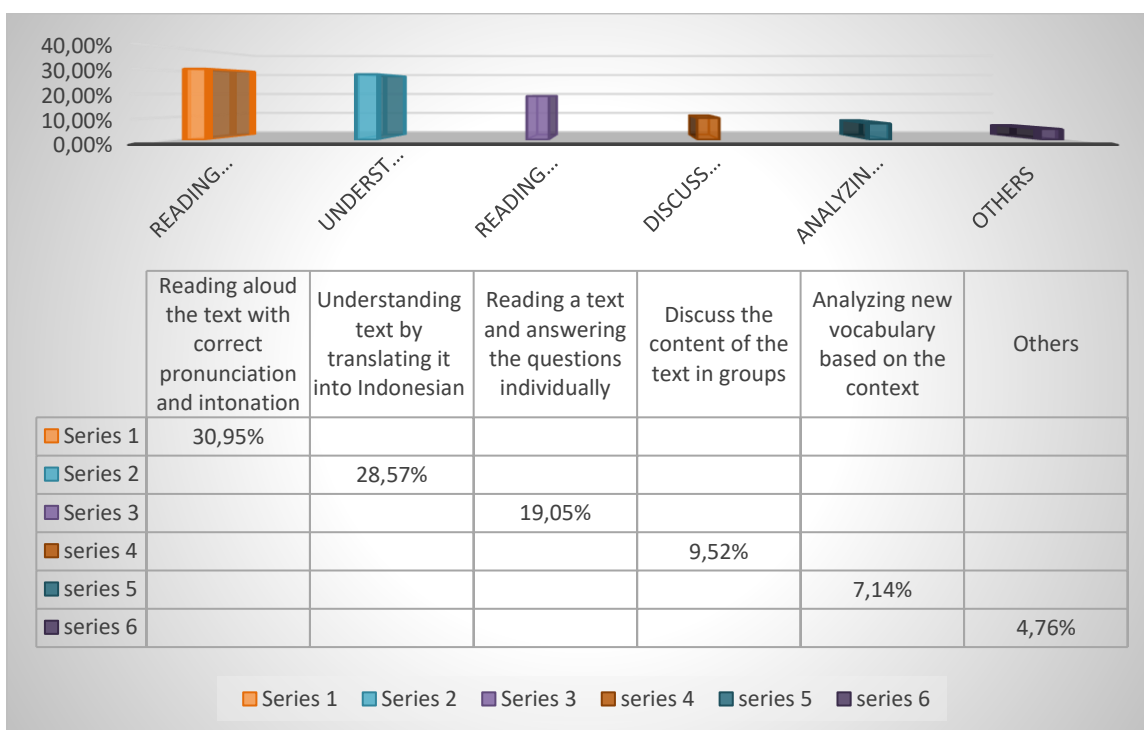


Figure 3. The Students' Preferences in Learning Reading

The diverse learning preferences identified reveal significant insights into how students at the Health Polytechnic engage with reading materials. The preference for reading aloud aligns with active learning theories, suggesting that spoken language engagement can enhance phonetic skills and reading fluency (Scholastic, 2021). This method is particularly beneficial in helping students internalize language patterns and improve verbal expression, which is critical in professional settings.

On the other side, translating texts represents a cognitive approach to learning, where students seek to deepen their comprehension and enhance retention through understanding content in their native language (Smith, 2019). This method is particularly effective in demystifying complex academic or professional material, making it more accessible. The choice for individual reading and subsequent question-answering reflects self-regulated learning strategies, advocating for autonomy in the learning process (Zimmerman, 2020). This approach is essential for developing independent critical thinking and self-assessment skills.

Meanwhile, the preference for group discussions highlights the importance of social interactions in learning, supported by Vygotsky's social development theory (Vygotsky, 1978). Such interactions can broaden understanding and foster cognitive development through peer-assisted learning. Finally, the targeted approach to vocabulary assessment underscores the lexical approach to language learning, where vocabulary acquisition is central to gaining proficiency in a new language (Lewis, 1993).

Recognizing and integrating these preferences into educational strategies is crucial for optimizing the learning experience. As Allington (2013), Netcoh (2017), Walkington and Bernacki (2020), and Xie et al., (2019) notes, personalized learning experiences tailored to individual student preferences create a more engaging and motivating environment and significantly enhance literacy skills. By implementing such varied and student-centered approaches, educators can help maximize learning outcomes and prepare students more effectively for their future professional roles.

The diverse preferences for reading learning methods identified in this study at the Health Polytechnic suggest that more than a one-size-fits-all approach to teaching reading is required. By integrating personalized and flexible curricula that include various teaching methods—such as reading aloud, translating for comprehension, independent reading tasks, collaborative group discussions, and targeted vocabulary studies—the educational experience can be significantly enhanced. These strategies cater to different learning styles, increase engagement, improve comprehension, and better prepare students for the linguistic demands of their future careers in healthcare. However, this study's reliance on self-reported data may introduce biases, as students might not accurately assess their proficiency and preferences. Additionally, being limited to one institution could affect the generalizability of these findings across different educational settings or cultural contexts.

Accordingly, expanding future research to include multiple institutions would enhance the generalizability of the findings. It could employ a longitudinal design to track the effects of teaching methods on student learning outcomes over time. Conducting experimental studies that compare the effectiveness of various teaching methods could clarify which strategies most significantly improve reading comprehension, language skills, and critical thinking abilities in nursing education. Furthermore, investigating the



correlation between specific educational strategies and actual career success in nursing could provide insights into the practical impacts of these educational approaches. Exploring how technology might support personalized learning experiences could also lead to innovative solutions to the educational challenges identified in this study, potentially leading to more effective educational outcomes.

## CONCLUSION

This study at the Health Polytechnic has underscored the critical need for personalized and adaptive reading instruction methodologies that align with nursing students' diverse preferences and needs. By documenting students' preferences for various reading strategies—from reading aloud to translating texts into Indonesian—the research highlights the importance of incorporating various educational techniques to enhance engagement, comprehension, and retention. The findings suggest that embracing a flexible approach to reading education, which includes methods that promote active engagement, comprehension enhancement, and collaborative learning, can significantly improve the language proficiency necessary for students' future professional roles in healthcare.

However, while these insights are promising, the study's limitations suggest caution in generalizing the results across all educational contexts, such as reliance on self-reported data and its limited sample size. Future research should expand these initial findings through broader, more diverse studies that also consider the effectiveness of these educational strategies in improving actual learning outcomes and career readiness. Ultimately, the goal is to equip nursing students with foundational knowledge and the critical thinking and analytical skills essential for success in the dynamic and challenging healthcare field.

## REFERENCES

- Allington, R. L. (2013). What matters when working with struggling readers? *The Reading Teacher*, 66(7), 520–530.
- Barnes, R. L. (2019). *Toward enhancement of clinical judgment and critical thinking: simulation in the classroom*. Indiana State University.
- Benner, P., Sutphen, M., Leonard, V., & Day, L. (2009). *Educating nurses: A call for radical transformation*. Jossey-Bass.
- Bryman, A. (2016). *Social research methods* (5th ed.). Oxford University Press.
- Choi, I., & Lee, K. (2009). Designing and implementing a case-based learning environment for enhancing ill-structured problem solving: Classroom management problems for prospective teachers. *Educational Technology Research and Development*, 57, 99–129. <https://doi.org/10.1007/s11423-008-9089-2>
- Conger, J. A., & Mezza, T. P. (1996). *Enhancing learning through critical thinking and advanced language skills*. Springer.
- Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research* (2nd ed.). SAGE Publications.
- Fero, L. J., O'Donnell, J. M., Zullo, T. G., Dabbs, A. D., Kitutu, J., Samosky, J. T., & Hoffman, L. A. (2010). Critical thinking skills in nursing students: A comparison using simulation and clinical reasoning. *Journal of Nursing Education and Practice*, 50(2), 77–84. <https://doi.org/10.1111/j.1365-2648.2010.05385.x>

- Fiset, V. J., Graham, I. D., & Davies, B. L. (2017). Evidence-based practice in clinical nursing education: A scoping review. *Journal of Nursing Education*, 56(9), 534-541. <https://doi.org/10.3928/01484834-20170817-04>
- Gajria, M., & McAlenney, A. (2020). Integration of HOTS in reading curricula for nursing education. *Nursing Education Perspectives*, 41(3), 154-159.
- Huang, Y. M., Silitonga, L. M., & Wu, T. T. (2022). Applying a business simulation game in a flipped classroom to enhance engagement, learning achievement, and higher-order thinking skills. *Computers & Education*, 183, 104494. <https://doi.org/10.1016/j.compedu.2022.104494>
- Jailani, J., Sugiman, S., & Apino, E. (2017). Implementing the problem-based learning in order to improve the students' HOTS and characters. *Jurnal Riset Pendidikan Matematika*, 4(2), 247-259. <http://dx.doi.org/10.21831/jrpm.v4i2.17674>
- Johnson, S. (2021). Communication barriers in nursing: Improving practice through effective use of English. *Journal of Clinical Nursing*, 30(11-12), 1741-1749. <https://doi.org/10.1504/IJKL.2023.127335>
- Kaddoura, M. A. (2011). Critical thinking skills of nursing students in lecture-based teaching and case-based learning. *International Journal for the scholarship of teaching and learning*, 5(2), n2. <https://doi.org/10.20429/ijstol.2011.050220>
- Kit, L. W., & Ganapathy, M. (2019). The reality of Malaysian ESL teachers' ICT pedagogical practices: Challenges and suggestions. *English Linguistics Research*, 8(3), 39-48. <https://doi.org/10.5430/elr.v8n3p39>
- Lewis, M. (1993). *The lexical approach: The state of ELT and a way forward*. Language Teaching Publications.
- Liu, H. Y., Chang, C. C., Wang, I. T., & Chao, S. Y. (2020). The association between creativity, creative components of personality, and innovation among Taiwanese nursing students. *Thinking Skills and Creativity*, 35, 100629. <https://doi.org/10.1016/j.tsc.2020.100629>
- Müller-Staub, M. (2006). Clinical decision making and critical thinking in the nursing diagnostic process. *Pflege*, 19(5), 275-279. <https://doi.org/10.1024/1012-5302.19.5.275>
- Netcoh, S. (2017). *Students' experiences with personalized learning: An examination using self-determination theory* (Doctoral dissertation, The University of Vermont and State Agricultural College).
- Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice (4th ed.)*. SAGE Publications.
- Ross, A. J., & Estabrooks, C. A. (2008). Sources of information used by nurses to inform practice: an integrative review. *Int J Nurs Stud*, 45(6), 954-70. <https://doi.org/10.1016/j.ijnurstu.2007.06.003>
- Saldaña, J. (2013). *The coding manual for qualitative researchers (2nd ed.)*. SAGE Publications.
- Scholastic. (2021). *Effective strategies for developing reading skills*. Retrieved from [Scholastic website]
- Smith, J., & Roberts, K. (2020). Contextual learning: A reflective learning intervention for nursing education. *Advances in Health Sciences Education*, 25(4), 905-923.
- Smith, S. (2019). Cognitive strategies in reading comprehension: A glimpse of the evidence. *Educational Psychologist*, 54(2), 123-139.

- Teddlie, C., & Tashakkori, A. (2009). *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioral sciences*. SAGE Publications.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Walkington, C., & Bernacki, M. L. (2020). Appraising research on personalized learning: Definitions, theoretical alignment, advancements, and future directions. *Journal of research on technology in education*, 52(3), 235-252. <https://doi.org/10.1080/15391523.2020.1747757>
- Xie, H., Chu, H. C., Hwang, G. J., & Wang, C. C. (2019). Trends and development in technology-enhanced adaptive/personalized learning: A systematic review of journal publications from 2007 to 2017. *Computers & Education*, 140, 103599. <https://doi.org/10.1016/j.compedu.2019.103599>
- Zimmerman, B. J. (2020). Investigating self-regulation and motivation: Historical background, methodological developments, and future prospects. *American Educational Research Journal*, 57(1), 1-23. <https://doi.org/10.3102/0002831207312909>