Critical Thinking Skills in Nursing Students: Literature Review

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This literature review discusses critical thinking skills obtained and utilized by undergraduate and graduate nursing students. Critical thinking usage in the nursing curriculum allows the student to think holistically about their patient and situation. Critical thinking includes autonomous, meaningful, and self-reflective thinking to conclude (Boso et al., 2021). Thinking critically often encompasses the parameters of which a student is from demographically. When developing a curriculum, it is also essential to assess and understand the different learning styles of students. Learning styles determine whether students are concrete, reflective, visual, or verbal learners (Gonzales et al., 2016). Knowing a student's learning style will ultimately shed light on the student's ability to think critically. Implementation of critical thinking skills into the curriculum also depends on the presentation of its teaching. The flipped classroom versus the traditional classroom later noted in this paper are two approaches to develop the conduciveness of the students' learning environment.

Critical Thinking Disposition of Nursing Students: A

Quantitative Investigation

Critical thinking is a skill that prepares students to think autonomously, reflectively, and meaningfully (Boso et al., 2021). Nurses must analyze data and think critically to make sound judgments and problem solve (Boso et al., 2021). A nursing student's critical thinking disposition directly correlates to the society a nursing student derives from (Boso et al., 2021). Some societies, especially from undeveloped countries, may not have the resources available to

support the experience of critical thinking opportunities (Boso et al., 2021). This article discusses critical thinking curriculum implementation in nursing schools based on the disposition of different societies.

Key Points

One key point of this article is the author's assessment of the critical thinking dispositions of nursing students, particularly in developing countries such as the United States (Boso et al., 2021). Another critical point is the differentiation of the students' attitudes concerning critical thinking implementation in the school. In the United States, Canada, and Norway, results showed a positive attitude toward critical thinking skills (Boso et al., 2021). In contrast, Japan, Australia, and Hong Kong resulted in less positive attitudes (Boso et al., 2021). The major takeaway for this point is the possible cultural differences between certain countries and their outlook on critical thinking expression. The last key point is the overall recommendation to implement critical thinking to increase the students' confidence, competence, and judgment skills in the clinical setting (Boso et al., 2021).

The research method used was a quantitative descriptive cross-sectional design assessing the critical thinking disposition of nursing students at a specific school during a given point in time (Boso et al., 2021). The participants were second to fourth-year undergraduate students from a public university in Ghana (Boso et al., 2021). Out of 387 second to fourth-year students, 197 randomly selected students made up the sample size (Boso et al., 2021). The p-value for this study is $p = 0.03$. The California Critical Thinking Disposition Inventory (CCDTI) is the assessment tool used to gather data from the students (Boso et al., 2021). Scores from the CCDTI indicate a positive, inconsistent, or negative attitude towards critical thinking concepts (Boso et

al., 2021). Results showed that the highest mean score was in the "confidence in reasoning" subscale, which indicates the students' belief that they trust their reasoning and can solve problems independently (Boso et al., 2021). The overall scoring of 296 on the CCDTI showed students had positive attitudes towards implementing critical thinking skills. These scores are significant for two reasons. The first reason is that high scores for this school mean the students are positively engaged to implement a critical thinking curriculum into their nursing program. The scores are also significant in a negative manner because this study covers only one specific school. The inclusion of more schools results in larger sample sizes, giving a better outlook on the actual attitudes of students (Boso et al., 2021).

In conclusion, the authors emphasized the importance of critical thinking implementation as a nursing skill (Boso et al., 2021). The authors suggested that although the overall mean score on the CCDTI was high, it does not overshadow the low mean scores given by the students (Boso et al., 2021). Low means scores suggest the students' unwillingness to engage in critical thinking (Boso et al., 2021). Ultimately, the authors expressed how imperative it is for educators to conduct teaching in a manner that enhances students' ability to develop their thinking processes (Boso et al., 2021).

Assumptions

The primary assumption made by the authors implicated the variances in dispositions to critical thinking between different cultures. In the United States, Canada, and Norway, CCDTI scores were higher than in Japan, Hong Kong, and Australia, whose scores were lower (Boso et al., 2021). Ghanian culture practices under a seniority tradition, which means students abide by how "the way things have always been done" (Boso et al., 2021, pg. 5). Low scores in the truth-

seeking subscale on the CCDTI support this statement. Low scores in the truth-seeking subscale indicate students will follow standard traditions without inquiring further, asking questions, or rebutting any information received (Boso et al., 2021). The assumption of cultural traditions affects many nursing students worldwide.

Having a larger population size to conduct the study was another assumption made by the author (Boso et al., 2021). Generalizing the principal attitudes felt by nursing students towards critical thinking skills are not based on data collected from one school. Instead, a larger population gives a better aspect.

Deficit/Conclusion

The authors' line of reasoning is accurate and substantial because it holistically approaches the study. Nursing students come from various parts of the world, which means their culture can dictate their ability to learn, assess, and think critically in the clinical setting. This implication comes from the authors' discussion of how the mean scores from the CCDTI differed between countries. For the United States, the mean score was higher than in Japan (Bose et al., 2021). High scores from developing countries could be due to the liberal nature of students' ability to freely express, rebut, and initiate thoughts to develop their critical thinking skills. Cultures in countries such as Ghana abide by a seniority tradition where things remain the same as they are (Boso et al., 2021). There is no inclination for students to engage in ways to gauge their thinking independently. It is hard to say whether nursing will not accept this line of reasoning. Cultural variances will always be apparent in the nursing educational setting.

Assessing Learning Styles of Graduate Entry Nursing Students as a

Classroom Research Activity: A Quantitative Research Study

Differences in learning styles between graduate and baccalaureate nursing students exist inevitably (Gonzales et al., 2016). This article focuses on the learning styles of graduate-entry prelicensure nursing students and the importance of implementing a curriculum to support future nurses. Teaching strategies that incorporate personal learning styles into graduate entry prelicensure nursing programs exist in some institutions today (Gonzales et al., 2016). Post-graduation, curriculum targeted towards practicing nurses' learning needs and preferences now appears in in-service learning training programs (Gonzales et al., 2016). Modifying curriculum, teaching strategies, and learning strategies promote a well-balanced curriculum and well-rounded nurses (Gonzales et al., 2016).

Key Points

The critical points involve incorporating learning styles into the curriculum, identifying learning styles, and identifying learning preferences between baccalaureate and graduate students. The incorporation of learning styles into the program curriculum reflects the diversity of many graduate students (Gonzales et al., 2016). Graduate students come from different backgrounds, cultures, have different experiences, and learning styles (Gonzales et al., 2016). Academic institutions must reflect such diversity to promote student learning. Ultimately, the inclusion of strategies that support diverse learning styles increases the probabilities of graduate nurse recruitment (Gonzales et al., 2016).

Another key point made by the authors was identifying the different learning styles of graduate nursing students. The article describes a *learning style* as "a particular set of behaviors related to how learners perceive, interact with, and respond to the learning environment" (Gonzales et al., 2016, pg. 56). Learning styles discussed and researched in this article are active vs. reflective, sensing vs. intuitive, visual vs. verbal, and sequential vs. global (Gonzales et al.,

2016). Active learners learn by actively seeking information, and reflective learners acquire knowledge through internalization of information for personal reflection (Gonzales et al., 2016). Sensing learners use facts, data, and experiments, while intuitive learners use theories and principles to gain knowledge (Gonzales et al., 2016). Visual learners learn best through pictures and graphs, while verbal learners must hear spoken words or have written information (Gonzales et al., 2016). Finally, sequential learners learn through steps or sequential order, while global learners learn holistically (Gonzales et al., 2016). Identifying different learning styles is essential, so instructors have a picture of the diversity within the classroom.

Lastly, comparing learning styles between baccalaureate and graduate students made the last key point. Graduate students preferred actively learning through experiments, preferred to seek help, and explored critical thinking strategies to learn (Gonzales et al., 2016). In comparison to graduate students from other countries, graduate students in the United States reported learning best through active experiments and abstract conceptualization, a term called *convergent learning* (Gonzales et al., 2016). *Convergent learning* further supports the importance of critical thinking implementation needed to make conclusions in the healthcare setting. Identifying students' learning styles paired with strategies to implement critical thinking skills created a conducive environment for competent future nurses.

The research method used in this article included the Index of Learning Styles (ILS) questionnaire (Gonzales et al., 2016). The institution also created a classroom activity project using the ILS to review the different learning styles between students (Gonzales et al., 2016). Faculty and students who wished to participate met once for a session during the week to compile the questionnaires, analyze data, summarize the literature, and create visual graphics of the results (Gonzales et al., 2016). A total of 285 graduate students from the years 2012-2017

participated, creating 95% confidence with a margin of error of ± 5% (Gonzales et al., 2016).

The highest scores of different learning styles were active (59%), sensing (82%), sequential

(59%), and visual (80%) (Gonzales et al., 2016). The data is significant because it shows that the

most scored areas were visual and sensing (Gonzales et al., 2016). In conclusion, institutions

should start implementing graphs and flowcharts for visual learners and use facts, procedures,

and detail-oriented material for sensing learners (Gonzales et al., 2016).

Assumptions

The authors assume the results encourage instructors and institutions to identify and address

induvial learning styles (Gonzales et al., 2016). One way of addressing students' learning styles

is through simulation (Gonzales et al., 2016). Using the ILS questionnaire is a concise and easy

way to identify a student's learning style (Gonzales et al., 2016). The authors' final assumption is

that students taught based on their learning style preference experience more satisfaction with

instruction (Gonzales et al., 2016). A possible explanation of this assumption is that instruction

focused on a student's learning style will better prepare them for the healthcare setting, instruct

patient education, and increase their ability to provide effective patient education (Gonzales et

al., 2016).

Deficit/Conclusion

The authors' points in this article are worthy of acceptance because they provide quantitative

data to support taking students' learning style(s) into consideration. Modifying teaching

strategies and curriculum focused on students' preferred learning style(s) will ultimately produce

well-rounded, competent, and confident nurses. Most graduate students scored highest for

sensing, active, sequential, and visual learning styles (Gonzales et al., 2016). The authors

implicate that the scores resulting from this study hold valuable weight concerning most graduate-entry prelicensure nursing students. Nursing should accept this implication because the world of healthcare changes dynamically. Thus, dynamically diverse instruction will always impact the healthcare setting.

The Flip Side of Traditional Nursing Education: A Literature Review

This article discusses the *Flipped Classroom* (FC) teaching modality to promote critical thinking and problem-solving skills (Ward et al., 2018). The flipped classroom method identifies areas of weakness in the traditional teaching method in current nursing students going into the workforce (Ward et al., 2018). Lack of critical thinking and problem-solving skills urge institutions to redesign their curriculum to ensure nursing students can meet the challenges of the workplace (Ward et al., 2018). The authors in this article express the importance of allowing nursing students to practice nursing care and critical thinking at clinical sites to transition into practice successfully (Ward et al., 2018). In this article the authors will identify structure and activities that constitute a FC, gather data related to the perceptions of students and faculty concerning the FC, and obtain measurable results from the use of the FC (Ward et al., 2018).

Key Points

The critical points are ensuring nursing students have opportunities to practice nursing, use their critical nursing skills in the clinical site, and have alternate learning modalities available for learning, such as the FC (Ward et al., 2018). The *Flipped Classroom* is a dynamic, interactive environment where students apply content and engage creatively in the subject manner (Ward et al., 2018). The student learns individually outside of the classroom and then applies such

information through discussion, role play, scenarios, or simulations (Ward et al., 2018). The goal of FC is to improve critical thinking and problem-solving skills (Ward et al., 2018).

The authors searched databases such as CINAHL Complete, Cochrane Library, Lex-Comp Online, and many others to identify nursing programs that utilized the FC method in post-secondary educational programs (Ward et al., 2018). The search only included registered nursing programs and excluded vocational or diploma nursing programs (Ward et al., 2018).

The results showed that the FC method increased students' overall scores during their program (Ward et al., 2018). The results also indicated measurable outcomes that reflected students feeling the FC method enhanced their critical thinking skills. Furthermore, measurable data collected from faculty showed enhanced communication and interactions in the simulated environment versus students in the traditional classroom (Ward et al., 2018). There was no p-value for this specific article, but the authors identified the p-values from the articles used for research.

In conclusion, the authors effectively measured and identified the FC method's benefits for nursing students. The purpose of the FC method is to enhance nursing students' workplace readiness through active learning experiences and knowledge growth using critical thinking ski

Assumptions

The primary assumption of the article is the implementation of an FC teaching method for nursing students to prepare them for the rigorous workplace. Using the FC method will enhance students' critical thinking and problem-solving skills needed in the clinical setting (Ward et al., 2018). Students will think deeper, broader and apply the information they learned into practice (Ward et al., 2018). The Institute of Medicine identified the need for nursing programs to

redesign their curriculum to prepare students for the workplace (Ward et al., 2018). A revised curriculum is critical. As a current nursing student, thinking holistically and reflectively is needed.

Deficit/Conclusion

The authors' line of reasoning fully encompasses the changes needed for future nursing students. They developed a well-thought-out discussion with supporting articles explaining how using an FC is critical to the nursing student. This article did not have any implications but concrete thoughts of why an FC fosters the right environment to implement critical thinking and problem-solving skills. Nursing should accept the authors' line of reasoning because the future of nursing changes every day. Molding effective and competent nursing students add to the success of healthcare.

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Conclusion

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Researching all three articles revealed the need to implement critical thinking strategies into the classroom for current nursing students. To effectively implement critical thinking strategies includes identifying various learning styles of students. Identifying students' learning styles shed light on how they acquire knowledge and the best way to apply it. Critical thinking usage in the nursing curriculum allows students to think holistically about their patients and situation. Patient outcomes increase due to the nurse's ability to think holistically, reflectively, and intuitively critically. Using the flipped classroom approach by instructors allows students to engage their learning interactively based on their learning style. Healthcare facilities can implement critical thinking simulations in their in-service training and use the outcomes as critical points for quality improvement projects and evidence-based practice studies. Ultimately,

including a re-developed curriculum paired with a flipped classroom delivery method will

increase the competence, confidence, and skills needed by nursing students in the clinical setting.

References

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