Does Clinical Exposure Increase Nursing Student Exam Scores?

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Introduction & Purpose

Clinical time has been identified as a crucial learning experience for nursing students. Bedside experience helps to develop critical thinking skills and affords students the ability to see real-time disease presentation and progression, as well as effective nursing interventions. Successful testing is equally important to the student nurse as they must pass a series of high stakes examinations in their program before being presented to the board of nursing for testing to acquire a professional nursing license. With both elements being recognized as critical, the question becomes: does clinical exposure increase nursing student exam scores?

Research Question & Variables

Research question: Does clinical exposure increase student exam scores?

What is clinical?: Clinical experiences consist of students providing supervised direct patient care in a variety of settings for patients across the lifespan. Types of clinical experiences and required number of hours in each clinical is regulated by state and federal law and accreditation bodies (Bowling, et al. 2018)

Independent Variables: Three 50 question exams.
Dependent Variable: Clinical time and exam scores.

Review of Literature

- ❖ Bedside learning has been identified as a crucial part of developing a professional registered nurse. Akram (2018) writes "Clinical learning is a key area that explicates the importance of a nursing student's performance in the clinical setting and provides the students an avenue to practice their skills, develop their professional identity, increase their knowledge, and apply the theoretical and practical knowledge in the clinical setting."
- ❖ Shah, et al (2018) continues by writing "Formal clinical experience positively correlates with an increase in United States Medical Licensing Exam scores."
- ❖ Students showed growth in clinical scores and assessment skills, especially when participation was monitored and encouraged by nursing faculty (Sarwar, 2020, p.1).
- ❖ Flott (2016) claims "Nursing students are evaluated in clinical learning environments where skills and knowledge are applied to patient care. These environments affect achievement of learning outcomes and have an impact on preparation for practice and student satisfaction with the nursing profession."
- ❖ Soriano (2020) continues when finding "Results revealed that lecture grades were significantly correlated with clinical performance grades. It was revealed in this study that nursing student's academic performance in the lecture or theoretical classroom component of the course was highly significantly related to their clinical grade or performance."

Methodology

Methods: A mixed methodology approach was used for this study including a retrospective analysis of student exam grades during clinical rotations, a qualitative survey addressing student perceptions of clinical learning, and a comprehensive literature review. Student exam results and qualitative responses were gathered from Newman University's NSG 4034 "Child & Family Nursing" course. Quantitative data analysis was performed using SPSS and Microsoft Excel, and student surveys were conducted using SurveyMonkey.


The clinical experience enhanced my understanding of concepts covered during class.
Answered: 24   Skipped: 0
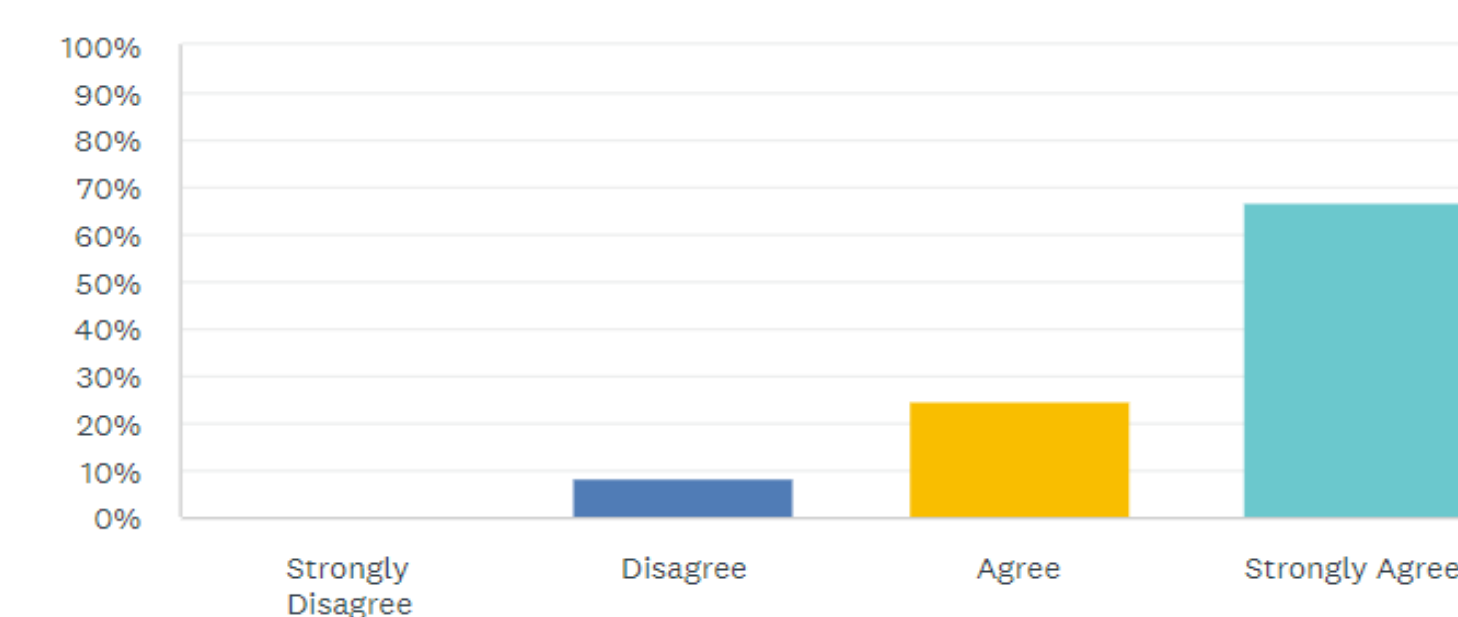
Results

- ❖ Exam 1 results showed that the clinical group scored on average 85.80% compared to the non-clinical groups 82.88%. On exam 2, the clinical group scored lower than the non-clinical group, 82.32% versus 84.20%. Lastly, on exam 3, the clinical group outscored their non-clinical counterparts again with scores of 84.53% compared to 81.55%. Grades from all exams were combined and the results showed that the clinical groups combined exam average was 84.23%. Comparatively speaking, the non-clinical group showed a combined mean score of 82.88%. Analyzing combined data showed that in finale, the clinical group scored on average 1.35% higher than the students not in clinical. Excluding the findings from exam 2, students' average scores rose to a value of 85.17% for clinical groups versus 82.22 for non-clinical groups.
- ❖ The Shaprio-Wilks data showed that the data violated the rules of normality and did not follow a standard data curve; however, this data was also skewed due to the inability for students to score over 100% and less than 0%. Due to the non-normality of the data sets, a Mann-Whitney U analysis was conducted. Mann-Whitney data determined a p value of 0.150, 0.364, and 0.460 for exams in chronological order. P values over 0.05 indicate that there is not a statistically significant difference in the scores between clinical groups and non-clinical groups exam scores.
- ❖ Qualitative data was gathered from SurveyMonkey data collected by students who had completed clinical hours. A 5 question Likert scale was used with 4 possible responses being available to participants. The options available to choose from were as follows: Strongly disagree, disagree, agree, and strongly agree. 24 students volunteered to take this survey with responses being recorded anonymously. The first statement presented to students was "The clinical experience enhanced my understanding of concepts covered during class." 16 students responded with "strongly agree", while 6 responded "agree" and two responded "disagree." These responses indicate that 22 of 24 possible students, equal to 92%, felt that clinical enhanced the learning performed during didactic lecture.

Mean Exam Scores
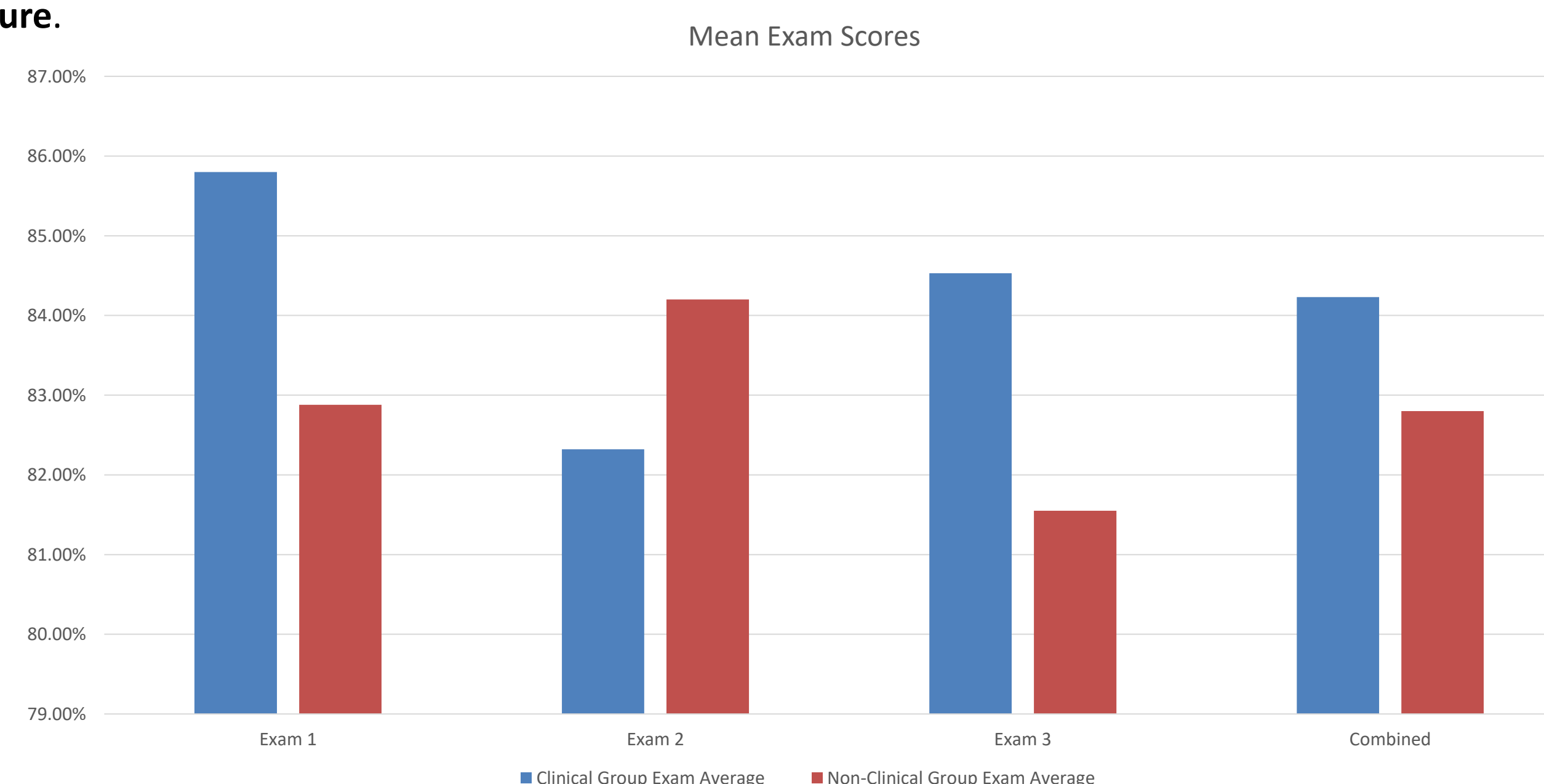
Recommendations

Further review and expansion of programs and courses being identified will provide a more in depth understanding of students views on clinical learning while also producing more comprehensive quantitative data. Development of a mixed learning approach may also be beneficial to students and could be developed and utilized across multiple universities. Identifying individual challenges nursing students may face in the clinical setting may also help increase his or her quality of learning (Montz, et al. 2022). Additionally, nursing instructors should look to expand clinical learning concepts and bedside practices into pedagogical lecture.

Conclusion

Clinical learning has been deemed a critical component in nursing educational curriculum. Critical thinking skills are cultivated at the bedside and transposed into didactic examination. While the difference in mean averages between clinical and non-clinical exam scores was deemed insignificant by the Mann-Whitney test, student's reports of satisfaction regarding clinical learning and the bump in student grades are important to undergraduate nursing students. Adding between 1.35% and 2.95% to student's exam averages could be the difference between passing and failing a nursing course, potentially resulting in dismissal from a program. Nursing educators should strive to provide the best education possible for students, and integrating clinical components into classroom teaching has shown to be subjectively and objectively beneficial to the nursing student population.

References

- ❖ Akram, A. (2018). Gap between Theory and Practice in the Nursing Education: The Role of Clinical Setting. *Nursing & Health Care*, 7.
- ❖ Bowling, A. M., Cooper, R., Kellish, A., Kubin, L., & Smith, T. (2018). No Evidence to Support Number of Clinical Hours Necessary for Nursing Competency. *Journal of Pediatric Nursing*, 39, 27–36. https://doi.org/10.1016/j.pedn.2017.12.012
- ❖ Flott, E. A., & Linden, L. (2016). The clinical learning environment in nursing education: A concept analysis. *Journal of Advanced Nursing*, 72(3), 501–513.
- ❖ Montz, R., Welch, B., Faulk, N., & Msengi, C. (2022). Finding Correlations Among Academic Performance, Demographic Influences and Clinical Competency Utilizing Predictive Variables in An Associate Degree Nursing Program. *Journal of Research Initiatives*, 6(2).
- ❖ Sarwar, S., Aleem, A., & Nadeem, M. A. (2020). Bed side teaching: Student's perception and its correlation with academic performance. *Pakistan Journal of Medical Sciences*, 36(6), 1204–1209.
- ❖ Shah, R., Johnstone, C., Rappaport, D., Bilello, L. A., & Adamas-Rappaport, W. (2018). Pre-matriculation clinical experience positively correlates with Step 1 and Step 2 scores. *Advances in medical education and practice*, 9, 707–711.
- ❖ Soriano, G., Oducado, R. M., & Dela Rosa, R. (2020). Relationship Between Students' Academic and Clinical Performance in Maternal and Child Nursing Course in a Selected College of Nursing. *WVSU Research Journal*, 9, 1–8.