



Arkansas State University

ARCH: A-State Research & Creativity Hub

Doctor of Nursing Practice Projects

School of Nursing

7-30-2024

Evaluation of a Peer Mentoring Program in Baccalaureate Nursing Students: A Quality Improvement Project

Leigh E. Swartzendruber
Arkansas State University - Jonesboro

Follow this and additional works at: <https://arch.astate.edu/dnp-projects>

Recommended Citation

Swartzendruber, Leigh E., "Evaluation of a Peer Mentoring Program in Baccalaureate Nursing Students: A Quality Improvement Project" (2024). *Doctor of Nursing Practice Projects*. 93.
<https://arch.astate.edu/dnp-projects/93>

This Scholarly Project is brought to you for free and open access by the School of Nursing at ARCH: A-State Research & Creativity Hub. It has been accepted for inclusion in Doctor of Nursing Practice Projects by an authorized administrator of ARCH: A-State Research & Creativity Hub. For more information, please contact mmcfadden@astate.edu.

**Evaluation of a Peer Mentoring Program in Baccalaureate Nursing Students: A Quality
Improvement Project**

Leigh E. Swartzendruber

Arkansas State University

NURS 8333

Dr. Latting

July 30, 2024

Abstract

Nursing school can be rigorous, stressful, and anxiety-producing for students trying to progress to graduation, with students leaving the program if they encounter barriers. Academia must consider strategies to support students; peer mentoring is an evidence-based approach. The project evaluated an existing peer mentoring program to understand the benefits and barriers entry-level sophomore students experience with the program, comparing survey results from 2022 and 2024 cohorts—a mixed-methods descriptive statistical study was conducted with the spring 2024 peer mentoring program. Using a PDSA cycle, the program was transformed from an in-person to a hybrid format. At the end of the program, participants were provided a Qualtrics survey, asking them to rate the program on a Likert scale (1= poor, 2 = fair, 3 = average, 4 = good, and 5 = excellent). The most frequently observed category for 2022 was three (n = 5, 71.43%), and five was the most frequently observed category for 2024 (n = 8, 66.67%). A two-tailed Mann-Whitney test showed significance based on an alpha value of .05, $U = 21$, $z = -1.98$, $p = .048$. The mean rank for 2022 was 7.00, and for 2024 was 11.75, suggesting a statistical difference. Qualitative themes were identified and grouped according to benefits and barriers. The project demonstrated support for peer mentoring as a student success strategy and benefits mentors, mentees, instructors, and academic institutions. The results obtained will help recruit future nursing students into the program, as well as support current students.

Keywords: peer mentoring, nursing education

Acknowledgments

I want to thank Dr. Carolyn Townsend and Dr. Susan Hendricks at my workplace for allowing me to pursue this project at our campus. Additionally, Dr. Carolyn Townsend served as my project site partner and was invaluable to me during this arduous journey. Many thanks to Arkansas State University DNP faculty Dr. Linda Latting and Dr. Lisa Drake for guiding my DNP project from the early planning stages to the final paper and presentation.

Thank you to my parents for supporting me when I decided to return to school to pursue my doctoral degree. My sister, a registered nurse, Jennifer Degan, read many papers for me and provided unconditional love and support. Love you, sister!

To my amazing children, Katie and Luke, you are my greatest achievement in life. I am so proud of you, and I hope you know you can accomplish anything you want. And to my best friend and biggest fan, my husband, Brian, your unwavering belief in me from the start and your constant encouragement drove my success. Let's celebrate this achievement with a well-deserved vacation!

Table of Contents

Evaluation of a Peer Mentoring Program in Baccalaureate Nursing Students: A Quality Improvement Project.....	8
SECTION I: INTRODUCTION	8
Background of the Problem	9
Statement of the Problem.....	15
Purpose of the Project	16
Change, Change Framework, Scope, and Limitations.....	16
Theoretical Framework.....	19
Summary	20
SECTION II: METHODS.....	20
Introduction.....	20
Project Design.....	22
Sample and Setting	25
Instrumentation	27
Data Collection	28
Data Analysis Methods	30
Data Management Methods	32
Ethical Considerations	32
Timeline, Budget, Resources, and Sustainability	33
Summary.....	35
SECTION III: RESULTS AND DISCUSSION OF FINDINGS.....	36
Introduction.....	36
Summary of Methods and Procedures	37
Summary of Sample and Setting Characteristics.....	39
Major Findings.....	40
Implications for Nursing Practice	42
Recommendations.....	44
Discussion.....	45
Conclusions and Contributions to the Profession of Nursing.....	46

References.....	48
Tables	54
Figures.....	632
Appendix A	68
Appendix B.....	70
Appendix C	72
Appendix D.....	73
Appendix E	74
Appendix F.....	75
Appendix G.....	76
Appendix H.....	77
Appendix I	78
Appendix J	79

List of Tables

Table 1. Codebook.....	54
Table 2. Project Budget Table	56
Table 3. 2024 Peer Mentor/Mentees	57
Table 4. Frequency Table for Nominal Variables	58
Table 5. Two-tailed Mann-Whitney Test for Rate Program by Year	59
Table 6. Qualitative Themes	60

List of Figures

Figure 1. Lippitt's Change Theory	62
Figure 2. Malcolm Knowles Adult Learning Theory.....	63
Figure 3. Lev Vygotsky's Sociocultural Learning Theory.....	64
Figure 4. Plan Do Study Act Cycle	65
Figure 5. Gantt Chart	66
Figure 6. Ranks of Program by Year	67

Evaluation of a Peer Mentoring Program in Baccalaureate Nursing Students: A Quality Improvement Project

SECTION I: INTRODUCTION

The nursing workforce is experiencing a shortage unlike any seen thus far, and nursing schools serve as the pipeline to fulfill that need. Nursing education is vital in educating our future nursing workforce, but challenges exist in academia and healthcare. Healthcare is becoming more complex, requiring nurses to enter practice prepared at a higher level, starting in nursing school. Compared to other programs, nursing school is known to be rigorous, stressful, and anxiety-producing for students trying to progress to graduation. Students may leave the nursing program if they encounter barriers. Academia and nurse educators must consider student success strategies to combat the increased stress and anxiety nursing students experience, assist in the transition to nursing school, and support in the assimilation into the student nurse role.

Unfortunately, stress and anxiety can, in turn, lead to both physical and mental issues if not dealt with effectively (Kachaturoff et al., 2020). There are both intrinsic and extrinsic predictors of stress seen in nursing students. The intrinsic predictors of stress include self-control, self-efficacy, coping, personality, and mental health concerns. The clinical environment is a significant extrinsic predictor of stress for the nursing student (McCarthy et al., 2018). Establishing and making available positive coping mechanisms is necessary for undergraduate nursing students to assist them in being successful in their nursing educational journey.

Nursing schools can address increased rigor, stress, anxiety, and assimilation into a nursing program through peer mentoring. Peer mentoring is a student success strategy used in many nursing education programs. Peer mentoring is a formal partnership created in a learning setting between two individuals with different nursing school experience levels (Yarbrough &

Phillips, 2022). Peer mentoring is a tool that improves learning competencies and strengthens education and critical thinking skills while decreasing anxiety and perceived stress levels (Joung et al., 2020). A midwestern university school of nursing implemented a peer mentoring program in the fall of 2022 but has yet to collect consistent feedback for evaluation and analyze the findings. Therefore, this Doctor of Nursing Practice (DNP) project aims to evaluate the peer mentoring program, understanding the benefits and barriers entry-level sophomore students experience with the program, and compare survey results from 2022 and 2024 cohorts.

Evaluating the peer mentoring program will provide vital information to strengthen the existing mentor program to ensure that the midwestern nursing school supports entry-level nursing students. The DNP project will ask students to provide feedback on the benefits and barriers to the peer mentoring program. This project aims to identify how peer mentoring assists entry-level nursing students in a baccalaureate nursing program. The question guides the project: “What are the perceived benefits and barriers among two different cohorts of entry-level sophomore nursing students in an established peer mentoring program over one semester?”

Background of the Problem

Stress in nursing students is a global phenomenon (Bektas et al., 2018; McCarthy et al., 2018). Stress and burnout not only impact the nursing students' physical and mental health but can lead to poorer patient outcomes and may even result in the student nurse leaving the nursing profession altogether. Research shows that burnout is increasing in nursing students and can negatively impact their academic success, attrition rates, and clinical performance (Burlison et al., 2022). Nursing is a profession rooted in caring. Mentoring in nursing has been recognized as an effective strategy for over fifty years. Mentoring fosters a spirit of caring, support, and shared learning (Kramer et al., 2018). Mentoring can occur formally or informally and utilize both peers

and faculty. The American Association of Colleges of Nursing and the Robert Wood Johnson Foundation created a *Mentoring Program Toolkit* to guide nursing schools in forming mentorship programs that provide structured support to increase student success and retention (AACN, 2017). As nursing education changes from teacher-focused to more student-focused, the value of peer mentorship programs can be viewed from principles grounded in andragogy (Andersen & Watkins, 2018).

The author of this paper teaches at the sophomore entry level of a midwestern baccalaureate nursing program and sees firsthand the barriers students face in completing nursing school. Students report increased levels of stress, anxiety, a lack of study skills, and uncertainty about how to navigate nursing school. Furthermore, an increasing number of students are entering nursing school after recently graduating from high school and have little life experience. Since 2022, the university has offered a voluntary peer mentoring program. However, the peer mentoring program has yet to undergo evaluation using the Plan Do Study Act (PDSA) (see Figure 4) quality improvement cycle. While students can voluntarily sign up as a mentor or mentee at the university, data has yet to be analyzed to determine the effectiveness of the mentor program.

The problem addressed in this DNP project, a quality improvement project, aims to evaluate the existing peer mentoring program and obtain feedback from entry-level nursing students. The population includes the Spring 2024 undergraduate baccalaureate nursing students admitted to the nursing program. The stakeholders include the faculty, students, and clinical partners of the baccalaureate nursing program. Available resources include two peer mentor nursing faculty, two classrooms, and the existing peer mentoring program. The anticipated outcome for this project is to produce significant feedback that will improve future offerings of

the peer mentoring program. The role of the DNP student is to facilitate and collaborate with the other peer-mentoring nurse faculty. The DNP student will also analyze and provide conclusions on the evaluation data. This DNP project examines the perceived benefits and barriers of an established voluntary peer mentoring program in two cohorts of entry-level sophomore nursing students at the end of one semester, thus guiding future peer mentoring.

Review and Summary of Relevant Literature

Peer mentoring benefits entry-level nursing students by providing a safe environment where mentees can be supported as they transition into the role of student nurses. The DNP project will add to the existing nursing education research that shows how peer mentoring impacts student outcomes.

The DNP student utilized the following PICOT statement to guide the literature review:

P: Entry-level sophomore baccalaureate nursing students

I: Voluntary peer mentoring program

C: Survey results from the 2022 mentoring cohort versus the spring 2024

O: Student perceptions of peer mentoring benefits and barriers

T: Four months.

Using the PICOT statement, a literature review used the search terms *peer mentoring* and *nursing education*. The electronic databases searched included the Cumulative Index of Nursing and Allied Health Literature (CINAHL) and MEDLINE. Lastly, the reference lists were examined for other studies not identified in the previous searches. The review was limited to peer-reviewed research studies, grey literature, and dissertations on peer mentoring in nursing education published in English from January 2018 to May 2024. Exclusion criteria were studies that focused solely on peer mentors and did not examine peer mentoring from the mentee's

perspective. Sixty-two articles were screened, and eighteen were identified as eligible for review and inclusion. The DNP student will discuss the literature review, correlating peer mentoring and student success.

Stress, Anxiety, and Burnout

Three articles focused solely on nursing students' experience, stress, and burnout levels (Bektas et al., 2018; Burleson et al., 2022; McCarthy et al., 2018). The studies found that nursing students experience varying degrees of stress globally, requiring nurse educators and academia to support students in clinical and classroom settings. These studies support the author's findings of increased stress and anxiety seen in entry-level nursing students. When discussing peer mentoring, it is vital to define the concept. A concept analysis by Yarbrough and Phillips (2022) discovered a consistent definition for peer mentoring in nursing education as "a formal learning partnership between two individuals (mentor and mentee) with differing levels of nursing school experience" (p1549).

In analyzing the literature, three reviews were noted: a mixed methods systematic review, an integrative review, and a qualitative systematic review (Kachaturoff et al., 2020; Lim et al., 2022; Nelwati et al., 2018). Kachaturoff et al. (2020) analyzed eight articles and discovered that peer mentoring decreases stress and short-term anxiety in undergraduate nursing students. Lim et al. (2022) examined thirty-one studies, and findings indicate that peer mentors, supported by academia, can serve as resources and support to mentees. Nelwati et al. (2018) systematically reviewed qualitative studies, analyzing six articles to determine undergraduate nursing students' perceptions of their peer learning experiences. The findings identified personal and professional development themes, specifically increased self-confidence, communication skills, emotional

support, and socialization. The studies mentioned above strengthen the use of a peer mentoring program to support a nursing student's educational journey and the author's DNP project.

Similar results were noted in a Turkish quasi-experimental study completed by Yuksel and Bahadir-Yilmaz (2019), who examined ninety-one first-year undergraduate nursing students and measured coping and adjustment over an 8-week peer mentoring program. The non-randomized pre-test and post-test design study found that mentoring programs positively affect the adjustment to university life and ways of coping with stress. Likewise, Raymond and Sheppard (2018) studied seventy Canadian baccalaureate degree nursing students in the first year of their nursing program. They found that those in the experimental group, which received peer mentoring, scored statistically higher than those in the control group regarding perceived stress, self-efficacy, sense of belonging, and loneliness.

Caring and Inclusivity

The literature review also noted peer mentoring to increase caring and inclusivity. Student diversity has only sometimes been the focus of peer mentoring. However, as the patient and student populations become more diverse, academia must consider diversity in student support. Andersen and Watkins (2018) examined the value of peer mentoring using an expository review, and the results prove that peer mentoring is valuable through a social constructivist and humanistic adult education philosophy. Unlike other studies, Andersen and Watkins (2018) studied peer mentoring from the perspective of mentor, mentee, instructor, and educational institution, outlining its benefits and challenges. As diversity increases among nursing students, peer mentoring is noted to be a successful strategy to ensure support and respect for all students (Igbo & Sule, 2019; Latham et al., 2020; Majors et al., 2022). Support for diverse nursing students needs to be built into peer mentoring programs. Kramer et al. (2018) found peer

mentoring to instill a culture of caring among mentors and mentees, which is essential for nursing students who enter a profession steeped in caring. The qualitative study by Joung et al. (2020) differed in that the focus of peer mentoring was examined using Swanson's middle-range caring theory. Joung et al. (2020) discovered five themes in the cycle of caring that occurs in the mentor/mentee relationship, including getting to know each other together and in the company, being a guide, opening new possibilities, and internalizing the value of care.

Mentor/Mentee Perspective

Two cohort-focused studies examined the mentoring model (Miller et al., 2018; Mumba et al., 2022). Miller et al. (2018) used a cross-sectional survey designed to study a mandatory mentor program from the perspective of both the mentor and mentee and, through a quantitative analysis, found the strategy beneficial for both mentees and mentors over ten years. Mumba et al. (2022) started a peer mentoring program in response to student feedback asking for more support. They conducted a longitudinal student survey of mentor dyads and found that both mentees and mentors appreciate and find the program helpful.

Clinical Skills

Peer mentoring is helpful for stress and anxiety and can assist with clinical skills. An experimental three-group study used a pre and post-test design to measure surgical wound care skill level in a peer-led, faculty-led, or mentorship-led group (Fard et al., 2020). Senior nursing students with high-grade point averages led the peer-led group; qualified registered nurses led the mentor-led group, and two faculty educators performed the faculty-led mentoring. Findings showed those in the mentor group performed best, recommending peer and mentor learning be considered for student nurse clinical skills and competency.

Through an in-depth literature review, peer mentoring is shown to be a practical student success strategy academia can utilize to increase student satisfaction and progression to graduation. Much of the literature directly relates to and supports the author's DNP quality improvement project over the nursing students' perceived benefits and barriers to a peer mentoring program. While the author is not explicitly studying the concept of caring or diversity, these are critical additional benefits for nursing students and educators.

Statement of the Problem

Nursing students face an increased level of stress and anxiety, which can create a barrier to their overall success in nursing school. There is substantial evidence to support peer mentoring in sophomore entry-level nursing students. The proposed DNP project evaluates an existing peer mentoring program at a midwestern baccalaureate nursing school. While the current mentoring program collected feedback, it lacked analysis of data to determine effectiveness or areas of improvement. As a quality improvement project, it is vital to include the PDSA cycle (see figure 4) to test a change that is being implemented. Using the four steps of the plan, do, study, and act guides the thinking process into breaking down the task into steps and then evaluating the outcome, improving on it, and testing again (Agency for Healthcare Research and Quality, 2020).

Performing a PDSA cycle analysis of the current peer mentoring program will provide three essential pieces of information: 1. Students' perceived benefits to the peer mentoring program. 2. Students perceived barriers to the peer mentoring program. 3. Evidence to support the effectiveness of the peer mentoring program. Peer mentoring is supported in the literature as being an evidence-based approach to assist beginning nursing students with the transition to nursing school. By supporting students through peer mentoring, academia ensures they graduate

and enter the nursing workforce. If peer mentoring at the nursing school is not examined in depth, it cannot be determined whether it is effective. As academic institutions become more fiscally responsible, supporting any student success programs is vital.

Purpose of the Project

The DNP quality improvement project aims to evaluate the current voluntary peer mentoring program by examining the first-semester sophomore nursing students' perceived benefits and barriers to the peer mentoring program, through comparison of 2022 and 2024 survey data. The population of focus is the first-semester sophomore student beginning their nursing school program at one midwestern university. A new cohort of sophomore students begins every spring and fall semester, and the numbers within the cohort vary from mid-twenties to a maximum number of fifty-five students. The PICOT statement is P: Entry-level sophomore baccalaureate nursing students I: Voluntary peer mentoring program C: Survey results from the 2022 mentoring cohort versus the spring 2024. O: Student perceptions of peer mentoring benefits and barriers T: Four months.

Change, Change Framework, Scope, and Limitations

Scope

The quality improvement project will evaluate a current voluntary peer mentoring program with approximately 20 undergraduate baccalaureate nursing students. It will use a post-survey asking for quantitative and qualitative feedback regarding how they rate the program, the perceived benefits and barriers to their peer mentoring experience and educational program attendance records from January 8, 2024, to May 1, 2024. The peer mentoring program was created in 2021 at a midwestern baccalaureate nursing program and currently lacks analysis of evaluation data. The DNP quality improvement project expands upon the current peer mentoring

program by evaluating and analyzing the perceived benefits and barriers. Previously, the peer mentoring program included four in-person meetings over four months; the first meeting was only with the mentors and faculty advisor of the mentoring program. The first in-person meeting educated peer mentors on what their role was and was not, with a peer mentoring handbook provided to each mentor. The next in-person meeting was with the mentors/mentees combined and the faculty advisor to the mentoring program. At this in-person meeting, mentors and mentees are assigned their partners to the peer mentoring program via the faculty advisor. The third in-person meeting was done with the mentor, mentees, and faculty advisor to the peer mentoring program to hold a brief check-in to determine what was going well and what was not. There was a debrief at the last in-person meeting, and the peer mentoring experience was officially closed. A post-peer mentoring survey was collected in the final in-person meeting, asking for feedback. Other meetings could take place at the discretion of the mentor and mentee and could be in person, on Zoom, by text, or by phone.

Limitations

The limitations of the project are that it is strictly voluntary and focused solely on entry-level sophomore nursing students during four months of the mentoring program. The number of students entering the program varies from the spring to fall admissions dates and can create a smaller sample size depending on the number in the cohort.

Delimitations

The delimitations of this quality improvement project are that the mentors will not be the focus of the study but rather the mentee's experience at the entry sophomore level. Also, delimitations include focusing on the mentee's perceptions of perceived benefits and barriers to

the peer mentoring program. Lastly, this project will not focus on retention rates, grades, or test scores.

Change Framework

The change framework to guide the DNP quality improvement project is Lippitt's Model of Change (see Figure 1). Lippitt's Model of Change expands upon Lewin's theory by focusing on the role of a change agent. A change agent has the skill and power to stimulate, facilitate, and coordinate the change effort (Anderson, 2023; White, 2021). The DNP student serving as the change is vital to guide a quality improvement project. Lippitt's change model includes seven steps: developing the need for change through diagnosing the change, establishing change relationships, assessing motivations and capacity for change, clarifying change assessment, determining resources, creating goals and intentions to guide the action plan, examining alternatives, transform intentions to actual change and maintain the change, generalize, and stabilize the change and end the relationship of the change agent.

Starting with phase one, a discussion between the DNP student, Dean, and Assistant Dean of the School of Nursing and Allied Health Professions identified current problems and areas for improvement in the current peer mentoring program. Phase two of Lippitt's Change Theory involves assessing motivation and capacity to change. The DNP student, a change agent, is highly motivated and can assist in the quality improvement process. The mentoring program was established in 2021 by three nursing faculty members within the School of Nursing and Allied Health Professions. Of the three faculty members, one left the university in May of 2023, and a second retired in December of 2023, leaving one faculty member to continue the peer mentoring program. Phase three of the change theory requires an examination of the system's problems. In speaking with the Assistant Dean, the sole individual responsible for the peer mentoring

program, it was discovered that there needs to be an evaluation—specifically, student’s perceptions of the benefits and barriers to the program. Phase four of the change theory requires establishing alternate routes. The School of Nursing and Allied Health Professions has established a peer mentoring program and offers peer tutoring as an alternative strategy for nursing students. Phase five of Lippitt’s Change Theory transforms intentions into actual efforts, where the DNP student obtains feedback from the students who complete the peer mentoring program. Phase six requires stabilizing the change, which occurs with repeated cohorts participating in the peer mentoring program. Lastly, the final phase is terminating the change agent relationship, with the maintenance of the peer mentoring program that now includes an evaluation phase.

Theoretical Framework

Malcolm Knowles's Adult Learning Theory (see Figure 2) and Lev Vygotsky’s Sociocultural Learning Theory (see Figure 3) align with the concept of peer mentoring. The undergraduate baccalaureate nursing program students are considered adult learners and compared to children, are motivated, increasingly self-directed, and bring experiences to their learning. Adult learners have four characteristics: their lives include different roles and responsibilities, they often learn by participation and negotiation, the focus and meaning they assign to aspects of life are constantly being refined through life, and they may have anxiety associated with their learning.

While considering that the students are adult learners, it is crucial to consider the context in which students learn. A learning theory that strongly supports peer mentoring is the Sociocultural Learning Theory by Vygotsky. Sociocultural learning is interactive and occurs in a social context where the learner interacts with an expert, and the scaffolding of learning supports

the learner (Candela, 2020). In peer mentoring, peers can influence the learning of others while increasing confidence and providing academic and emotional support to each other (Yarbrough & Phillips, 2022). A senior peer mentor can be the expert and assist the mentee in supporting their learning in the zone of proximal development, which is the space between what a learner can do without assistance and what a learner can do with adult guidance or in collaboration with more capable peers.

Summary

While the School of Nursing and Allied Health Professions has an evidenced-based peer mentoring program, it needs analysis of evaluation data. An abundance of literature supports peer mentoring programs to combat stress and anxiety, increase self-esteem, improve skills, and enhance peer relationships among nursing students. The DNP project will provide critical data by collecting nursing students' perceptions of the benefits and barriers to voluntary peer mentoring in an undergraduate baccalaureate nursing program, while comparing 2022 to 2024 data. It will also determine how well it helped students assimilate into the program. The Implementation Science Plan-Do-Study-Act model guides this project and will continue through the implementation and evaluation phases. The following section will further discuss the methods and design of the DNP project.

SECTION II: METHODS

Introduction

Registered nurses are pivotal in the country's health care delivery system, with a growing need for a steady supply of registered nurses produced from schools of nursing. Juraschek et al. (2019) reported projected population size and age changes, developing supply and demand models to forecast the RN job shortage in each 50 states. Findings show significant RN

workforce shortages throughout the country in 2030 (Juraschek et al., 2019, p.473). It is paramount that students enrolled in nursing schools are successful in graduation. Nursing school is challenging, and nursing schools must implement strategies to support students to graduation and licensure.

A literature review supports a problem among undergraduate baccalaureate nursing students with difficulty transitioning to nursing school. As a result of the literature review findings, a mentoring program was implemented in 2021 to help address nursing students' success on a midwestern baccalaureate nursing campus where the DNP student is employed as nursing faculty. A needs assessment/gap analysis was conducted between the DNP student, Dean, and Assistant Dean of the school of nursing, identifying problems and areas for improvement in the current peer mentoring program.

The following PICOT statement was developed: P: Entry-level sophomore baccalaureate nursing students. I: Voluntary peer mentoring program. C: Survey results from the 2022 mentoring cohort versus the spring 2024 cohort. O: Student perceptions of peer mentoring benefits and barriers. T: Four months. The DNP student's quality improvement project aims to identify the benefits and barriers that sophomore-level undergraduate baccalaureate nursing students experience in an established peer mentoring program within the nursing school. By determining the benefits and barriers experienced with the peer mentoring program, the university can support nursing students to progress and graduate, ultimately resulting in more nurses entering the workforce. Data collection includes post-surveys for qualitative feedback, educational program attendance, and quantitative data from Likert scale Qualtrics questions. Spring 2024 data will be compared to 2022 peer mentoring data and discussed further in this paper.

The DNP student utilized Malcolm Knowles's Adult Learning Theory (see Figure 1) when redesigning the peer mentoring program for nursing students. Adults are self-directed and motivated and prefer learning in ways that are relevant to their lives. Moreover, adult learners are hands-on and participatory in their learning (Bouchrika, 2024). Content was transferred into the learning management system, Canvas, for students to have at their fingertips, with all resources embedded into the peer mentoring Canvas course. Using the people feature in Canvas, students were assembled according to their peer mentoring group and could message one another easily. Combining Lev Vygotsky's Sociocultural Learning Theory (see Figure 2) with Malcolm Knowles's Adult Learning Theory, it considers adult learners are more self-directed and motivated while learning in groups with others around them. Learning from others who have more knowledge than oneself can be acquired through what Vygotsky calls the zone of proximal development. Nursing school is a professional subculture, and Vygotsky's sociocultural learning theory uses more knowledgeable others, such as senior nursing students, in the peer mentoring program (Medical College of Wisconsin, 2022).

Project Design

A mixed-methods descriptive statistical study was conducted with the spring 2024 peer mentoring program, using a convenience sample of sophomore nursing students who are mentees and senior nursing students who serve as mentors. The previous peer mentoring program was established using the 2021 Indiana Center for Nursing Peer-to-Peer Mentoring Toolkit, which consisted of in-person meetings using binders containing educational materials. The Mentoring Toolkit was developed in 2021 by the IN NEEDS Initiative Mentorship Subcommittee and builds on the Robert Wood Johnson Foundation and the American Association of Colleges of Nursing's New Careers in Nursing Mentorship Program Toolkit (Indiana Center for Nursing, 2021). The

toolkit contains resources grounded in research and best practice for nursing schools to use based on their individual needs.

Using the Plan Do Study Act (PDSA) in Figure 4, the DNP student transformed the former program into a hybrid format using the school of nursing's learning management system, Canvas, to house all learning content and resources. The PDSA Cycle (Plan-Do-Study-Act) is a systematic process for collecting valuable information to continually improve a process (The Deming Institute, 2024). The cycle begins with the plan step, which identifies a goal through the gap analysis/needs assessment. In conversing with the stakeholders of the school of nursing, it was determined that student success initiatives be considered a priority. The stakeholders for the school of nursing include the dean and assistant dean, along with nursing students enrolled in the baccalaureate nursing program. The school has implemented tutoring and peer mentoring for students since the fall of 2021, and the dean and assistant dean wanted data analysis to support the peer mentoring program initiative. The university is experiencing a budget deficit, and all programs must be critically examined to prove the return on investment.

Within the planning phase, the DNP student further developed the project focus, identified the population, discussed the plan with the stakeholders, and presented the proposal to both the Arkansas State University Institutional Review Board (IRB) and the IRB committee where the DNP student is employed and conducted the DNP project. The DNP project team consists of the DNP student, serving as the principal investigator (PI), and the assistant dean, who began the peer mentoring program in 2021 and is the DNP onsite mentor. After identifying the goal and project focus during the planning phase, the do step is implementing the peer mentoring program, with the PI implementing the voluntary peer mentoring program.

The implementation consisted of a peer mentoring program offered for the spring 2024 semester to those students who identified as sophomore or senior students. Students are off during the summer; therefore, the DNP project must be implemented in the fall or spring semester. The PI sent notification of the peer mentoring program to all sophomore one and two-semester students and senior one and two students via Canvas messages on December 31, 2023. A follow-up announcement was sent via the BSN student center Canvas course that all baccalaureate nursing students are enrolled in on January 12, 2024, reminding those students of the peer mentoring program. Interested students contacted the PI to be added to the peer mentoring Canvas course. Twenty-seven students expressed an interest in the peer mentoring program and were placed into the peer mentoring Canvas course.

An introductory Zoom meeting was held for the peer mentors to orient them to the program and to educate peer mentors on what their role is and is not, with a peer mentoring PowerPoint presentation. An in-person meeting facilitated by the DNP student followed where the mentors and mentees met each other over lunch and established a meeting schedule and their preferred method of communication. The DNP student assigned the students to mentor/mentee groups based on where each student was in the baccalaureate nursing program. Two voluntary Zoom check-in meetings occurred over the Spring 2024 semester for mentors and mentees to log on with any questions or concerns with the DNP student. A final in-person meeting was conducted during lunch, where the mentors and mentees met with the DNP student to discuss and debrief the program, with an official closing of the program for the semester. Program evaluation was encouraged through a Qualtrics survey, and the link was sent to all students enrolled through Canvas.

In the study step, results are examined to test the plan's validity for signs of progress, success, problems, and areas for improvement. Students who participated in the peer mentoring program were given a link to an anonymous Qualtrics survey after the peer mentoring program. The paper version of the 2024 mentee and mentor survey can be found in Appendix C and D. The PI and project site mentor constructed the survey using the Indiana Center for Nursing surveys (see Appendix G and H) found in the Peer-to-Peer Mentoring Toolkit as a guide.

The act step concludes the PDSA cycle, incorporating the knowledge produced by the entire process, which can be used to adjust the goal, change methods, reformulate a theory, or broaden the learning. Using the PDSA cycle in a baccalaureate degree nursing program peer mentoring program is beneficial, as new students enter the nursing program every fall and spring semester. Applying the PDSA cycle will allow for a never-ending cycle of learning and improvement for those students in the peer mentoring program.

Sample and Setting

The newly revised peer mentoring program was offered in the Spring 2024 semester at a midwestern regional campus, one of seven regional campuses within the state. Participants were current, actively enrolled students in a baccalaureate nursing program during the spring 2024 semester and identified as sophomores or seniors. Permission was obtained from the assistant dean of the nursing school on September 7, 2023, and can be seen in Appendix E. The project site university granted permission to proceed with the quality improvement project on December 16, 2023 (see Appendix F).

Examination of peer mentoring in baccalaureate nursing students is beneficial at the macro, meso, and micro levels. The macro level focuses on the parent institution as a large state university offering students hundreds of nursing degrees. The parent institution's mission is “to

provide broad access to undergraduate and graduate education for students throughout Indiana, the United States, and the world, as well as outstanding academic and cultural programs and student services” (Indiana University, 2024, p. 1). Society is part of the macro level, along with policy development related to nurses and the nursing workforce. According to the American Association of Colleges of Nurses (2022), the RN workforce is expected to grow from 3.1 million in 2021 to 3.3 million in 2031, an increase of 195,400 nurses (p.1).

The meso-level includes the regional campus and the nursing school. The nursing program is a well-regarded baccalaureate program that educates students to enter the region's nursing workforce. The school of nursing's mission states, "It is to provide innovative and effective student learning opportunities to prepare health care professionals for a variety of roles at the undergraduate and graduate level" (Indiana University Kokomo, 2024. p. 1). The nursing program admits students every spring and fall semester, with 55 students being the maximum number per cohort. Therefore, it is of significant impact to our stakeholders that students are successful in their nursing school journey and become licensed nurses.

Consideration of several relationships occurs at the micro-level. They include mentor-mentee relationships, students enrolled in the peer mentoring program engaging with the peer mentor advisors, and students engaging with campus resources. The peer mentor PI and project site mentor serve as the peer mentor advisors for the program and engage often with the students. Knowing the peer mentoring program is grounded in Vygotsky's Sociocultural Learning Theory, the mentor-mentee relationship is of primary importance. Often, students are more likely to seek assistance from peers in the nursing program before contacting faculty. Finally, various student resources are available to the students in the peer mentoring program.

Students were recruited into the program through Canvas messages and emails directed to the sophomore and senior cohorts of nursing students in December 2023 and the first week of January 2024. Inclusion criteria are adults over 18 who are admitted and actively enrolled in the undergraduate baccalaureate degree nursing program. Exclusion criteria are traditional baccalaureate students not in their first or third year in the university's nursing school. This quality improvement project will be helpful to the university in determining to what extent small group peer mentoring affects sophomore students' transition to nursing school, assimilation into the nursing program, and improvement in their quality of life as students.

Instrumentation

The targeted outcomes for the DNP quality improvement project are student perceptions of peer mentoring benefits and barriers, specifically the sophomore student. Additionally, examining the 2022 peer mentoring program survey data compared to the 2024 data will be beneficial in looking for themes and trends in the data as it relates to the sophomore student. The peer mentoring program implementation used The Indiana Center for Nursing's Mentoring Toolkit, developed by the IN NEEDS Initiative Mentorship Subcommittee, which offers nursing programs tools and resources for implementing a Peer-To-Peer Mentoring Program during prelicensure nursing education. Mentoring has positively impacted student outcomes, including integration and transition, academic support, guidance and advice, future preparation, and emotional, social, and personal support (Miller et al., 2019). This toolkit builds on the Robert Wood Johnson Foundation and the American Association of Colleges of Nursing's New Careers in Nursing Mentorship Program Toolkit. The toolkit resources are grounded in research and best practice, with all resources included in this toolkit created to assist nursing programs in developing and implementing a Peer-To-Peer Mentorship Program that best fits their school's

individual needs. The peer mentor and mentee survey developed by the Indiana Center for Nursing's Mentoring Toolkit are in Appendix G and H.

When reviewing the peer mentoring survey tool used in 2022, it was discovered that it differed from the Indiana Center for Nursing Mentoring Toolkit. The 2022 peer mentee survey is in Appendix A, and the 2022 peer mentor survey is in Appendix B. After reviewing the Peer-to-Peer Mentorship Program Toolkit surveys and the 2022 surveys, the DNP student and the project site partner determined it was best to create a new survey for the DNP quality improvement project to ensure that the surveys or instruments used were measuring what the project intended.

According to Sürücü & Maslakci (2020), the instruments used to measure a behavior or quality must have certain qualities, including validity and reliability. The validity of a scale indicates whether the instrument is measuring what it intends to measure, as well as how well it performs its function. Reliability indicates the stability of the measured values obtained in repeated measurements under the same circumstances using the same instrument. For the DNP project, construct and content validity is vital. Content reliability focuses on whether the test or survey fully represents what the study aims to measure. To evaluate reliability of the newly created survey tool, continuation of the tool needs to take place to analyze the extent to which the results can be reproduced when the research is repeated under the same conditions. Conversely, construct validity examines whether the test or survey measures the concept intended to be measured. The DNP student and project site partner examined the tools previously used to ensure the new survey collected pertinent data that relates to the DNP QI project.

Data Collection

The DNP student is a full-time faculty member of the university's school of nursing baccalaureate program. The PI obtained permission (see Appendix E) from the assistant dean of

the school of nursing to conduct the peer mentoring quality improvement project at this location in September 2023. The proposal was sent to the Arkansas State University Institutional Review Board, and permission to proceed with the project was granted on November 30, 2023 (see Appendix I). Additionally, IRB was received on December 16, 2023, at the PI's university, where the quality improvement project was conducted (see Appendix J). Twenty-four students who met the qualifications and expressed interest in the peer mentoring program were added on January 1, 2024, to the peer mentoring canvas course, which the PI created in Canvas, the learning management system for the university. Of the 24 students, eighteen were sophomores, and six were seniors. The six senior students served as peer mentors and attended the online Zoom training session conducted by the PI on January 17, 2024. Nineteen students attended the in-person kick-off meeting on January 22, 2024, with the PI present to facilitate. A check-in meeting via Zoom took place with the PI on February 19, 2024, but students were absent. An in-person meeting, with the PI serving as facilitator, was held on March 18, 2024, with 15 students attending. A final Zoom meeting occurred with the PI on April 17, 2024, and four students attended. All participants were given a link to take an anonymous survey in Qualtrics between April 24, 2024, and May 20, 2024.

The peer mentoring course contains thirty-one resources for students, including academic support, personal development, goal setting, testing anxiety, study and test-taking strategies, emotional support, career guidance, relationship building, active listening, a peer mentoring PowerPoint presentation, peer mentoring policies, and a peer mentoring agreement. The resources utilized were part of the peer-to-peer mentoring toolkit.

The data collected includes post-peer mentoring Qualtrics survey data from the mentors and mentees, secured in a password-protected university learning management system, Canvas.

The survey was confidential and had no student identifiers. The DNP student and the project site partner are the only individuals with access to the secure survey data. The PI exported the Qualtrics data into an Excel spreadsheet to examine qualitative and quantitative data, which were analyzed to determine the benefits and barriers of the peer mentoring program, with sophomore students being the focus of study for the QI project. The Excel spreadsheets containing data will be shredded six months from the completion of the project using the university-secured shredders. Detailed analysis of data will be discussed in the following section.

Data Analysis Methods

The DNP project data analysis consists of collecting and analyzing each completed Qualtrics survey to identify the student level (sophomore/senior) and rating of the peer mentoring program, which provides quantitative data. Qualitative data includes the program's benefits and barriers. Spring 2024 data was compared to 2022 peer mentoring data to locate significant statistical findings. The PI selected 2022 as the comparison because that was when the peer mentoring program collected participant feedback.

The following steps were included in the analysis phase of the DNP project: 1) The PI discussed the survey at the last in-person peer mentoring meeting on March 18, 2024, with those students in attendance. 2) All participants were given a link to take an anonymous survey in Qualtrics between April 24, 2024, and May 20, 2024. 3) The PI accessed the completed Qualtrics surveys on May 21, 2024, downloaded the Excel spreadsheet data, and began a thorough analysis. 4) The PI organized the downloaded data using a codebook and shared it with the project site partner for statistical analysis. The data will be kept on the PI's computer for six months and then deleted. The downloaded Excel spreadsheet data will be shredded upon completion of the project.

Descriptive statistics for the peer mentoring program compared the sophomore students from 2022 to 2024. The statistical test most appropriate for this project is the Mann-Whitney U test, which determines where the population medians of two groups differ and calculates a range of values likely to include the difference between the population medians. The Mann-Whitney test was selected versus a t-test due to the smaller sample sizes and the ordinal data. Additionally, qualitative data was examined to identify themes, including the benefits and barriers of the peer mentoring program.

A codebook is essential to make analyzing statistical data easier. According to Belisle & Lawrence (nd), a codebook is essential in managing any data analysis project. The codebook includes variable names, labels, codes, formats, missing data, and date variables. The DNP student developed the codebook in Table 1 of the manuscript. The codebook for the peer mentoring project contained format names, which were abbreviated from the original question listed in Qualtrics. Questions were coded using the current grade as the format name. The format was followed by variable names, which are one- or two-word statements to shorten the question topic for coding purposes. For the survey, the variable name was sophomore or senior, with sophomore/senior one students receiving the value or numeric code of one. Sophomore/senior two-semester students received the value or numeric code of two.

Additionally, the rating of the peer mentoring program was a format name with variable names, including `rate_program_senior` and `rate_program_sophomore`. Value/numeric codes were 1-5 with the value labels: 1=poor, 2=fair, 3=average, 4=good, 5=excellent. Numeric codes and value labels are included in the codebook for items that were yes/no questions, Likert scale items, and other ordinal data items. Missing quantitative data is addressed in the codebook using

the number nine, while qualitative data is addressed using the number 999. Values indicating inapplicable data were labeled nonapplicable.

Data Management Methods

The two individuals managing the collected survey data include the PI and the project site partner, the second faculty member involved in the peer mentoring program. All data was collected within Canvas, the university's learning management system, using the Qualtrics online survey tool, which requires a password. The survey was open for 3.5 weeks. The only personal student information collected via the Qualtrics survey tool was the level of the student (sophomore/senior) within the nursing program, which was a pertinent part of the questionnaire. No student names or other identifiers were used during the collection of data. The Qualtrics data is secured in the PI's workplace university Qualtrics account, requiring a password. The PI created the Qualtrics survey, and no one else can access it outside of the PI. No paper copies of the survey exist. The deletion of peer mentoring survey data from Qualtrics will occur six months after the project is completed, using the deletion feature in Qualtrics. The PI will delete the survey within Qualtrics, eliminating survey questions and results from the record. Moreover, any downloaded Qualtrics data will be shredded using the university-locked shredders within six months of the project's completion.

Ethical Considerations

The post-peer mentoring surveys were completed online and anonymously at the students' convenience. The peer mentoring project was noted to have minimal risk of harm, and students could participate as much or as little as they preferred. The probability and magnitude of harm or discomfort anticipated during the program will be no greater than any ordinarily

encountered daily or during routine physical or psychological examinations or tests. Students could exit the program if they felt discomfort at any time.

The survey was created and administered using the university's Qualtrics system, which provided security through a two-factor authentication code. Only the PI and the project partner had access to the survey data. Participants were provided with detailed information about the nature of the project through an introductory PowerPoint. Students who served as mentors signed a consent form to participate since they would be working in a leadership role. The project was approved by Arkansas State University's IRB board (see Appendix I) and was found to be exempt. The PI completed Citi training in the fall of 2023.

Timeline, Budget, Resources, and Sustainability

Creating a timeline is crucial to the success of DNP projects. According to Idzik and Conrad (2024), DNP students are known to propose elaborate projects that need to be revised in budget and timelines. Working with the project site faculty and following a specific timeline and budget ensures the successful completion of a DNP project. Wright et al. (2022) studied the DNP project process and summarized core challenges and solutions. The article noted that one challenge is in project design and progression of DNP projects and recommends using a roadmap or timeline to keep the DNP project on track. The author of this manuscript developed a Gantt chart to create a roadmap for all phases of the peer mentoring QI project (see Figure 5).

Using the PDSA framework (see Figure 4), the PI began planning the DNP quality improvement project in September 2023 following the planning meeting with the Assistant Dean of the nursing program, who also serves as a faculty advisor for the peer mentoring program. After determining that the peer mentoring program would be the project focus, an in-depth literature review was conducted in the fall of 2023. In late fall of 2023, IRB permission was

granted by Arkansas State University, as well as the university where the DNP project was being conducted. Using Knowles's Adult Learning Theory (see Figure 2) and Vygotsky's Sociocultural Learning Theory (see Figure 3), the peer mentoring program was revamped into a hybrid program utilizing Canvas's learning management system in December 2023. In-person and Zoom peer mentoring meetings were held during the spring 2024 semester with the PI present. A Qualtrics survey was made available to all peer mentoring participants in late spring 2024, and an analysis of the survey data was conducted in May 2024.

The budget for the project was minimal due to the PI working for the university where the project was taking place. Previously, the budget for peer mentoring was established at \$1,500.00. However, the nursing school dean requested that the program be implemented well below budget due to the university's current budget deficit. The learning management system, rooms, and peer mentoring resources were free for the PI. The Peer-to-Peer Mentoring Toolkit offered resources for nursing schools, and several were uploaded into the Canvas Peer Mentoring course. The only cost associated with the project was the cost of pizza for the two in-person peer mentoring sessions, which cost the nursing department \$250.00 (see Table 2). The \$250.00 was paid for by the nursing school, with the approval of the dean. For minimal money, the impact of peer mentoring is significant. Every nursing student who leaves the program due to poor academic performance is one less nurse to graduate and care for patients.

The peer mentoring program is highly sustainable, and the data shows it benefits all students enrolled. The program requires a minimum of one faculty member to serve as the advisor, and having the course housed in the learning management system makes it easy should the advisor change. The advisor must update the course, adding or removing students as they enter and exit the program. Also, the content must be updated periodically as evidence-based

practice and literature evolve around peer mentoring. The peer mentoring project has the potential to be examined further from the senior student's perspective, as the DNP project's goal was to focus on the sophomore experience. When analyzing the data, further questions and lines of inquiry arose, which makes the peer mentoring project an ongoing line of study.

Summary

Nursing shortages have occurred in the United States since the early 1900s. As healthcare services increase, 1.2 million new registered nurses will be needed by 2030 (University of St. Augustine for Health Sciences, 2021). Nursing schools are attempting to accommodate the demand, but they, too, have their challenges. Education is the cornerstone for growing the nursing workforce. Attrition rates for nursing students in baccalaureate programs can reach 50%. Therefore, nursing programs must support younger students lacking academic experiences and coping skills (Scheller et al., 2021). Peer mentoring programs can address attrition-related challenges (Gamble, 2019; Napierkowski & Migliore, 2022; Scheller et al., 2021, & Seshabela et al., 2020).

During this project, the PI revised and analyzed the peer mentoring program as an experiential method of providing nursing students with a supportive environment where a sense of community can be fostered, resulting in academic success and retention in the baccalaureate nursing program. After the spring 2024 peer mentoring program concluded, survey data was collected, analyzed, and compared to 2022 data. Initial findings indicate that the peer mentoring program increased nursing students' sense of support and community. The following section will explore and discuss the results.

SECTION III: RESULTS AND DISCUSSION OF FINDINGS

Introduction

According to the AACN (2024), “the U.S. is projected to experience a shortage of Registered Nurses (RNs) that is expected to intensify as Baby Boomers age and the need for health care grows” (p. 1). Nursing schools are the pipeline to fulfill the growing need for practice-ready nurses. Still, some students do not progress to graduation and licensure due to the increased rigor and stress of the nursing curriculum. Furthermore, healthcare is becoming more complex, requiring nurses to enter practice prepared at a higher level, starting in nursing school. All nursing schools and nurse educators must consider strategies to support their students through the nursing program.

Peer mentoring is an evidence-based strategy to support nursing students during the rigorous and demanding process of nursing school. Peer mentoring is a formal partnership created in a learning setting between two individuals with different nursing school experience levels (Yarbrough & Phillips, 2022). Peer mentoring is a tool that improves learning competencies and strengthens education and critical thinking skills while decreasing anxiety and perceived stress levels (Joung et al., 2020). Yarbrough and Phillips (2022) discovered a consistent definition for peer mentoring in nursing education as “a formal learning partnership between two individuals (mentor and mentee) with differing levels of nursing school experience” (p.1549).

The problem the DNP quality improvement project addresses is how peer mentoring assists entry-level nursing students in a baccalaureate nursing program. The question guiding the DNP project is: “What are the perceived benefits and barriers among two different cohorts of entry-level sophomore nursing students in an established peer mentoring program over one

semester?” Section III of the manuscript presents and interprets the findings of the DNP project. The anticipated outcome for this project is to produce significant feedback generated from survey results. Analyzing the peer mentoring program at the midwestern baccalaureate nursing school will allow the peer mentoring faculty advisor, the PI, to improve future offerings of the peer mentoring program.

Section II discussed the peer mentoring program, design, and instrumentation. Using a mixed methods design, Qualtrics surveys were analyzed using Intellectus Statistic for descriptive statistics, Mann-Whitney U tests were conducted, and the P.I. identified qualitative themes. A Mann-Whitney U test, or the Wilcoxon rank-sum test, compares the differences between two independent samples when the distributions are not normally distributed, and the sample sizes are small ($n < 30$). It is considered to be the nonparametric equivalent of the two-sample independent t-test (Intellectus Statistics, 2023).

Summary of Methods and Procedures

For this project, 24 students voluntarily enrolled in the peer mentoring program for spring 2024, including 18 sophomores as peer mentees and six seniors as peer mentors. Out of the 24 students enrolled, 19 students attended the first in-person peer mentoring kickoff session on January 17, 2024, with the P.I. At the first session, peer mentor/mentee groups were created by the P.I., with groups having a ratio of 1 senior mentor to 4-5 sophomore mentees. Two online Zoom check-ins were offered during the spring 2024 semester, with no students attending the Zoom meeting on February 19, 2024, and four senior peer mentors attending the Zoom meeting on April 17, 2024. Fifteen students, including mentors and mentees, attended the second in-person meeting on March 18, 2024. The number of students attending the peer mentoring programs varied throughout the semester based on the student's schedule and availability.

Before the spring 2024 peer mentoring program, the previous peer mentoring programming was held in person throughout the semester, using binders containing all the peer mentoring resources. Using Malcolm Knowles's Adult Learning Theory and Lev Vygotsky's Sociocultural Learning Theory as the framework for the peer mentoring program redesign, all resources and education materials were moved from a physical binder to the online learning management system, Canvas. Students in the nursing program are all self-directed and motivated adults who prefer learning in ways relevant to their lives. Moreover, adult learners are hands-on and participatory in their learning. Lev Vygotsky's Sociocultural Learning Theory believes that students learn from others who have more knowledge than themselves, and this is called the zone of proximal development. Nursing school is a professional subculture, and Vygotsky's sociocultural learning theory uses more knowledgeable others, such as senior nursing students, in the peer mentoring program.

The PICOT statement guiding the project was: P: Entry-level sophomore baccalaureate nursing students I: Voluntary peer mentoring program C: Survey results from the 2022 mentoring cohort versus the spring 2024 O: Student perceptions of peer mentoring benefits and barriers T: Four months. A post-peer mentoring program survey was given, asking participants to identify their grade or program level, rate the peer mentoring program, and identify its benefits and barriers. The survey was created using the P.I.'s university Qualtrics account and disseminated through a Qualtrics link to all participants in the university learning management system, Canvas. The survey results were entered into and analyzed using Intellectus Statistics and a second analysis was completed by the project partner, the second peer-mentoring faculty advisor.

Descriptive statistics, qualitative themes, and Mann-Whitney U tests were analyzed, comparing the 2022 peer mentoring survey results to the spring 2024 results. The Mann-Whitney

U test is a nonparametric hypothesis test that compares two independent groups and determines whether the difference between the medians of two groups is statistically significant. The Mann-Whitney U test has a set of assumptions, including independent groups, independent observations, continuous or ordinal data, and the same distribution shape. When performing the Mann-Whitney U test, the independent variable was the year, and the dependent variable was the rating of the peer mentoring program (Intellectus Statistics, 2023).

Summary of Sample and Setting Characteristics

The peer mentoring program was implemented on the campus of a midwestern baccalaureate nursing program. It included a hybrid format, with in-person and online check-in meetings. All training related to the peer mentoring program was moved from a binder format to the university's online learning management system, Canvas. The P.I. created a Canvas course for students enrolled in the voluntary peer mentoring program. The midwestern baccalaureate nursing program is a regional campus of a larger statewide university and is considered a commuter campus, with most students being 18-25 years of age. Nursing cohorts, ranging from 25 to 55 students/cohort, are admitted each spring and fall.

The P.I. sent notification of the peer mentoring program to all sophomore one and two-semester students and senior one and two students via Canvas messages on December 31, 2023. A follow-up announcement was sent via the BSN student center Canvas course that all baccalaureate nursing students are enrolled in on January 12, 2024, reminding those students of the peer mentoring program. Interested students contacted the P.I. to be added to the peer mentoring Canvas course. Twenty-seven students expressed an interest in the peer mentoring program and were placed into the peer mentoring Canvas course. Nineteen students attended the first in-person peer mentoring meeting, 15 attended the second in-person peer mentoring

meeting, and 12 completed the post-peer mentoring surveys. The student's grade level within the nursing program was the only demographic obtained. A more significant number of sophomore students (see Table 3) were enrolled in the peer mentoring program (63.2%) than senior students (36.8%). The number of participants is reflected in roughly 5-10% of the target population of all sophomore/senior students enrolled in the midwestern baccalaureate nursing program.

Depending upon the number of students admitted per cohort in the fall and spring semesters, class cohort sizes range from 25-55 students. Due to the voluntary nature of the peer mentoring program, statistically, 5-10% of all qualified students take advantage of the opportunity.

Major Findings

Descriptive statistics, including frequencies and percentages, were calculated for program rating by year. After participating in the peer mentoring program, students completed a Qualtrics survey asking them to rate the program on a Likert scale ranking of 1-5 with the value labels 1= poor, 2 = fair, 3 = average, 4 = good, and 5 = excellent. The most frequently observed category within the 2022 year was three average ($n = 5$, 71.43%). Five excellent was the most frequently observed category within the 2024 year ($n = 8$, 66.67%). Frequencies and percentages are presented in Table 4.

The test of choice to analyze the quantitative data obtained from the Qualtrics surveys was a Mann-Whitney U test. A two-tailed Mann-Whitney two-sample rank-sum test was conducted to examine whether there were significant differences in program rating between the year's levels. The two-tailed Mann-Whitney two-sample rank-sum test is an alternative to the independent samples t -test but does not share the same assumptions (Conover & Iman, 1981). There were seven observations in group 2022 and 12 observations in group 2024. The Mann-Whitney U test results are seen in Table 5 and Figure 6.

The two-tailed Mann-Whitney U test result was significant based on an alpha value of .05, $U = 21$, $z = -1.98$, $p = .048$. The mean rank for group 2022 was 7.00, and the mean rank for group 2024 was 11.75, suggesting that the distribution of program rating for group 2022 significantly differed from the distribution of program rating for the 2024 category. The median for 2022 ($Mdn = 3.00$) was significantly lower than for 2024 ($Mdn = 5.00$). Table 2 presents the result of the two-tailed Mann-Whitney U test. Figure 6 presents a boxplot of the ranks of program rating by year. Additionally, open-ended questions were analyzed for qualitative themes, and Table 6 provides the major themes for the benefits and barriers to the peer mentoring program.

The DNP QI project results support previous findings in the literature. A mixed methods systematic review by Lim et al. (2022) examined thirty-one studies, and findings indicate that peer mentors, supported by academia, can serve as resources and support to mentees. Moreover, Nelwati et al. (2018) systematically reviewed qualitative studies, analyzing six articles to determine undergraduate nursing students' perceptions of their peer learning experiences. The findings identified personal and professional development themes, specifically increased self-confidence, communication skills, emotional support, and socialization. Lastly, Andersen and Watkins (2018) examined the value of peer mentoring using an expository review, and the results prove that peer mentoring is valuable through a social constructivist and humanistic adult education philosophy. The theoretical framework guiding the DNP project was Malcolm Knowles's Adult Learning Theory and Lev Vygotsky's Sociocultural Learning Theory. All students enrolled are adult learners with unique characteristics, and combined with the sociocultural learning theory, where learning is interactive and social, the environment provides a place where mentors and mentees can be supported and learn from one another.

Facilitators for the DNP project included the fact that the Assistant Dean and the P.I.'s project partner had established a preliminary peer mentoring program, but the program needed to be further developed and analyzed. The barriers to the project included scheduling conflicts with many participants. Between the students' classes and work schedules, getting everyone to meet consistently on campus or via Zoom was difficult.

Implications for Nursing Practice

Nursing students who are unsuccessful in their education contribute to the nursing shortage and challenge the quality of care, patient safety, and patient satisfaction (Soerenson et al., 2023). Students leave nursing education for various reasons, but one major cause is stress. Zheng et al. (2022) have indicated that nursing students experience higher stress levels than other majors, which are rising. Rising stress may adversely affect learning outcomes, academic performance, overall health, well-being, quality of life, clinical practice, and mental health. Knowing that nursing students experience a higher stress level, academia, and nurse educators must address the issue using evidence-based research. The literature strongly supports peer mentoring as a student success strategy.

In 2022, the midwestern baccalaureate nursing program where the P.I. is employed implemented a peer mentoring program based on the 2021 Indiana Center for Nursing Peer-to-Peer Mentoring Toolkit. The nursing program is one of the largest regional campus/university programs. It serves the population of north central Indiana, an area driven economically by agriculture, manufacturing, education, and research. Fourteen counties are included in the campus service region. The implications of a successful peer mentoring program are significant for the regional campus and include the students who successfully graduate with a Bachelor of

Science in Nursing degree, the healthcare organizations who employ the graduates, patients, and communities.

The DNP student's quality improvement project aims to identify the benefits and barriers that sophomore-level undergraduate baccalaureate nursing students experience in an established peer mentoring program within the nursing school. By determining the benefits and barriers experienced with the peer mentoring program, the university can support nursing students to progress and graduate, ultimately resulting in more nurses entering the workforce. Statistical significance supports the implementation of the peer mentoring program for future semesters,

The project is sustainable because it costs a small amount to implement, as pizza is offered at two in-person meetings. The P.I. currently serves as the peer mentoring faculty advisor, in addition to another nursing faculty. The peer mentoring program is set up so anyone can step in and serve as the faculty advisor should the faculty change. All peer mentoring resources are housed in the online learning management system, Canvas, and require minimal maintenance. The most extensive task for the peer mentoring faculty advisor is setting up the calendar for the semester regarding in-person meetings, online Zoom meetings, room reservations, and callouts. Creating a detailed workflow diagram would allow anyone to carry out the peer mentoring program successfully.

Utilizing the Plan Do Study Act (PDSA) cycle in a baccalaureate degree nursing program peer mentoring program is beneficial, as new students enter the nursing program every fall and spring semester. The PDSA cycle allowed the DNP student to transform the former program into a hybrid format using the school of nursing's learning management system, Canvas, to house all learning content and resources. The PDSA Cycle (Plan-Do-Study-Act) is a systematic process for collecting valuable information to continually improve a process (The Deming Institute, 2024).

Applying the PDSA cycle will allow for a never-ending cycle of learning and improvement for those students in the peer mentoring program.

Recommendations

Nursing students must be supported by academia and nurse educators to succeed in reaching graduation. While various student success strategies are available, one proven strategy is peer mentoring. Peer mentoring creates a relationship where the mentee can be supported by their mentor, assisting in stress, anxiety, and assimilation. The DNP QI project supports the idea that peer mentoring can benefit sophomore nursing students, providing a student success strategy. The recommendation for nursing education programs is to implement a voluntary peer mentoring program for entry-level nursing students.

While the peer mentoring program is offered on the midwestern baccalaureate campus, the P.I. will create a presentation with significant findings to present to all entry-level sophomore students to increase participation. Currently, 5-10% of all eligible students enroll in the voluntary program, and the goal is to increase that number by 10% through strategic advertising.

Additional peer mentors will need to be recruited into the peer mentoring program as well, and targeted recruitment will need to be done with those seniors, discussing the benefits for them.

While the focus of the DNP project was not on the senior students who served as peer mentors, there is extensive literature to support the benefits of peer mentors.

The microsystem of the peer mentoring program includes the P.I., who served as the faculty advisor, the second faculty advisor, sophomore and senior students enrolled in the peer mentoring program, and campus resources. The mentor-mentee relationship was the center of the microsystem, with the development of close relationships based on Vygotsky's Sociocultural Learning Theory. The students in the program also were able to interact with the P.I. during the

in-person meetings and online Zoom meetings. Various campus resources were included in the peer mentoring canvas course for the students to utilize, and depending on their needs, those resources may or may have yet to be accessed. The mesosystem includes the regional campus and the nursing program. The peer mentoring program directly supports the mission statement of the regional campuses' nursing programs, which is to educate healthcare professionals. Finally, the peer mentoring program supports the macro system, including the parent institution, a large state university, society, and policies related to the nursing shortage.

The P.I. plans to present all findings from the DNP project to the executive leadership team to recommend more robust advertising of this program in the nursing school. The P.I. also plans to work with the nursing faculty who teaches the senior leadership course to investigate how more students can be recruited to serve as peer mentors. Senior students are required to obtain a certain number of leadership hours, and serving as a peer mentor could be a way to gain leadership hours. Furthermore, the P.I. would like to schedule a short education session for the new sophomore student orientation to advertise the peer mentoring program, and this requires speaking to the Assistant Dean of the Baccalaureate Nursing Program.

Discussion

The quality improvement project related to a peer mentoring program demonstrated statistically significant results. The goal is to take the results from this PDSA cycle and incorporate them into the next peer mentoring session to be offered in the fall of 2024. As previously stated, targeted advertising will be done before the start of the fall 2024 semester for those who are eligible for the peer mentoring program. The P.I. will use qualitative feedback to investigate ways to enhance personal communication, provide more structured engagement opportunities, and improve organization and communication. A strength of the peer mentoring

intervention is that it is very economical, in that the only cost associated is related to food offered at the in-person meetings. Limitations of the project include a small sample size and attrition of participants.

Conclusions and Contributions to the Profession of Nursing

Registered nurses are the cornerstone of healthcare but are in short supply. Nursing schools can produce nurses, but the students must succeed in their academic journey. Nursing school is known to be a rigorous program, and unfortunately, some students do not make it to graduation. All nursing schools must consider support systems for students. A research-based strategy shown to be effective in literature is peer mentoring. Peer mentoring benefits the mentor and mentee, instructors, and academic institutions. Andersen and Watkins (2018) studied peer mentoring from the perspective of mentor, mentee, instructor, and educational institution, outlining its benefits and challenges. Additionally, Raymond and Sheppard (2018) studied baccalaureate degree nursing students in the first year of their nursing program. They found that those in the experimental group, which received peer mentoring, scored statistically higher than those in the control group regarding perceived stress, self-efficacy, sense of belonging, and loneliness.

The problem addressed in this DNP project, a quality improvement project, aims to evaluate the existing peer mentoring program and obtain feedback from entry-level nursing students. The anticipated outcome for this project is to produce significant feedback that will improve future offerings of the peer mentoring program. The results from the DNP project indicate that peer mentoring benefits sophomore nursing students in a midwestern baccalaureate nursing program. The contribution of the DNP project supports the ongoing peer mentoring program. Additionally, the feedback obtained will help recruit future nursing students into the

program. The program aims to have each nursing student succeed in their nursing school journey and ultimately graduate, become licensed, and enter the nursing workforce.

References

- Agency for Healthcare Research and Quality (2020). Health Literacy Universal Precautions Toolkit. (2nd ed.)
- American Association of Colleges of Nursing (2017). Mentoring Program Toolkit. Mentorship: A student success strategy mentoring program toolkit. (3rd ed.).
- American Association of Colleges of Nursing. (2022). *Nursing shortage fact sheet*. Nursing Shortage Fact Sheet (aacnursing.org)
- Anderson, K. (2023). *Leading change in health systems: Strategies for RN-BSN students*.
<https://pressbooks.uwf.edu/nursingleadership/>
- Andersen, T. & Watkins, K. (2018). The value of peer mentorship as an educational strategy in nursing. *Journal of Nursing Education*, 57(4), 217–224. Doi:10.3928/01484834-20180322-05
- Bektas, H., Terkes, N., & Ozer, Z. (2018). Stress and ways of coping among first-year nursing students: A Turkish perspective. *International Journal of Human Sciences*, 15 (1), 319-330.
- Belisle, P. & Lawrence, J. (nd). *Codebook cookbook: A guide to writing a good codebook for data analysis projects in medicine*. McGill University Health Centre. How to write a good codebook (mcgill.ca)
- Bouchrika, I. (2024, April 17). *The andragogy approach: Knowles' adult learning theory principles in 2024*. Research.com
- Burleson, S. Thomas, L., & DeBoor, S. (2022). Effective interventions for nursing student burnout. *Nurse Educator*, 48(3), 85-89. Doi: 10.1097/NNE.0000000000001348

- Candela, L. (2020). Theoretical foundations of teaching and learning. In D. M. Billings & J. A. Halstead (Eds.), *Teaching in nursing: A guide for faculty*. (6th ed., pp. 247–269). Elsevier.
- Conover, W. J., & Iman, R. L. (1981). Rank transformations as a bridge between parametric and nonparametric statistics. *The American Statistician*, 35(3), 124-129.
<https://doi.org/10.1080/00031305.1981.10479327>
- Fard, Z. R., Azadi, A., Khorshidi, A., Mozafari, M., O'Connor, T., Budri, A., M., Moore, Z., & Patton, D. (2020). A comparison of faculty-led mentorship program and peer mentoring on nursing students wound dressing clinical skills. *Nurse Educator Today*, 89, 1–6.
- Gamble B. (2020). Development and psychometric evaluation of the professional integration factors retention strategies survey. *Journal of Nursing Measurement*, 28(3), 564–582.
<https://doi.org/10.1891/JNM-D-19-00015>
- Idzik, S. & Conrad, D. (2024). The DNP project team: Preparing for project implementation. In K. Moran, R. Burson, & D. Conrad (Eds.), *The Doctor of Nursing Practice project: A framework for success*. (4th ed, p. 238). Jones and Barlett.
- Igbo, I. & Sule, E. (2019). Peer mentoring as a successful retention strategy for a baccalaureate nursing program in a historically black college and university. *Nursing Education Perspectives*, 40(3), 192-193. Doi: 10.1097/01.NEP.0000000000000346
- Indiana Center for Nursing. (2021). *Peer-to-peer mentoring toolkit: See me, be me, be yourself*. IN-NEEDS-Mentoring-Toolkit-Spring-2021.pdf (ic4n.org)
- Indiana University. (2024). *About IU*. About: Indiana University (iu.edu)
- Indiana University Kokomo. (2024). *IU Kokomo Bulletin*. School of Nursing and Allied Health Professions: Academic Bulletin (iu.edu)

Intellectus Statistics [Online computer software]. (2023). Intellectus Statistics.

<https://statistics.intellectus360.com>

Joung, J., Kang, K. I., Yoon, H., Lee, J., Lim, H., Cho, D., Cha, M., & Choi, B. (2020). Peer mentoring experiences of nursing students based on the caring perspective: A qualitative study. *Nurse Education Today*, *94*, 104586, <https://doi.org/10.1016/j.nedt.2020.104586>

Juraschek, S. P., Zhang, X., Ranganathan, V., & Lin, V. W. (2019). United States registered nurse workforce report card and shortage forecast. *American Journal of Medical Quality: The Official Journal of the American College of Medical Quality*, *34*(5), 473–481.

<https://doi.org/10.1177/1062860619873217>

Kachaturoff, M., Carboral-Stevens, M., Gee, M., & Lan, V. (2020). Effects of peer-mentoring on stress and anxiety levels of undergraduate nursing students: An integrative review.

Journal of Professional Nursing, *36*, 223-228.

<https://doi.org.10.1016/j.profnurs.2019.12.007>

Kramer, D., Hillman, S., & Zavala, M. (2018). Developing a culture of caring and support through a peer mentorship program. *Educational Innovations*, *57*(7), 430-435. <https://doi:10.3928/01484834-20180618-09>

Latham, C. L., Ringl, K., & Hogan, M. (2020). Transforming students' educational experience through cultural mindedness, peer mentoring, and student input. *Journal of Nursing Education*, *59*(4), 194–202. Doi:10.3928/01484834-20200323-04

Lim, S., Min, L. X., Wen Chan, C. J., Dong, Y., Mikkonen, K., & Zhou, W. (2022). Peer mentoring programs for nursing students: A mixed method systematic review. *Nurse Education Today*, *119*, 1-10. <https://doi.org/10.1016/j.nedt.2022.105577>

- Majors, E., Raber, A.M., Garrigues, L., & Mocerri, J. (2022). Peer-mentoring: A call to create inclusive programs to support all students' ability to be successful. *Journal of Nursing Education, 61*(11), 633-645. Doi:10.3928/01484834-20221010-01
- McCarthy, B., Trace, A., O'Donovan, M., Brady-Nevin, C., Murphy, M., O'Shea, M., & O'Regan, P. (2018). Nursing and midwifery students' stress and coping during their undergraduate education programmes: An integrative review. *Nurse Education Today, 61*, 197–209.
- Medical College of Wisconsin. (2022, May). *Sociocultural theory of cognitive development: A guide to Vygotsky's theory of learning*. Sociocultural Theory of Cognitive Development (mcw.edu)
- Miller, H., Bosselait, L., Venturato, L., Irion, K., Schmidt, N., DiGeronimo, J., & Pritchard, T. (2018). Benefits of peer mentoring in prelicensure nursing education. *Nurse Educator, 44*(3), 159-163. Doi: 10.1097/NNE.0000000000000573
- Mumba, M.N., Horton, A.G., Cole, H., Dickson, B., Brown, W., Parker, K., Tice, J., Key, B., Castillo, R., Compton, J., Cooney, A., Devers, S., Shoemaker, I., & Bartlett, R. (2022). Development and implementation of a novel peer mentoring program for undergraduate nursing students. *International Journal of Nursing Education Scholarship, 20*(1), 1–9.
- Napierkowski, D., & Migliore, D. A. (2022). Paid mentors develop leadership skills and promote socialization into nursing. *Nursing Education Perspectives, 43*(6), 56–58.
<https://doi.org/10.1097/01.NEP.00000000000000975>
- Nelwati, Abdullah, K.L., Chan, C. M. (2018). A systematic review of qualitative studies exploring peer learning experiences of undergraduate nursing students. *Nurse Education Today, 71*, 185-192. Doi: 10.1016/j.nedt.2018.09.018

- Raymond, J.M., & Sheppard, K. (2018). Effects of peer mentoring on nursing, students' perceived stress, sense of belonging, self-efficacy, and loneliness. *Journal of Nursing Education and Practice*, 8(1), 16–23.
- Scheller, L., Campbell, B. & Palazzo, S. (2021). Enabling success in nursing school: Description of an innovative student-led program. *Nursing Education Perspectives*, 42 (4), 248–249. doi: 10.1097/01.NEP.0000000000000605.
- Seshabela, H., Havenga, Y., & de Swardtz, H. C. (2020). Nursing student peer mentorship: The importance of professional relationships. *African Journal of Nursing and Midwifery*, 22(1), 1-17. DOI:10.25159/2520-5293/6964
- Soerensen, J., Nielsen, D. S., & Pihl, G. T. (2023). It's a hard process – Nursing students' lived experiences leading to dropping out of their education; a qualitative study. *Nurse Education Today*, 122, N.PAG. <https://doi-org.proxyko.uits.iu.edu/10.1016/j.nedt.2023.105724>
- Sürücü, L., & Maslakci, A. (2020). Validity and reliability in quantitative research. *Business & Management Studies: An International Journal*, 8(3), 2694-2726. <https://www.bmij.org/index.php/1/article/view/1540/1365>
- The Demining Institute (2024). *PDSA cycle*. PDSA Cycle - The W. Edwards Deming Institute Retrieved May 19, 2024, from <https://deming.org/explore/pdsa/>
- University of St. Augustine for Health Sciences. (2021). *The 2021 American nursing shortage: A data study*. <https://www.usa.edu>
- White, K. (2021). Change theory and models: Framework for translation. In K. M. White, S. Dudley-Brown & M. T. Terhaar (Eds.), *Translation of evidence into nursing and healthcare* (3rd ed., pp. 59–73). Springer Publishing Company.

- Yarbough, A. & Phillips, L. K. (2022). Peer mentoring in nursing education: A concept analysis. *Nursing Forum*, 57, 1545–1550. Doi: 10.1111/nuf.12832
- Yuksel, A., & Banhadir-Yilmaz, E. B. (2019). The effect of mentoring programs on adjustment to university and ways of coping with stress in nursing students: A quasi-experimental study. *Nurse Education Today*, 80, 52-58. <https://doi.org/10.1016/j.nedt.2019.06.006>
- Zheng, Y., Jiao, J.-R., & Hao, W.-N. (2022). Prevalence of stress among nursing students: A protocol for systematic review and meta-analysis. *Medicine*, 101(31), e29293. <https://doi-org.proxyko.uits.iu.edu/10.1097/MD.00000000000029293>

Table 1*Codebook*

	Format Name	Variable Name	Value (Numeric Code)	Value Label	Value indicating missing data	Value indicating inapplicable data
Q1	Current grade senior	Senior	1	Senior 1	9	N/A
			2	Senior 2		
Q2	Rate peer mentoring program senior	Rate_program_senior	5	Excellent	9	N/A
			4	Good		
			3	Average		
			2	Poor		
			1	Terrible		
Q3	Recommend volunteering to serve as a mentor	Recommend_volunteering	0	No	9	N/A
			1	Yes		
Q4	Training sessions help you prepare	Training_session	0	No	9	N/A
			1	Yes		
Q5	Benefits of mentoring program seniors	Benefits_seniors			999	
Q6	Barriers of mentoring program seniors	Barriers_seniors			999	
Q7	Peer mentoring help in future seniors	Future			999	
Q8	Suggestions for improvement seniors	Suggestions seniors			999	

Q9	Current grade sophomore	Sophomore	1	Sophomore 1	9	N/A
			2	Sophomore 2		
Q10	Rate peer mentoring program sophomore	Rate_program_sophomore	5	Excellent	9	N/A
			4	Good		
			3	Average		
			2	Poor		
			1	Terrible		
Q11	Mentoring start and end date	Start_end			999	
Q12	Number of meetings or check-ins	Meeting_checkins			999	
Q13	Contact with mentor	Mentor_contact			999	
Q14	Benefits of mentoring program sophomore	Benefits_sophomore			999	
Q15	Barriers of mentoring program sophomore	Barriers_sophomore			999	
Q16	Mentor supportive	Mentor_support	0	No	9	N/A
			1	Yes		
Q17	If no to the above question, provide suggestions	No_suggestions			999	
Q18	How mentor program help in future	Future_sophomore			999	
Q19	Suggestions for improvements sophomore	Suggestions_sophomore			999	

Table 2*Project Budget Table*

Item	Cost
Pizza for two in-person meetings	\$250.00
Room for two in-person meetings	\$0.00
Resources for peer mentoring meeting	\$0.00
Learning management system	\$0.00
	\$250.00

Table 3

2024 Peer Mentor/Mentees

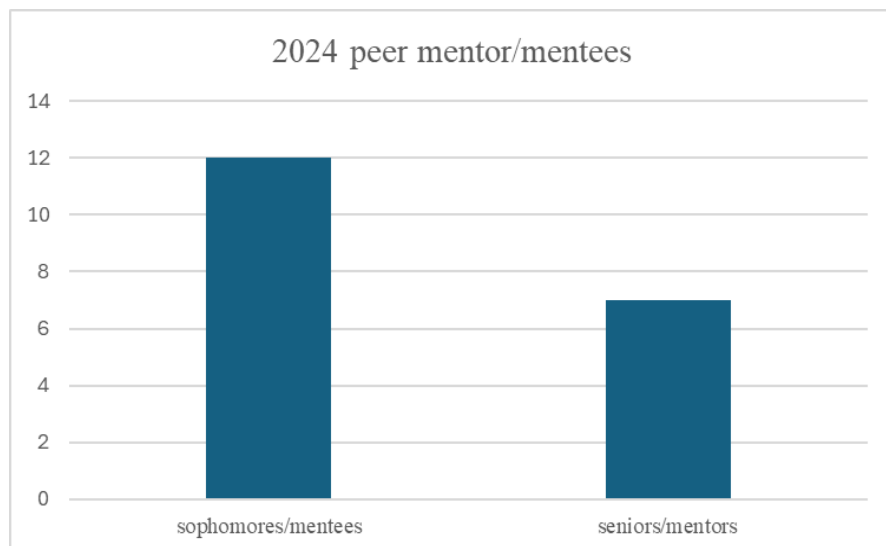


Table 4*Frequency Table for Nominal Variables*

Variable	Year		Missing
	2022	2024	
Rate_Program_Nominal			
Three average	5 (71.43%)	2 (16.67%)	0 (0.00%)
Four good	0 (0.00%)	2 (16.67%)	0 (0.00%)
Five excellent	2 (28.57%)	8 (66.67%)	0 (0.00%)
Missing	0 (0.00%)	0 (0.00%)	0 (0.00%)
Total	7 (100.00%)	12 (100.00%)	0 (100.00%)

Note. Due to rounding errors, percentages may not sum to 100%.

Table 5*Two-tailed Mann-Whitney Test for Rate Program by Year*

Variable	2022		2024		U	z	p
	Mean Rank	n	Mean Rank	n			
Rate_Program	7.00	7	11.75	12	21.00	-1.98	.048

Table 6

Qualitative Themes

2022 Sophomore Benefits Themes	2024 Sophomore Benefits Themes	2022 Sophomore Barriers Themes	2024 Sophomore Barriers Themes
<p>Personal Connection and Relatability:</p> <p>The students enjoyed being able to talk to people who had already experienced what they were currently going through. Having mentors who could relate to their situation provided a sense of understanding and camaraderie.</p>	<p>Access to Support and Information:</p> <p>This theme encompasses knowing that help is available, and one is not alone. It includes insights into what to expect, study tips, and resources. Access to support networks and relevant information can significantly impact confidence and success.</p>	<p>Enhanced Personal Connection:</p> <p>Assigning one mentor to each mentee could foster stronger personal relationships. Having a dedicated mentor would allow for more individualized guidance and support. Encouraging in-person meetings beyond the initial few sessions would provide additional opportunities for meaningful interactions.</p>	<p>Nervousness:</p> <p>Nervousness might be a barrier for some individuals and could relate to anxiety or fear associated with certain situations, such as public speaking, interviews, or social interactions. Overcoming nervousness often involves building confidence, practicing relaxation techniques, and gradually exposing oneself to the feared situation.</p>
<p>Support and Encouragement:</p> <p>The mentors were fun to get to know and offered valuable advice. They shared their experiences, which likely helped the student feel more confident during exams. The thoughtful gesture of sending good luck texts before exams boosted</p>	<p>Effective Study Strategies and Note-Taking Assistance:</p> <p>This theme focuses on study and note-taking help. It includes feedback on how to prepare for classes and exams and practical study tips. Students benefit from understanding effective study techniques and receiving guidance on</p>	<p>Structured Engagement:</p> <p>Organizing more scheduled events, even simple gatherings like lunches, can enhance engagement. These events create a sense of community and allow for informal discussions.</p>	<p>Scheduling and Availability:</p> <p>Scheduling conflicts can be a significant barrier. People have busy lives, and finding mutually convenient meetings, appointments, or event times can be challenging. Solutions may involve better time management, flexible scheduling options, or technology to</p>

<p>the student's confidence.</p> <p>Learning from Experienced Peers:</p> <p>Although the mentors never met with the group, the students appreciated meeting older nursing students. Hearing about their experiences and learning how they navigated the nursing program provided practical insights. Having someone to fall back on for advice and guidance was reassuring.</p>	<p>organizing their notes.</p> <p>Reassurance and Emotional Support:</p> <p>Reassurance with study tips and overall support is crucial. This theme acknowledges the emotional aspect of learning, emphasizing the need for encouragement, advice, and reassurance during the academic journey.</p>	<p>Improved Organization and Communication:</p> <p>Clarify mentor-mentee assignments to avoid confusion. Having a designated mentor for each student ensures consistent communication. Consider team-building exercises or activities to strengthen connections and build lasting relationships.</p>	<p>coordinate availability.</p> <p>None:</p> <p>Interestingly, there are instances where no specific barriers are mentioned, indicating that some people do not perceive any obstacles or challenges.</p>
--	---	---	--

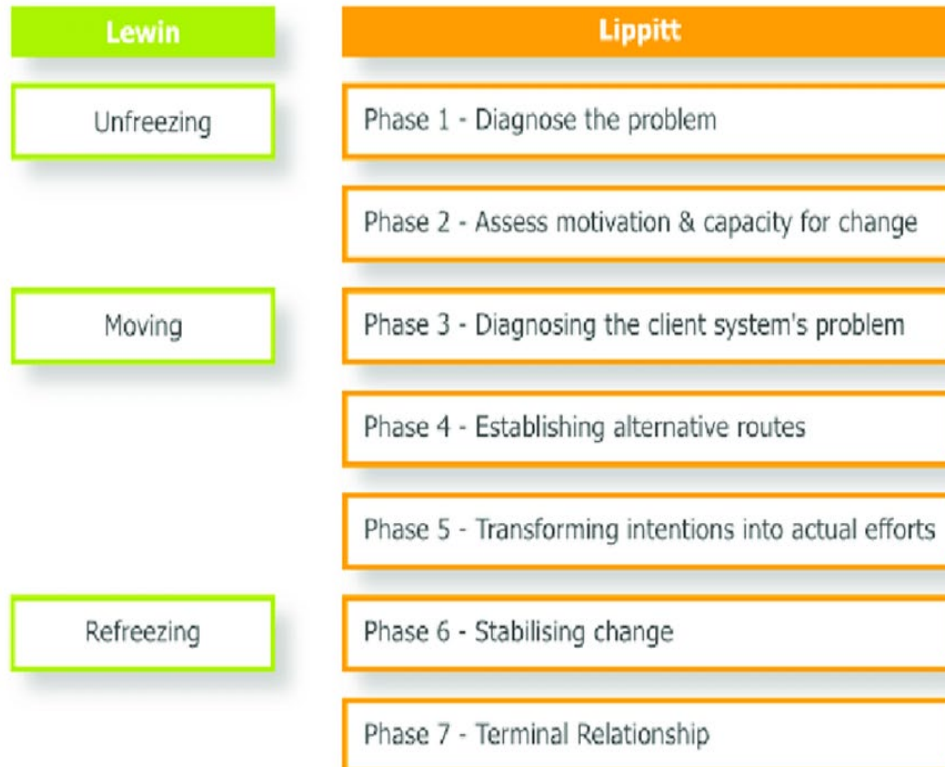
Figure 1*Lippitt's Change Theory*

Figure 2

Malcolm Knowles Adult Learning Theory

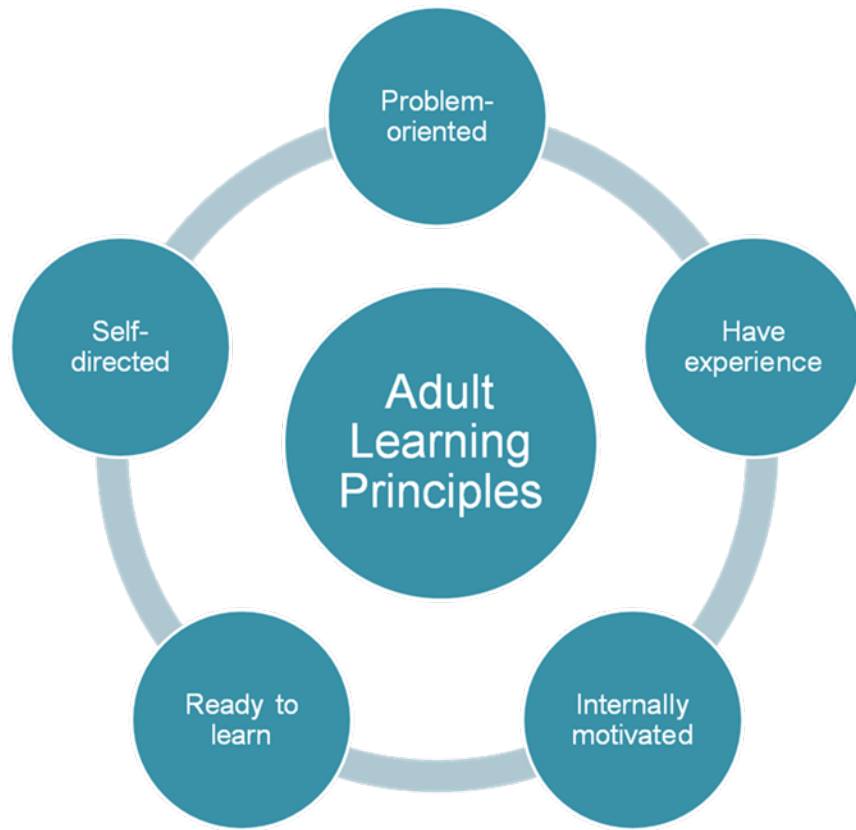


Figure 3

Lev Vygotsky's Sociocultural Learning Theory

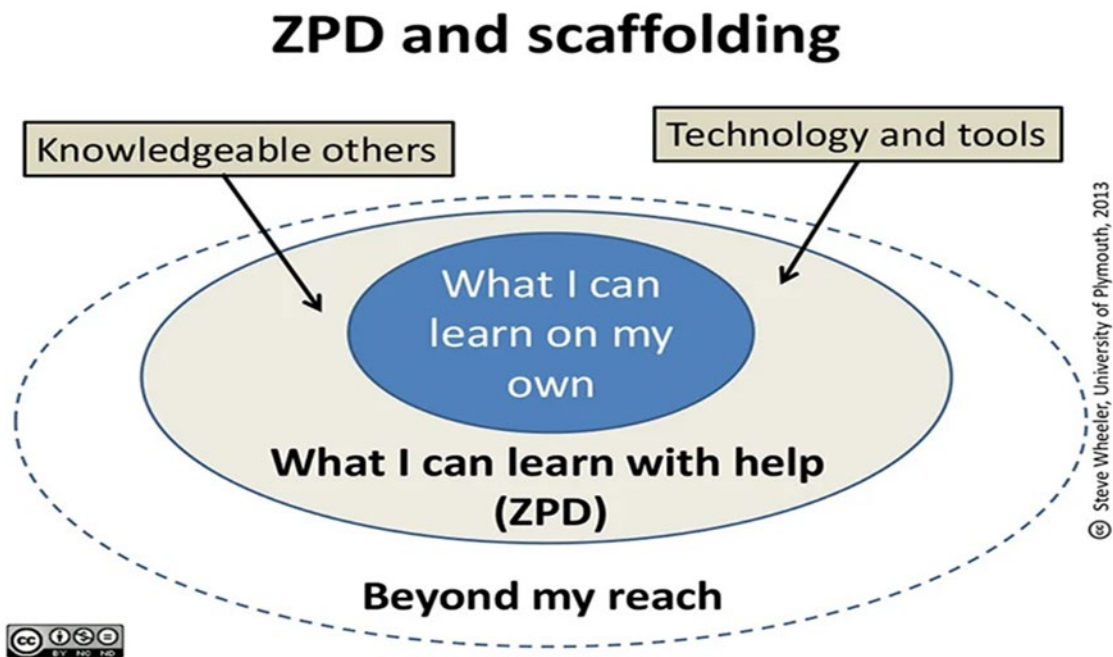


Figure 4

Plan Do Study Act Cycle

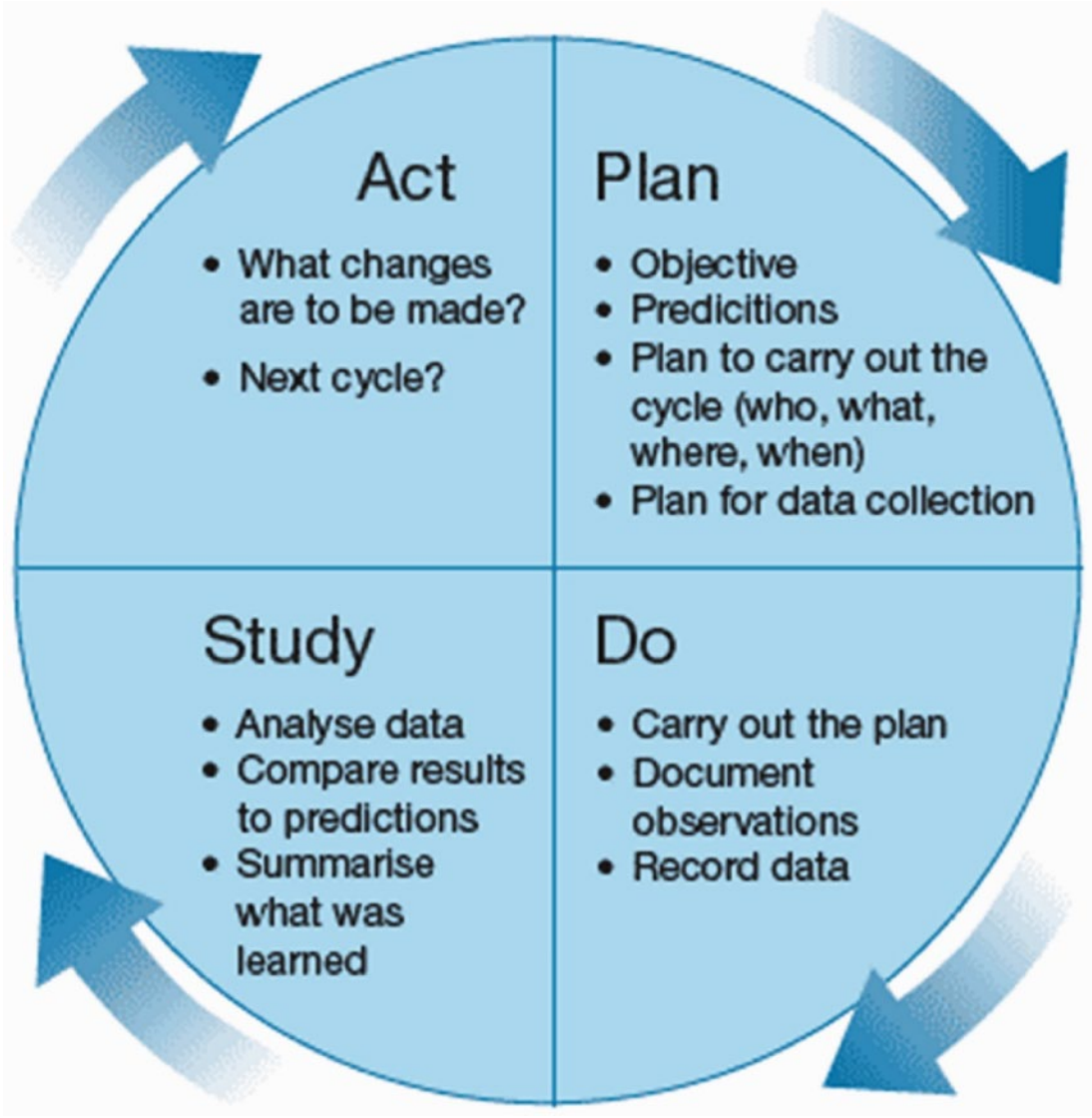


Figure 5

Gantt Chart

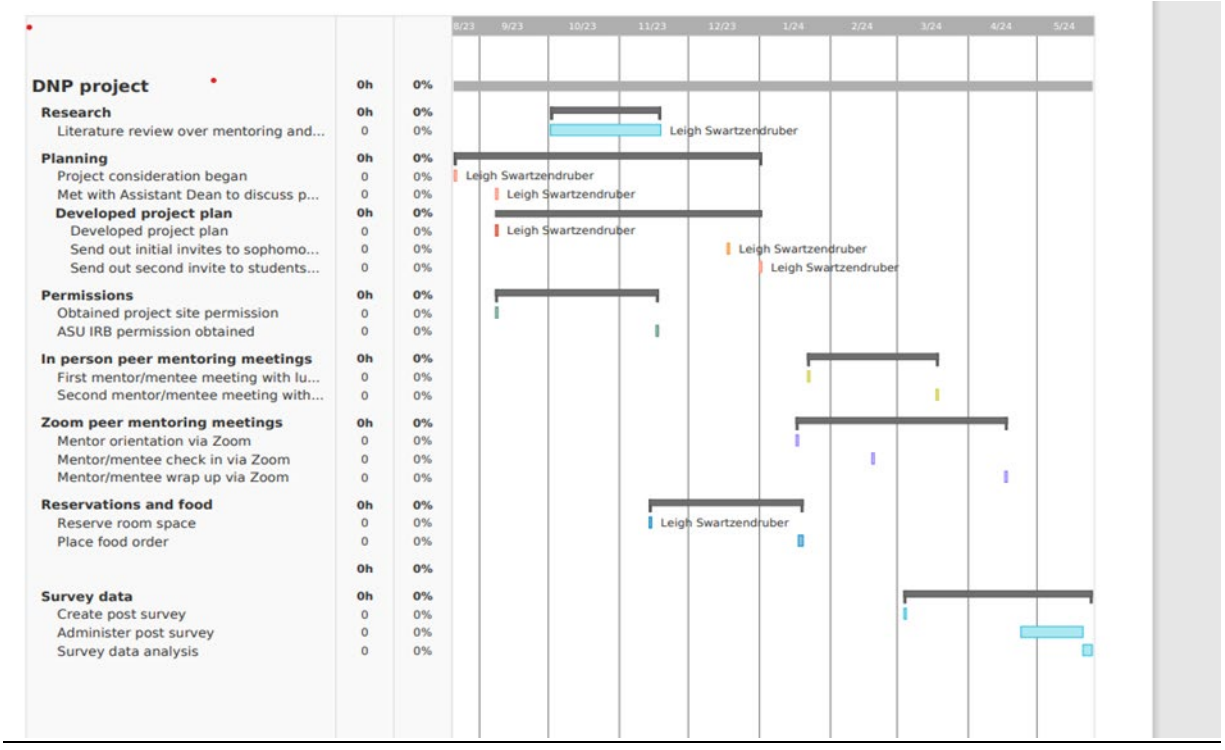
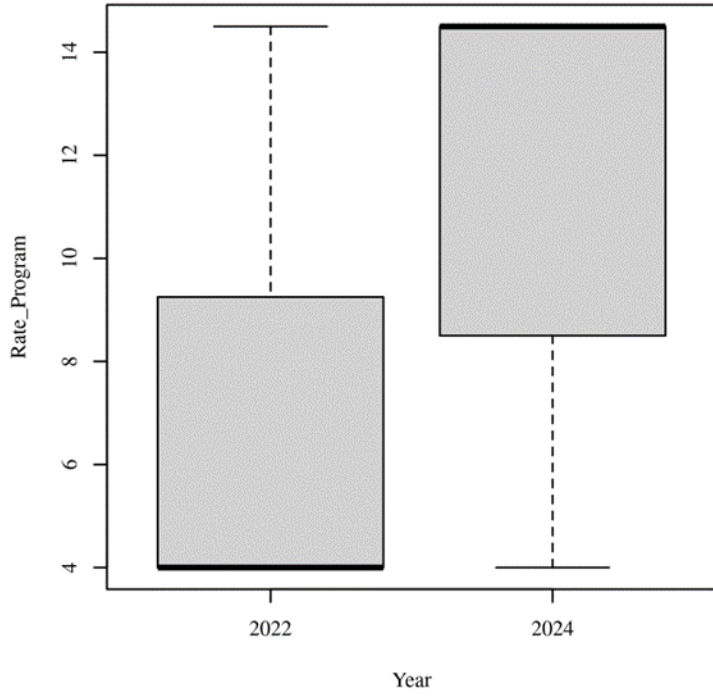


Figure 6

Ranks of Rate Program by Year



Appendix A

Peer Mentee Survey 2022

I am currently a:

- Sophomore one
- Sophomore two

How would you rate the peer mentoring program?

- Excellent
- Good
- Average
- Poor
- Terrible

If you are a sophomore 1, would you want a mentor next semester?

- Yes
- No

Did you enjoy being a part of this program?

- Yes
- No

Did you like your mentors?

- Yes
- No

Did you think meeting with a mentor was fun?

Would you have liked to meet with your mentor more often?

Did having a mentor help you do better in your classes?

- Yes
- No

Did you feel comfortable talking to your MENTOR about issues?

- Yes
- No

List some of the activities you did with your mentor:

List something (if anything) that you learned from your mentor:

Did you feel comfortable talking to your mentor program COORDINATORS about your good or bad experiences?

What did you like best about the mentor program?

What do you think we should change or do differently next semester?

Appendix B

Peer Mentor Survey 2022

I am currently a:

- Senior one
- Senior two

How would you rate the mentor program?

- Excellent
- Good
- Average
- Poor
- Terrible

Would you recommend volunteering to serve as a mentor to your peers?

- Yes
- No

Did the mentor training session help you prepare for your mentoring experience?

- Yes
- No

Would you have benefited from additional training for mentors?

- Yes
- No

How clearly defined were your responsibilities as a mentor?

- Very clear
- Somewhat clear
- Unclear
- Very Unclear

The mentor program coordinators were accessible and easy to talk to and sought advice from when necessary.

- Yes
- No

How would you describe your relationship with your mentees?

- Excellent
- Good
- Average
- Poor
- Terrible

Do you think that the time you spent together was helpful for your mentee?

- Yes
- No

I feel that the time I met with my mentees was:

- Too little
- The right amount of time
- Too much

Would you recommend to other seniors to participate in the peer mentoring program?

- Yes
- No

Please provide suggestions that you believe will make the mentoring program stronger:

Appendix C

Peer Mentee Survey 2024

I am currently a:

- Sophomore one
- Sophomore two

How would you rate the peer mentoring program?

- Excellent
- Good
- Average
- Poor
- Terrible

What was your mentoring start date and end date?

How many meetings or check-ins did you have with your mentor?

Were you in contact with your mentor in between meetings? If yes, how so, and how often? Was it by email, text, phone, or other?

What were the benefits of being a part of the mentor program?

What were the barriers to being a part of the mentoring program?

Was your mentor supportive?

- Yes
- No

If you answered no to the previous question, please suggest how they could have been more supportive.

Will your mentoring program experience help you in the future (both in school and career)? Please give examples.

Do you have any suggestions for ways to improve the mentoring program?

Appendix D

Peer Mentor Survey 2024

I am currently a:

- Senior 1
- Senior 2

How would you rate the peer mentoring program?

- Excellent
- Good
- Average
- Poor
- Terrible

Would you recommend volunteering to serve as a mentor to your peers?

- Yes
- No

Did the peer mentoring training session help you prepare for the mentoring experience?

- Yes
- No

What were the benefits of being a part of the mentoring program?

What were the barriers to being a part of the mentoring program?

Will your mentoring program experience help you in the future (both in school and career)?
Please give examples.

Do you have any suggestions for ways to improve the mentoring program?

Appendix E



INDIANA UNIVERSITY KOKOMO

SCHOOL OF NURSING AND
ALLIED HEALTH PROFESSIONS

SITE PERMISSION LETTER

September 7, 2023

Arkansas State University – Jonesboro
Institutional Review Board
c/o Research and Technology Transfer
Post Office Box 2760
State University, Arkansas 72467

To Whom It May Concern:

A Doctor of Nursing Practice student in the Arkansas State University-Jonesboro Department of Nursing has requested permission to complete the Doctor of Nursing Practice Project named below at Indiana University Kokomo School of Nursing and Allied Health Professions during the period of 9/3/2023 to 12/31/2024.

This letter notifies you that I/we grant permission to Leigh E. Swartzendruber, a student of Arkansas State University-Jonesboro Doctor of Nursing Practice Program, to collect data at the location listed below.

Project Title: Student success factors that positively impact the nursing student ^{**}This is a working project title in the early developmental stages

Principal Investigator(s): Leigh E. Swartzendruber

Study Site Location: Indiana University Kokomo
School of Nursing and Allied Health Professions
2300 S. Washington St.
Kokomo, IN 46902

Permission granted by:

Carolyn Townsend, DNP, RN, CNE Associate Dean
Print Name and Title


Signature

09/07/2023
Date

Appendix F



Clinical Practice Partner Site Agreement Form

DNP Student/A-State ID number: Leigh Swartzendruber/ 50934024
 Practice Partner Name: Carolyn Townsend E-mail address: ctownsen@asu.edu
 Preferred Contact: Home Phone _____ Cell Phone: 317.753.3256 E-mail: ctownsend256@gmail.com
 Title: Associate Dean Credentials: RN, DNP, CNE
 License #: 2807575A State: IN Expiration Date: 10/31/25

Project Site: Indiana University Kokomo School of Nursing and Allied Health Professions

Project Site Address: 2300 S. Washington St., Kokomo, IN 46902

Terms of Agreement

I agree to be the practice partner for the student listed above during the time needed to complete the DNP project for A-State's School of Nursing and will submit a current CV to the School of Nursing. I am aware of the time and responsibility that is required to advance student learning. I understand the student is not allowed to have patient interaction for this project. I verify that I am employed at the facility in which the DNP project will be completed.

Carolyn Townsend September 7, 2023
 Practice Partner Signature Date

Carolyn Townsend

Please Print Name

The DNP student agrees to the following. Please initial each statement and sign and date below:

I agree to maintain professional liability insurance coverage as required by the DNP program for the duration of the period of time needed to complete the DNP project.

I understand the DNP project does not involve contact with or treatment of any patient.

I understand that patient health information cannot be utilized in the DNP project without execution of a clinical affiliation agreement between A-State and the clinical facility.

I have spoken to my employer, where I will be completing my DNP project, and they have no objection or restrictions regarding the publication of my DNP project.

Leigh E. Swartzendruber 9-11-2023
 Student Signature Date

Leigh E. Swartzendruber

Printed Name

Date Practice Partner CV received: _____

Appendix G

Indiana Center for Nursing Survey

Peer Mentee Evaluation Form

	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree	Does Not Apply
I felt I could trust my mentor.	4	3	2	1	0
My mentor seemed genuinely concerned about me.	4	3	2	1	0
I felt the activities I participated in with my mentor were worthwhile.	4	3	2	1	0
My mentor made me feel comfortable and accepted.	4	3	2	1	0
I believe that my mentor listened to what I had to say.	4	3	2	1	0
My mentor helped me to clarify how I could reach my academic goals.	4	3	2	1	0
My mentor helped me to clarify how I could reach my personal goals.	4	3	2	1	0
My mentor helped me with my concerns.	4	3	2	1	0
My mentor helped me with my academic performance.	4	3	2	1	0
My mentor helped me stay in school.	4	3	2	1	0
The issues and/or concerns that I discussed with my mentor were:					
What were the most helpful aspects of having a peer mentor?					
What were the least helpful aspects of having a peer mentor?					
Comments:					

Appendix H

Indiana Center for Nursing Survey

Peer Mentor Evaluation Form

	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree	Does Not Apply
I used active listening strategies to support my mentee.	4	3	2	1	0
I provided constructive feedback to my mentee.	4	3	2	1	0
I established clear expectations of the mentoring relationship with my mentee.	4	3	2	1	0
I worked with my mentee to help develop academic goals.	4	3	2	1	0
I worked with my mentee to help develop personal goals.	4	3	2	1	0
I believe my mentoring and advocating helped increase my mentee's self-efficacy and socialization to the academic environment.	4	3	2	1	0
I helped my mentee develop a sense of belonging and independence.	4	3	2	1	0
I was able and supportive in addressing my mentee's issues and concerns in the following areas: Academic Personal Help finding services If other, please explain.					
Were you well prepared for the mentor role? If yes, how? If no, what would have been helpful?					
How did you benefit from being a peer mentor?					
What were the most positive aspects of being a peer mentor?					
What were the least positive aspects of being a peer mentor?					
Comments:					

Appendix I



RESEARCH AND TECHNOLOGY TRANSFER

PO Box 2760, State University, AR 72467 | o: 870-972-2694 | f: 870-972-2336

November 30, 2023

Principal Investigator: Leigh Swartzendruber

Board: IRB (Institutional Review Board)

Study: FY23-24-277 EVALUATION OF A PEER MENTORING PROGRAM IN
BACCALAUREATE NURSING STUDENTS

Submission Type: Initial

Board Decision: No Engagement in Research

Approval Date: November 30, 2023

Thank you for your submission of New Project materials for this research study. The Arkansas State University Institutional Review Board has determined the proposed activity does not meet the definition of "research" involving "human subjects" as defined by the US Department of Health and Human Services Office for Human Research Protections regulations, codified at 45 CFR 46.102. Review and approval by the A-State IRB is not required. This determination applies only to the activities described in the submission noted above and does not apply to any changes to this project. You may proceed with your project. Please submit a new request to the IRB for a determination if any changes are made which lead to any questions about whether the activities are research involving human subjects.

Please retain a copy of this correspondence for your records. If you have any questions, please contact the Director of Research Compliance at (870) 972-2694 or IRB@astate.edu. Please include your study title and study label.

Sincerely,

Amy R. Pearce, Ph.D.

Chair, Institutional Review Board

Appendix J

12/16/2023

NOTICE OF IRB REVIEW NOT REQUIRED

Protocol #: 21549

Protocol Title: EVALUATION OF A PEER MENTORING PROGRAM IN BACCALAUREATE NURSING STUDENTS

PI: Swartzendruber, Leigh

The above submission was reviewed, and IU HRPP staff determined the project is not human subjects research and does not require further review.

Please retain a copy of this email in your research records. You will not receive a separate approval letter.

If you have any questions or require further information, please contact the IU HRPP via email at irb@iu.edu or via phone at (317) 274-8289.