Identifying the Barriers Impacting Diploma Student Nurse Success

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Submitted to the Graduate Faculty of the

School of Education in partial fulfillment

of the requirements for the degree of

Doctor of Education

University of Pittsburgh

2021

UNIVERSITY OF PITTSBURGH

SCHOOL OF EDUCATION

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University of Pittsburgh, 2021

The United States is facing a shortage of qualified bedside nurses. Healthcare institutions rely heavily upon nursing schools to prepare graduate nurses who are ready to enter the workforce. Retention of pre-licensure nursing students, therefore, is a key factor to support the demand. But retention is also the wicked problem faced by schools of nursing. The purpose of this explanatory, mixed methods study was to identify the barriers to success as experienced by students enrolled in the diploma nursing program and explore strategies used to overcome them. Questionnaires and semi-structured interviews were conducted with students enrolled in a diploma nursing school in Pittsburgh, Pennsylvania. Data analysis revealed that factors related to employment and family crises were found to be most restrictive to success and intensify as multiple factors combine. This aligned with findings from the literature. The findings further explained that students relied upon academic support, advisement of faculty, and peer support to overcome challenges. This data indicate that interventions aimed solely at teaching test-taking strategies and study skills are not sufficient to address the need of the students. Today's diploma student has non-academic responsibilities competing with school. Schools of nursing must foster student support programs that are holistic and develop programs and interventions that address the needs of their student population.

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Acknowledgements

I would not have made it through without the support of my amazing family. I love you all and dedicate this work to you. To my husband Kevin, my paper is finally done! To my daughter, Cassandra, when you told me you were proud of me following my defense – it made this all worthwhile. You two stood by me when I was tired and cranky. You missed out on events because I had class and research to be done. I know this was very hard for you both – thank you.

Mom, you have always been my role model. You never gave up on me, even when I was giving up on myself. You made me reach for the stars, boosting me up to get there. I know Dad is in Heaven bragging about this. Frank, you are an amazing little brother. Thank you for always reminding me I had work to do and to "stop whining". You kept tabs on me and made me laugh on bad days.

Aunt Cathy, thank you for always being there for me. You inspired me to be more. You have helped me through many bad days. I also thank you for helping me understand my data. Grandma, you amaze me every day and I am lucky to have you. Thank you for always reminding me to take care of myself.

To my committee. I am grateful for your knowledge, expertise, and feedback from the beginning of the program through completion of my dissertation. Thank you for helping me achieve this dream.

1.0 Problem Area

The United States healthcare system is in dire need of nurses. The Bureau of Labor Statistics identify registered nurses among the occupations expected to have the most job growth by the year 2026 (Bureau of Labor Statistics, 2019). The projected growth between 2019 and 2029 was estimated at 7% or an additional 221,00 registered nurses (Bureau of Labor Statistics, 2021). Factors contributing to this increase include changes in healthcare delivery, the needs of the aging United States population, high rates of nursing turnover and retirements, and an inadequate number of nursing graduates annually. The healthcare industry is dependent upon schools of nursing to support the growing demand. The healthcare industry expects schools of nursing to increase enrollment, increase graduation rates, and increase graduate success on licensure to support their needs. These expectations, however, are multifaceted. These expectations require an adequate number of qualified nursing faculty, classrooms, clinical resources, and, most importantly, nursing students who will be successful. This assessment will focus on the aspect of successful program completion of nursing students.

Student attrition is a compelling and costly problem for higher education institutions, including schools of nursing, across the United States. Student attrition produces negative consequences for the higher education institution, the student, the workforce, and the community. Reports from various organizations discuss the issue of attrition. Graduation rates of students enrolled full-time in two-year institutions are at 31% and 59% for students enrolled full-time in four-year institutions within one and one-half program length (Kena et al., 2014). The Delta Cost Project (DCP) from the American Institutes of Research identified that 19% of institutional spending is consumed by the costs of students failing to complete programs of study, which can

be as high as $18,000 per student (Johnson, 2012). Another study by Raisman (2013) found that the costs of attrition in public institutions was a minimum of $13 million annually. Schools of nursing are among those institutions challenged to develop strategies to improve student success and program completion rates. The Accreditation Commission for Education in Nursing (ACEN, 2017) reported in the 2017 Annual Report to Constituents that the number of graduates completing the program (1 1/2-time program length) has ranged from 70% to 80% between 2010 and 2016. These numbers have remained steady. Diploma nursing programs, however, have demonstrated slight improvement of approximately three percent between 2011 and 2016, with an average of 73%. (ACEN, 2017). These numbers demonstrate overall program attrition rates between 20 and 30 percent. Beginning in 2018 the metrics for tracking program completion to the ACEN changed. Schools of Nursing developed an expected level of achievement (ELA) for program completion. The ELA was to be established based on reasons including historical data within the school of nursing, the organization's completion rate for students of all program types, and state program completion rates (ACEN, 2018).

Several definitions of student attrition have been offered in the higher education literature. Urwin et al. (2010) define attrition as students lost from a program resulting in a variance in those beginning the program to those completing the program. Mooring (2016) describes attrition as the choice of a student to withdraw or the inability of a student to meet the standards set forth by the program. Specific to nursing, Jeffreys (2007a) defines attrition as "students dropping out of the nursing program" (p. 408). Student attrition numbers are inclusive of students' decisions to withdraw from a program and students who are unable to progress through the program for academic reasons. Regardless of the reason for student attrition, these numbers negatively impact program completion rates.

A large body of research exists attempting to identify reasons for attrition across many disciplines in higher education, including nursing. This research focuses on academic performance and demographic factors. Efforts to reduce attrition in nursing schools of all program types have focused on improving academic performance. These efforts include increasing admission criteria and implementing academic support interventions to raise student grade point average (GPA). Detailed discussion continues in nursing programs concerning the relationships between attrition and retention in relation to academic measures, such as grade point average (GPA) and SAT scores. One study by Newton, Smith, and Moore (2009) found that higher GPA in the first semester of a nursing program led to increased student retention and likelihood of program completion. Few studies, however, provide conclusive data that these academic measures are definitive predictors of success.

Academic failure is not the only reason for attrition. According to the DCP, only ten percent of attrition is the result of student GPA less than a "C" average (Johnson, 2012). As more students voluntarily withdraw from nursing programs, researchers incorporate nonacademic variables into their studies. The DCP also notes that only eight percent of students who withdrew from their course of study reported academic issues as the reason (Johnson, 2012). A study by Shelton (2012) found that inadequate financial resources led to student attrition. Jeffreys (2012) suggests that there are multiple variables that can impact student success including age, gender, family responsibilities, personal motivation, employment, financial support. Current curricular initiatives and academic support programs place emphasis on strategies that work in the cognitive (knowledge) and psychomotor (skill) domains. Support of needs related to the affective (attitude) domain is less apparent in the schools of nursing. Students are provided with external resources, which are voluntary, and utilization is confidential. Minimal feedback is provided to the school

of nursing unless offered by the student. This creates a gap for the school to understand the issues and effectively meet the needs of the students.

A question for consideration is the impact of these other factors not only on program withdrawal but on overall academic performance. Saklofske et al. (2012) reported that students' emotions transfer to their ability to adjust to situations and impact their overall success. Several studies (Jones-Schenk & Harper, 2014; MacCann et al., 2011; Saklofske et al., 2012) address the relationship existing between emotional intelligence, coping, and successful program completion among nursing students.

The ability to eliminate all attrition in nursing programs is not realistic due to the numerous factors that impact student success. That does not, however, allow for complacency. Nursing programs have an obligation to provide students with access to appropriate and effective support services. The opportunity exists to gain an understanding of the factors that students perceive as barriers to their success. The growing demand for nursing professionals in the healthcare system necessitates the need for nursing faculty and leadership to identify best practices to support student progression in the program. The goal is to eliminate unnecessary student attrition.

1.1 Inquiry Setting

The diploma school of nursing (DSON) is a hospital owned nursing program located in Pittsburgh. The DSON is a non-degree granting nursing program preparing graduates to practice at the bedside. The DSON offers entry to practice in a shorter time than associate or baccalaureate degree programs, with a maximum of 69 credits. Graduates from the DSON are eligible to take

the National Council Licensure Examination (NCLEX-RN) to obtain licensure as a registered nurse. The nursing program offers full-time (16 months) and part-time (32 months) options. Students engage in learning through a variety of activities in the classroom and clinical settings. Students spend nearly 1,000 hours in clinical experiences. Approximately 300 students are enrolled in the DSON. Students must achieve a minimum of 76 percent in each course to progress through the program. An academic support program is available to students.

The DSON has demonstrated strengths related to maintaining an adequate number of qualified nursing faculty, physical resources, clinical resources, meeting and exceeding projected targets for enrollment, and exceeding Pennsylvania State Board of Nursing benchmarks for NCLEX-RN first time pass rates. Program completion rates, however, are an area of great concern. According to the DSON, program completion rates between 2016 and 2019 have fallen below 70% (UPMC, 2021)

1.1.1 School of Nursing Leadership

The DSON is administered by a professional nurse (Executive Director) with a doctoral degree. The remaining members of the leadership team include the Director of Faculty Affairs and Associate Executive Director of Finance (the only non-nursing role). Goals established by the DSON Leadership focus on improving student outcomes related to first time NCLEX-RN pass rates, student enrollment, and graduation rates.

I was promoted to the role of Director of Faculty Affairs. Responsibilities of this role include hiring, performance management, program evaluation, classroom and clinical assignments, curricular evaluation, and faculty development. Strengthening the academic support program is an area that the Director of Faculty Affairs will focus on to achieve program goals.

1.1.2 Faculty

There are 35 full-time and 17 part-time and per diem faculty members. The faculty of the DSON must maintain current RN licensure in Pennsylvania. A master's degree in nursing (MSN) education or a relevant nursing specialty is the minimal educational requirement for full and part-time faculty. Faculty with a bachelor's degree in nursing (BSN) who are enrolled in MSN programs may work as assistant nursing instructors, with a documented plan for degree completion on file. Three faculty members are in the role of assistant nursing instructor. Five faculty members are currently enrolled in doctoral programs. Caucasian females are in the majority among faculty. Fifteen percent of faculty members are African American, and 5.77% are males (UPMC Shadyside School of Nursing, 2021). Faculty members represent a wide range of nursing and educational experience. Faculty to student ratios in the classroom setting are 1:50 and 1:6-8 in the clinical setting.

1.1.2.1 Advanced Educators

Advanced educators (AE) are advanced practice nursing faculty members. A minimum of a master's degree and Certified Nurse Educator (CNE) certification is required to become an AE. The AEs hold clinical and didactic positions, support the leadership team, serve on Faculty Senate, and engage in a project to support program outcomes. Three faculty members are in in the AE role.

1.1.2.2 Academic Support Program

The academic support program (ASP) is currently led by two AEs with the assistance of one to two faculty each semester. This program is part of the workload of the AE. Faculty have

been assigned to assist based on workload and interest. Members of the ASP focus on the improvement of study habits and test-taking strategies. Both group and individual sessions are offered to students. The AEs are assigned to review strategies and plan learning activities for first semester students during lab sessions. The AEs also offer workshops throughout the semester to interested students in each course level. Individual sessions with students provide insight into the issues the student is experiencing academically such as difficulty understanding the material, poor study habits, and poor test taking skills. The student collaborates with the member of ASP to develop an improvement plan. During the individual meetings, students often report other factors that are affecting performance. Among these are issues related to familial responsibilities, full-time employment while attending school, or engagement in extracurricular or social activities. The ASP is not fully equipped to offer solutions to many of these issues, although students are referred to an employee assistance program (EAP). Student engagement with EAP is confidential. Feedback provided from EAP to the DSON solely reflects the number of student contacts to this service.

1.1.3 Students

The student body at the DSON is composed of both traditional and non-traditional nursing students, with the latter as the majority population. For the purposes of this assessment, traditional nursing students will be defined as recent high school graduates, between the ages of 17 and 24 years. This population makes up fewer than 40% of the current enrolled students. The non-traditional nursing student will be defined as those students 25 years of age or over, have had previous college experience, or are returning to school after being in the workforce for greater than five years post-high school graduation. Like faculty demographics, most of the students are

Caucasian females. Approximately 22% are persons of color and 16% are males (UPMC Shadyside School of Nursing, 2021).

The student population at the DSON differs from that of the traditional nursing student in a four-year baccalaureate program. First, many students enrolled in the DSON are employed at minimum on a part-time basis. Most students in the part-time program (which is offered as an evening-weekend option) are employed full-time. Second, a portion of the students have received degrees in other disciplines or have worked in other careers prior to enrolling in the program. Third, many students also have familial responsibilities which include caring for children or caring for an ill family member. These commitments may contribute to academic performance issues.

1.1.4 School

The DSON has undergone two total curricular revisions since 2012. The first revision involved the transition from a medical model to a concept-based curriculum. The second revision focused on decreasing program length and credit hours in response to requirements from the Department of Education. The full-time program was shortened by eight months, and the part-time program by sixteen months. The program credits were reduced from 94 to 69.The medical model was built around medical diagnoses. Nursing students were taught the medical diagnosis and how to manage that specific diagnosis. The emphasis was on the “what.” Nursing students were inundated with information related to disease-specific interventions, medications, and expected patient outcomes. This model failed to adequately prepare nursing students for the role of the nurse in the modern healthcare environment. Nursing students memorized information for exams, struggled with application of the learned information to other situations, and were not

challenged to use critical thinking skills while learning how to be a nurse. The curriculum was overloaded with content.

Adopting a concept-based curriculum would address problems from the medical model. Giddens, Wright, and Gray (2012) explained that a concept could be viewed as an organizing principle or a method to classify complex systems. Instead of learning by medical diagnoses, students learn by the overarching concept. For example, students are taught the concept of oxygenation. They learn normal oxygenation and then explore abnormalities. They are asked to identify what is occurring and why it might be occurring. They are challenged to develop and implement nursing interventions (the what) based on their findings and to support the rationale for those actions (the why). Concept based learning moves the student past simple memorization of information, enhances student critical thinking, and helps guide better clinical decision making. The curriculum is scaffolded, with concepts progressing from simple to complex. Each semester builds upon the previous semester. Faculty development and training regarding conceptual teaching is ongoing. The transformation of the curriculum has also resulted in changes in admission standards which included the adoption of a different program entrance examination provider and criteria. At the time of the curricular revisions, the DSON experienced a decrease in both NCLEX-RN first-time pass rates (below 80%) and student enrollment. Priority program improvement goals focused on these two issues. Attrition steadily increased.

1.2 Stakeholders

The stakeholders at the DSON include the students, the hospital (governing organization), the faculty, the administration, and the healthcare consumer. Stakeholders have direct and/or

indirect needs related to student success. Retention of students supports ongoing operations of the DSON, increases employment opportunities for the students, and expands the nursing workforce to support needs of the healthcare institutions and the healthcare consumer.

1.2.1 Students

Students enter the school of nursing with the goal of becoming a nurse, expecting to complete the program and pass the national licensure exam (NCLEX-RN). Failure to achieve goals leads to personal and financial losses. Students who are not successful have invested time and money towards an incomplete education. Students are left with debt and without a plan for repayment. They also are unable to secure gainful employment as a nursing professional. Failure to complete the program can negatively influence their physical and emotional well-being.

1.2.2 Hospital

The hospital is a stakeholder with two needs, the governing organization of the DSON and an organization needing nurses to support ongoing operation. Nursing student attrition generates negative consequences for the hospital. First, the hospital suffers financial losses. As a business unit of the hospital, the DSON is expected to generate revenue to support ongoing operations. Second, the hospital is reliant upon the school of nursing to supply an adequate number of professional nurses to meet the growing demands of the workforce to accomplish its mission. Each consequence negatively influences the reputation of the hospital.

1.2.3 Healthcare Consumer

The growing nursing shortage in the American healthcare system is creating concern for healthcare needs in the future. The American Association of Colleges of Nursing (AACN, 2019) reported that the nursing shortage in the United States will continue to grow because of increasing healthcare needs and an aging workforce with a large percentage eligible for retirement in the next decade. Shortages of nursing professionals lead to medical errors and increased patient mortality and morbidity rates (Haddad, Annamaraju, & Toney-Butler, 2020). Aiken and Sloane (2020) report that adequate nurse staffing ratios equate to lower mortality and morbidity rates, decreased patient stays, and less complications. The inability of nursing schools to graduate nurses impacts the shortage of nurses in the workforce which will compromise the welfare of the healthcare consumer.

1.2.4 School of Nursing

The faculty and administration of the school of nursing are accountable for student outcomes. As graduation rates decline, several negative consequences emerge for the school of nursing and are further complicated by the losses experienced by other stakeholders. These consequences have the potential to impact revenue, accreditation status, reputation, enrollment, allocation of resources, and relationships with the healthcare system.

1.3 Problem of Practice

Student attrition rates at the DSON have been steadily increasing over the past five years, exceeding 50 percent between 2016 and 2017 (UPMC, 2021). Reasons for student attrition include voluntary withdrawals, clinical failure, didactic failure, and difficulty adjusting to teaching styles. The rising student attrition rates at the DSON have come under the scrutiny of the hospital, the Accreditation Commission for Education in Nursing (accrediting agency), the Pennsylvania State Board of Nursing, and the public. A first step in addressing the problem of attrition at the DSON involves gaining an understanding of the underlying causes.

Attrition rates among nursing students have the potential to create negative consequences for the students, the DSON, the healthcare industry, and the healthcare consumer. Students have invested personal and financial resources in the pursuit of an education. Failure to complete the program may negatively influence the students' physical and emotional well-being, leave them with significant debt, and lead to loss of employment as a future registered nurse. Consequences to the DSON include decreased enrollment, loss of expected tuition, harm to reputation, and noncompliance with accreditation and regulatory standards. Farther reaching effects of attrition impact the healthcare industry and the healthcare consumer. The mission of the DSON is to prepare graduates to successfully transition to the role of the bedside nurse possessing the knowledge, skills, and attitudes to deliver safe, quality patient care. The demand for RNs continues to increase as the end of the nursing shortage is not in sight in the United States. A report from the Bureau of Labor Statistics (2021) projects a need for an additional 220,000 registered nurses between 2019 and 2029. Patient safety and quality of care are threatened when there are insufficient numbers of RNs available (Holden et al., 2011; Kirwan, Matthews, and Scott, 2013; Neuraz, et al., 2015). Errors arise from the resulting issues of increase in nurse-to-

patient ratios, extended work hours, burn out, and lack of experience (Kirwan, Matthews, and Scott, 2013).

Academic failure accounts for a large percentage of the attrition rates at the DSON. The DSON policy limits students to one course failure (clinical or didactic) throughout the program, with the opportunity to repeat the course. Students failing more than one course or requiring more than one break in enrollment (for any reason) are terminated from the nursing program. Student attrition peaks during the first and last semesters of the program. Attrition at any level requires attention and intervention, however late program attrition raises greater concern.

Students who score at or below a 76% on an exam and those who are returning to the program following a course failure or break in enrollment receive a voluntary referral to the academic support team (ASP). Assessment of students' study skills, test taking strategies, time management, and employment status along with interventions are discussed. Two problems have been identified with the current process for using academic support. First, fewer than 50 percent of the students who receive a referral to ASP follow through with a meeting. Second, though interventions focus on the academic needs of the students they fail to offer adequate support for the outside issues impacting success. The ASP provides optional workshops for students. In Fall of 2018, the ASP was assigned a four-hour lab section in the in the first semester nursing courses to reinforce study skills, test taking strategies, and time management. Providing adequate resources to students to drive success is critical to improving student retention.

1.4 Inquiry Questions

This inquiry will serve to explore the students' perceptions of the variables that influence their academic progression in diploma schools of nursing.

1. What are the perceived factors experienced by students that impacted their success in the diploma nursing program?
2. What strategies, programs, or interventions were used by the students to overcome the barriers and achieve success in the program

Students who have completed at least one semester of the program will be able to reflect on the factors or situations they encountered that were obstacles to their success. Students who have experienced a break in enrollment or course failure will also be included. Students' reflections of their experiences will help the DSON understand the barriers faced by students. This information will be used to assess the support services provided by the DSON. Questionnaires and interviews will be used to gather this data.

Information gathered will assist the DSON to evaluate the current ASP program and to identify areas for improvement. Evaluation of academic support programs yielding positive student outcomes will be gathered from the literature. This information will be explored during focus group discussion.

2.0 Review of Supporting Scholarship

The DSON has been charged with developing processes to decrease attrition rates by the governing institution, accrediting body, and regulatory agency. Academic performance, cognition, situational variables, admission criteria, curricular changes, and shortened program length are among factors discussed within the DSON. Recognition that the reasons for student attrition are multi-faceted increases the complexity of designing a single cookie cutter approach for problem resolution. Multiple interventions will be necessary to increase student success without jeopardizing the rigor of the educational program.

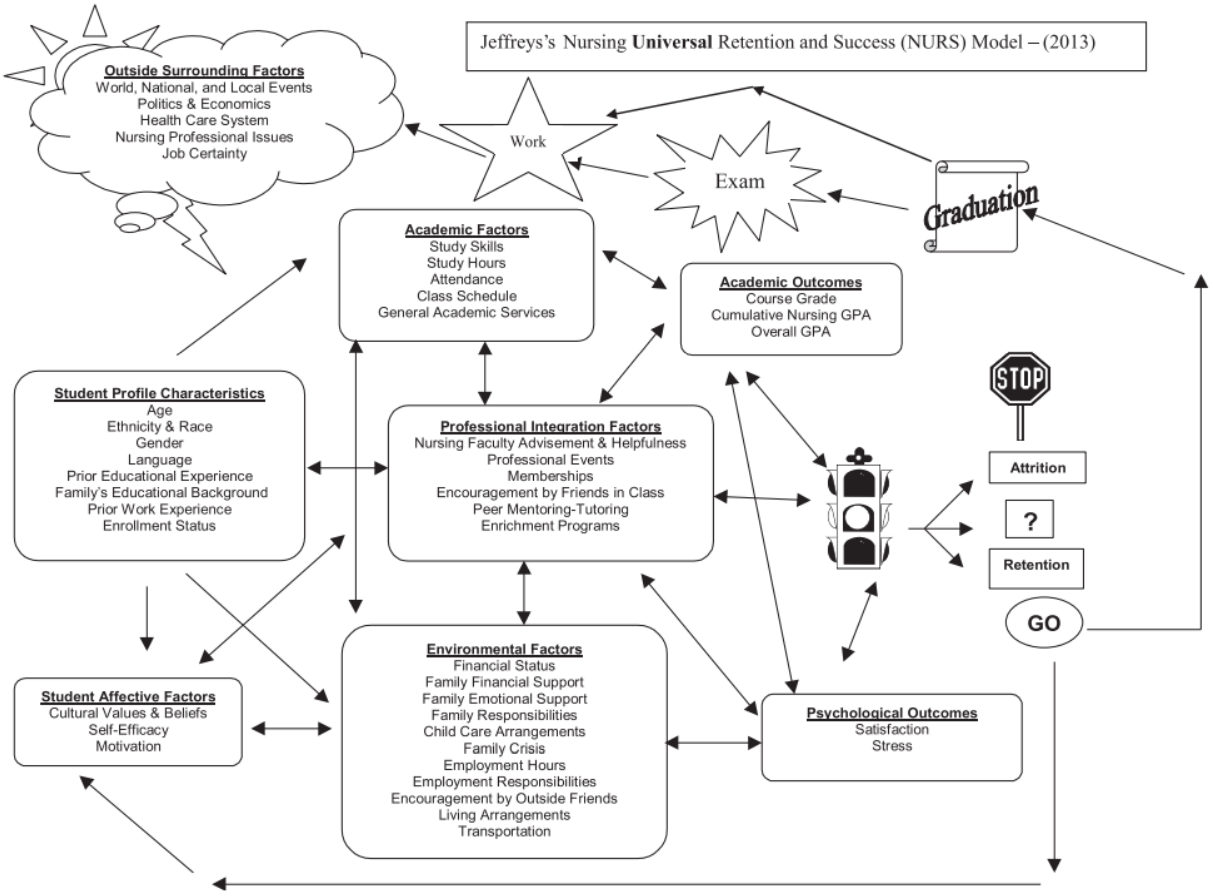
The literature review explores three areas relevant to the perceived and actual variables that influence a student's academic progression in diploma schools of nursing. The first area will be to determine the theoretical framework to guide the project. The second area will be to provide operational definitions of attrition and student success. The third area will be to review factors that enhance or inhibit successful program completion.

2.1 Theoretical Frameworks

Four theories will be discussed. They are Jeffreys's Nursing Universal Retention and Success Model, Bandura's theory of self-efficacy, Tinto's theory of student retention, and the model of student retention.

2.1.1 Model of Retention and Success

Jeffreys's Nursing Universal Retention and Success (NURS) model will serve as the theoretical framework for this study (Jeffreys, 2015; Jeffreys, 2012). Jeffreys's NURS model (Figure 1) addresses the need for nurse educators to consider student diversity and the associated needs of those students (Jeffreys, 2015). The NURS model explains the relationships between eight sets of variables on nursing student success. The sets of variables are student profile characteristics, student affective factors, academic factors, environmental factors, outside surrounding factors, academic outcomes, psychological outcomes, and professional integration factors (Jeffreys, 2015; Jeffreys, 2012). The model depicts the influences of multiple variables upon one another which support the complexity seen with student attrition. The model builds upon prior retention models which isolate components of self-efficacy, environmental factors, and socialization/integration. Each of these models will be discussed in this section.



Adapted from Jeffreys's Nursing Undergraduate Retention and Success (NURS) Model – (2012).
In Jeffreys, M. R. (2012). *Nursing Student Retention: Understanding the Process and Making a Difference. (2nd Ed.).* New York: Springer, p. 12.
Adapted and reprinted with permission from Springer Publishing Company, New York, New York, USA.

Figure 1 Jeffreys Nursing Universal Retention and Success (NURS) Model

2.1.2 Theory of Self-Efficacy

Bandura (1997) defines self-efficacy as the belief in one's ability to succeed in specific situations or accomplish a task. Self-efficacy drives the student's confidence towards success demonstrated through their motivation and preparation. Self-efficacy is a motivating force in student behavior and learning (Pitt et al., 2012; van Dinther, Dochy, Segers, and Braeken, 2014). Bandura's theory provides perspective as to the impact of self-efficacy on motivation. Jeffreys borrows the concept of self-efficacy to apply it to the larger framework of variables (Jeffreys, 2015; Jeffreys 2007a). Jeffreys acknowledges that self-efficacy alone does not lead to student success but is a factor that may positively or negatively impact other variables.

2.1.3 Theory of Student Retention

Tinto's (1993) theory of student retention focuses on the role of the institution to effectively integrate the student into the academic community. Tinto's theory proposes that when the student believes he or she "fits" in the academic community (shared beliefs, values, goals), the student will persist within the environment (Tinto, 1993). Tinto's model emphasizes retention in relation to what occurs within the academic system (Shelton, 2012; Tinto, 1993). This does not account for the current population of students. Markle (2015) addresses this difference through her discussion of non-traditional students (commuters, employed while going to school, over the age of 25 years). Davidson and Wilson (2013) critique the application of Tinto's model today as it fails to address the socialization needs of non-traditional students as well as those of racial and ethnic minority groups. Another subset of the non-traditional are first-generation, working class students. Cultural behaviors of this population lead to less engagement with campus life and

feelings of intimidation when seeking faculty support (Longwell-Grice and Longwell-Grice, 2008). Jeffreys posits that the construct of integration and socialization is one of several interrelated variables influencing student success (Jeffreys, 2015).

2.1.4 Model of Retention

Shelton (2012) explores student success factors using the Model of Nursing Student Retention using elements of the earlier theories. This model discusses the relationship of three sets of variables. These sets of variables are student background, internal psychological processes, and external support (Shelton, 2012). This model establishes that retention is based on the student's ability to persist in the program and to meet the academic requirements (Shelton, 2012). Shelton studied students enrolled in associate degree programs many of whom were non-traditional students (2012). Her findings demonstrated that success was influenced by financial resources and stress related to competing demands (work, family responsibility). Jeffreys (2015) further breaks down the variables seen in this model into more specific subsets and discusses the interrelated nature of each.

2.2 Definitions

An important factor in this study is adopting operational definitions for the following terms: attrition, persistence, retention, and student success. Definitions from the literature were reviewed and are discussed below.

Attrition is a term frequently used in higher education. Urwin et al. (2010) define attrition as students lost from a nursing program resulting in a variance in those beginning the program to those completing the program. Mooring (2016) explains attrition as the choice of a student to withdraw or the inability of a student to meet the standards set forth by the program. Jeffreys (2007a,) defines attrition as "students dropping out of the nursing program" (p. 408). The operational definition will delineate end of program attrition as the percentage of students failing to complete the nursing education program in one and one-half time of program length. End of program attrition will include voluntary and involuntary termination from the program. To ensure continuous evaluation of outcomes, student progression between course levels will be tracked.

Persistence is a term consistently seen in the literature related to attrition and retention and therefore warrants discussion. Tinto and Pusser (2006) define persistence as the "enrollment of individuals over time that may or may not be continuous and may or may not result in degree completion" (p.1). Persistence represents a measure inherent to the student serving as an affective factor in the NURS Model (Jeffreys, 2015). Kennel and Ward-Smith (2017) define persistence as the "ability of the student to achieve their academic goal" (p. 62). Persistence is based on student choice and the commitment they have for success (Mooring, 2016). Jeffreys (2015) categorizes persistence as a student affective factor. The definition for persistence will be slightly altered for this problem of practice as the student's commitment to achievement of the academic standards required for progression through the program.

Retention is commonly referred to in the literature although few articles provide a definition. Three authors offer a similar definition of retention as the number of students returning and progressing through each semester through graduation (Kennel & Ward-Smith, 2017;

Wambuguh, Eckfield & Van Hofwegen, 2016). This will be the definition used for this problem of practice.

The definition of student success will encompass the elements of academic success, retention, and persistence. Although a clear definition of academic success was not identified, several articles indicate grade point average (GPA) as a measure of student academic success (Breckenridge, Wolf & Roszkowski, 2012; Fernandez, Salamonson & Griffiths, 2012; Jones-Schenk & Harper, 2014). Academic success for this study will refer to student achievement of 76% or higher in any course as this is the passing standard for nursing courses at the DSON.

2.3 Factors Enhancing or Inhibiting Successful Program Completion

This section of the literature review explores available research for the variable sets identified in the selected nursing student retention model. For this study, the following variable sets will be explored: student profile characteristics, student affective factors, academic factors, professional integration factors, environmental factors, and psychological outcomes. Student perceptions of the supportiveness of each factor will influence the value placed on each.

2.3.1 Studies of Student Profile Characteristics

Student profile characteristics include age, gender, race, ethnicity, prior educational experiences, prior work experiences, and enrollment status (Jeffreys, 2015). Preadmission performance (such as GPA and admission examinations) is often believed to be predictive of student success and serves as the foundation for admission criteria. Wray et al. (2012) support the

fact that students with higher entry qualifications are more likely to progress at minimum to the second year of the nursing program. Wambuguh, Eckfield, and van Hofwegen (2016) explore the relationship between the preadmission examination and preadmission science GPA and program success. The findings indicate that students with a preadmission exam score of 82 or higher are more likely to complete the nursing program and pass the National Council Licensing Examination (NCLEX-RN), and students with a preadmission science GPA of 3.8 or higher have a higher probability of passing the NCLEX-RN. Cunningham et al. (2014) find that the preadmission GPA is associated with program GPA and progression through the program. Cunningham et al. (2014) point out that the admission preadmission examination score did not correlate to program success. In a sample of 94 BSN students, Newton, Smith, and Moore (2009) also report no relationship between preadmission examination score and program success.

These data indicate that further research on the variables is required. The DSON is currently trending data related to preadmission exam scores and program completion. At the DSON, faculty speculate that the age of the student is related to performance in the nursing program. Do older, nontraditional students perform better than their younger more traditional counterparts? Wray et al. (2012) explore age as an individual factor impacting progression in the nursing program through a retrospective cohort design of 695 students finding that older students are more likely to be successful. The researchers hypothesize that despite challenges (outside work and family responsibilities and reintegration into an academic setting) factors such as life experience, the likelihood of having experience in providing care, and availability of a stronger support system have an impact (Wray et al., 2012, p. 1439). Pitt et al. (2012) performed an integrative review of 44 papers looking to identify factors influencing attrition and academic performance. Demographic data emerged as one of four categories of factors. Pitt et al. (2012)

reported that student profile characteristics such as age, gender and ethnicity yielded mixed results related to performance and success. They propose that student support programs take these characteristics into consideration when developing strategies. Qualitative discussion of reasons for the differences requires additional attention and study.

2.3.2 Studies on Student Affective Factors

Internal cognitive and or affective factors such as self-efficacy and motivation serve to enhance student success. There is a belief that students who possess more confidence will be better prepared to face the challenges of the nursing program. A small study by ten Hoeve et al. (2017) explains that reasons for attrition among third semester students included inability to achieve learning goals, struggle with working in teams, and having uncertainty related to their own abilities. In another study by Williams (2010), interviews were conducted with students in a midwestern nursing school and findings were categorized as positive mindset and self-talk and use of resources. Williams (2010) shares that first semester students in the study indicate the need to develop a mindset of "not giving up" (p.364) and doing what needed to be done to be successful. Kennel and Ward-Smith (2017) add that highly motivated students are more likely to invest time in adoption of skills and activities to promote success. They advise that interventions can be designed to support identified modifiable attributes. Kahlaila (2015) reports that students' academic self-concept is directly correlated to academic achievement suggesting that students who are confident in their abilities perform better on examinations, therefore reinforcing the strength of internal motivators on success. Pitt et al, (2012) report that students who have a weak sense of control of the environment demonstrate lower levels of performance. Self-efficacy leads to higher performance.

2.3.3 Studies of Academic Factors

The academic factors are inclusive of the student's study skills, amount of time spent studying, attendance at class and clinical, and academic services (Jeffreys, 2015). The ability of the students to assimilate to the role of the nursing student will be beneficial in supporting program success. Study skills that satisfied the need of prior educational experiences may prove less effective in the nursing program. Nursing students at the DSON engage in a conceptual learning model requiring a blend of group and individual learning. Students must be prepared to apply critical thinking and clinical decision making to the concepts. Offering support to first level students early in the program to better explain program expectations and to arm then with strategies and tools to improve critical thinking may be crucial to early success. Kennel and Ward-Smith (2017) discuss the relationship of student's active engagement in academic services to achievement of academic goals reporting that the integration of such curricular program interventions is seen to positively influence program completion.

Persistence emerges as a theme underlying success. The student's motivation and determination will serve as drivers but require adequate support. Williams' (2010) interviews of freshmen nursing students provides insight into the impact on persistence. According to Williams (2010), students identify the significance of being able to "keep up" (p.364) with coursework and program demands and discuss implementation of time management strategies. Engagement in academic services helps students maintain the pace of the nursing program. Informed by a study using the College Persistence questionnaire, Betts, Shirley & Kennedy (2017) find that the course workload and availability of academic support services are student identified factors influencing program success. Pitt et al. (2012) advise that although findings discuss relationships between academic engagement and success, consistent measures for evaluation need to be identified.

2.3.4 Studies of Environmental Factors

Jeffreys (2015) explains environmental factors as those including financial status, family financial and emotional support, competing familial and/or employment responsibilities, childcare arrangements, living arrangements, and encouragement by friends. These environmental factors often contribute to student performance at the DSON. Among those factors are full-time employment while enrolled as a full-time student, financial constraints, serving as the primary caregiver for children and/or parents, and external support. Some students demonstrate the ability to successfully manage competing factors while others perish.

Williams (2010) finds that first semester students often need to connect with their family and personal network for emotional support when they are feeling as if they will be unable to maintain the academic and clinical expectations. She recommends helping families understand persistence, the student's need to maintain connections, and the role the families play in supporting the student (Williams, 2010). Providing resources and information for the families and support network of the students may enhance persistence.

Shelton (2012) finds that financial constraints impacted attrition from the program. Students with fewer financial resources are more often working more than part-time hours, and, in turn are more likely to experience an academic failure. Less than half of students who persisted to graduation worked more than 20 hours per week and students with limited financial resources were more likely to work greater than 20 hours per week, increasing their risk for course failure (Shelton, 2012).

2.3.5 Studies of Psychological Outcomes

Saklofske et al. (2012) discuss the relationship of emotional intelligence (EI) and stress on student performance. The concept of emotional intelligence was introduced by Salovey and Mayer (1990). Emotional intelligence is "a set of skills hypothesized to contribute to the accurate appraisal and expression of emotion in oneself and in others, the effective regulation of emotion in self and others, and the use of feelings to motivate, plan, and achieve in one's life" (Salovey and Mayer, 1990, p.186). Students with a higher level of EI are likely to develop strategies to manage stress. Jones-Schenk and Harper (2014) also discuss the relationship of EI to success finding that students with higher EI progress through the program at the appropriate rate and demonstrate strong stress management and coping skills. Conversely, Beauvais et al. (2013) find no specific relationship between overall EI and academic success among prelicensure nursing students. They do, however, indicate that a correlation exists between the EI component of stress management and academic success.

2.3.6 Studies of Professional Integration Factors

Williams (2010) discusses the need for students to make connections with their peers as a contributing factor for student success. The ability to integrate with the social and professional communities of the organization provides the student with an additional support system. Student ratings from Fontaine's comprehensive program for student support using community nurses as mentors to integrate students into the professional role fall at the midline between dissatisfied and satisfied (Fontaine, 2014, p.98). Further exploration of the student experiences, mentoring

provided to the community nurses to fulfill this role, and commitment of the community nurses to the program is warranted.

Jeffreys explains that a component of professional integration involves the socialization of students into their academic setting "within the context of professional socialization and career development" (Jeffreys, 2012, p126). Factors involved in this component of professional integration include "faculty advisement and helpfulness, memberships in professional organizations, professional events, encouragement by friends in class, enrichment programs, and peer mentoring-tutoring" (Jeffreys, 2012, p. 126). Each of these factors are proposed to have an impact on student retention. Faculty own a significant portion of integration. The ability of faculty to create an environment in which students feel comfortable will encourage them to ask questions, seek support, and integrate into their academic and clinical roles. Professional integration involves integration to the academic and professional settings.

2.3.7 Studies Related to Strategies for Retention

Studies addressed in the literature are demonstrating increase attention to development of programs that integrate a wider variety of services addressing the complex needs of the student. Donnell, Walker, and Miller (2018) discuss a study aimed at implementing interventions to help at-risk students move to an on-track status in the nursing program including a combination of in-person and online resources. Resources included skills lab, counseling, faculty-led coaching for exam reviews, nursing student websites (videos, content modules, test-taking strategies, etc.), and an online program to improve reading comprehension (Donnell, Walker, and Miller 2018). Donnell, Walker and Miller (2018) report that counseling and the reading comprehension program were most likely to improve on-track status. Their findings show that improvement in

student retention was seen students receiving sixteen or more hours of counseling, while one to two counseling sessions were not effective (Donnell, Walker and Miller, 2018).

Jacobs (2016) discusses the use of pre-semester workshops with emphasis on expectations of the program and the need to balance academic and personal lives. Students in the study report an increase in self-confidence and belief they would be successful (Jacobs, 2016). Providing information early helps students prepare.

Fontaine (2014) and Fagan and Coffey (2019) discuss implementation of pilot programs integrating multiple factors to address student needs. Fontaine addresses a program that includes services beginning with a comprehensive orientation including expectations, curricular design, available services and resources, stress and anxiety reduction, and strategies for success (Fontaine, 2014). These are followed by development of "learning communities, individualized academic plans, community nurse mentoring, counseling, peer tutoring, and career counseling" (Fontaine, 2014, p. 96). Students enrolled in this program had a 10 percent increase in retention when compared with previous graduating classes. Fagan and Coffey (2019) report a program for freshman students that included "academic and personal advising, faculty and peer mentoring, tutoring, and social activities" (p. 428). Preliminary results show that 85% of the students in the program progresses to the second semester (Fagan and Coffey, 2019). Programs that offer a more holistic approach to address student needs are becoming more prevalent in current practice.

2.4 Summary

Diploma nursing programs offer students extensive clinical experience while creating a solid foundation for nursing practice preparing them for entry into the nursing profession in a

shorter time frame than degree granting institutions. The shorter program length does not, however, correlate to a learning environment with less rigor. Nursing students from all program types take the same licensure examination following graduation. Diploma nursing programs are held to the same standard as two and four-year degree granting programs for providing an educational experience that adequately prepares graduates for licensure and practice.

While providing that educational experience, diploma schools of nursing are challenged and expected to provide support services that meet the needs of students. To adequately meet the needs of students, diploma schools of nursing first need to understand the factors that are barriers to student success. Implementation of student support services that address avoidable barriers will benefit the students, the educational institution, and the healthcare system. The needs assessment in this study is the first step in building those support services.

This literature review serves as the background to establish a framework to explore the complex issues faced by nursing students. The categorization of the factors identified in the literature are aligned to Jeffreys's NURS Model (Jeffreys, 2012). The needs assessment questions will focus on identifying the factors that create barriers for students at the DSON and identification of strategies.

3.0 Methods

To provide services to support the students, a need exists to more fully understand the factors that impact student success. Current strategies at the School of Nursing focus on test-taking, study skills, and scheduling study time. Less emphasis is placed on the factors that may compete with the students' abilities to implement these strategies. Multiple variables (including family responsibilities, work responsibilities) compete with academic studies and pose significant challenges to the diploma nursing student. Standard "cookie-cutter" approaches for academic support are not sufficiently yielding positive student outcomes.

3.1 Inquiry Questions

The inquiry questions were designed to solicit responses from students as to the specific items that have impacted their success. The first question will be used to differentiate factors that were supportive to success and those that were barriers to success. The second question will explore how students overcame any factors that negatively impacted success. The questions are:

1. What are the factors experienced by students that they believe impacted their success in the diploma nursing program?
2. What strategies, programs, or interventions were used by the students to overcome the barriers and achieve success in the program?

3.2 Research Methods and Approach

A mixed methods approach was selected for this needs assessment. The mixed methods approach is commonly used in the social sciences. This approach involved the collection of quantitative and qualitative data within one study (Creswell, 2014; Driscoll et al., 2007; Onwuegbuzie and Combs, 2011). Tashakkori and Creswell (2007) defined the use of mixed methods as a purposeful process of data collection and analysis using both qualitative and quantitative approaches to draw inferences.

Each type of data was combined to answer the same inquiry questions to provide deeper meaning. Johnson and Onwuegbuzie (2004) explained that "words, pictures, and narrative can be used to add meaning to numbers" (p.21). Mixed methods provided the researcher the ability to combine stories with statistical information (Creswell, 2013). Exploring the problem through the objective components and providing explanation through the subjective elements is a primary aim of mixed methods (Ponce & Pagan-Maldanado, 2015). The mixed methods approach provided opportunity for expansion of survey responses among randomly selected survey participants.

3.2.1 Benefits of Mixed Methods

This approach helped to gain a more in-depth understanding of a problem of practice and provides the mechanism for studying complex problems which uncovered new knowledge related to the needs of the students. The integration of quantitative and qualitative data led to a fuller understanding of the phenomena being explored (Leavy, 2017). Blending of qualitative and quantitative methods provided a more comprehensive explanation of the findings (Johnson &

Onwuegbuzie, 2004). Inferences made from mixed methods were drawn from analysis of both qualitative and quantitative data (Mertens, 2015, p. 309).

The literature supported the proposition that the reasons for student attrition are multi-faceted. The mixed methods approach provided an opportunity to first identify the factors students reported as restrictive and then to understand how they impacted student success and what students were already doing to mitigate them. Hurmerinta-Peltomaki and Nummela (2006) found that use of a mixed methods design led to increased validation of findings and supported creation of knowledge. The use of a mixed methods approach allowed for identification of themes and explore commonalities uncovered through narrative provided by students. This information was then used to assess existing programs and interventions available to the students at the DSON. Mertens (2015) indicated that use of mixed methods helps to answer complex research problems requiring techniques specific to quantitative and qualitative research (pp. 304-305).

Sargent (2012) explained that quantitative data answer “what” while qualitative data answer ``how`` and “why”. She further asserted that in relation to quality and rigor, quantitative methods support validity and reliability while qualitative methods support authenticity and trustworthiness (Sargent, 2012). The use of each type of data will be explained below.

3.2.1.1 Quantitative Component

The quantitative data helped to answer which factors the respondents felt impacted success, serving as the foundation for further inquiry at the DSON. The quantitative data were useful for statistical analysis of the variables (including social, environmental, and affective factors) influencing student success. Demographic information such as age, race, and marital status was collected from the questionnaire to categorize variables during analysis of the data.

The quantitative data showed the factors identified to support or restrict success. Participant use of existent programs was also captured on the questionnaires.

The quantitative data focused on respondent perceptions of the variables that influenced success that they experienced during the first three semesters of the nursing program. The decision to use a questionnaire was based on the benefits of this tool to gather quantitative data. The use of questionnaires was reported as a common method of data collection when gathering information from large groups (Creswell, 2007, Mertens, 2015). Questionnaires were also selected as they provided for a relatively quick administration and evaluation (Choy, 2014), and allowed for more efficient use of time while gathering large amounts of data (McCusker and Gunaydin, 2015; McGuirk & O'Neill, 2016; Ponto, 2015). Use of a questionnaire also helped to ensure that the researcher maintained reasonable separation from the participants. The awareness that responses to the questionnaire were reliant on respondent self-report and willingness to answer questions honestly as explained by Mertens (2015) was a consideration for this needs assessment.

Krosnick and Presser (2010) stated that "survey results depend crucially on the questionnaire that scripts this conversation" (p. 263). The questions on the surveys included common words, simple syntax, asked about only one item at a time, and were not leading (Krosnick & Presser, 2010). Likert scales, commonly used on questionnaires, included closed-ended statements from which participants rated their level of agreement or disagreement based on opinion, experience, and perception. Likert scales were easy to use, understand, and measured respondent perception (Subedi, 2016). Positive and negative items were balanced using six response categories. This balance helped to reduce the phenomena of response bias (Willits, Theodori & Luloff, 2016). As a result of widespread use, survey participants were familiar with

Likert scale ratings which increased their comfort engaging with the process (Cooper & Johnson, 2016). The relationship between the inquiry questions and questionnaire items is shown in Table 1.

Table 1 SPA-R2 Items Addressing Inquiry Questions

Inquiry Question	Questionnaire
What are the perceived factors Experienced by students that Impacted their success in The diploma nursing program?	Q2* Certain factors may have restricted or supported YOUR successful goal achievement. Evaluate each item in terms of how it affected YOUR ability to remain in nursing courses this semester?
What strategies, programs, or interventions were used by the students to overcome the barriers and achieve success in the program?	*Q2** General Academic Services Professional Integration Factors

*Question taken from Student Perception Appraisal-Revised-2 (SPA-R2)-Posttest (Jeffreys, 2012)

3.2.1.2 Qualitative Component

The collection of qualitative data was coordinated through interviews. This qualitative approach afforded the opportunity to identify the information the participants valued. Choy (2014) reported that use of qualitative approaches allowed participants to address issues that were of most importance to them. McCusker and Gunaydin (2015) indicated that use of qualitative data serves to provide an understanding of the experiences and attitudes of participants.

Interviews allowed for the individuals to share their experiences using their own words (Saldana, 2011). Interviews provided an opportunity to solicit information that focused on the "individual's perspectives, feelings, opinions, values, attitudes, and beliefs about their personal experiences and social world" (Saldana, 2011, p. 33). The use of qualitative interviews allowed

for “mutual discovery, understanding, reflection, and explanation” (Tracy, 2019, p.156). Semi-structured interviews strengthened this assessment by giving participants the opportunity to reflect upon their experiences at the DSON and allowed them to focus on the factors that had the most impact on their success. Semi-structured interviews used several key questions and probes, but allowed flexibility based on the individual responses. Semi-structured interviews stimulated discussion and allowed the participants to share what was most important to them, leading to discovery of new information (Gill et al., 2008; Tracy, 2019).

3.3 Design

An explanatory sequential design was used to guide this needs assessment. This design involved an iterative process in which data collected at one phase of the assessment contributed to the knowledge of data from that at another point (Driscoll et al., 2007). This assessment began with quantitative data collection followed by qualitative data collection. In the explanatory sequential design, the qualitative data was used to provide meaning to the quantitative data (Creswell, 2014). Figure 2 is a visual representation of this design. Explanatory sequential design employed quantitative data collection to measure factors associated with the research problem followed by the qualitative study which provided deeper meaning of the problem (Ponce & Pagan-Maldanado, 2015). The questionnaire was administered first to identify a list of the factors impacting success of the participants. Interviews were then held to better understand how those factors may have impeded success.

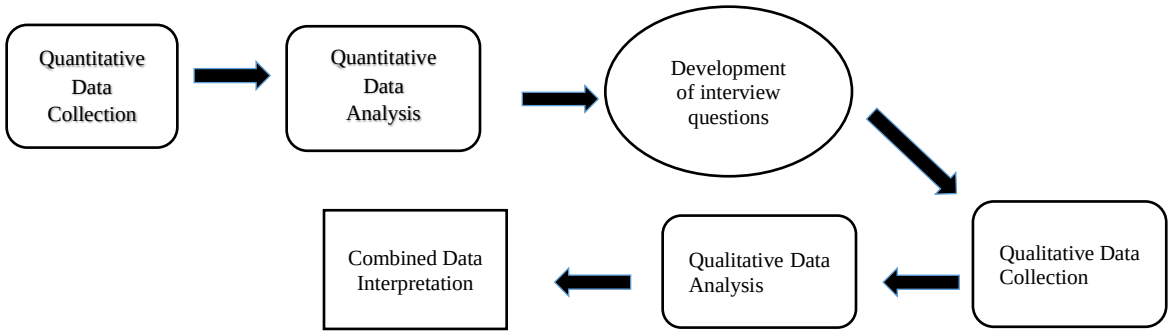


Figure 2 Explanatory Sequential Design

Mixed methods provided a more complete picture of the phenomena being explored in this needs assessment, student attrition. Mixed methods helped to uncover what, how, and why student retention was impacted at the DSON. The quantitative data from the questionnaire uncovered the factors that existed for the participants participating in the study. How and why these factors impacted success were addressed with the follow-up interviews. Having a more complete understanding of the needs of the students will help the DSON assess current processes, programs, and offered services.

3.4 Institutional Review Board

Permission to proceed with the needs assessment was granted by the Executive Director of the DSON (Appendix A). Approval for this assessment was then obtained from the Institutional Review Board (IRB) in May of 2020. Letters of invitation to participate in the survey with a link to the survey were then sent via email to all students enrolled in the Summer 2020 semester (Appendix B). An amendment to use individual interviews in the qualitative phase of this

assessment was submitted to the IRB and approval was granted in late July 2020. A letter of invitation to participate in the interview was sent via email to students who volunteered to participate in this phase of the needs assessment (Appendix C). An additional 15 students were randomly selected to participate in the interviews and were sent the same letter of participation. The interview protocol was read to each interviewee at the beginning of the interview.

3.5 Data Collection

The data collection for this assessment was completed in two phases. Phase One involved the collection of quantitative data using an electronic survey/questionnaire. Phase Two was initiated following the collection of the surveys. In this second phase, qualitative data was collected through interviews.

3.5.1 Phase One Questionnaire

This assessment began with the collection of quantitative data via questionnaire. The questionnaire included demographic data and respondent rating of factors that either restricted or supported their success in the nursing program. The questionnaire was distributed electronically. An existing questionnaire was selected for data collection. Reasons for selection of an existing survey included the ability to compare findings to other studies, information on the reliability of questions and instrument were available, and the questions were easily applied to the theoretical framework selected for this study. According to Boynton and Greenhalgh (2004), use of an existing questionnaire required less time and resources and allowed for the comparison of findings

to those in other studies. Phillips (2017) further supported the use of existing surveys through his argument that the ability to have a more solid understanding of a concept is limited when researchers fail to adequately compare findings, as can be done with use of existing surveys. Use of questions that represented the multidimensional factors addressed in Jeffreys's NURS Model (Jeffreys, 2012) were anticipated to result in valid data. Hyman, Bulmer, and Lamb (2006) reported that existing questions reflective of the concept being studied increase the validity and quality of the data.

Understanding that developing effective questions and questionnaires is time and labor intensive also played a role in the decision to use an existing questionnaire. Mertens (2015) explained that steps for questionnaire development included identification of the topics to be included, clearly defined intent and purpose of each question, determination of the structure of the questions (closed vs. open ended), limitation of psychologically sensitive questions, clarity, and item order. The questionnaire would also need to be deemed valid to strengthen the data. Validity refers to the extent to which a questionnaire measures the identified construct. Artino et al. (2014) explained that establishing validity of an instrument is an iterative process of evidence review collected by the survey developers. The time frame for this assessment limited the opportunity to pilot test a new questionnaire.

The instruments selected for use were the Student Perception Appraisal-Revised-2 Posttest (SPA-R2) and the Demographic Data Sheet-Prelicensure (DDS-P) found in Marianne Jeffreys Nursing Student Retention Toolkit and available for use with permission from Springer Publishing Company (Jeffreys, 2012). A one-year license for use was purchased by the DSON to support the needs assessment (Appendix D). The SPA-R2 (Appendix E) instructed participants to rate the pre-identified factors they believe impacted their success (Jeffreys, 2012). The items

on the SPA-R2 were divided into 5 main categories: environmental factors, academic factors, institutional interaction and integration, college academic facilities, and friend support (Jeffreys, 2007b). These items were used to address the inquiry questions. The DDS-P (Appendix F) was included as the first section of the questionnaire, followed by the SPA-R2. Questionnaires were distributed electronically.

Jeffreys originally developed the Student Perception Appraisal (SPA) with forty-two items to understand nursing students' perceptions of factors that either supported or restricted academic achievement (Jeffreys, 2007b). The SPA underwent two modifications and was divided into a pretest (SPA-1) and a posttest (SPA-2). Jeffreys reported that reliability on the SPA-1 ranged from .72 (alpha coefficient) to .77 (split half) while the reliability on the SPA-2 ranged from .89 (alpha coefficient) to .88 (split half) (Jeffreys, 2007b, Jeffreys, 2002). These results supported Jeffreys supposition that the survey results at the end of the semester were more reliable than those at the beginning (Jeffreys, 2007b). The SPA-R1 and SPA-R2 were designed to include five additional items not on the appraisals increasing the total number of items to 27. When establishing content validity of the SPA-R1 and SPA-R2 revisions, Jeffreys employed two professionals with doctorate degrees who had expertise in "nontraditional associate degree students, academic support services, and retention" (Jeffreys, 2007b, p162). The revised SPA-R yielded a content validity of 1.0, and .82 (Cronbach's alpha) for all items (Jeffreys, 2007b).

The Student Perception Appraisal-Revised-2 Posttest (SPA-R2) is a 27-item questionnaire used to assesses student perceptions of the influences of multiple factors on their success in the program (Jeffreys, 2012). Items included are academic performance, financial needs, family support, employment issues, family responsibilities, and school support programs. These data provided information of the factors that students experienced and believed has an impact on their

ability to be successful. Students who participated in the questionnaire had completed at least one semester in the nursing program. They had experience with nursing examinations, the clinical settings and expectations, and the learning environment. They were able to address the factors they experienced and how those factors supported or restricted success.

The demographic instrument contains 25 items. The items include age, gender, race, marital status, course level/number, family income, number of dependents, employment hours, and participation in school related activities. The demographic instrument was adapted with permission of the developer, as provided in the license for use, to reflect the diploma nursing program. The adaptations served to individualize the tool to reflect the institution.

Questionnaires were electronically distributed to students, using web-based product survey software. Advantages of web-based surveys included convenience, access to large sample sizes, and cost-effectiveness (Converse, Wolfe, Huang & Oswald, 2008). Ball (2019) further added that advantages include “speed and reach, ease, cost, flexibility, and automation” (p. 414). Online distribution also ensured that all participants were able to receive and return the questionnaire in the same format.

The use of an online survey offered convenience and accessibility for participating students. The request for voluntary participation in this assessment was communicated through email and an announcement in the electronic learning management platform (LMP). The invitation for participation (Appendix B) included the following information:

- purpose of the assessment
- statement explaining participation is voluntary and there is no consequence for electing to not participate,

- contact information of researcher (for questions, concerns, or the need for additional information),
- directions for completion of the survey,
- statement of the rights of participants,
- disclosure of all potential benefits or harm,
- link to the questionnaire, and
- request for participants for interview.

Participating students were asked to complete the questionnaire within two weeks of receipt. Follow-up emails were sent at the end of the first week and 24 hours prior to the close of the questionnaire. Participating students had the opportunity to elect to not answer any item while completing the questionnaire. Appendix G provides a summary of the protocol for Phase One. Forty-one students completed the questionnaire.

3.5.2 Phase Two: Interviews

Phase Two involved individual interviews with students. The interviews were scheduled and held via the Microsoft Teams platform to ensure safe social distancing for students due to the imposed restrictions of the COVID-19 pandemic. Microsoft Teams was selected as all student at the DSON had access and were familiar with this platform as it was used for educational delivery during the COVID-19 pandemic. The interviews were scheduled for approximately 45 minutes each.

Questions for the interviews were designed to focus on student experiences while enrolled in the DSON. Questions posed asked students to discuss factors that either supported or restricted their academic performance or progression through the nursing program. The purpose of the interviews was to explore the factors impacting success and to provide clarity on items from the questionnaire requiring additional information. The questionnaire did not include specific items addressing resources or strategies to overcome barriers therefore, they were added as questions for the interview. Realizing that interview participants may not have participated in Phase One led to include questions related to questionnaire items.

What are the perceived factors experienced by students that impacted their success in the diploma nursing program? This first inquiry question was addressed through four questions asking decision to become a nurse, rationale for selecting the DSON, challenges they encountered during the program, and their experience in the Summer 2020 semester. Each of these will be discussed below.

The demographic data collected showed diversity in age, marital status, prior educational experience, and employment status of enrolled students. The data also showed that more than half of the participants reported previous healthcare experience. This information sparked an interest in identifying whether a common thread existed between the students. These students wanted to become nurses but the reason they wanted to become nurses was also unclear. Could the reason and desire to pursue this education impact their motivation to be successful in the nursing program? This served as the driver for the introductory question of the interview exploring the decision to become a nurse.

Enrollment at the DSON has been strong. With more than 20 schools in the Pittsburgh and surrounding areas offering prelicensure nursing education there was not a clear understanding

as to why students selected this program. This question was not included in the questionnaire. There were, however, items on the questionnaire that could be contributing factors. These included travel time and transportation arrangements (location), previous healthcare experience (reputation), financial aid (cost), and class schedule. In lieu of making assumptions, students during the interviews were asked why they selected this program.

The analysis of the quantitative data from the questionnaire revealed that the median responses for most items were rated in the categories of supportive to success, not applicable, or did not restrict or support. Only two items on the questionnaire, employment hours and employment responsibilities, had mean scores in the restrictive categories.

The decision to develop an open-ended, non-leading question regarding factors impacting success was made, as this trend was observed throughout the analysis of the quantitative data. The question was developed to engage students in discussion regarding challenges they encountered during the nursing program and whether they had anticipated those challenges. Prompts for this question were included.

Due to the unforeseen impact of the COVID-19 pandemic which changed the delivery of theory and clinical from mid-March 2020 through the Summer 2020 semester, the question of "how is this semester going for you" was added. This question, although not specifically addressed on the questionnaire, fits into the category of outside surrounding factors. The ability for pre-licensure diploma nursing students to be successful in the virtual environment was an unknown, as were the challenges this would pose to students.

Identification of the challenges encountered by participants was a first step in understanding success or failure. This led to exploring the types of interventions, within the DSON or external to the DSON, that the students implemented. What strategies, programs or

interventions were used by the students to overcome the barriers and achieve success in the program? Students were asked to identify resources or support they used to overcome those challenges. The questionnaire did provide participants with an opportunity to identify services that they used within six months of the survey date. One service listed was the Academic Support Program (ASP). The ASP provides education and guidance to students for academic skills (i.e., test-taking, studying, critical thinking). A small number of respondents indicated that they had used this service provided by the DSON, which raised a concern. Why did so few students participate in ASP? Later in the questionnaire participants were asked to rate the impact of nursing student support services to their success. More than half of the questionnaire participants indicated that this service supported success. A discrepancy was seen between the responses to these two survey items. Did students recognize ASP as a nursing student support service?

Another example involved participants' ratings and reported use of peer tutoring. The DSON does not have a formal peer tutoring process. These responses raised the questions as to how and where students may be accessing these services. Further understanding of student knowledge related to available services, access to services, and utilization of services would be best identified during the interviews.

Interview questions were developed to provide meaning to the responses from the questionnaire. Interview questions were initially created to mirror items asked on the questionnaire to further understand how and why the participants chose specific ratings. Following analysis of the questionnaire responses, the interview questions were reviewed. The questionnaire did provide an overview of the factors that participants reported as supporting or restricting success but did not address the impact of those factors. The questionnaire did not

provide opportunity to address how the interventions participants used supported success. The summary of how the item responses guided the interview questions is seen in Table 2.

Table 2 Interview Questions in Relation to Questionnaire Responses

Interview Question Theme	Questionnaire Item	Comments
Decision to become a nurse	>50% reported previous healthcare experience 30% had previous college experience	Not directly asked on questionnaire
Challenges or barriers encountered while in nursing school	personal study skills financial status class schedule family financial support employment hours personal study hours family responsibilities employment responsibilities college computer laboratory	Interview participants may not have completed questionnaire in Phase I
Strategies, interventions, or resources	academic support program (ASP) peer tutoring and mentoring faculty advisement and helpfulness family emotional support library service nursing skills lab college tutoring services college counseling services nursing student support services support from friends within school	Is ASP underutilized? No formal peer tutoring/mentoring process Explore which processes had most impact

Once the question themes were determined, the following recommendations were considered in developing the interview questions. First, the interviews needed to use open-ended questions which were clear, non-biased, and avoided the use of why. Tracy (2019) explained that interview questions must differ from guided research questions. She further explained that they

should be simple and clear, address one item at a time, are straightforward and non-leading, and are nonthreatening (Tracy, 2019). Interview questions can be seen in Appendix H. Turner (2010) indicated that questions should be purposeful without making assumptions. This was a key element in the decision to ask the students to identify challenges versus using the specific factors that received ratings of restrictive from the questionnaire. This would also help to compare or confirm findings from the questionnaire.

Minimizing interviewer bias which may have been subconsciously introduced during the interview was a concern. Reduction of interviewer bias was built into the design of the qualitative phase of this assessment. Questions were developed to be open-ended questions and non-leading. A script was developed to include question prompts and was followed throughout the interview process. The use of semi-structured interviews helped maintain that the discussion was participant driven. Participant comments requiring clarity were restated to the participant. Awareness of the body language of the interviewer was also considered. The interviews were performed via the Microsoft Office Teams platform. The interviewer was in a quiet location, seated at a desk with the interviewer's face visible on the screen. Each interview was audio recorded. Written notes were also taken during the interview. The notes were compared to the recording for accuracy following the interview.

The interviewer was aware that study participants might not answer each being asked or might respond to a question to be asked later in the interview. This led to purposeful construction of questions and prepared prompts. Creswell (2007) encouraged the investigator to be flexible when constructing questions, formulate questions that help maintain study participant focus, and be prepared with follow-up questions. The use of "why" questions were avoided to eliminate the

risk of inhibiting participation by study participants. Appendix H provides a summary for the Phase Two protocol.

3.6 Participant Recruitment

All students (n=194) enrolled at the DSON in both the full-time and part-time programs during the Summer 2020 semester were invited to participate in this needs assessment. Four nursing courses were actively in session; two were in the full-time program and two in the part-time program. Inclusion of the entire student body for the questionnaire was elected to increase the opportunity to obtain feedback from students in each course level and to have a larger number of participants. Ponto (2015) stated "a large random sample increases the likelihood that response from the sample will accurately reflect the entire population" (p. 169994).

3.6.1 Recruitment for Questionnaire Participants

Request for participation with a link to the questionnaire was sent via email to all students. Nardi (2018) reported that methods of survey distribution impact the rate of return. Literature was reviewed for information related to online survey return rate, finding variances from 10 percent to 30 percent. A study by Van Mol (2017) suggested that response rates on web surveys were lower, ranging between 10 and 20 percent. Lindemann (2019) showed that average rate of survey returns were approximately 33 percent, with online and e-mail survey returns at 29 percent and 30 percent, respectively.

Nardi (2018) explained that up to 30% of individuals were likely to complete a survey immediately upon receipt and the use of reminders can increase return rate to 50%. Dillman, Smyth, and Christian (2014) further suggested that response rates may also be increased by making the survey easy to access (adding a direct link), providing an explanation of confidentiality and data protection, and including information as to how participation may benefit the participants. These recommendations to improve survey responses were followed. Forty-one students (21.13%) completed the questionnaire, in alignment of the findings reported by Van Mol (2017).

3.6.2 Recruitment for Interview Participants

Two processes for recruitment of interview participants were used. First, a statement recruiting participants for the qualitative phase was included on the email accompanying the questionnaires. Students interested in participating in a dialogue were asked to contact the researcher. Five students volunteered to participate and agreed to an interview. Each agreed to participate. Second, fifteen additional participants were randomly selected from the students enrolled the Summer 2020 semester from both the full-time and part-time programs.

Determining the number of interviews for this phase of the assessment was difficult as there was no agreed upon number evident in the literature. Numbers ranged from five to fifty for qualitative research exploring group phenomena. A study by Hennick, Kaiser, and Marconi (2017) found that following a review of 25 in-depth interviews, code saturation was met within nine interviews while meaning saturation required 16-24. Earlier studies by Rowley (2012) and Guest, Brunce, and Johnson (2006) recommended 12 interviews to achieve data saturation. Ten students agreed to participate in the interviews. This number was deemed sufficient for this needs

assessment based on several factors. First, a purposive sample (students enrolled at the DSON in the Summer 2020 semester) was used. Second, although this number is a small sample size, the participants were representative of a small group, diploma nursing students. Interview participants included students from each course level and each program type. Third, data collection for this needs assessment was not limited to interviews as the first phase involved questionnaires. Data from both methods provided a snapshot of students enrolled.

3.7 Data Analysis

This needs assessment focused on an exploration of student perceptions of the factors that impacted retention and/or success in the diploma nursing program. Data analysis began with review of the questionnaire responses. Responses were first reviewed by rating of each questionnaire item. The data was then analyzed through cross tabulation of items to identify whether combined factors contributed to barriers. Analysis of the interview responses was then started. Following transcription of interviews, responses were analyzed for commonalities and differences. Memos were taken on each interview. Multiple cycles of coding were completed to identify themes and trends. The next step involved a convergent triangulation process to compare questionnaire and interview responses. Turner, Cardinal, and Barton (2017) explained that convergent triangulation was used to identify the extent of agreement between the two assessment methods and how the assessment methods provide a more thorough understanding to gain deeper insight into the phenomena being studied. Each assessment method provided a piece of the answer. The factors that impacted students were identified in the questionnaire and the how and why were explored more deeply during the interviews. By using the convergent triangulation

method, connections between the two sources of data were used to create connections, uncover differences, and validate responses. Quantitative and qualitative data were first analyzed separately and then compared.

3.7.1 Quantitative Analysis

Following submission of questionnaires by participants, the analysis began with quantitative data coding. Questionnaire data were collected using a web-based electronic survey software. The software generated reports with results in both numeric and graphic displays. The numeric data was presented by number and percentage of responses for each item. The minimum, maximum, mean, and standard deviation were also provided. The software also provided a feature for cross tabulation of data. This feature was used to compare multiple variables between and among the two sections (demographic and rating of factors) of the questionnaire.

Data were first viewed by response to each item on the questionnaire. Following this first review, coding of the demographic data was initiated. Each questionnaire respondent was assigned a numeric identifier. Data was entered into a simple pivot table as it was received. This table helped track data for individual participants. The first pivot table included all questionnaires. A sample of this data appears in Appendix I.

Following review of the pivot table, a set of pivot tables was created based on the nursing courses the participants were enrolled in. These tables were created to determine whether significant differences existed between students enrolled in different course levels. A third set of pivot tables were then created based on enrollment in the full or part time programs. The numeric identifiers assigned with the first pivot table remained unchanged on the subsequent tables (i.e., Student identified as 001 remained as 001 on each subsequent table created). Pivot tables were

created using Microsoft Excel. All codes were recorded in an electronic codebook using both Microsoft Word and Excel. This process was replicated for the second part of the questionnaire (ratings of factors impacting success). Following the closure of the questionnaire, the reports were used for summary of data for each item.

Analysis of questionnaires was done using descriptive statistics. Descriptive statistics helped to describe what the data from the questionnaire showed. Descriptive statistics aided in the description, evaluation and summarization of data collected. Descriptive statistics helped condense the multiple measures into a format that was easier to manage. This data identified the differences and similarities among students within the nursing program.

Univariate analysis was first used to examine each variable. Frequency of distribution displayed as percentages were obtained from questionnaire data reports. The visual representation (graphs and data tables) assisted in understanding relationships existing among the reported variables impacting student success. Measures of central tendency were used to summarize the most common response for the data collected. Median and mode were selected to analyze the Likert scale responses. Attention was initially focused on items that rated in the supportive (moderately and greatly supported) and restrictive (moderately or severely restricted) categories.

Consolidation of the raw data into tables and graphs provided a simplified view of the spread of responses, themes, and items that seemed to be outliers among participants. The tables served as valuable tools during the calculation of median and mode by having the number easily accessible. Manikandan (2011) explained that organizing responses with tables or graphs helps to see emerging trends. The reports summarized survey responses as tables or graphs followed by statistical data including percent of responses to each item, mean, and standard deviation.

Further analysis of the data was done using cross tabulation. Polit and Hungler (1999) defined cross tabulation as the "determination of the number of cases occurring when two variables are considered simultaneously" (p. 699). Cross tabulation provided an opportunity to analyze relationships existing between two or more variables. This process allowed for mutually exclusive items on the questionnaire to be compared to one another to see whether a relationship existed. Items rated as supportive or restrictive to success were cross tabulated with each item on the survey, including demographic data.

Processes used for quantitative data analysis included review of individual questionnaire responses, development of pivot tables, examination of data from the reports, and cross tabulation of variables. Questionnaire items were aligned with the inquiry questions. Respondents were de-identified and assigned numeric codes. These were entered into a master pivot table. Additional pivot tables were created to reflect nursing course and enrollment status. Reports were reviewed and responses were separated based on response percentage, median and mode. Table 3 provides an overview of the data analysis process.

Table 3 Data Analysis Process

Inquiry Question	Questionnaire	Data Analysis
What are the perceived factors experienced by students that impacted their success in the diploma nursing program?	Q2* Certain factors may have restricted or supported YOUR successful goal achievement. Evaluate each item in terms of how it affected YOUR ability to remain nursing courses this semester (See Appendix E for all items)	•Questionnaire participants assigned numeric identifiers and responses entered into a master pivot table •Pivot tables for respondents from each nursing course created •Pivot tables for enrollment status (full-time vs. part-time) were created •Qualtrics reports of responses reviewed •Median and mode responses calculated •Cross-tabulation performed in Qualtrics •Themes/trends identified

What strategies, programs, or interventions were used by the students to overcome the barriers and achieve success?	Q2* General academic services Professional integration	As above

Note: Questions taken from Student Perception Appraisal-Revised Posttest (Jeffreys, 2012)

3.7.2 Qualitative Analysis

Creswell (2007) explained that qualitative data analysis involves transcript review, coding, theme development, theme connection, and formulating the narrative. The interview recordings and notes were transcribed. Transcribed data was coded soon after completion of each interview. Saldana (2009) defined a qualitative code as "a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data" (p. 3). Descriptive codes were assigned from the interview questions based on the subcategories used by Jeffreys on the SPA-R2 (Jeffreys, 2012). These included academic performance, financial needs, family support, employment issues, and family responsibilities, and nursing school support programs. Additional codes emerged from the narrative information provided by participants during the interviews. Data was coded to identify patterns among the participants. First cycle coding was used to summarize data. In vivo coding was used to capture the specific language and terminology used by students to explain their experiences. In vivo coding, also referred to as verbatim coding, was used to capture the words used by participants (Manning, 2017). In vivo coding allowed participants to express themes or

information that was of most importance to them. This first cycle coding provided a broad view of the data. Miles, Huberman, and Saldana (2014) explained that second cycle coding decreases the number of categories and groups data into themes and patterns. Second cycle coding was used to categorize responses by the main categories (academic factors, environmental factors, and professional integration factors). The categories were narrowed those identified as supportive or restrictive to assist with the analysis of quantitative and qualitative data**.** Appendix J provides an example of the second cycle coding of academic factors.

3.7.3 Qualitative and Quantitative Analysis

The results of both analyses were compared to begin interpretation of the data. Comparison began using the survey data (without cross tabulations) and the interview data from the coded tables. The questionnaire asked participants to rate the degree to which each specific item impacted success. During the interview there was not a rating for those items, but rather a discussion of whether they were mentioned and if mentioned were they viewed as supportive or restrictive to success. A convergence coding matrix was created to provide a side-by-side comparison of the responses of the qualitative and quantitative data. The ability to visualize the data on one matrix provided for easier analysis of agreement or discrepancy between the responses from the questionnaires and the interviews. The next step involved comparison of multiple variables. Questionnaire variables items that were cross tabulated were compared to interview responses using the same variables. For example, the responses of the impact of personal study hours in relation to hours worked weekly were reviewed. The responses from the questionnaires were compared to those from the interviews. Comments from the interviews were used to confirm convergence, dissonance, and to provide clarity as to interpretation of items.

3.7.4 Methodological Limitations of the Study

Approximately 21% of students enrolled at the DSON participated in this study during the Summer 2020 semester. Limitations of the study were impacted by the time frame of the study. First, students who have dual enrollment in the DSON and the University partner were not actively enrolled during the summer. Students in this program are enrolled in Fall and Spring terms. This population, who represent the traditional college student, may have identified different factors impacting success in their nursing courses. Second, the study was implemented during the COVID-19 pandemic. The COVID-19 pandemic placed restrictions on the ability of the DSON to deliver the educational program in person. Virtual delivery of both clinical and classroom instruction began in late March 2020. Although students were able to return to in person clinical in early July 2020, they remained virtual for theory and examinations. The virtual environment prevented opportunities to post reminders of the questionnaire at the school leaving all communication to occur electronically. The impact of COVID-19 may also have impacted student responses due to the changes posed by the virtual environment.

4.0 Findings

This needs assessment was undertaken to explore the phenomena surrounding attrition rates at the DSON. The inquiry questions focused on providing an understanding of the factors that impacted student success and any strategies used by students to mitigate factors that would have a negative influence on their success. The study was conducted to answer the following inquiry questions:

1. What are the factors experienced by students that they believe impacted their success in the diploma nursing program?
2. What strategies, programs, or interventions were used by the students to overcome the barriers and achieve success in the program?

A mixed methods approach was used to compile data for this study population. The exploratory sequential design was used to allow for the collection of quantitative data (questionnaire) followed by qualitative data to provide meaning.

The findings from this needs assessment are described in this chapter. The information is presented using Jeffreys's NURS Model framework (student profile characteristics, academic factors, environmental factors, professional integration factors, student affective factors, and outside surrounding factors) adopted for this study (Jeffreys, 2012).

4.1 Student Profile Characteristics

The student profile characteristics provide the demographic detail for participants on both the questionnaires and interviews. The three student profile characteristics that had most significance to this study were age, employment, and enrollment status. Table 4 provides a summary of student profile characteristics.

Table 4 Student Profile Characteristics

Characteristic	Male Questionnaire N=4	Male Interview N=3	Female Questionnaire N=37	Female Interview N=7
Age (years)		NA		NA
<25	2		11	
25-29	0		12	
30-39	2		9	
40-49	0		4	
50-55	0		1	
Race/Ethnicity				
Black/African Amer	0	0	1	1
Hispanic/Latino	0	0	2	1
Multiracial	1	0	0	0
White	3	3	34	5
Marital Status				
Single	2	1	27	3
Married	2	1	9	3
Divorced	0	1	1	1
Dependent Children				
Yes	2	2	16	3
No	2	1	21	4
English as 1st Language		NA		43
Yes	4		36	
No	0		1	
Previous Education		NA		NA
High School Diploma	2		25	
GED	0		1	
College (other)	2		11	
Previous Healthcare Experience				
None	3	1	12	3
LPN	0	0	2	0
Other	1	2	23	4

Characteristic	Male Questionnaire N=4	Male Interview N=3	Female Questionnaire N=37	Female Interview N=7
Employed				
Yes	4	3	28	4
No	0	0	9	3
Enrollment Status				
Full-Time	3	1	24	5
Part-Time	1	2	13	2

4.1.1 Gender

Gender did not have an impact on student success. Most participants were white females. Questionnaire participants included 37 females and 4 males. Seven females and three males participated in the interview process. While 30% of the interview participants were male, less than ten percent participated in the questionnaire. Males were underrepresented in the study.

4.1.2 Race/Ethnicity

There was no significant data indicating race or ethnicity as a factor impacting success. What was identified was the underrepresentation of persons of color in this study. Two participants in the interview process and four on surveys self-identified as Black/African American, Hispanic/Latino, or Multiracial. This, as with the male population, was not reflective of enrollment at the DSON. Persons of color accounted for approximately 23% of the total population (UPMC Shadyside School of Nursing, 2021).

4.1.3 Age

Students aged 18 and over were included in the assessment. Twenty-eight questionnaire participants were aged 25 years and older. Age was not included in the interview process. Although age did not have any significant relationship to program success, this was representative of the non-traditional college student common to the DSON.

4.1.4 Employment

Employment while enrolled in nursing school was a common theme among participants. Thirty-two survey participants reported that they were employed at the time of the survey with 20 reporting working greater than 20 hours per week. This finding was consistent to interviews with the majority (70%) reporting employment. More than half of participants in this study who were enrolled in the full-time program also reported employment. Employment was found to have a negative influence on program success.

4.1.5 Dependent Children

More than half of the respondents reported having no dependent children. Participants with children, however, found that family responsibilities and childcare issues often conflicted with school and influenced program success A similar finding was seen among participants with children who were employed. This information is further discussed later in this chapter.

4.1.6 Marital Status

Most participants identified themselves as single or single living with a partner. Marital status did not demonstrate an impact on program success.

4.1.7 Prior Education

There was no significant correlation between prior education and program success. The data captured on the surveys found that the majority reported completion of high school as the highest level of education completed. An additional 30% reported completion of non-nursing college degrees.

4.1.8 Previous Healthcare Experience

Previous healthcare experience was not found to be indicative of program success. Twenty-six survey participants and 6 interview participants reported having previous healthcare experience. Two of those reporting previous healthcare experience were employed as Licensed Practical Nurses (LPN). The type of healthcare experience (i.e., employment, volunteer work, patient experience) was not distinguished on the survey. This was, however, established during interviews from which interview participants reporting employment in the healthcare field.

4.2 Inquiry Question 1: What are the Factors Experienced by Students That They Believe Impacted Their Success in the Diploma Nursing Program*?*

This section describes the combined findings from the questionnaires and interviews. The findings are reported by each of the primary categories: academic factors, environmental factors, professional integration factors, student affective factors, and outside surrounding factors. Findings from quantitative data showed that participants rated most factors as supportive to their success. Among those identified as most supportive were personal study skills and study hours, family support and encouragement from outside friends, faculty advisement and helpfulness, and encouragement by peers in class. Employment hours were rated as the most restrictive to success. A summary of the findings is presented in Figure 6 at the end of this section.

4.2.1 Academic Factors Supporting Student Success

Participants' perceptions of academic factors included study skills, study hours, class schedule, and the nursing skills laboratory.

4.2.1.1 Personal Study Skills and Personal Study Hours

Personal study skills and personal study hours were found to be factors reported by students as supportive to success. Students rating these areas as supportive, also had passing course grades.

Personal Study Hours. Personal study hours were found to be supportive to student success. Although participants did not identify a specific number of hours required for studying, they addressed the importance of the quality of the time used for studying. Quantifying the

number of study hours needed varies with each student. According to Jeffreys (2012), personal study hours are considered those hours which focus on "positive study activities in which positive study behaviors and positive study attitudes are actively used" (p. 81). Participant I5 shared:

> "Balancing home and school life balance is a challenge. My daughter was only nine months old when I started the program. I have to student away from the house which limits my study time to three or four hours. So I have to use that time efficiently."

Personal study hours contribute to student success, however, there are situations that negatively impact those hours. During the interviews, the themes of establishing life-school balance and time management emerged. Factors that interfered with personal study hours included family responsibilities and employment. Interview participants shared personal experiences of situations that interfered with their study hours, as well as speaking on behalf of members of their peer groups.

For I2, family responsibilities influenced her personal study hours. "In the beginning I struggled with school and trying to be everywhere for my kids." Other students reiterated the barriers encountered for studying in relation to family responsibilities and employment. According to I4, family responsibilities were prioritized over her personal study hours:

> "I had a lot of personal things going on. My grandfather died then my grandmother became ill. I was trying to plan a wedding, raise kids and was working. But I'm a mom first and I had to learn how to plan better."

As a working father, I6 shared that he experienced "difficulty focusing due to competing family responsibilities" adding "time management transcends everything." Another working father, I9, reported the need to find balance "I was recently divorced. I'm raising two children and I work as a patient care technician."

Another participant, I7, stated "Time management can be an obstacle. I do not have family responsibilities personally. I work eight to twelve hours a week but can balance that with school.

But this is difficult for people with families." Comments on time management were also shared by I10 when asked about challenges to personal study hours. "Time management. Being able to set time aside to study and set time for yourself."

Restrictions from the COVID-19 pandemic were addressed. Participants indicated that not having to travel to school did provide more time to study but as their responsibilities at home increased, they felt they had less time to dedicate to their studies.

Personal Study Skills. Participants stated that having strong study skills helped them progress through the program. Most reported the need to adapt personal study skills early in the program.

Participants commonly noted that nursing examinations were different than examinations they had experienced in their past educational experiences. Test items on nursing examinations are designed to challenge students to critically think. Each test item represents a clinical scenario in which the students must apply their knowledge to determine the most appropriate nursing action.Participant I7 shared "the types of questions are different, learning the priority setting frameworks, finding the most correct answer challenges your critical thinking and takes time to develop especially if you are new to heath care." Another student, I8, reported a lack of preparation from high school. She stated "I struggled with learning how to answer nursing questions. I just passed the first semester by the skin of my teeth."

Participants reported the need to modify their personal study skills to adapt to nursing questions. I3 indicated that "learning test-taking strategies and study skills early" strengthened her personal study skills. One participant, I4, who had been away from an academic setting for over ten years stated that "Returning to school after that period of time required me to change the way I had studied in the past." Following adaptation of their study skills, they reported success.

Participants noted that during the COVID-19 pandemic, their study skills were somewhat strained. They reported using the DSON, peers' homes, libraries, and coffee shops as places they studied. Following closures of these locations and social distancing guidelines, they spent more time studying at home. Distractions at home such as other family members being home and children needing assistance with remote education, disrupted their ability to study. They also shared that being in the same environment for class, clinical, examinations, and to study interrupted their study skills. This unforeseen situation led to the need to again adapt their personal study skills.

4.2.1.2 Class Schedule

Questionnaire respondents reported the class schedule as supportive to success. This was also true for interview participants enrolled in the part-time program. They reported that the flexibility of offering class in the evening and clinical experiences on the weekends. For I10, the availability of the part-time program was a factor that supported her decision to choose the DSON. "It was convenient. I could go to school around my full-time job."

Participants in the full-time program, however, reported that the class schedule was a barrier to their success. They expressed the lack of flexibility in scheduling to be limiting. I9 stated that the DSON "should allow more choice of clinical days and class days when possible. This helps working parents with their scheduling needs." These comments were echoed by I8 "It would be nice to have earlier notice of which days clinical and class will be each semester. It's difficult to adjust for babysitting and stuff when this changes in such a short period of time." When asked as to why they had not selected the part-time program, participants reported the program length of full-time was more appealing and would help them begin working as a nurse in less time. They also reported working shifts and weekends as a reason for selection of the full-

time program. The ability to select the program option that best suits personal needs was influential to success.

4.2.1.3 Nursing Skills Laboratory

The nursing skills laboratory was the only general academic service found to be supportive. The nursing skills laboratory was the primary environment for clinical education in the first semester. Usage in subsequent semesters decreased as students were in the clinical setting. The nursing skills lab was used for skills training and open lab learning sessions.

Two interview participants discussed the values of the nursing skills laboratory to the overall success in nursing school. Both spoke of the opportunities to practice skills and engage in simulated patient activities in a safe environment. Participant I6 stated “We used the skills lab a lot during the first semester and it was great. After that we barely used it and it could have helped.” Although both found value in use of the nursing skills laboratory, they commented on the need to update the equipment. Participant I2 stated “I’ve seen amazing state of the art sim labs and was able to learn a lot of skills there. Ours is outdated.” And Participant I6 indicated that “some of the equipment is old or doesn’t work.”

4.2.2 Academic Factors Restricting Student Success

There were no academic factors found to restrict student success. Academic Factors Found to Have No Impact on Student Success

The computer laboratory, library, counseling, and college tutoring services (general academic services) were found to have no impact student success. Limited access to the services at the time of the study due to the COVID-19 pandemic may have affected the responses.

Counseling services, however, was addressed by two interview participants. They had conflicting experiences with this service. Interview Participant I4 reported the counseling service as supportive to her success as she experienced numerous personal issues while enrolled. “I did use it [counseling service] to help get through the challenges in nursing school and my personal life.” Participant I2 saw the service as restrictive to her success. She was undergoing a great deal of stress and lack of support from her family “It didn’t help me. I reached out for support but could never connect with a counselor. I had to get through this alone.”

4.2.3 Environmental Factors Supporting Student Success

The environmental factors found to support success were finances, family emotional support, encouragement by friends outside of school, transportation arrangements, and living arrangements.

4.2.3.1 Finances

Financial status and family financial support were the two finance related factors found to be supportive. The median family income reported by students completing the questionnaire was between $20,000 and $50,000 annually.

4.2.3.2 Family Emotional Support

The rigor, time commitment, and emotional component of the diploma nursing program can be obstacles and barriers to student success. This study found that family emotional support had great influence on program success. Interview participants discussed that without family support, they do not believe they would have been successful. For I1, this is the second nursing

school she has attended. Her mother, who was battling cancer, provided her the support and motivation she needed to enroll at the DSON to pursue her dream. Another student I5 recently divorced and was raising her children. “I had family supporting and encouraging me to enroll. They knew I could do this.” Participants acknowledged that they had to make sacrifices during this often preventing them from participating in family activities.

The importance of family support is explained in this example. Student I2 shared how the lack of family emotional support interrupted her academic progression early in the program. This may have been a contributing factor to a course failure:

> “My husband and children were not supportive. There were many arguments over the time commitment. This almost led to a divorce. I did call [EAP] for support, but pretty much managed on my own. It has gotten better, but there is still tension.”

4.2.3.3 Encouragement by Friends Outside of School

Encouragement by friends outside of the nursing program was overwhelmingly found to be supportive to student success. Jeffreys (2012) reports that friends can have negative or positive impact on success and retention. For example, situations in which nursing students are pressured by friends to engage in outside activities that conflict with school responsibilities can lead to negative consequences. Alternately when encouragement and support is offered by friends, positive outcomes can be seen. These positive interactions can lead to student retention and success.

Interview participants shared that their friends and co-workers were instrumental in their decisions to enroll at the DSON and served as support networks. Participants I4 and I9 reported that they each had friends who were students at the DSON. They encouraged them to pursue their education and were available for guidance as needed. provided guidance. Participants I6 and I10 further explained the type of support they received. According to I10 “my clinicians and

physicians at work know I'm in school. They spend time helping me understand the material." And I6 explained "I was fortunate that friends in my Church helped me with childcare." This enabled him to balance employment, school, and family responsibilities. Participants received moral support, academic support, and childcare support from their friends. They further shared that their friends rescheduled social events so they could attend.

4.2.3.4 Living Arrangements

Living arrangements were reported as supportive to success by most questionnaire respondents. This factor was not addressed during interviews.

4.2.3.5 Transportation Arrangements

Questionnaire respondents reported transportation arrangements as supportive with most reporting a travel time of less than 60 minutes. Two interview participants addressed transportation and commute time during the interviews. Although neither indicated this as restricting or supporting success, they both addressed their abilities to use the commute time efficiently. One has a commute time of one hour and the other approximately two hours. According to Participant I3, "I knew the commute was long when I picked the program. I use the time to my advantage as I listen to my recorded lecture."

4.2.4 Environmental Factors Restricting Student Success

The three factors reported to be restrictive include employment hours, employment responsibilities, and family crisis.

4.2.4.1 Employment Hours

Of all the factors, employment hours were found to be most restrictive in both questionnaires and interviews. This is particularly important because over 75% of the participants reported being employed while in school which seems to be common among higher education institutions. Participants working more than ten hours per week were most likely to report employment hours as restrictive due to the impact on study hours. One finding of note is that was participants working more than 30 hours per week also rated personal study skills and personal study hours were viewed as restrictive.

During the interviews, discussions regarding employment hours were intertwined with financial factors. More than half reported employment. The interview participants shared that having to work while attending school was not optional for themselves and many of their peers. Participant I6, who was employed full-time, indicated that he needed to work to support his family. The interview participants provided a perspective that needed to be heard. Students work because they have financial obligations and responsibilities. The interview participants did not, however, indicate financial status as a barrier to program success.

Information communicated at the beginning of the program was imprinted on I9's mind. "Don't start us off by saying 'if you work you cannot do this program.' This is deflating. You need to try to understand the needs of the students." He further explained that, as a single father, he needed to work to support his family and a career in nursing would provide more financial stability. None of the interview participants disclosed whether they were receiving any type of federal or state aid, but half did report tuition reimbursement was offered by their employers. The benefit of tuition reimbursement demonstrates an additional factor contributing to students' continued employment while in school. Employment of postsecondary students assist with school

costs and personal expenses but can have positive or negative impact on academics (U.S. Department of Education, Institute of Education Science, National Center for Educational Statistics, 2020).

Participants enrolled in the part-time program reported that despite the flexibility of the program, they were often tired after working all day and then coming to school. According to I10 “after a certain point your brain shuts off for the day.”

4.2.4.2 Employment Responsibilities

Questionnaire respondents found employment to be restrictive to program success. Deeper analysis of the data revealed that more than half of respondents who reported employment hours as restrictive provided the same rating for employment responsibilities.

Does the type of work environment and associated responsibilities support success in the nursing program? Based on interviews that answer is maybe. More than half of the interview participants identified that responsibilities associated with being employed in a healthcare setting supported their program success. I2 found that her responsibilities as an EMT helped her. She had exposure to medical terminology and skills that enhanced her success in the DSON. Another participant, employed as a patient care technician (PCT), added his perspective based on his clinical experience. He stated “I feel bad for the younger students without health care experience” stating his ability to apply knowledge to the clinical component of learning at the DSON. One participant who started working as a PCT following her first semester in the nursing program stated “Having no health care experience was a little challenging. You don’t know what to expect. There was that initial fear of just walking into the room and talking to a patient.” She believed her role as a PCT was a factor contributing to her success.

Does the type of employment (role) impact success in the nursing program? The answer is yes. For I7 “Working as a PCT can be a challenge because you choose answers based on what you see and do as a PCT.” The role of a PCT is often task focused and they are trained for a specific skill set. The role of the nurse requires using baseline knowledge to make clinical decisions to deliver safe, quality patient care. Another participant shared that working in a non-healthcare field, “everything is new and different. What I do really doesn’t help me in school.” Participant I5 expressed that although she did not work in a healthcare field, her previous work experience helped her learn to be organized and develop time management skills which are both skills that contribute to success.

4.2.4.3 Family Crisis

Although few participants mentioned family crisis during the interviews, discussion surrounding this factor is warranted. Family crises interrupted academic and program progression for two participants but then served as a motivating force for the participants to continue their nursing education.

Participant I1 had shared that her mother’s illness and ultimate death had impacted her attendance leading to a failure while enrolled in another nursing program. Participant I4 indicated that multiple issues (grandparent illness, death, and divorce) impacted her ability to study and “do as well as I should have. “Despite these crises, and a break in enrollment, both returned to complete their education. For participant I1, her mother had been her champion, and her death served as a further motivator to be successful. “My mom was going to bring yellow balloons to my graduation to release in celebration. I want to do this for her.” Participant I4 used the time off to reevaluate her life, “get on track” and continue.

Two other students reported how a crisis led to their decision to become nurses. Participant I9's grandfather was battling cancer. Observation of the compassionate nursing care his grandfather received helped him realized he wanted to do the same for others. Participant I8, experienced a situation in which a co-worker had a myocardial infarction, but no-one knew how to intervene. She reported that she felt helpless standing there watching. Although this was not a family crisis, she experienced an internal crisis. "I realized that I could not be a person who stands back and watches."

4.2.5 Environmental Factors Found to Have No Impact on Student Success

Childcare arrangements and family responsibilities as neither restricting nor supporting student success. Fewer than half of the total respondents had dependent children and acknowledged adequate support for childcare needs.

4.2.5.1 Family Responsibilities and Childcare Arrangements

Family responsibilities and childcare arrangements were found to have no impact on student success. When ratings of family responsibilities were compared to those having dependent children, it became apparent that these conflicting roles impacted student success. Several interview participants discussed that, although these two factors were challenging, they had access to resources and support. They did indicate that without support, family and other personal responsibilities would take priority to academics.

Participant I5 had been in college, successfully completing undergraduate work in a different healthcare profession. Her engagement with nursing professionals caused her to reevaluate her role and switch to nursing. She liked the patient contact and diversity offered in

this profession. She was a new mom when she started at the DSON. She was challenged with balancing this new role and school, often using the late hours of the evening to study. “I decided do it now or don’t do it at all.” She was supported by her husband who helps with caring for their daughter and household needs.

Participant I9 reported that he had assistance with childcare that supported his ability to manage work, school, and family. Participant I2 shared that as her children were older and more independent from her and assisted with responsibilities at home.

The interview participants shared that they witnessed several of their peers struggling with their family responsibilities and childcare needs. Participant I9 stated that she fully understood how success in the program could be negatively influenced if her children were younger.

4.2.6 Professional Integration Factors Supporting Student Success

Faculty advisement and helpfulness, encouragement by friends in classes, and nursing student support services were found to be supportive to success on both the questionnaires and interviews.

4.2.6.1 Faculty Advisement and Helpfulness

Faculty play a crucial role in creating a positive student experience, supporting student needs, providing academic and professional guidance. and engaging students in their learning. The findings support that the faculty at the DSON are positively impacting student success and may be viewed as a strength of the program.

Interview participants discussed the professional relationships with faculty helped them feel comfortable to seek out support and ask questions, build confidence in the clinical setting,

and let them know that the DSON cared about them. They addressed the support they received for classroom learning. I10 shared “The faculty was available. When I had a question on a concept, I could easily reach out.” This was corroborated by students I1, I2 and I3. I4 commented “It is difficult having different faculty presenters during the semester. They have different styles and expectations. But when I reached out for guidance, they were available.” And I5 stated “I could reach out via email and faculty offered to meet with me, even using Teams when we switched to virtual.”

The first clinical experience or subsequent clinical experiences in higher acuity settings can be unsettling for students but are crucial to their learning. I6 stated “The faculty were supportive and understanding in these situations. They had to push us in to the room but didn’t leave us.” Faculty provided guidance and ongoing feedback that supported student achievement of the clinical learning objectives.

Two students who had experienced a course failure indicated that they had very negative thoughts toward the DSON and did not know whether they wanted to return to complete the program. Both reported having unsolicited contacts by faculty members following their failures. The faculty members engaged them in conversations that helped redirect the negativity and made them feel that the DSON did care about them. I10 shared “She [the faculty member who taught the course she failed] reached out to check in on me and offer her support to help me get back to class and pass. It boggles my mind that I thought about not coming back.” I1 had been in another nursing program in which she was unsuccessful before transferring to the DSON. Although she did fail one course at the DSON she stated “You want us to be successful. You reached out. I feel like I belong here.”

4.2.6.2 Encouragement by Friends Within Classes

Encouragement by friends within class was found to be supportive to student success. Interview participants spoke of the support and comradery that they developed within their cohorts. They discussed that relationships started as study groups but developed into support networks. Participants discussed how they engaged with their peers to prepare for exams. They indicated that the study groups are typically no more than five students. I7 shared how students learned from one another "I meet with my peers before the exams. We review the outlines related to the concepts and we teach one another the material." For I8 "We share notes and we study together. This helps me stay competitive. I don't want to be the one telling the group I failed an exam." I5 shared how she brings strategies she learned from ASP to her group.

The relationship of the group was found to extend beyond a study team. For I2 "I have established lifelong friendships. This bond is important. We form our own groups, and we support one another." And I4 added "I stayed in touch with my class from before. We became a family to help each other through the program. The cohesiveness of the group was very important to my being successful." For I10, returning after a failure to a new group of students was a concern "I was on edge about coming back. I kept in touch with my former class, and they still help me."

I5 discussed how her group supports individual needs of its members.

"We used to study after clinical but then went virtual. My study group has been flexible to my needs because of my daughter. They changed their availability so we could get together after my daughter goes to bed."

A concern shared during the interviews involved the practice of the DSON to randomize class and clinical assignments each semester. This seems most disruptive for students in the full-time program as they are often split into two different cohorts. For I8 "I had established a close

bond with my group during the first semester. Some failed and the rest of us were split apart in the next semester. We had trouble finding time to get together."

4.2.6.3 Nursing Student Support Services

Nursing student support services were found to be supportive to student success. Each of the interview participants acknowledged the Academic Support Program (ASP) when discussing support services at the school. They each reported at least one encounter with ASP (lab sessions, orientation, workshops, or individual meetings) during the nursing program. They found this service to be supportive to success. They did, however, indicate that having only a few faculty members available in ASP made it difficult to schedule meetings.

Participants shared a variety of ways in which they engaged with ASP. Two participants recalled the ASP sessions that were embedded in first semester labs, while the remaining six reported meeting individually with ASP following examination failures. The tools, resources, and strategies provided by ASP were instrumental in supporting this group of students. Participants also mentioned key concepts provided by ASP that were beneficial to their success in both theory and clinical. These included priority setting frameworks, nursing process, concept mapping, and use of the concept outline.

The experience for I1 with ASP started off challenging but proved to be beneficial. She noted that the ASP faculty was also her course instructor in the first semester. She stated that this faculty was "abrasive" and often "dismissive" of student questions in class which made her reluctant to seek support. After receiving a failing grade on an examination, she did schedule an appointment. She shared that the tools and support she received was valuable and engaging with the ASP faculty made her realize that "can truly be your best resource for success."

Students I5 and I6 indicated that they used ASP primarily to review their examinations and discuss the questions missed. I5 stated that although this was helpful, the ASP person was not the "content expert" and was unable to consistently provide rationale. "It helped to work through the questions, but I needed to get to the why." She reached out to her course faculty for assistance. Resources provided by ASP were beneficial for students I3, I4, and I10. "I used ASP. I would reach out for support" stated I3. According to I5 "I use the strategies I learned from ASP. I use them with my study group to get to the why." And I10 stated "I did use ASP. It provided a lot of new resources that are helping me this semester."

Participant I1 provided a different perspective of ASP. She discussed her experience from the semester in which she failed a nursing course. "I knew who to go to. I just didn't. ASP was optional so many people do not use it. It should be mandatory." Student I4 added "There are personal and time barriers to scheduling with ASP. I personally should have used it more."

4.2.7 Professional Integration Factors Restricting Student Success

None of the professional integration factors were found to restrict student success.

4.2.8 Professional Integration Factors Found to Have No Impact on Student Success

Nursing professional events and membership in a nursing club or organization and peer mentoring and tutoring were identified as having no impact on student success by questionnaire respondents. Interview participants, however, did discuss the influence of membership in a nursing club or organization on their success.

4.2.8.1 Membership in a Nursing Club or Organization

Interview participants, I2 and I6 were both actively involved in student governance and may voluntarily participate in the student nurse organization at the DSON. They both expressed the relationships they formed with students, faculty, and directors were valuable to their experience at the DSON. They shared that they were given opportunities to provide input into the program and development of the mentorship program and an ability to design service activities for students. Participant I2 identified that she attempted to engage her peers in activities, but time constraints were for many. Participant I6 stated "Team building is important. We need to have ways to connect with peers. There are SNAP opportunities that can provide this. Busy schedules and social distancing have limited this." The significance of peer support and opportunity to engage in professional activities to connect students to the nursing profession were perceived as factors that could contribute to success in the program.

4.2.8.2 Peer Mentoring and Tutoring

Despite the questionnaire finding, interview participants share detail related to informal peer mentoring and tutoring processes at the DSON. They discussed the benefits a mentoring process would have on their ability to enculturate into the DSON and support success. Participant I7 stated "In the beginning of the program provide more opportunities to meet with upper-level students, make contact, hear ideas for success, and provide tutoring." Participant I8 felt that peer mentors could "Help to provide more insight into what to expect in upcoming semesters. It's not very clear." Participants I2 and I6 shared that discussion regarding peer mentoring and tutoring occurred in both student governance and student nurse organization meetings.

Participants viewed the study groups as informal peer tutoring. They shared how study group members brought different skill set to the group for studying and learning. Within the study

groups, they would often assign a concept to an individual who assumed the responsibility for teaching that information to the group. They would teach and provide opportunities for teach back allowing the group members to identify inaccurate or missing information.

4.2.9 Student Affective Factors

Student affective factors include cultural values and beliefs, self-efficacy, and motivation. Responses in this category were extracted from interviews. During the interviews, there was no discussion of cultural values and beliefs. This section, therefore, will focus on self-efficacy and motivation. Their stories emphasize the confidence they have in their abilities to be succeed and the underlying factors that motivate them. The first section will share stories from participants who experienced a break in enrollment and the second section will share those from students who have experienced other internal obstacles. These participants have demonstrated that self-efficacy and motivation are factors that support success.

4.2.9.1 Self-Efficacy and Motivation Following Break in Enrollment

Participant I1, had been unsuccessful in another nursing program prior to enrolling at the DSON. She had been strongly supported by her mother to pursue her dream of being a nurse. Her mother planned to greet her at graduation with yellow balloons. Sadly, she was stricken with cancer and passed away. Due to her mother's health, I1 had been terminated from the previous nursing program for attendance issues. "My desire to be a nurse increased as my mom battled cancer. I knew I could do it. I am self-motivated to succeed." During her enrollment in the DSON, I2 failed a course leading to a break in enrollment. This did not stop her from persisting. "I know

I can do this. I know what I needed to do. I'm going to get my yellow balloons." I2 reported her self-efficacy as her faith in her ability to be successful. Her mother's legacy was the motivation.

Participant I2 started her career with a degree in gerontology. She wanted to be "more clinical" in her role and started nursing school over 16 years ago. She withdrew to raise her family. Her return to nursing school was challenging and she was unsuccessful in the second semester, but she returned. She stated, "I am a very driven person, and I am finishing this." I2 identified she had the knowledge, skills, and life experience to be successful. "It [nursing school] is a journey. It beats you daily. It's an emotionally draining program – it's the nature of the program. You have to ask how badly do you want this?"

For participant I3, an illness interrupted her first semester leading to a medical withdrawal. She identified that she had the ability to be successful despite the level of difficulty. "You really have to want it and have to want it on the level you are getting it."

Participant I4 was driven by the desire to provide for her children. She encountered personal and family issues while working and going to school. She had a course failure in the seventh semester (part-time students have eight semesters). She accredited the failure to multiple issues, the difficulty of the course and internal factors. "Even in a Utopian world you cannot fully prepare. They were my fears, my anxieties." She is confident that she will succeed. "I get out of bed in the morning for my kids. But I do have my own dreams and plans."

Another participant, I9, had failed a science course. He was frustrated with himself and the financial situation he was faced with. He believes in his academic ability and the knowledge he has gained throughout his life to support his success. He is motivated by the opportunities a career as a nurse will provide to him and his children. "You have to know you want this."

4.2.9.2 Motivation and Overcoming Internal Obstacles

Two interview participants shared life events that stimulated their drive for success in the nursing program. Each, however acknowledged an initial hesitance to seek out available support. They noted that were motivated to be successful and once they recognized their personal limitations, they found the confidence to seek help.

As a father of a young daughter, participant I6 left his studies in engineering for "something challenging and exciting." He stated that he wanted to do something that "would make my daughter proud." Although he reported doing well in the program, he was reluctant to ask for help. He was uncomfortable asking questions in class. He believed that his lack of healthcare experience was a deficit and that his peers "knew more". This also led to his failure to seek out faculty for clarity of concept information presented. He believed that the ability to build confidence and ask questions helped him to be successful. He soon realized that he was not the only one with questions and became an "active" learner. He stated that his confidence and skills developed over time. "These come as you grow in the program, you grow as a person."

The vision of seeing her coworker suffering from a heart attack, while everyone stood by not knowing what to do, haunts Participant I8. That feeling of helplessness was a trigger for her to pursue a nursing career. "I can't be the person who stands by and watches." She shared that she "struggled in the first semester" needing to learn how to "adjust to nursing style" questions. She admitted her pride was a barrier to seek out support. Following the first semester, she accepted that she needed to reach out for support. She was successful through the second and third semesters of her nursing courses. "I don't want to be the one saying, C's get degrees." She became confident in her abilities and developed better critical thinking skills. Her competitive nature was

a motivating force. “I’m very competitive. Especially with my husband. He is successful. He did it, I’m going to do it too.”

4.2.10 Outside Surrounding Factors Supporting Success

The COVID-19 pandemic was an outside surrounding factor that forced higher education institutions across Pennsylvania to change the model in which education was delivered. The DSON is not an institution with a distance education program. Dispensation was given by the federal and state governing organizations and the accrediting agency for the DSON to adjust delivery methods to include virtual learning. Students at the DSON were given one week off in March 2020 as the faculty were prepared to switch to a virtual learning model for classroom and clinical education. The flexibility of virtual learning proved to be one component supporting student success.

Despite some initial trepidation related to the virtual environment, the students interviewed reported overall satisfaction with the continued delivery of their education in the virtual format. Participants reported mixed reactions to the idea of online education but were grateful that there was not an interruption to the Spring or Summer semesters. Participant I2 stated “I never liked online learning. I struggled with it. But I’m doing better that expected.” For Participant I1 “No one expected it to work. I was impressed with the school’s adaptations to virtual and proud of my ability to do it.” I8 shared that she was “having the best semester ever” as she had no concerns with learning in an online format. Another positive aspect was provided by I3. “Being able to have virtual clinical was a benefit. I liked the ability to connect the virtual patient to the class concepts.”

Participants addressed how being virtual helped them with scheduling and balancing school with other responsibilities. For participant I5, this helped with her “school-life balance.” She was able to learn from home and did not have to worry about childcare needs. This was also the case for participant I9. “It provided me with some relief. I had more flexibility with my childcare and scheduling. It was also beneficial for testing.” Participant I2 stated “It was easier being at home.”

Participants also noted flexibility provided to students in the virtual environment. They connected this to additional time to complete assignments, immediate verbal feedback on assigned work, availability of faculty to assist, and leniency in relation to attendance issues. I6 commented “Expectations were a little more relaxed. There was a little more grace granted to students.” This was also acknowledged by participant I3 “Virtual provided a bit more flexibility than we had before”.

4.2.11 Outside Surrounding Factors Restricting Success

Consequences of the COVID-19 pandemic also introduced barriers that were viewed as restrictive to success. Interview participants reported minor technology related issues. Shortly after switching to the virtual environment, participant I3 had a problem related to the internet connection which led to her being late for the scheduled clinical experience start time. “At first I was penalized for being late. It was unfair as I was trying to connect but could not.” She reached out to the Directors with her concern, and she was not marked as late or absent for the experience. She was pleased that the DSON recognized that students may encounter unforeseen issues with technology and granted leniency. Participants reported that the remote testing feature worked well for them but shared a few of their peers were not so fortunate. The remote testing product added

functionality for video recording of the student during the exam. The product was not compatible with certain devices owned by students. These students had to purchase new devices or find a device owned by a friend or family member with the specifications required for the product. The number of students required to purchase new devices could not be confirmed.

Another challenge created by virtual education was the separation from the in-person learning environment. This was reported as a barrier for both clinical and didactic learning. Participants I7, I9 and I10 spoke to the inability to have direct contact with actual patients. They were complementary of the virtual clinical learning activities but identified the personal connection and learning that is lost. Participant I7 stated “Being away from clinical you’re unable to interact with a real person.” For participant I9 “younger students who don’t have patient care experience may be missing out while clinical is virtual.” He related this to the inability to have on hands on experience with skills. I10 missed the clinical environment “It’s hard being away from the clinical setting for learning.”

Inaccessibility to the physical environment proved to be problematic. Participants I1, I5, and I6 addressed the difficulties they encountered being away from the school setting. I1 shared that she “needs more structure and does not learn well at home.” The school environment limited distractions and provided physical contact with the faculty presenting the content. A similar concern was reported by participant I5 “We would study at school before and after classes and that’s not an option now.” She stated that she would arrange childcare to allow for this time. But when COVID-19 caused closures of schools and other public buildings such as internet cafes and libraries, there were few options outside of the home setting. This was true for participant I6. “I had trouble focusing on exams and lecture. There was nowhere to go to study.”

The lack of a formal and comprehensive test review process was also a dissatisfier to participants that they believed impacted their knowledge attainment. Prior to the switch to virtual learning, students were able to review exams in a group setting with the faculty. Students were provided rationale and were able to discuss questions. One-to-one reviews were also available. Following the switch to virtual, students could not see the items missed and faculty could only discuss the concept behind a question. The change in format of test review was addressed by participants I2, I5, and I10. An in-person test review was preferred by participant I2 "I liked to see what I missed and why." Similarly, I5 stated "I needed to understand why I missed a question." And participant I10 shared that "I liked the individual test review so I could talk through my thinking." She needed to be able to "digest" the rationale to understand why her answer was incorrect.

4.3 Inquiry Question 2: What Strategies, Programs, or Interventions Were Used by the Students to Overcome the Barriers and Achieve Success in the Program?

The use of strategies, programs, or interventions to overcome barrier encountered by participants was not identified as a separate item on the questionnaire. Questionnaire items that correlated to this inquiry question included nursing student support services, faculty advisement and helpfulness, and peer tutoring and mentoring.

Data for this inquiry question were obtained from interviews. Participants indicated the use of resource provided by ASP and faculty, meetings with ASP and faculty, and their peers/friends enrolled in the program to overcome challenges and barriers.

4.3.1 Faculty and Academic Support Program

Interview participants shared that one of the main barriers was related to test-taking. They reached out to course faculty and ASP for assistance following poor examination performance. examinations. They shared that the interventions that best met their needs focused on learning strategies, review of examinations, and assistance with time management.

4.3.1.1 Learning Strategies

Although learning strategies were introduced during lab sessions in the first semester, many participants did not implement them. They relied upon past learning techniques related to studying and test taking.

Participants shared that they reviewed the materials provided by ASP, met with ASP and faculty, or a combination of both. They reported that learning how to apply a variety of strategies, priority setting frameworks, the nursing process, concept mapping, and use of the content outline helped to strengthen study and test-taking skills. Participant I3 was able to apply this information early in the program which she found to be a reason she was successful in the program. Participant I5 echoed this. “My knowledge of learning strategies helped me stay on track. The addition of information shared by ASP strengthened that.”

Participant I7 also implemented strategies provided by ASP but found he needed more. Faculty provided videos to complement classroom and clinical learning. “I’m a visual learner and needed more resources and options. I found videos on my own that have helped me understand the pathophysiology better. Once I connect the patho to the concept it is easier to understand.”

4.3.1.2 Examination Review

Participants reached out to ASP and faculty for reviews of their examinations. During these sessions, they further explored how to answer examination questions, by breaking down the question and critically evaluation answer choices.

Participants also discussed the benefits of post examination reviews offered by both ASP and teaching faculty. These reviews provided an opportunity for them to view questions they missed and discuss rationales for correct answers. They also felt that learning how to break down the question (identification of key words, theme of question, etc.) helped them as they prepared for examinations. Participant I7 reported that they helped him "learn to synthesize the questions to find the best answers."

During post examination reviews, Faculty and ASP engaged participants with Socratic questions comparable to the practice used in clinical and classroom settings. Participants were encouraged to use NCLEX style practice questions to strengthen their abilities to answer questions. Participants I5 and I8 found this recommendation to be beneficial. Participant I8 looked for NCLEX style questions. "I started using the test banks in our books and I found some online to get more questions. Focusing on Socratic questioning like we do in clinical helps."

4.3.1.3 Time Management and Planning

During the interviews, time management and balancing work, school, and life were discussed by participants. Faculty and ASP also discussed strategies for time management skills and planning, providing each student with a planner. Participants shared that they applied this information along with their own planning skills to find balance.

Participant I5 reflected on recommendations to schedule time daily to study. She found that setting aside time after her young daughter went to bed to study was the key. She emphasizes the importance of planning.

> "I set a plan for school and study time. My husband takes over care of my daughter during those times. Having a planner is super helpful. I block out time on the calendar and make to do lists."

Participant I7 reported working eight to twelve hours each week. "Time management can be an obstacle. I schedule time in advance and then compare to the course calendar." And participant I10 recalled the information provided to her. She ensures her plan allows her "to set time aside to study and time for myself."

4.3.2 Peers/Friends Within the School

Participants reported that their peers served as key resources to help them overcome challenges. Peers provided academic support through study groups, shared techniques for success, and offered emotional support and encouragement. Study groups formed organically. Some groups were created based on convenience based on classroom and clinical assignments, while others upon similarities among group members.

Students commented on the emotional support provided by their study groups, the ability to teach the content to one another, and the opportunity to ask each other questions on the content. Whether these study groups met in person or virtually, the students found them to be beneficial.

These study groups transformed into support groups. They provided one another with emotional support when dealing with a personal tragedy or work-related issue, during a student illness, when struggling in class or clinical, and following an exam or course failure. These groups were also there for each other to celebrate successes inside and outside of school. Despite the

availability of counseling services provided through the DSON, participants found their peers to be the preferred choice.

Participants identified the hardships encountered when the study groups were broken apart due to the failure or withdrawal of a group member. Participant I8 commented that the dynamics of the group change when a member is lost. Participants I2 and I4 shared that following their course failures, they remained connected with their peers who progressed through the program ahead of them. Both also felt there were challenges connecting with a group when they returned to the program. A similar sense of loss was expressed by students regarding the randomly assigned class and clinical days each semester. They shared that this process often breaks apart the groups upon which they had become dependent. Table 5 provides a summary of the combined responses from both questionnaires and interviews.

Table 5 Summary of Findings

	Support Success	Restrict Success	Did Not Support or Restrict Success	Does Not Apply
Academic Factors	Personal study skills Personal study hours Class schedule Nursing skills laboratory		Library services College tutoring services	Counseling services Computer laboratory services
Environmental Factors	Financial status Family financial support Family emotional support Encouragement by friends outside of school Living arrangements Transportation arrangements	Employment hours Employment responsibilities Family crisis	Family responsibilities	Childcare arrangement
Professional Integration Factors	Faculty advisement & helpfulness Encouragement by friends w/in classes Nursing student support services		Peer mentoring and tutoring	Membership in nursing club/organization
Student Affective Factors (interviews only)	Self-efficacy Motivation			
Outside Surrounding Factors (interviews only)	COVID-19 pandemic +flexibility	COVID-19 pandemic +technology issues +lack of in-person experiences in clinical		

5.0 Conclusions and Implications

5.1 Conclusions

The purpose of this assessment was to identify the factors impacting student success to inform practices at the DON. The student responses provide clarification of the factors they viewed as most important to their experiences. The ability to generalize the findings across the institution were inhibited due to low response rates and underrepresentation of males and persons of color in comparison to enrollment at the DSON. The COVID-19 pandemic which increased the amount of time spent in a virtual environment with limited face-to-face connections may have negatively impacted response rate. Questionnaires and interviews did, however, provide data from students enrolled in both the full-time and part-time programs as well as representation from students in each of the four courses. Themes identified in the interviews were consistent with those from the questionnaires.

Participants agreed that many factors were supportive to their success. The academic factors included personal study skills and personal study hours. The environmental factors included financial status, family emotional support, encouragement by friends outside of the program, and transportation arrangements. The professional integration factors supporting success were faculty advisement and helpfulness, nursing student support services, and encouragement by friends in class.

Study participants reported employment hours as most restrictive to success. They shared that employment hours often conflicted with their study time and, at times, their ability to stay focused in class. When employment hours were met with other factors such as family

responsibilities, the challenges for these participants increased. They experienced difficulties balancing competing responsibilities which had negative consequences on their success, whether it be a course failure or an exam failure.

5.2 Implications for Practice

The results of the study have important implications for the DON. Although many factors are identified in this assessment, those that the DSON has direct influence on will be discussed in the next sections. A review of the current state will be followed by recommendations. These recommendations are based on student feedback and supporting literature. The hope is that the DSON will be able to enact recommendations to create best practices to bolster student retention.

5.2.1 Academic Factors

5.2.1.1 Personal Study Skills

Students believed their personal study skills were supportive to their success. Jeffreys (2012) indicates that this response serves as a benefit for ongoing success in which students will be able to recognize areas for development and seek support when needed. She also cautions that a student's high rating of study skills may be an overestimate of actual ability which may in turn hinder support seeking (Jeffreys, 2012). During interviews, students reported that personal study skills were indeed supportive of their success. They did, however, discuss the need to adapt study skills to best be able to answer nursing NCLEX style questions. Students identified that both individual meetings and group learning sessions presented by ASP, whether in the lab or in

workshops, were beneficial to enhancing study skills. One concern presented by interview participants was that following the initial academic support sessions in the first nursing course, the strategies were not consistently reinforced until the final nursing course of the program. They felt that ongoing review of the information throughout the program would have better met their needs.

The DSON continually works on developing a more robust academic support program (ASP). The ASP presentations are aimed at improvement of student skills to support program success. Information focuses on strategies related to study skills, time management, stress reduction, and test taking. These are presented during scheduled lab time in the first nursing course of the program. These strategies emphasize development of critical thinking and clinical decision making which support student success in the nursing program, on the licensure exam, and as a professional nurse. Among the strategies are organization of notes, incorporation of the concept outline, practice questions, concept mapping. Test taking strategies are included as a component of study skills as students are encouraged to use practice questions as a study tool. Test taking strategies begin with basic tips such as reading the question and each answer choice in their entirety, identification of keywords, and changing answers. They then advance to more complex strategies which include how to answer priority questions and differentiating between comprehension, application, and analysis questions. Evaluation of student learning styles and recommendations for the most appropriate strategies to compliment those learning styles are also part of the ASP sessions. This education is presented in the first nursing course in lab and again in the final nursing course of the program which prepared them for the licensure exam. Workshops are offered intermittently throughout the program, but student attendance is minimal.

The ability to offer this learning during lab time provided all students with the opportunity to hear and engage with the information being presented. This was recognized as a program strength by students during the interviews. The ability to have regular offerings throughout the program, however, poses more of a challenge due to time constraints of both faculty and students. Following the first nursing course, lab time is replaced with clinical experiences in the hospital setting. Faculty believe that classroom time is already saturated with content. Despite workshop offerings during non-class times, student attendance is minimal. The task involves finding ways to integrate strategies into the time that is available.

Opportunities exist albeit they involve creativity and reeducation of the faculty. Faculty expect students to take their classroom learning to the clinical setting. In the clinical setting, students are not only performing tasks but are expected to critically think and make sound clinical decisions to ensure the delivery of safe, quality patient care. This is accomplished under the guidance of experienced clinical faculty. The clinical faculty assist and monitor students with clinical skills. They also challenge thinking using Socratic questioning. Students are asked not just the what, but the why.

Benner et al. (2010) suggest the inclusion of academic coaching in both classroom and clinical settings. The use of strategies in these settings will support the development of critical and analytical thinking in students (Freeman & All, 2017). Faculty now have an opportunity to flip the expectation and bring clinical to the classroom by using practice questions and learning activities.

First, practice questions should be integrated into classroom learning. The use of questions provides an opportunity to check student knowledge and to explore rationale for the best nursing action. During this process, faculty reinforce how to analyze the question. Identification of the

most appropriate priority setting framework and discussion related to rationale for each correct and incorrect answer choice becomes part of student learning.

A second method for helping students with their personal study skills involves engaging students in learning activities while in the classroom. The activities should be presented to students as methods for enhancing their learning and as study aids. Prior to the COVID-19 pandemic, faculty enhanced lecture with learning activities. This process involved planning to ensure the learning objectives were being met. Learning activities included virtual clinical scenarios, case studies, videos, concept mapping activities, and simulation scenarios. Some students preferred a lecture only format and would leave class when activities started. The DSON did observe improved scores on exams, on licensure pass rates, and clinical performance because of a more engaging classroom. As the faculty responded to COVID-19 restrictions limiting in-person learning, they shifted to lecture as the delivery method. The shift was the result of a lack knowledge, lack of experience, and limited education related to virtual education. Following more than one year of either fully virtual or hybrid teaching, faculty did not adapt the teaching continuing with the use of only lecture in the classroom. As restrictions have been lifted and the DSON has returned to in-person teaching, faculty are being expected to return to the pre-COVID-19 model of classroom teaching, Unfortunately the return has been progressing slowly as faculty have become comfortable with and students have become accustomed to a lecture format. Ongoing faculty support and reeducation by leadership is key to making the necessary changes. The DSON leadership is working with the advanced educators to provide faculty development offerings for this issue.

In addition to remodeling the classroom, the DSON leadership is also working with the advanced educators and ASP to increase workshop offerings throughout the program.

Recognizing that student attendance at workshops is poor, a variety of student-centric options are being explored. In-person, livestream, and pre-recorded sessions are being planned. In-person sessions offered during lunch breaks are being coordinated between ASP and teaching faculty. Having workshops available via these different delivery methods provides options for students and increases potential for more students to engage in a format that meets their personal learning needs and time constraints.

5.2.1.2 Personal Study Hours

Students at the DSON are advised to plan to set aside a minimum of two hours per day for studying. As this assessment indicates, however, students at the DSON have responsibilities (family, dependent children, employment) that are often in conflict with time to study. Students carrying a full credit load are scheduled for class up to 15 hours per week with an additional 16 hours for required clinical. Variation in student methods of studying makes it difficult to designate a specific number of required personal study hours. If students are not using the study time effectively, there may be little value to the amount of time they are using. Personal study hours include the "number of hours allocated exclusively to positive study activities in which positive study behaviors and positive study attitudes are actively used" (Jeffreys, 2012, p, 81). These positive behaviors and attitudes involve self-direction, planning, and having a study goal in mind (Jeffreys, 2012).

Study skills and time management are topics discussed with students during ASP session and during individual meetings. Students are instructed to limit external distractions and to identify a common place to study. During the program orientation or shortly thereafter, students are provided with a planner. Students are encouraged to enter their school schedule, work schedule, and other activities into their planners to provide a visual representation of their time.

Students are then directed to enter study hours into the planner. Students are also encouraged to devise a personal study. The ASP faculty often find that the student study plans focus on the number of hours they should dedicate to studying but inadvertently omit the quality of the studying to be done. Several students report spending hours listening and relistening to recorded lectures or writing and rewriting their notes leaving the with little time to study.

The ASP faculty often are finding the need to revisit study skills with students when discussing study time. They are adapting the information provided to students to emphasize the importance of effective studying and efficient use of study time. The SPO faculty have been charged with performing a literature review to help establish best practices.

5.2.1.3 General Academic Services

The general academic services discussed in this study include counseling, tutoring, library, computer lab, and nursing skills lab. Among these general academic services, the nursing skills lab was the only one reported as supportive to success. The remaining general academic services were found to have no impact on success. Each is discussed in the following sections

Nursing Skills lab. Participants reported that the nursing skills labs were a measure supporting success. During interviews, participants indicated that access to the labs and outdated equipment were barriers. Participants suggested that each nursing course could integrate lab experiences with the clinical experiences. Although students appreciated the online simulated clinical opportunities, they expressed concern for ability to perform hands on skills. They felt following limited in-person clinical experiences due to restrictions for the COVID-19 pandemic, there would have been value in skills practice in the lab as an adjunct to their clinical time.

Most of the clinical time in the first nursing course occurs in the nursing skills lab. Following the first nursing course, students' clinical experiences occur in the hospital setting with

no more than two of those experiences occurring in the nursing skills lab. The length of the program and ability for students to meet their clinical objectives reinforce the need to provide an adequate number of clinical experiences involving actual patients. Although simulated experiences may be used as a supplement to clinical learning, the opportunity to work with actual patients is preferential.

In response to student requests for skills practice the DSON offered open labs for students on days they were not scheduled for class or clinical. Faculty were assigned to the lab for four hours every two weeks Unfortunately, few students took advantage of the open skills lab. Revisitation of an open skills lab is an option for the DSON. Labs can be offered on multiple days based on availability of faculty. Requiring students to sign-up for spaces in open lab would enable the DSON to schedule faculty based on need. Evaluation of student participation needs to be monitored to determine whether the open skills lab is of value.

The DSON invested in the purchase of new teaching mannequins and other lab equipment since the completion of this study for use in the Fall 2021 semester. Student feedback and faculty input were key drivers for this. The DSON is working with faculty to explore ways to improve the time students spend in the lab during each of the nursing courses.

Counseling Services. Study participants found counseling services to have no impact on their success. Few students reported use of the counseling service. Of the two interview participants, the reaction to the service was mixed.

Student use of the counseling service is the first problem to address. The DSON has a contract with a counseling program to provide services for the students. Faculty, ASP members, and program directors make student referrals to the counseling program. Most referrals are voluntary providing students with an option to follow-through. Referrals are typically made to

students who have failed one or more exam, report personal issues, or display ongoing behaviors resulting in unsatisfactory class or clinical performance. Students may also self-refer. Jeffreys (2012) looked at several studies in higher education related to counseling and reported that students who use counseling services are more likely to progress through the program. Convenience, accessibility, and perceived value of counseling services are factors that increase student use of the services. Student use of the counseling service is confidential. The DSON is only provided a report of the number of students who reach out for service. When compared with the number of referrals, the number of students that follow-through is quite low. One consideration for the DSON is to make all referrals mandatory. The hardship would be determining an appropriate consequence when a student fails to follow-through with the referral.

The second problem is accessibility. The counseling service is not available directly on site and students must call to initiate services. Response times may also inhibit student satisfaction. Although having immediate onsite access to the counseling service would be ideal, that is not a component of the contract and would incur significant cost to pursue. A more realistic solution involves the institution of quarterly meetings between the DSON and the counseling service to address student issues and collaborate on workshops focused on those identified issues. One area for immediate discussion, as found in this study, is strategies to best support the needs of the working student.

***Tutoring Program*.** Survey participants reported college tutoring as having no impact on success. That most likely is due to the absence of a formal tutoring program at the DSON.

The DSON does not currently have financial or personnel resources for tutoring. Course chairs have a hefty workload. They can have as many as 200 students assigned to the nursing course they teach each semester. These students are divided into two to three sections, and the

faculty are teaching the content for each section. Each course typically has two co-chairs who teach the content, write exams, oversee the clinical faculty, address student issues from both class and clinical, and have course meetings in addition to committee responsibilities. Workload and time constraints are the most obvious barriers for adding tutoring. These faculty would not have the time to provide to all students requiring tutoring assistance. The workload of clinical faculty involves four days of clinical and one office day each week. The office day is typically spent completing student evaluations and clinical meetings, course meetings, proctoring exams, and completing committee work.

One option that exists is to offer group tutoring sessions. These could be offered to each class section weekly. The focus of each section could be related to the application of the concept. Another option is to provide tutoring via synchronous or asynchronous discussion boards. Students could post questions and faculty could lead student discussions and ensure accuracy of information posted. This could be led by course chairs or assigned to other teaching and clinical faculty in the course. This does add to faculty workload but provides another resource for the students.

Library services. Library services were reported as neither restrictive nor supportive. The DSON provides access to electronic library services and the hospital medical libraries. The issues with each involve access. Students must be at the hospital to have access to the library services. The electronic library service is only accessible to students on computers at the DSON, remote student access is not available. Consideration for purchase of access to the electronic library service for student use at home is an option, although may incur a significant financial expense.

Computer Labs. The computer labs were reported as having no impact on success. The DSON has three computer labs available for students. During the COVID-19 pandemic, however, students did not have access to the computer labs.

Computer programs that students need for learning, including access to the health system's electronic information network and email, are accessible on their personal devices. Students also have access to IT support through internal (health system) and external (textbook, testing platform, etc.) programs although they are sometimes confused as to which service to call. The DSON can simply support this by providing a reference list for students with the IT contact information for each.Delays and extended wait times for support services are student dissatisfiers. Although these are outside of the scope of control of the DSON, evaluation of these issues should be discussed between leadership and the contracted companies for possible resolution. Regular meetings with the service providers should be implemented.

5.2.2 Environmental Factors

5.2.2.1 Employment Hours and Employment Responsibilities

Although employment hours and employment responsibilities are not in the control of the DSON, they are important to discuss as they have such a negative impact on student success. Students are balancing work, personal responsibilities, and school simultaneously. The U.S. Department of Education, Institute of Education Science, National Center for Educational Statistics (2020) found that 43% of full-time undergraduate students and 81% of part-time undergraduate students were employed in 2018. Although the part-time program is a sound option for students working greater than 20 hours per week, it may not be the preferred option of students for a variety of reasons.

The DSON has long suspected employment as a barrier to success. The finding and narratives from the participants raise awareness to the great impediment working has on student success. This information also presents the reality that many students enrolled in the DSON, whether full-time or part-time, will be working while attending school.

Past and current practices involve encouraging working students to enroll in the part-time program. The DSON perceives this option as a satisfier for the working student. Why? The evening/weekend schedule provides more flexibility allowing students to coordinate with their work hours. The length of the program provides a slower pace for learning. The schedule allows for a better school-life balance.

The problem is that the perception of the DSON is not the reality of the working student. More students, traditional and non-traditional, are working while in school. Many do not have a regular Monday through Friday job. They are working nights, evenings, and weekends. Some students rely on daycare services, which are not typically offered in the evenings or on the weekends. Many students do not want to be in school for 32 months.

First, the DSON needs to acknowledge that many students need to work while enrolled in school. An understanding that full-time students have jobs needs to be shared by faculty and leadership. Working students need to hear a message that they will be supported and can be successful. This will require a culture change which can begin with a review of the study findings, a review of the literature, and discussion.

Providing support for the working student, especially when enrolled in the full-time nursing option is going to require a great deal of work. The DSON needs to further explore support programs offered in other higher educational institutions, they are seeing the same students.

Collaboration with the counseling program to design programs tailored to address the needs of this population is imperative.

Faculty and leadership have always provided flexible office hours to provide accessibility for both full-time and part-time students. As a result of practices implemented during the COVID-10 pandemic, students are offered both in-person and virtual meetings. These flexible offerings provide options to the students.

For the Summer 2021 semester, the DSON made the decision to keep students in the same cohort each semester (discussed under professional integration factors). Following a full report of this study findings, the DSON has decided to not only keep students in the original cohort, but to keep the cohort on the same class and clinical schedule for the program duration. Though the DSON has a set schedule for class and clinical rotations, this decision was made to provide students the opportunity to plan for work schedules and for arrangement of family and childcare needs. This will begin in the Fall 2021 semester.

5.2.2.2 Financial Aid and Scholarships

Financial resources were viewed as moderately supportive to success in the program. The average reported family income was between $52,000 to $75,000. Twenty-nine of the students responding to the questionnaire believed that financial aid/scholarship was a supportive factor to success. Few scholarships are currently available directly from the DSON, but many students do receive federal and state loans and grants. The financial aid department works closely with each admitted student to discuss options and provide direction. Identification and distribution of information on scholarship programs should be an ongoing pursuit.

5.2.3 Professional Integration Factors

5.2.3.1 Nursing Student Support Services

During discussion of personal study skills and personal study hours, the ASP was identified as the primary resource to the students although only eleven students reported using ASP services during the six months preceding questionnaire distribution. Interviews uncovered that the students viewed interactions with ASP as individual encounters but neglected to recognize the lab sessions as an encounter. The role of ASP needs to be clearly communicated to students and their presence consistent across the program.

At the time of the study, ASP was part of a semester workload for faculty. Most faculty assigned to this role are course chairpersons and/or teaching faculty. Faculty are assigned to ASP based on classroom teaching experience, engagement with students seeking advisement following exams, and interest in this role. According to a literature review by Freeman & All (2017) integration of these additional responsibilities are often not sustainable as it adds to an already heavy workload. The number of available faculty to support ASP varies by semester, usually no more than five. These faculty typically serve in course chair roles and are responsible for classroom teaching. An additional concern with this practice is lack of proper faculty training to the role of ASP.

Ideal practice would involve dedicating full-time resources to the ASP. Tinto & Pusser (2006) pose that faculty training is a "critical part of any long-term institutional strategy to increase its capacity to promote students' success" (p. 17). Shellenbarger and Hoffman (2016) add that faculty members taking on any type of advising role are to be provided with education on all aspects of this role which include a defined process, specific policies, tools, resources, information on the needs of the students, and access to a faculty mentor.

Changes in the leadership team and review of study findings has led to the creation of a job description for dedicated student support personnel. The DSON has been approved to hire two individuals to serve in this role. These individuals will be involved in designing a holistic student support program with emphasis on student success and engagement. The goal is to have these individuals hired prior to the start of the Fall 2021 semester.

5.2.3.2 Faculty Advisement and Helpfulness

Students felt that faculty advisement and helpfulness supported success. As discussed with ASP, sound faculty advisement requires proper faculty training and development. Faculty need to have processes and resources available to effectively advise students. Faculty helpfulness is defined by Jeffreys (2012) as a less formal interaction between a faculty and student (such as words of encouragement on an upcoming skill assessment). These professional integration factors require the presence and adherence to professional boundaries (Jeffreys, 2012). Processes, resources, and training for faculty need to be created and implemented at the DSON to ensure consistent practice.

Students also perceive a culture of inflexibility at the DSON. They reported that following the transition to virtual learning in response to the COVID-19 pandemic, faculty and leadership demonstrated more leniency with students regarding clinical tardiness and absences. They also stated that the ability to join class virtually and having access to the recorded lecture were satisfiers especially when faced with personal or work conflicts.

The DSON is hopeful that new processes that are aimed at keeping students in their original cohorts and maintaining the same clinical and classroom schedule across the program will demonstrate a commitment to developing a more flexible, student-centered culture. The DSON will also allow students to record lectures. Although exceptions related to clinical tardiness

and absences may not be feasible, the DSON will continue with a more relaxed classroom attendance policy that does not penalize students for absences while encouraging attendance.

5.2.3.3 Encouragement by Friends Within Classes

Peer encouragement was viewed as a factor that greatly impacted student success. Comments during interviews supported this, stressing the bonds that students make with their peers. Students report that study groups become support groups and students rally by one another, especially during difficult times.

There are advantages and disadvantages to these relationships. Advantages include sharing similar educational and professional goals, provision of support within study groups, and development of friendships that extend outside of school. Disadvantages include sole dependence on one group of peers and lack of diversity of members and ideas (Jeffreys, 2012).

Practices at the DSON at the time of the study involved random reassignment of students into different class and clinical sections each semester. Findings from the study, combined with interviews of graduating students, led to the abandonment of randomization of class sections. The original cohorts established in the first semester will remain together. This will allow students to maintain peer connections and to continue to meet with their established study groups. Clinical rotations, however, continue to be randomized so to diversify the group and expose them to new group dynamics.

5.2.3.4 Peer Mentoring and Tutoring

A formal peer mentoring-tutoring program is not in place at the DSON. Mentoring and tutoring should be considered separate items as the associated responsibilities differ Students will often reach out to other students through SNAP, social media, or within their classes to serve as

both informal mentors and tutors. Study findings have helped to inform the development of a peer mentoring program. Recommendations for development should include review of program transcripts and clinical evaluations, communication skills, attendance, and be complemented with a training program (Jeffreys, 2012).

The DSON may not be able to develop a formal peer tutoring program due to program length and time constraints for students. Students have formed their own study groups to meet this need. The DSON supports this student led initiative and in the late Spring of 2021 semester began providing students rooms for their study groups to meet. The next steps will involve review of the literature and successful programs related to peer tutoring. Guidelines for study groups will also be created with dent input.

5.2.3.5 Nursing Professional Events and Membership in Nursing Club or Organization

Nursing professional events and membership in nursing clubs or organizations are indirect factors of student success. Student involvement in these activities help integrate students into the professional role. Exposure at these events provide students with opportunities for career development and growth, socialization within the profession, networking, and introduction of new knowledge pertinent to the profession (Jeffreys, 2012). These professional integration factors help students gain insight into the many roles the nurse holds in healthcare and provide introduction to role models and mentors as they progress, not only through the nursing program, but through their professional careers. These factors also help students see how they “fit” into the system.

The DSON has opportunities to partner with the hospital and associated nursing organizations to support student attendance at conferences, nursing grand rounds, and other relevant educational offerings. The DSON encourages student interaction in governance (student

class representatives meeting with faculty and directors) and membership in the student nursing organization. Student schedule conflicts often restrict participation for these two organizations. The COVID-19 pandemic has led to meetings being held virtually which has significantly increased participation. Continuance of virtual meetings may elicit greater student involvement.

5.2.4 Summary

The DSON has used findings from this study to reevaluate practices, The DSON has also taken an active position to immediately implement recommendations and to begin planning for future. Table 6 provides a summary of the implications for practice. Interventions that have been implemented following review of study findings are marked with an asterisk

Table 6 Summary of Implications for Practice

Academic Factors	Environmental Factors	Professional Integration Factors
Personal study skills •Continue early introduction of ASP •Ongoing faculty development •*Incorporation of test-taking and study strategies in classroom •Increase frequency of student workshops Personal study hours •Continue to provide planners •Help students focus on quality of hours Counseling services •Collaborate with EAP to provide services specific to student body Library services •Explore cost of electronic library service	Employment hours and responsibilities •*Discussions with faculty regarding changing student population •Develop services geared toward working student Financial aid and scholarship •Pursue additional scholarship opportunities •Post information on digital sign board	Nursing student support services •* Create dedicated student success and program managers Peer Support • *Keep students in original cohorts • Keep cohorts on same class and clinical calendar for program duration Faculty advisement and helpfulness •Ongoing development Peer mentoring and tutoring •*Development of formal processes with training for those involved •Initiate in beginning of program

Computer laboratories •Post tech support information Nursing skills laboratories •Increase learning opportunities in skills labs •*Update equipment to support clinical learning	Membership in nursing club or organization •Partner with the hospital on educational offerings for students

Note * indicates new interventions, implemented as the result of this study

5.3 Limitations and Future Research

As this needs assessment provides a snapshot of the student population enrolled at the DSON for one semester of the program further research is needed to determine whether these findings can be applied across the entire program and the other nursing programs within the healthcare system. Although participation in the assessment was offered to all enrolled students, the number of participants limit generalizability. Males and persons of color were underrepresented in this assessment, therefore additional data should be collected. Distribution of a questionnaire to all enrolled students and one to all incoming students may provide more insight. Time provided in class to complete the questionnaire would enhance participation. The DSON is one of five diploma schools of nursing owned by hospitals in the health system. The question exists as to whether each school attracts a different demographic Replication of this study at each school would provide more detail. The information can guide processes to improve retention at each school.

This assessment demonstrated that the factors impacting student success are as diverse as the students themselves reaffirming that programs need to be prepared to individualize processes.

Only two factors stood out as restrictive to success: employment hours and employment responsibilities. This information can be used to prepare the DSON to implement strategies and programs that support the needs of the working student. The responses to the questionnaire, however, may produce different findings when administered to a larger group.

The use of mixed methods in this assessment was a strength. Data from the questionnaires were supported by students during interviews. The narratives provided descriptive detail of how the factors played a role in student success. Recommendations for future research for the qualitative portion of the assessment include collection of demographic data, identification of whether interview participants completed the questionnaire, and a review of the items on the questionnaire with the interview participants.

5.4 Demonstration of Practice

A summary of the findings from this assessment was presented to the executive leadership team to support the development of dedicated academic support personnel at the DSON. An action plan was developed in collaboration with the executive leadership and the Chief Nurse Executive of the organization. Following executive approval, two changes were implemented. First, two new job descriptions were created and approved for student success and engagement program managers. The responsibilities for the program managers involve not only direct academic support for students, but development of a holistic student support program. The vision for program development includes four pillars: onboarding, student engagement, academic support, retention, and faculty development. Second, a decision was made to keep student cohorts intact following the first semester.

Following review, defense, and follow-up recommendations, a formal presentation of all findings will be presented to the executive leadership team and the at the DSON. The findings will also be reviewed in detail with the program managers to support development of programs. A plan to replicate the study with students in the Spring of 2022 is being requested. Evaluation of the outcomes related to the new student support programs will also follow. Opportunities to present the findings at local and national conferences is also being explored.

5.5 Conclusion

This assessment provided insight into the factors that students perceive as having a positive or negative influence on their ongoing success at the DSON. Anecdotal information gathered during interviews provided further student perceptions of the availability, accessibility, and benefits of resources to help them achieve their educational goals. Although this study was small in scope, the data provides a foundation for the development and institution of action plans for process improvement initiatives at the DSON. Replication of this assessment in the Spring 2022 semester at the DSON will enhance these initial findings. Overall, participants of this assessment found most factors, including those supplied by the DSON, to be supportive to program success. However, opportunities exist for refinement and redesign of existing processes to better meet the needs of all students.

Appendix A Letter of Approval for Study at the Diploma School of Nursing

UPMC LIFE CHANGING MEDICINE

Schools of Nursing

UPMC Mercy
Mercy Hospital School of Nursing
Mailing Address:
1401 Boulevard of the Allies
Pittsburgh, PA 15219
upmc.com/MercySchoolOfNursing

UPMC Shadyside
School of Nursing
Mailing Address:
5230 Centre Avenue
Pittsburgh, PA 15232

School Location:
Motor Square Garden
5900 Baum Boulevard
Pittsburgh, PA 15206
upmc.com/ShadysideSchoolOfNursing

UPMC St. Margaret
St. Margaret School of Nursing
Mailing Address:
Seventh Street Commons Building
221 Seventh Street
Pittsburgh, PA 15238
upmc.com/StMargaretSchoolOfNursing

UPMC Jameson
Jameson Memorial Hospital School of Nursing
Mailing Address:
1211 Wilmington Avenue
New Castle, PA 16105
upmcjameson.com

Dear IRB Members,

I am writing you to grant my permission for Santa Ann Lake's request to conduct her needs assessment at the UPMC Shadyside School of Nursing. Ms. Lake is enrolled at the University of Pittsburgh School of Education in the EdD program with a focus on higher education management. Ms. Lake recently assumed the role of Director of Faculty Affairs at UPMC Shadyside School of Nursing.

Ms. Lake's inquiry involves understanding the factors that impede student success in the diploma nursing program. Her findings and analysis will be used to identify components needed to enhance our student support programs to improve our efforts to increase student retention and success. She plans to collect data via surveys and focus groups with students enrolled at the UPMC Shadyside School of Nursing.

Ms. Lake has requested permission to recruit students to participate using their UPMC Shadyside School of Nursing email accounts and placing announcements in the electronic learning management system. I do not envision any foreseeable risks to students who agree to participate in either the survey or the focus group. Sandy has indicated that student participation will be voluntary with no consequence for electing not to participate. This request is approved.

Ms. Lake has also requested the use of either a classroom or conference room at the School to hold focus group sessions. She selected this location as it would be convenient for the students. This request is approved.

Sincerely,

Linda Kmetz, PhD, RN
Executive Director, UPMC Schools of Nursing
Director, UPMC Shadyside School of Nursing

Appendix B Invitation to Participate: Questionnaire

Dear Student,

I am inviting you to participate in a research study I am conducting for my doctoral studies at the University of Pittsburgh School of Education. I believe that there are many factors that influence academic performance and student success. The purpose of this study is to explore student perceptions of the factors that impact success in the diploma nursing program. A goal of this study is to identify strategies and services to improve retention within the School of Nursing.

- Your participation will involve completion of a two-part survey. The survey will involve collection of demographic data and information on factors that may have influenced your success in the nursing program. The survey should take approximately 25 minutes to complete.

  This survey will be distributed to all enrolled students who completed the Spring 2020 semester in both the full and part-time programs.

- Your participation is voluntary. There are no consequences for choosing not to participate.

- There are few anticipated risks with completion of this survey. Some uncomfortable feelings may arise from answering questions related to your experiences in the program. You have the option to choose to not answer an item if you are uncomfortable.

- Although there are no direct benefits for your participation, the information gathered will be used to inform practice and improve student support services at the School.

- Your privacy is important. Survey responses will remain anonymous; your identity will not be revealed. Data collected will be stored in a locked office and/or on a password protected computer.

- By participating in this survey, you understand and agree that the data will be shared with other researchers, educators, and other individuals involved in nursing student education. This data may be disseminated through publications and presentations.

- A copy of the findings will be available to you upon request at the completion of the study.

The survey will be available for two weeks from this date to complete. I will send two reminder emails prior to the closure of the survey.

Please do not hesitate to contact me if you would like more information regarding this survey. I can be reached via email: lakesa@upmc.edu or by phone 412-623-0046.

By clicking on the link to the questionnaire (below), you agree to participate in this assessment.

LINK_____

Focus Group Opportunity. As a follow-up to the survey, I am seeking students who would be interested in meeting with me in small focus groups to further discuss factors impacting success and strategies. The focus groups will last no longer than 60 minutes. Please contact me if you are interested in more information.

I thank you for your time and consideration of this study.

Santa Ann Lake, MSN, RN, CNE
Director of Faculty Affairs,
UPMC Shadyside School of Nursing
Office Phone: 412-623-0046
E-Mail: lakesa@upmc.edu

Appendix C Invitation for Participation: Interview

Dear Student,

I am inviting you to participate in a research study I am conducting for my doctoral studies at the University of Pittsburgh School of Education. I believe that there are many factors that influence academic performance and student success. The purpose of this study is to explore student perceptions of the factors that impact success in the diploma nursing program. A goal of this study is to identify strategies and services to improve retention within the School of Nursing.

- Your participation will involve engaging in an interview. The content will explore how the factors have influenced your success in the program OR may have impeded your success.
- The interview will not exceed 60 minutes.
- The interview groups will be held with you and myself.
- There are few anticipated risks with participating in this interview. Some uncomfortable feelings may arise from answering questions related to your experiences in the nursing program.
- Your participation is voluntary. There are no consequences for choosing not to participate.
- You have the right to refrain from answering any questions, including those that make you feel uncomfortable.
- You have the option to dismiss yourself and discontinue/withdraw your participation from the interview at any time.
- There are no direct benefits for your participation. This information will, however, be used to inform practice and improve student
  support services at the School.
- The interview will be recorded and transcribed.
- Your identity will remain anonymous when this data is reported. Your responses will remain anonymous; your name will not be disclosed outside of this interview to faculty, administration, or any other individual.
- The transcribed information will be stored in a locked office and/or on a password protected computer.
- The data will be shared with other researchers, educators, and other individuals involved in nursing student education. This data may be disseminated through publications and presentations.
- You may request a copy of the findings at the completion of this study in its entirety

Please do not hesitate to contact me if you would like to participate in or would like more information regarding this research. I can be reached via email: lakesa@upmc.edu or by phone 412-623-0046.

I thank you for your time and consideration of this study.

Santa Ann Lake, MSN, RN, CNE
Director of Faculty Affairs,
UPMC Shadyside School of Nursing
Office Phone: 412-623-0046

Appendix D Invoice for Purchase of Nursing Student Retention Toolkit

Summary Information

Request ID	P0313999	Request Status	Vouchered
Entered By	Ebeling,Kelly		
Entered Datetime	02/12/2020 9:52AM		
Business Unit	PAYBL	Approval History	
Invoice Number	123456		
Invoice Date	02/12/2020	Voucher ID	06356847
Description	1 year License for Nursing Student Retention Toolk		
Total Amount	250.000 USD		
Notes/Comments			

Supplier Information

Supplier ID	0000294464
Supplier	SPRINGER PUBLISHING COMPANY LLC 11 WEST 42ND STREET 15TH FLOOR NEW YORK, NY 10036

Appendix E Student Perception Appraisal – Revised 2 Posttest

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Item 4—Student Perception Appraisal-Revised-2 (SPA-R2)—Posttest

Going to school is one part of your life. Certain factors may have restricted or supported YOUR successful goal achievement.
Evaluate each item in terms of how it affected YOUR ability to remain in nursing courses this semester. Using the scale below, choose a number from (1) to (6) and mark your response accordingly.

1 = Did Not Apply
2 = Severely Restricted
3 = Moderately Restricted
4 = Did Not Restrict or Support
5 = Moderately Supported
6 = Greatly Supported

1) Personal study skills	①	②	③	④	⑤	⑥
2) Faculty advisement and helpfulness	①	②	③	④	⑤	⑥
3) Transportation arrangements	①	②	③	④	⑤	⑥
4) Financial status	①	②	③	④	⑤	⑥
5) Class schedule	①	②	③	④	⑤	⑥
6) Family financial support for school	①	②	③	④	⑤	⑥
7) Nursing student peer mentoring and tutoring	①	②	③	④	⑤	⑥
8) Hours of employment	①	②	③	④	⑤	⑥
9) Personal study hours	①	②	③	④	⑤	⑥
10) College library services	①	②	③	④	⑤	⑥
11) Nursing skills laboratory	①	②	③	④	⑤	⑥
12) Family emotional support	①	②	③	④	⑤	⑥
13) Family crisis	①	②	③	④	⑤	⑥
14) Nursing professional events	①	②	③	④	⑤	⑥
15) Employment responsibilities	①	②	③	④	⑤	⑥
16) Nursing student support services	①	②	③	④	⑤	⑥
17) College tutoring services	①	②	③	④	⑤	⑥
18) College counseling services	①	②	③	④	⑤	⑥
19) Living arrangements	①	②	③	④	⑤	⑥
20) Family responsibilities	①	②	③	④	⑤	⑥
21) Membership in nursing club or organization	①	②	③	④	⑤	⑥
22) Financial aid and/or scholarship	①	②	③	④	⑤	⑥
23) Academic performance	①	②	③	④	⑤	⑥
24) Encouragement by friends outside of school	①	②	③	④	⑤	⑥
25) Encouragement by friends within classes	①	②	③	④	⑤	⑥
26) College computer laboratory service	①	②	③	④	⑤	⑥
27) Child-care arrangements	①	②	③	④	⑤	⑥

(Jeffreys, 2012)

Appendix F Demographic Data Sheet – Prelicensure

Item 9—Demographic Data Sheet—Prelicensure (DDS-P)

Please mark one choice for each item unless otherwise indicated:

1. Name of institution:
   - ○ _____
   - ○ _____
   - ○ _____
   - ○ _____
   - ○ _____
   - ○ _____
   - ○ _____
   - ○ _____
   - ○ _____
   - ○ _____

2. Number of college credits this semester:
   - ○ 3 or 4
   - ○ 5 to 8
   - ○ 9 to 11
   - ○ 12 or 13
   - ○ Over 13

3. **Select all the courses** that you are taking **NOW**:
   - ○ Medical-surgical nursing (adult health)
   - ○ Psychiatric nursing (mental health)
   - ○ Maternity nursing (pregnancy, childbirth)
   - ○ Pediatric nursing (child and adolescent)
   - ○ Critical care nursing
   - ○ Community health
   - ○ Leadership
   - ○ Transcultural nursing
   - ○ Professional issues
   - ○ Research
   - ○ Physical assessment
   - ○ Nursing theory
   - ○ Other

4. Your current nursing courses are taught:
   - ○ On campus
   - ○ On campus and online
   - ○ Totally online
   - ○ On campus and clinical setting
   - ○ On campus, clinical setting, and online
   - ○ Other

5. Current grade average in your nursing courses this term:
   - ○ 90 to 100
   - ○ 85 to 89
   - ○ 80 to 84
   - ○ 75 to 79
   - ○ 70 to 74
   - ○ Below 70
   - ○ No grades obtained

6. How many nursing courses did you already complete in this degree program?
   - ○ None
   - ○ 1
   - ○ 2
   - ○ 3
   - ○ 4
   - ○ 5
   - ○ 6 or more

7. **Select all the activities** you participated in during the **last 6 months**:
   - ○ Nursing student club
   - ○ Nursing conference, meeting, or event
   - ○ College counseling
   - ○ College tutoring (non-nursing)
   - ○ Peer mentoring or tutoring (nursing)
   - ○ Nursing student orientation
   - ○ Nursing student workshop
   - ○ Other college-sponsored activity for nursing students
   - ○ None

8. Prior educational background:
   - ○ General equivalency diploma (GED)
   - ○ U.S. high school diploma
   - ○ Foreign high school diploma
   - ○ Non-nursing college degree

9. Are you the first member of your family to attend college?
   - ○ Yes
   - ○ No

10. Sex:
   - ○ Female
   - ○ Male

11. Age:
   - ○ Under 25
   - ○ 25 to 29
   - ○ 30 to 34
   - ○ 35 to 39
   - ○ 40 to 44
   - ○ 45 to 49
   - ○ 50 to 54
   - ○ 55 to 59
   - ○ 60 and over

12. Which of the categories best describes you?
   - ○ American Indian or Alaskan Native
   - ○ Asian (Chinese, Filipino, Japanese, Korean, Asian Indian, or Thai)
   - ○ Other Asian
   - ○ Black or African American
   - ○ Hispanic or Latino
   - ○ Native Hawaiian or Other Pacific Islander
   - ○ White
   - ○ Multiracial
   - ○ Other

13. Is English your first language?
   - ○ Yes
   - ○ No

14. Do you speak a language other than English fluently?
   - ○ Yes
   - ○ No

15. Were you born in the United States?
- O Yes
- O No

16. Previous health care experience?
- O None
- O LPN
- O Other

17. Marital status:
- O Single
- O Single living with partner
- O Married
- O Divorced/Separated
- O Widowed

18. Number of dependent children living with you:
- O None
- O 1
- O 2
- O 3
- O 4
- O 5 or more

19. Number of hours weekly you are employed **ON CAMPUS**:
- O None
- O 1 to 10
- O 11 to 20
- O 21 to 30
- O 31 to 40
- O Over 40

20. Number of hours weekly you are employed **OFF CAMPUS**:
- O None
- O 1 to 10
- O 11 to 20
- O 21 to 30
- O 31 to 40
- O Over 40

21. Where do you currently live?
- O Campus dormitory
- O Campus apartment
- O Off-campus housing with other students
- O Off-campus housing with family
- O Live alone off-campus
- O Other

22. How long does it take to commute to campus?
- O Less than 15 minutes
- O 15 to 30 minutes
- O 31 to 60 minutes
- O 60 to 90 minutes
- O 90 minutes to 2 hours
- O Over 2 hours
- O Does not apply

22

23. Do you use child-care services?
   - O No, I do not need child-care services
   - O On-campus daycare
   - O Private daycare
   - O Private babysitter
   - O Family member provides child care

24. Family's total yearly income
   - O Under $20,000
   - O $20,000 to $50,000
   - O $51,000 to $75,000
   - O $76,000 to $100,000
   - O $101,000 to $150,000
   - O Over $150,000

25. Number of people in your family included for above income question:
   - O 1
   - O 2
   - O 3
   - O 4
   - O 5
   - O 6 or more

(Jeffreys, 2012)

Appendix G Summary of Questionnaire Protocol

Selection of Survey Tool

- Jeffreys Nursing Toolkit (2012)
    - Student Perception Appraisal Revised 2 Posttest (SPA-R2)
    - Demographic Data Sheet - Prelicensure (DDS-P) adapted to SON

Method of Administration

- Survey will be administered electronically to DSON email addresses
- Survey will be developed in Qualtrics

Selection of Participants

- All students aged 18 or older enrolled at the DSON (in either full-time or part-time program
    - Students will be made aware of research study through e-mail and posting in electronic learning management platform

Consent

- A statement for consent will be provided as an option prior to the opening the survey link

Administration

- Summer 2020 Semester
- SPA-R2 will be administered to all participants enrolled in the Summer 2020 semester nursing courses
    - Participants will be given 14 days to complete.
    - A reminder email will be sent at 7 days and 1 day prior to survey close

Data Analysis and Interpretation (to begin after completion of each survey)

- Descriptive Reduction Techniques: using frequency and percent·
    - Rank Order of level of agreement on variables (greatly supportive, moderately supportive, neither supportive nor restrictive, moderately restrictive, greatly restrictive)

Appendix H Interview Protocol and Script

Prior to Interview

Identify the following

- Number of interviews: 10
- Length of interviews: Thirty to sixty minutes
- Identification of Volunteers from those who completed participants:survey; and at least one of the following:
  *enrolled in N201FT
  *enro0lled in N201PT
  *enrolled in N301FT
  *enrolled in N301PT
  *working at least part-time hours while enrolled
  *is out of sequence due to a break in enrollment
- Contact: A request for participation will be sent via email.

Participants will be scheduled via Microsoft Teams

Questions (probes will be used to help clarify the question if necessary):

- Please share your reasons selecting the nursing profession. Why did you decide you wanted to become a nurse?
  - *Probes: did you have a personal calling? Family member who is a nurse? Experience in healthcare?*
- Please share the reasons you selected this nursing program.
  - *Probes: Reputation? Location? Program length? Recommendation from a colleague, friend, or family member?*

- Nursing school can be very difficult. I am trying to understand the reasons students may struggle or are not successful in nursing school. I am hoping to learn from your personal experience. The following questions will focus on the factors that made school challenging and those that were helpful to you. These factors may be related to the school or personal situations encountered.
  - How is this semester going for you overall?
  - Since starting the nursing program, what were some of the challenges you encountered?
    - *Probes: academic; personal, work?*
  - Had you anticipated any of these factors? If so, how did you plan?
  - How did these factors impact you?
  - How did you overcome these factors?
  - Where did you go for help with these factors? What resources/support did you use?
    - *Probes: faculty, academic support team, employee assistance program/school counseling services?*
  -

- What do you attribute to your success in the program?
  - *Probe: personal, family, academic*

Script

- Welcome and Thank you
- Introduce self
- Introduce purpose of assessment
- Include ground rules
- Indicate that discussion will be audio recorded and manual notes will be taken during session
- Indicate that participants have the right to choose to not answer a question.

I**dentify the following:**

- Interviewer: Santa Ann Lake
- Location: Microsoft Teams

Conduct Interview

Bring following materials: Notebook, recording device
Script/Interview guide

- Introduce self-Begin with AIDET+ Promise introduction

- Conduct the Set positive tone
  Interview: Use probes if participant has difficulty understanding question
  Do not interrupt. Allow participant narrative to drive conversation
  Maintain time
  Do not offer own opinion
  End by thanking participant and providing brief overview of next steps in study

Summarize Interview

- Provide summary notes immediately following interview
- Transcribe recordings

Analyze the Summaries/Transcriptions

- Read and look for themes within and across interviews
- Identify key words/phrases used or repeated by participants
- Develop matrices to display findings

Script for Interview

Welcome. My name is Sandy Lake. I am the Director of Faculty Affairs at UPMC Shadyside School of Nursing. I have been with the DSON for 15years. Thank you for joining me and participating in an assessment I am conducting as part of my dissertation work at the University of Pittsburgh. The purpose of this assessment is to better understand the academic, social, and environmental factors that influence student success in diploma nursing schools so to identify potential strategies/programs to support student success. As your time is valued, I promise to keep this interview to not exceed 60 minutes. I appreciate any insights you can provide as to your perceptions of how factors/situations you have experienced have either helped you or became a barrier to your success in the nursing program.

I want to review the information provided in the email I sent you inviting you to be interviewed.

- Your participation will involve meeting with me regarding questions related to your experience at the School of Nursing.
- I will be responsible for ensuring this interview will not exceed 60 minutes.
- Your participation is voluntary. There are no consequences for choosing not to participate.
- here are few anticipated risks with participating in this focus group. Some uncomfortable feelings may arise from answering questions related to your experiences in the nursing program.
- You have the right to refrain from answering any questions, including those that make you feel uncomfortable.
- You have the right to discontinue participation in this interview at any time.
- There are no direct benefits for your participation. This information will, however, be used to inform practice and improve student
  support services at the School.
- The interview will be recorded and transcribed
- Your identity will remain anonymous when this data is reported.
- The transcribed information will be stored in a locked office and/or on a password protected computer.
- The data will be shared with other researchers, educators, and other individuals involved in nursing student education. This data may be disseminated through publications and presentations.
- You may request a copy of the findings at the completion of this study in its entirety.

Based on this information, do you agree to participate in today's interview? [If YES, continue. If NO, stop the interview and thank them for their time.] Do you have any questions before we begin?

This assessment is being conducted as part of my dissertation in the EdD program at the University of Pittsburgh School of Education. This assessment is conducted under the guidance of my faculty advisor, Dr. Barbara Jean Ferketish.

Appendix I Sample Pivot Table

ID	001	002	003	004	005	006
No. Non-Nursing	4 to 5	4 to 5	9 to 11	3 to 4	3-4	0
Current Course	N201	N301	N301	N201A	N301	N301
Current Grade	90-100	90-100	80-84	85-90	80-84	90-100
1st Family member in college	No	No	No	No	No	No
Gender	F	F	F	F	F	F
Age	<25	40-44	30-34	25-29	<25	25-29
Race/ Ethnicity	White	White	White	White	White	White
Activities	ASP	Student Government	None	Peer Tutoring	ASP	SNAP
ESL	N	N	N	N	N	N
Speak other language	N	N	N	N	N	N
Born in USA	Y	y	Y	Y	Y	Y
Previous Healthcare Experience	Other	LPN	Other	None	Other	None
Marital Status	M	M	S	S	S	S
No. Child	0	5+	0	0	0	0
Weekly Employ. Hrs.	1 to 10	21-30	21-30	31-40	11-20	0
Housing	Family	Family	Family	Alone	Alone	Family
Travel Time	15-30 min	60-90 min	15-30 min	15-30 min	15-30 min	-60 min
Prior HC Exp	None	LPN	Other	Other	Other	None

Appendix J Second Cycle Coding Data Example

What are the factors experienced by students that they believe impacted their success in the diploma nursing program?	Total Number of Mentions	Total Number Interview	Description	Example Comment from Interview Participants
ACADEMIC FACTORS				
Personal study skills	8	10	Participants' beliefs that their personal study skills were supportive	"I have strong study skills. I attended a very progressive secondary school. The study skills I learned there and my knowledge of my learning style prior to starting nursing school were helpful."
Personal study skills	3	10	Participants' beliefs that their personal study skills were restrictive	"I had to learn how to study differently. Nursing school was so different than anything I had before."
Personal study hours	4	10	Participants' beliefs that their personal study hours were supportive	"Time management transcends everything. Learning how to manage your time for studying comes with experience.
Personal study hours	5	10	Participants' beliefs that their personal study hours were restrictive	Balancing home and school life is a challenge. I have to study away from home which limits study time to 3-4 hours. So I have to use that time efficiently."
Class schedule	2	10	Participants' beliefs that the class schedule was supportive	"The part-time program provided me with the opportunity to work and go to school."
Class schedule	2	10	Participants' beliefs that the class schedule was restrictive	"These are long classes after managing your responsibilities at work all day. After a certain point, your brain shuts off. I like not having classes every day."
Nursing Skills lab	0	10	Participants' beliefs that the nursing skills lab was supportive	NA: did comment on lab being outdated

Appendix Table 2 (continued)

What are the factors experienced by students that they believe impacted their success in the diploma nursing program?	**Total Number of Mentions**	**Total Number Interview**	**Description**	**Example Comment from Interview Participants**
Nursing Skills lab	2	10	Participants' beliefs that the nursing skills lab was restrictive	"We used the nursing skills lab a lot during the first semester and it was great."
College Counseling	1	10	Participants' beliefs that college counseling services were supportive	"I did use EAP {counseling program}to help get through the challenges in nursing school and in my personal life."
College Counseling	1	10	Participants' beliefs that college counseling services were restrictive	"It didn't help me I reached out for support but **could never connect** with a counselor."
ENVIRONMENTAL FACTORS				
Employment hours	1	10	Participants' beliefs that employment hours were supportive	"I'm able to flex my hours around school since I'm casual. But I work at least 20 hours a week."
Employment hours	3	10	Participants' beliefs that their employment hours were restrictive	"I have to work full time to support my family. Sometimes I am exhausted by the time I get to class."
Employment responsibilities	2	10	Participants' beliefs that their employment responsibilities were supportive	"Being a PCT, I have spent time working in the hospital and taking care of people. I felt my job helped me with nursing school."
Employment responsibilities	4	10	Participants' beliefs that their employment responsibilities were restrictive	"As a PCT it was hard adjusting to how to think for nursing school. It is very different. That was hard."
Transportation arrangements	2	10	Participants' beliefs that transportation arrangements were supportive	"I knew the commute was long when I picked the program. I use the time to my advantage as I listen to my recorded lecture."
Transportation arrangements	0	10	Participants' beliefs that transportation arrangements were restrictive	NA

Appendix Table 2 (continued)

What are the factors experienced by students that they believe impacted their success in the diploma nursing program?	Total Number of Mentions	Total Number Interview	Description	Example Comment from Interview Participants
Financial status	0	0	Participants' beliefs that their financial status was supportive	NA: Students only commentary related to financial status was related to working while enrolled
Financial status	0	0	Participants' beliefs that their financial status was restrictive	NA: Students only commentary related to financial status was related to working while enrolled
Family emotional support	4	10	Participants' beliefs that family emotional support was supportive	'I had family supporting me and encouraging me to enroll. They knew I could do this."
Family emotional support	1	10	Participants' beliefs that family emotional support was restrictive	"My husband and children were not supportive. There were many arguments over the time commitment."
Family crisis	0	10	Participants' beliefs that a family crisis was supportive	NA: Although family crisis caused a break in enrollment, participants remained motivated to return
Family crisis	3	10	Participants' beliefs that a family crisis was restrictive	Participant dealing with multiple family illnesses and loss of family member "with all of these issues, it was hard for me to study, and I did not do as well as I should have."
Family responsibilities	6	10	Participants' beliefs that their family responsibilities were supportive	Had adequate support with family responsibilities. "without this support, I could not have managed"
Family responsibilities	0	10	Participants' beliefs that their family responsibilities were restrictive	NA
Encouragement by friends outside of school	4	10	Participants' beliefs that encouragement by friends outside of school was supportive	"My physicians and clinicians know that I am in school. They spend time helping me understand the material."
Encouragement by friends outside of school	0	10	Participants' beliefs that encouragement by friends outside of school was restrictive	NA

Appendix Table 2 (continued)

What are the factors experienced by students that they believe impacted their success in the diploma nursing program?	Total Number of Mentions	Total Number Interview	Description	Example Comment from Interview Participants
Childcare arrangements	6	10	Participants' beliefs that childcare arrangements were supportive	"My husband helps take care of my daughter giving me time to study."
Childcare arrangements	0	10	Participants' beliefs that childcare arrangements were restrictive	NA
PROFESSIONAL INTEGRATION FACTORS				
Nursing student support services	14	10	Participants' beliefs that nursing student support services were	"I used ASP. I would reach out for support. I used strategies learned from ASP" "I knew who to go to. I just didn't."
Nursing student support services	0	10	Participants' beliefs that nursing student support services were restrictive	NA
Faculty advisement and helpfulness.	21	10	Participants' beliefs that faculty advisement and helpfulness were supportive	She reached out to support me and check on me. Faculty were always available."
Faculty advisement and helpfulness	0	10	Participants' beliefs that faculty advisement and helpfulness were restrictive	NA
Peer mentoring and tutoring	2	10	Participants' beliefs that peer mentoring and tutoring were supportive	"Mentors could help provide more insight into what to expect."
Peer mentoring and tutoring	2	10	Participants' beliefs that peer mentoring and tutoring were restrictive	NA
Membership in nursing club or organization	2	10	Participants' beliefs that membership in nursing club or organization was supportive	"We need to have ways to connect with peers." "Team building."

Appendix Table 2 (continued)

What are the factors experienced by students that they believe impacted their success in the diploma nursing program?	Total Number of Mentions	Total Number Interview	Description	Example Comment from Interview Participants
Membership in nursing club or organization	0	10	Participants' beliefs that membership in nursing club or organization was restrictive	NA
Encouragement by friends in school	7	10	Participants' beliefs that encouragement by friends withing school was supportive	"We became family"
Encouragement by friends in school	0	10	Participants' beliefs that encouragement by friends within school was restrictive	NA

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