

IQ and Academic Performance: Impetus for Nursing Licensure Examination (PNLE) Success

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Abstract

Nurses play a crucial role in society, especially in the provision of quality healthcare. The educational sector is tasked to train students to possess appropriate cognitive and other skills to prepare them to become globally competent nurses. Hence, this study determines the significant relationship between the University of Cebu- Banilad Bachelor of Science in Nursing students' psychometric examination results, academic performance, and their ratings in the Philippine Nursing Licensure Examination (PNLE) given by the Professional Regulations Commission (PRC) with the end view of devising and intervention scheme to improve the curriculum and program implementation of the BSN program.

This study will utilize the descriptive correlation research design using secondary data from the Guidance Office, Registrar's Office, and the Professional Regulations Commission (PRC). This study will be undertaken at the University of Cebu-Banilad. The research subjects will be the Bachelor of Science in Nursing graduates who successfully passed the Philippine Nurses Licensure Examination (PNLE) after completing their Bachelor of Nursing (BSN) degree at the University of Cebu-Banilad (UC-Banilad) from 2014-2018 and 2015-2019, respectively with a total number of four hundred twelve (412) graduates. The research protocol was subjected to the Academic Research Ethics Committee (UCAREC). Frequency count and simple percentage will be used to describe the academic

profile of the research subjects. Pearson R was used to determine the significant relationship among the variables measured. Ethical principles of beneficence, non-maleficence, and justice will be observed in this investigation.

More research subjects had below-average OLSAT-G test results and arithmetic abilities; the majority had low reading comprehension. In addition, most of them had good academic performance based on their grade weighted average (GWA). They passed the Philippine Nurse Licensure Examinations (PNLE) in 2018 and 2019 for the June and November examinations. There is a significant relationship between the research subjects' psychometric examination results (consisting of tests to measure the intelligence quotient (IQ), arithmetic

abilities, and reading comprehension) and their academic performance. Another significant relationship exists between the psychometric examination results of the Bachelor of Science in Nursing (BSN) graduates of the University of Cebu-Banilad and their performance in the Philippine Nurse Licensure Examination (PNLE). There is a moderate positive correlation between the research subjects' academic performance and their performance in the Philippine Nurse Licensure Examination (PNLE). Hence, the BSN student's cognitive abilities and performance in the different courses taken are predictors of success or failure in the Philippine Nurse Licensure Examination (PNLE).

Keywords: *Nursing education, psychometric tests, academic performance, Philippine nurse licensure examination, correlation, University of Cebu, Philippines*

INTRODUCTION

Higher education institutions play a pivotal role in producing qualified human power that enables solving the real problems of a community (Idris et al., 2012). However, market-driven economic policy, dramatic technology developments, changing demographics, and the knowledge explosion are rapidly changing healthcare and educational institutions as well as creating a climate of continuous rapid change. Nurses' contract with society requires the profession to be responsive to these changes (Lindeman, 2000).

The nurse's role in society demands a blend of competencies, skills, sensitivity, care, and commitment based on broad knowledge and practical application. With the profound explosion of knowledge on medical procedures, patterns, and organization of patient care and increased patient effectiveness, registered nurses' preparations and skills have similarly expanded, thus allowing the nurse to move into primary health care roles with different and distinctive kinds of activities. Nursing is the key to improving quality care through patient safety (Mitchell, 2008).

Moreover, nursing education should be considered an essential aspect of healthcare provision by ensuring that nurses with the proper training and character are produced to provide the necessary healthcare (Amankwaa et al., 2015). Hence, nursing care must be learned and practiced as a science and an art, which means adding new knowledge and skills and having a deep commitment to human service.

The activities of nurse education range from formal, academic teaching to impromptu teaching that occurs spontaneously in the day-to-day work. The former includes a range of academic awards, including NVQ awards, diplomas in higher education, bachelor's degrees, postgraduate diplomas, master's degrees, and research degrees at master's and doctoral levels. This teaching is delivered by nursing personnel such as university lecturers, lecturers/practitioners, mentors, clinical and community practitioners, students themselves, and non-nursing personnel, including medical practitioners and members of the professions allied to medicine. The settings in which nurse education takes place include university departments of

nursing, hospitals in both public and private sectors, clinics, surgeries, prisons, nursing homes, and patient's/clients' own homes (Quinn, 2000).

In the Philippines, the responsibility of producing professional nurses with such quality is mainly placed on those in the educational setting, exceptionally the institution/university where the nurse aspirants are taught, trained, and developed until they graduate, enabled to meet the licensure requirements prior to nursing practice (De Leon, 2016).

The Commission on Higher Education [CHED] (2017) stipulates that the Bachelor of Nursing (BSN) program aims to develop a professional nurse who can assume entry-level positions in health facilities or community settings. The professional nurse is capable of providing safe, humane, quality, and holistic care to individuals of varying age, gender, and health-illness status; healthy or risk families' population groups; and community; singly or in collaboration with other health care providers to promote health, prevent illnesses, restore health, alleviate suffering and provide end of life care.

The Bachelor of Science in Nursing (BSN) curriculum is the sum of all the learning content experiences and resources that are purposely selected, organized, and implemented by the school in pursuit of its particular mandate as a distinct institution of learning and human development (Bilbao, 2008).

So, graduates must acquire the necessary skills and attitudes after graduation before entering the nursing profession. The curriculum is vital in achieving this requirement (De Leon, 2016). To be able to achieve this mandate, each of the educational institutions undertakes measures in the admission and retention of its students to ensure that the students possess the competence and abilities to learn and comply satisfactorily with the requirements in the curriculum, while Oducado et al. (2020) posit that the use of students' pre-admission qualification, academic performance in nursing school, and terminal test scores may assist nursing schools in identifying the performance of nursing graduates in the NLE that may be useful in the development of admission and retention policy in the nursing program.

Hence, the license simply provides the state's permission to do something illegal without a license. There are many different types of licenses. The purpose of occupational licensing is to protect the public's health and safety. The licensure system ensures that the person possessing the license has minimal competence to perform the acts allowed by the license. The primary purpose of healthcare professional licensure is to protect the professional's actual and potential clients. Licensure is not intended to ensure quality care and minimal safe care. It does not protect or benefit the healthcare professional (Murphy, 1989). Thus, to provide competent human resources that can be part of the helpful citizenry of the country, the institution/university supports two national government agencies: the Commission on Higher Education (CHED) and the Professional Regulations Commission (PRC). CHED Memorandum Order (CMO) 15 was issued for the Nursing Program in 2017.

Generally, writing and passing the licensure examination is required for registration and practice as a nurse (Amankwaa et al., 2015). In the Philippines, the legal requirement of passing a national examination or the Nurses' Licensure Examination (NLE) before a nursing graduate can practice the profession is implemented through the Professional Regulatory Commission (PRC), which takes charge of administering the examinations to screen nursing graduates who will be licensed to practice the nursing profession (Ong et al., 2012). PRC also prepared its appointed board of examiners and then issued their license to practice to those who get passing marks (De Leon, 2016).

Hence, Ballado-Tan (2014) opined that the quality of education an institution offers is often determined by the graduates it produces. In this manner, the quality of graduates an institution produces is measured by their performance in licensure examinations. Likewise, the graduates' academic performance and results in the licensure examinations are outcomes of the curriculum that are based on specific targets since an accurate measure of a good curriculum lies in the changed behavior of the learners and the applied learning or transfer of training to other situations (De Leon, 2016). Moreover, the passing rate in the Nurse Licensure Examination (NLE) is considered a vital indicator of the quality of the nursing program (Oducado et al., 2020).

One of the means to produce graduates who can pass the Nursing Licensure Examination (NLE) is conducting an entrance examination or psychometric examination for those senior high school graduates who applied to be admitted to the Bachelor of Science in Nursing (BSN) program. Specific retention requirements follow this admission requirement. Success in the licensure examination is the only legal prerequisite to practice as a nurse in Ghana. However, many nursing students who sit fail this examination for the first time (Amankwaa et al., 2015). Data from the Philippine Professional Regulatory Commission indicate that the national passing percentage in the NLE is around or below 50 percent. For instance, in June 2019, June 2018, and June 2017 NLE, the overall passing rates were only 52.20%, 43.82%, and 34.73% respectively (Philippine Professional Regulatory Commission (n.d.). Bautista et al. (2019) noted a downward trend for Nursing Licensure Examination (NLE) takers and passers from 2010 to 2016. The statistics suggest that nursing schools nationwide produce many graduates who are not qualified to practice nursing after graduation. The disturbing national passing rate in the NLE has caught the attention of many scholars to study the factors affecting the NLE (Oducado et al., 2020).

Key evidence was the role of students' demographic variables and graduating GPAs in predicting their performance in the licensure examination. This is a significant omission since existing studies (Truman, 2008; Yin & Burger, 2003) have demonstrated that these factors can predict academic performance in the licensure examination. Tomul and Polat (2013) demonstrated that the type of high school students who graduated strongly predicts subsequent performance. Failure to understand the factors affecting success in the licensure examination prevents the design of remediating interventions to help students at risk of failing the licensing examination (Amankwaa et al., 2015).

Several universities have taken policy action for standardized examinations to foresee NLE success (Alamri & Almazan, 2018). Despite utilizing the standard examination preparation, several graduate nurses still needed to pass the NLE on their first attempt. This is because of a lack of preparation, test-taking strategies, and poor study habits. Students recognized that test-taking anxiety prevents them from passing the NLE (McCarthy et al., 2014). In the same study, failure in NLE affects test takers' confidence and hope of becoming registered nurses (RNs). Failure can lead to feelings of embarrassment, anxiousness, and guilt, realizing income at the level of an RN (Newton & Moore, 2009).

It is the primordial responsibility of the school to provide excellent educational services and stay true to its promise of producing excellent nurses possessing the competencies as stipulated in the competencies CHED Memorandum Order No. 15. According to Almazan (2018), the main challenge for nursing education programs is to produce graduates who are successful in the NLE. Also, the challenges in producing graduates who can pass the Philippines National Licensure for Nurses call for a logical need for higher educational institutions, especially the University of Cebu-Banilad, to devise interventions to enhance its curriculum and the delivery of instruction to the students currently enrolled in the BSN program. Hence, this study determines the correlation between the University of Cebu- Banilad Bachelor of Science in Nursing graduates' psychometric examination results, academic performance, and ratings in the Philippine Nursing Licensure Examination (PNLE) given by the Professional Regulations Commission (PRC).

Framework of the Study

Explicit theories of intelligence are based, or at least tested, on data collected from people performing tasks presumed to measure intelligent functioning. The Differential Theory (psychometric theories of intelligence, so called because of their bases in the study of individual differences among people have in common (with rare exceptions) their attempt to understand intelligence in terms of a set of underlying abilities (Sternberg, 1985).

The Triarchic Theory of Intelligence, developed by Robert Sternberg, offers a comprehensive and nuanced understanding of intelligence (Main, 2003). The Triarchic Theory of human intelligence identified three (3) sub-theories: a contextual sub-theory, which relates intelligence to the external world of the individual; a componential sub-theory, which relates intelligence to the individual's internal world; and a

two-facet sub-theory, which relates intelligence to both the external and internal worlds. The contextual sub-theory defines intelligent behavior in terms of purposive adaptation to, shaping of, and selection of real-world environments relevant to one's life. The ordinary course of intelligent functioning in the everyday world entails adaptation to the environment; when the environment does not fit one's values, aptitudes, or interests, one may attempt to shape the environment to achieve a better person-environment fit; when shaping fails, an attempt may be made to select a new environment that provides a better fit. The two-facet sub-theory further constrains this definition by regarding it as most relevant to the demonstration of intelligence contextually intelligent behavior that involves either adaptation to novelty, automatization of information processing, or both (Sternberg, 1984).

Triarchic Theory breaks down intelligence into three distinct aspects: componential, experiential, and contextual intelligence. Componential intelligence encompasses the analytical or problem-solving abilities that allow individuals to break down complex tasks and find efficient solutions. This intelligence aspect involves critical thinking, logical reasoning, and strategic planning (Main, 2003).

The Triarchic Theory of Successful Intelligence defines successful intelligence as one's ability to succeed according to what one values in life within one's sociocultural context. One achieves success through a balance of adaptation to, shaping of, and selection of environments. One optimizes these interactions with the environment by recognizing and capitalizing on one's strengths and by recognizing and correcting or compensating for one's weaknesses (Sternberg, 2003).

Intelligence, a central psychological concept, is a multifaceted construct that extends beyond a single definition. It is typically characterized as the ability to learn, understand, and apply knowledge and the capacity to solve problems and adapt to new situations (Main, 2023). These cognitive abilities can be organized into frameworks like fluid vs. and the Unified Cattell-Horn-Carroll model (Stanek & Ones, 2018), including fluid reasoning, perceptual speed, and verbal abilities. Intelligence enables humans to experience and think (Colom, 2010).

The Cattell-Horn-Carroll (CHC) theory of cognitive abilities is a comprehensive taxonomy of abilities embedded in multiple overlapping theories of cognition (Schneider & McGrew, 2018). It is the most comprehensive and empirically supported psychometric Theory of the structure of cognitive abilities (Flanagan & Dixon, 2014).

The Catell-Horn Carrol (CHC) Theory Of Intelligence represents a combination of two previously proposed theories of cognitive abilities, the Theory of Fluid and Crystallized Intelligence (or Gf-Gc theory) associated abilities (Carroll, 1993; Horn & Noll, 1997). The basic idea of CHC theory is that intelligence is multidimensional and functionally integrated. In CHC theory, the ability dimensions have a hierarchical structure, meaning that some have a broader scope than others. At the bottom of the hierarchy are specific abilities tied to a specific task or test. Specific abilities are the only abilities that can be measured directly. Narrow abilities are clusters of highly correlated specific abilities. Broad abilities are clusters of narrow abilities that are mutually more correlated with each other than with abilities in other broad-ability clusters (Schneider & McGrew, 2018).

Gf-Gc theory and Carroll's Three-Stratum Theory are considered hierarchical theories of intelligence. They posit a broad cognitive ability with multiple, more specialized abilities at lower levels of the hierarchy. Because of the significant overlap in the main components of the two theories, an integrated theory has been proposed that combines elements of both theories to provide an understanding of the broad range of abilities (Marrs, 2001).

Moreover, intelligence is one of the most talked-about subjects in psychology, but no standard definition exists. Some researchers have suggested that intelligence is a single, general ability. Other theories of intelligence hold that intelligence encompasses a range of aptitudes, skills, and talents. Although contemporary definitions of intelligence vary considerably, experts generally agree that intelligence involves mental abilities such as logic, reasoning, problem-solving, and planning. Specifically, current definitions suggest that intelligence is the ability to learn from experience and acquire, retain, and use knowledge, an essential component of intelligence. In recognizing problems that pertain to the use of

knowledge, people first must identify the problems it might address and solve problems, wherein people must then use what they have learned to come up with solutions to problems (Cherry, 2022).

Individuals differ in their ability to understand complex ideas, adapt effectively to the environment, learn from experience, engage in various forms of reasoning, and overcome obstacles by taking thought. Although these individual differences can be substantial, they are never entirely consistent: a given person's intellectual performance will vary on different occasions, in different domains, as judged by different criteria. Concepts of "intelligence" are attempts to clarify and organize this complex set of phenomena. Although considerable clarity has been achieved in some areas, no such conceptualization has answered all the essential questions, and none commands universal assent. Indeed, when two dozen prominent theorists were recently asked to define intelligence, they gave two dozen somewhat different definitions (Ulrich et al., 1996).

Moreover, Sharma (2008) opined that intelligence had been defined in many ways: the capacity for abstraction, logic, understanding, self-awareness, learning, emotional knowledge, reasoning, planning, critical thinking, and problem-solving. It can be described as the ability to perceive or infer information and retain it as knowledge to be applied to adaptive behaviors within an environment or context.

Intelligence enables humans to remember descriptions of things and use those descriptions in future behaviors. It gives humans the cognitive abilities to learn, form concepts, understand, and reason, including recognizing patterns, innovating, planning, solving problems, and employing language to communicate (Stanek & Ones, 2018).

Intelligence is different from learning. Learning refers to the act of retaining facts and information or abilities and being able to recall them for future use. Intelligence, on the other hand, is the cognitive ability of someone to perform these and other processes. There have been various attempts to quantify intelligence via testing, such as the intelligence quotient (IQ) test. However, many people disagree with the validity of IQ tests, stating that they cannot accurately measure intelligence (Bouchard, 1982).

Intelligence is the aggregate or global capacity of an individual to act purposefully, to think rationally and to deal effectively with the environment (Wechsler, 1944). General intellectual functioning (referred to as intelligence quotient) typically refers to one's global or overall level of intelligence (Hartman, 2009).

Historically, intelligence has been quantified through the Intelligence Quotient (IQ) test, which primarily assesses logical-mathematical and linguistic abilities. However, this approach has been critiqued for its narrow perspective, as it may overlook other significant aspects of intelligence (Main, 2023).

Education is a powerful agent of change that improves health and livelihoods and contributes to social stability. At the micro-level, it is associated with better living standards for individuals through improved productivity, given that those who have received a higher education tend to have more economic and social opportunities. At the macro level, education builds well-informed and skilled human capital, considered an engine of economic growth that positively contributes to economic development (Sothan, 2019).

Like other professions, nursing is an essential part of the society from which it has grown and continues to evolve. Nursing is dynamic, relatively static, and reflects the changing nature of societal needs. Nursing is owned by society in the sense that a profession acquires recognition, relevance, and even meaning in terms of its relationship to that society, its culture and institutions, and its other members (Lindeman, 2000).

Nurse education comes under the overall umbrella, and post-commissionable education and training occur after completing compulsory schooling. The principles of nurse education are based upon the Theory and practice of adult learning and, as such, differ significantly from the education of children in school. One of the main differences between curricula in nursing and the national curriculum for children is that nurse education curricula are instrumental, i.e., their purpose is the production of a nursing workforce that is equipped to deal with the demands of the role; vocational relevance is, therefore, a fundamental principle (Quinn, 2000).

Nurse education occurs within two significant contexts: the national changes to the common foundation program, i.e., reducing it to one year, integrating it with branch programs, and introducing clinical skills and practice placements (Quinn, 2000).

Since the curriculum, in this case, the Bachelor of Science in Nursing (BSN) curriculum, is the sum of all the learning content experiences and resources that are purposely selected, organized, and implemented by the school in pursuit of its particular mandate as a distinct institution of learning and human development (Bilbao (2008).

Nurse educators have an essential role in assisting nurses to acquire the skills for self-directed learning. Self-directed learning is essential in assisting nurses to meet the challenges presented in today's healthcare environment (O'Shea, 2003).

Other recommendations relate to the use of learning contracts for clinical placements that give outcomes and competencies to be achieved; curricula should utilize experiential and problem-based learning to facilitate the development of interpersonal and practice skills; healthcare providers and institutions of higher education should work closely together on a range of aspects such as curriculum development, student support placements, and mentor preparation and support (Quinn, 2000).

Nurse educators will have to spend more time tracking scientific developments and their evaluations and must develop nurses committed to remaining intellectually alive in an environment of ambiguity and change. The bottom line (important to reconsider in this marketplace era) for nurse educators is to give up notions of control and predictability and learn to enjoy change and ambiguity. Nurse educators will work in a high-technology environment, preparing nurses to work in a high-technology healthcare environment. Nurse educators will be challenged to structure learning experiences in rapidly changing technology (Lindeman, 2000).

Nursing students within these Higher Education Institutes require more than traditional theoretical classroom teaching. Nurse teachers have a role beyond this in encouraging students to link Theory with practice and practice with Theory. Therein lies a challenge for nurse teachers to remain credible within the clinical setting and continue providing education and support firmly grounded in practice and Theory (Gillespie, 2006).

Patient safety has become a priority concern, and simulators can prepare nurses for mock disasters involving other professionals such as the military, police, firefighters, paramedics, and physicians. Interdisciplinary mock drills are held to prepare communities for disasters better (Hovancsek et al.). Medium and high-fidelity simulation using manikins is an effective teaching and learning method when best practice guidelines are followed. Simulation may have advantages over other teaching methods, depending on the context, topic, and method (Cant & Cooper, 2009).

Moreover, students are studying to become nurses, and they, in turn, will be required to foster helping relationships with their patients (Williams & Stickley, 2010). It is asserted that empathy facilitates the development of mutual trust and shared understandings and, in doing so, is a fundamental quality in any helping relationship. Empathy has become widely seen in the nursing literature as an essential condition of practical nursing care and at the heart of a therapeutic nurse/patient relationship (Alligood, 1992). Empathy is relevant to educators in their influence as a role model to foster positive attitudes and behaviors in student nurses that impact patient care. Empathy is firmly embedded in nursing discourse, such as "empathy" (Williams & Stickley, 2010).

The stated standards for registration as a nurse should be in the form of outcome competencies. A portfolio of practice should be used to demonstrate students' fitness for practice and provide evidence of rational decision-making and clinical judgment. It should also be assessed using rigorous tools for practice assessment (Quinn, 2000).

Section 2 of the Republic Act No. 9173 declared the policy of the State to assume responsibility for the protection and improvement of the nursing profession by instituting measures that will result in relevant nursing education, humane working conditions, better career prospects, and a dignified existence for our nurses. The State guarantees the delivery of quality essential health services through an adequate nursing personnel system throughout the country (Congress of the Philippines, 2002).

In recent years, there has been an increasing interest in student success in nursing. This is critical for nursing schools to prepare students for the nursing licensure examination (NLE). NLE is the final step

before becoming an independently qualified nurse practitioner. The nursing licensure examination is considered a gold standard and is fast becoming a minimum standard in clinical practice in the nursing profession (Almazan, 2019).

The graduates' academic performance and results in the licensure examinations are outcomes of the curriculum that are based on specific targets since an accurate measure of a good curriculum lies in the changed behavior of the learners and the applied learning or transfer of training to other situations. The curriculum can be practical and functional only when the graduates' behavior has improved and they can correctly apply what they have learned (De Leon, 2016).

The question "What is intelligence?" is one of the controversial ones asked. There are vast disagreements about what intelligence is. Indeed, psychologists cannot agree about whether there is a fact such a thing as one intelligence or whether it is made up of several different intelligences. Psychologists have developed tests that assess some but not all of the different areas of intelligence. These aspects can be measured, and the term measured intelligence describes these factors (Oakley, 2004).

Educational entrance examination refers to the extent to which the student is selected to enroll through admission into an educational institution. It is an entire procedure administered to achieve education from primary to higher education (Maseleno et al., 2017).

A psychometric test is an assessment designed to measure cognitive ability, personality, or work behavior to indicate a job candidate's potential to excel in a specific position or career. Psychometric testing takes various forms (e.g., numerical, mechanical, logical, or verbal reasoning) (Practice Aptitude Test, n.d.).

In the United States, students take the Scholastic Aptitude Test (SAT) or American College Testing (ACT). Their performance on these tests affects their college chances (Chong-en et al., 2014). According to Graunke and Woosley (2015), commitment to an academic major and satisfaction with faculty interactions were both found to be significant predictors of grade point averages. This suggests that researchers and practitioners should be cautious in applying what is known about first-year students to students who have progressed beyond the first year and that institutions may want to develop sophomore-specific programs.

Apart from schools at the elementary through high school levels, it is hard to think of a more propitious setting for studying the gamut of character strengths than college (Lounsbury, 2009). The college experience provides many opportunities for students to develop various psychological dimensions, including values, competencies, attitudes, knowledge, beliefs, identity, self-concept, and personality traits (Astin, 1993; Hamrick, 2002). These variables correspond to the two main educational outcomes Astin (1977) identified: cognitive and affective.

Institutions play an important role in motivating students by understanding intrinsic and extrinsic factors that motivate students to remain in college. Colleges and universities should escalate the process of creating bridge programs that link higher education to secondary education. These experiences provide academic and social pathways that assist first-generation students in overcoming inadequate college preparation (Tanjula, 2014).

Knowledge about self-regulation and motivation processes enables students to maximize their college career paths. It allows universities to implement better intervention programs to encourage struggling students to persist and complete their educational studies. College administrators and instructors should focus on developing interventions to instill a healthy sense of self-efficacy in students and teach them how to manage their time effectively. Interventions in the form of learning how-to-learn courses and/or workshops should be designed specifically for first-year students to provide them with helpful adjustment strategies such as setting strategic goals, planning effectively throughout the first year of undergraduate study, and seeking help when needed (Kitsantas et al., 2008).

Academic performance, as represented by a student's cumulative grade-point average (GPA), is generally considered the most critical indicator of college student performance (Astin, 1993; Pascarella & Terenzini, 1991). Moreover, there has been a long-standing emphasis in psychological research on grades

(Lounsbury et al., 2005). However, Mouw and Khanna (1993) state that the ability of any of the predictors to predict college success is disappointingly low.

The Bachelor Science in Nursing (BSN) is a four-year competency-based, community-oriented, and value-based curriculum that prepares the students to The program aims to prepare beginning professional nurses, who shall: render safe, competent and comprehensive nursing care to individuals, families and groups in promotive, preventive, therapeutic and rehabilitative health situations in the hospital or community; be skillful in decision-making and in the use of the nursing process and problem-solving approach; have beginning skills in ward management in the hospital setting, as well as program planning, monitoring and evaluation in a community setting; demonstrate skills in interpersonal relationships used in interactions with clients, peers and other members of the health team; and serve as primary health care workers in any setting.

The purpose of state boards of nursing is not to protect nurses. Therefore, they will not support a nurse whom an employer asks to do something improper. The board of nursing may become involved if the practice will jeopardize clients' health and safety. The board's power, however, extends only to the nurse; it has no authority over the hospital, physician, or surgery clinic (Murphy, 1989).

Therefore, the Nurse Licensure Examination (NLE) grants permission to practice professional nursing and ensures that the person holding the license has met the minimum, first, or entry-level competencies to safely perform nursing activities within the scope of professional nursing practice. In the Philippines, before one can legally practice as a licensed nurse, one has to pass the NLE given by the Professional Regulatory Board of Nursing [PR-BON] (Oducado & Penuela, 2014; Rosales et al., 2014).

The Philippines' Nursing Licensure Exam (NLE) is a nationwide examination administered by the Professional Regulation Commission (PRC). It is a mandatory requirement for individuals who have completed a nursing degree in the Philippines and wish to practice the nursing profession legally in the country. The exam assesses nursing graduates' competencies, knowledge, and skills to ensure that they meet the standards necessary to provide safe and quality care to patients (Bay, 2023).

This Philippine Nurse Licensure Examination consists of five (5) parts namely: Nursing Practice I-Community Health Nursing, Nursing Practice II-Care of Healthy/ At Risk Mother and Child, Nursing Practice III-Care of Clients with Physiologic and Psychosocial Alterations (Part A), Nursing Practice IV-Care of Clients with Physiologic and Psychosocial Alterations (Part B) and Nursing Practice V-Care of Clients with Physiologic and Psychosocial Alterations (Part C). The tests draw basic knowledge, skills, and attitudes in the major subject areas, i.e., Fundamentals of Nursing including Professional Adjustments, Maternal and Child Nursing, Community Health and Communicable Disease Nursing, Nursing of Adolescents, Adults and Aged, and Mental Health and Psychiatric Nursing. The following areas of knowledge will be integrated into the subjects mentioned earlier: anatomy and physiology, nutrition and diet therapy, pathophysiology, parasitology, microbiology, pharmacology, and therapeutics. The nursing process serves as the framework for caring for individuals, families, population groups, and communities in various stages of development in healthcare settings. The focus of nursing care is the promotion of health, prevention of illness, curative and rehabilitative aspects of care, alleviation of suffering, and when recovery is not possible, towards a peaceful death. The examination will test competencies about the eleven (11) key areas of responsibility contained in the Competency Standards of Nursing Practice in the Philippines (Professional Regulation Commission [PRC], 2023).

The study by Amankwaa (2015) sought to unravel whether prior education, sociodemographic characteristics, and nursing Cumulative Grade Point Average (CGPA) could predict performance in the licensure examinations. The results show that the majority, 56.3%, were females, and 86.4% were between the ages of 25 and 31. Most students (88.6%) entered the nursing training colleges with a WASSCE qualification, and 38% read general science. 73.9% passed the licensure examinations, and the mean CGPA of the students was 2.89. Sociodemographic characteristics and previous education did not influence performance in the licensure examinations. CGPA strongly correlated with performance in licensure examinations (AOR = 15.27; 95% CI = 6.28, 27.11). Therefore, students' CGPA could be a good predictor

of their performance in the licensure examinations. On the other hand, students' sociodemographic and previous educational characteristics might not be essential when admitting students into the nursing training program.

Oducado et al. (2020) determined the relationship between institutional terminal competency assessment (TCA) and other factors on the NLE performance of nursing graduates. This study used a descriptive-correlational research design using data sets of West Visayas State University nursing graduates from 2015 to 2017 (N=354). Pearson's r set at .05 alpha level was used in the inferential analysis. Results indicated that TCA was significantly related to NLE performance. Other factors such as High School Grade General Average, College Grade General Weighted Average, and scores on College Admission Tests, Nursing Aptitude Tests, and Pre-board Examinations were significantly correlated with NLE rating. Aside from the known factors in the literature, nursing schools may also benefit from developing and conducting an institutional standardized competency assessment administered at the end of the nursing program to aid in assessing students' likelihood of success in the NLE.

The study of Ong et al. (2012) determined the predictors of licensure examination performance of nursing graduates. The study used the descriptive design using inferential techniques. Some 163 graduates were studied based on their College Entrance Examination performance on IQ tests, nursing aptitude tests, the composite score of science, math, and English tests, college grade point average, and pre-board examination performance, and the correlations of these variables with licensure examination performance. Results revealed that all variables significantly correlated with licensure examination performance, but only two significantly predicted licensure performance: college grade point average and pre-board examination. The study concludes that students' academic performance in their baccalaureate program and the pre-board examination are significant bases in determining the success and failure of students' licensure examination performance.

Rosales et al. (2014) studied the performance in the eight (8) Nurse Licensure Examinations from December 2006 to December 2010 to describe how graduates of colleges of nursing nationwide performed in the tests and to determine the factors that correlate with the examinees' scores. The study included all the graduates of colleges of nursing who participated in the eight Nurse Licensure Examinations. Data were collected through a review of secondary data from the Professional Regulation Commission - the passing percentage and average rating of schools, testing centers in the subjects tested, and the type of examinees. The variables from each NLE were categorized into Examinee, Institutional, Program, and Other variables. Based on the NLE results, the study concluded that those who took the examination for the first time (first timers) performed better and had higher passing percentages and significantly higher average ratings than repeaters in all the NLEs. Among the repeaters, those who took the examination at least twice showed higher passing percentages and average ratings. Examinees from accredited schools also had higher passing percentages and average ratings than examinees from non-accredited schools. Those from government-owned schools showed higher passing percentages in all NLEs and significantly higher average ratings in six (6) out of the eight (8) NLEs than examinees from non-government-owned schools. The study found that accredited and government-owned schools had higher passing percentage average rates than non-accredited and non-government-owned schools. Significant differences were found in the passing percentage and average rating of the examinees across regions and testing centers. Of the five subjects tested, the examinees performed best in Nursing Practice I and III. Their lowest passing percentage and average rating was in Nursing Practice IV. The number of examinees per school appeared not to have affected or influenced the passing percentage or average rating of schools in the eight (8) NLEs. The study reveals significant findings that correlate the performance of Philippine Colleges of Nursing graduates in the 8 NLEs with selected variables, and these findings may provide a better understanding of the issues and problems concerning the performance of examinees in the NLE.

Further, De Leon (2014) investigated the correlation between academic performance and licensure examination results, which were used as bases for curriculum enhancement. The results showed satisfactory academic performance in nursing care management, community health development, and research subjects.

Nursing licensure performances are also satisfactory; however, graduates need help passing medical, surgical, and psychiatry nursing examinations. Academic performance in professional nursing subjects is related to nursing licensure performance. The changes in the curriculum brought additional subject contents, units, hours, and placement in the Bachelor of Science in Nursing (BSN) curriculum. Curriculum enhancement is necessary to improve nursing graduates' academic and NLE performance.

Objectives of the Study

This study determined the correlation between the University of Cebu- Banilad Bachelor of Science in Nursing graduates' psychometric examination results, academic performance (based on Grade Point Average [GPA]), and their ratings in the Philippine Nurse Licensure Examination (PNLE) given by the Professional Regulations Commission (PRC) with the end view of devising a program-level intervention scheme.

METHODOLOGY

This section presents the discussions on the research design, research environment, data sources, research subjects, data gathering procedure, treatment of data, and ethical considerations.

Research Design

This study utilized the descriptive correlation research design to determine the significant relationship between the University of Cebu- Banilad Bachelor of Science in Nursing (BSN) graduates' psychometric examination results and their academic performance; their psychometric examination results and their ratings in the Philippine Nurse Licensure Examination (PNLE) administered by the Professional Regulations Commission (PRC); and academic performance and their ratings in the Philippine Nursing Licensure Examination (PNLE).

Correlation analysis helps determine the degree of relationship between two or more variables (Sharma, 2015; Taylor, n.d.). The measure is best used in variables that demonstrate a linear relationship between each other (Taylor, n.d.). The effect of correlation is to reduce the range of uncertainty. The prediction based on correlation analysis is likely to be more valuable and near to reality (Sharma, 2015).

Research Environment

This study as undertaken at the University of Cebu-Banilad, a private, non-sectarian Higher Education Institution in the Philippines. The University of Cebu envisioned democratizing quality education, being the visionary and industry leader, giving hope, and transforming lives. As its mission, the University of Cebu offers affordable and quality education responsive to the demands of local and international communities. UC-Banilad is located at the center of a residential cum business district in Cebu, offering students professional teaching instructions set on industry-based and world-class standards. Linkages and partnerships with various industries allow students more significant immersion and on-the-job training. The nursing and healthcare undergraduates are trained in Cebu's premier and technologically advanced medical establishments- the St. Vincent General Hospital (SVGH), Vicente Sotto Memorial Medical Center (VSMMC), and the University of Cebu Medical Center (UCMED) while the Information Technology Courses are done in partnership with SMART Communications, IBM and CISCO.

Data Sources

The data about the Bachelor of Science in Nursing (BSN) graduates' psychometric or entrance examination results during the School Year 2014 and 2015 were obtained from the Guidance Office, while the data about the academic performance of the Bachelor of Science in Nursing (BSN) graduates during the

school from 2014-2018 and from 2015-2019 were obtained from the Registrar's Office. The data about their ratings in the 2018 and 2019 Philippine Nursing Licensure Examination (PNLE) was also obtained from the Professional Regulations Commission (PRC).

Research Subjects

The research subjects were the Bachelor of Science in Nursing graduates who took the Philippine Nurses Licensure Examination (PNLE) after completing their Bachelor of Nursing degree (BSN) degree at the University of Cebu-Banilad (UC-Banilad) from 2014-2018 and from 2015-2019, respectively.

Table 1. Distribution of Research Subjects

Batch	Total Population (N)	Sample Size (n)	Percentage (%)
June 2018	128	55	52.88
November 2018	65	15	25.96
June 2019	157	24	14.41
November 2019	62	10	6.73
Total	412	104	100.00

From the total number of four hundred twelve (412) graduates of the Bachelor of Science in Nursing graduates of the University of Cebu-Banilad (UC-Banilad) who took the Philippine Nurse Licensure Examination (PNLE) in 2018 and 2019 for both June and November. Out of the total population, the sample size was one hundred four (104) and was selected using random sampling.

Data Gathering Procedure

The research protocol was subjected to the Academic Research Ethics Committee (UCAREC), and permission to conduct the study shall be obtained from the Campus Director of the University of Cebu Banilad. Permission to conduct the study will be sought from the Campus Director of the University of Cebu-Banilad.

Treatment of Data

The data will be tabulated and analyzed using the appropriate approaches. Frequency count and simple percentage will be used to describe the research subjects' psychometric or entrance examination results and academic and Philippine Nursing Licensure examination performance. Pearson R will be used to determine the significant relationship between the psychometric examination results and the academic performance of the Bachelor of Science in Nursing (BSN) graduates of the University of Cebu- Banilad for batch 2018 and 2019, respectively; BSN psychometric examination results and their ratings in the Philippine Nursing Licensure Examination (PNLE); BSN academic performance and their ratings in the PNLE.

Ethical Considerations

The research protocol was subjected to review by the University of Cebu. This study will ensure that it benefits the target research participants. Hence, the proposed program-level intervention scheme intends to improve the BSN curriculum and deliver quality educational nursing services to primary clientele. The principle of non-maleficence was followed, wherein participants were not to engage in activities that could cause harm or risk their well-being. The data utilized in this investigation will be treated with utmost confidentiality to protect the privacy of the research subjects. De-identification and codes will be used in each set of records, such as the entrance examination, Grade Point Average (GPA), and the Philippine Nursing Licensure Examination (PNLE) rating. Random sampling will be applied to choose the research subject, mitigate bias and discrimination, and prevent the risk of biased evaluation.

RESULTS AND DISCUSSIONS

This section presents the profile of the University of Cebu- Banilad Bachelor of Science in Nursing graduates' psychometric examination results (based on Grade Point Average [GPA]), academic performance, and their ratings in the Philippine Nursing Licensure Examination (PNLE). It also presents the results of the test of significant relationship between the research subjects' psychometric examination results and their academic performance; psychometric examination results and their ratings in the Philippine Nursing Licensure Examination (PNLE); and academic performance and their ratings in the PNLE.

The success of an institution and the success of its students are inseparable. An institution's success in recruitment ultimately depends on evidence that its students are satisfied, persisting to graduation, and thus receiving value for the investment they and their families are making in higher education. Hence, students persisting to completion of their educational goals is a key gauge of student success, and therefore institutional success (Voigt & Hunrieser, 2008).

Likewise, enrollment at each college is affected by the standards at the other college through student portfolio reallocation. In equilibrium, student college sorting may fail: weaker students sometimes apply more aggressively, and the weaker college might impose higher standards (Chade et al., 2014).

Table 2 presents the profile of the research subjects in terms of the psychometric examination results when they applied in the Bachelor of science in Nursing (BSN) at the University of Cebu-Banilad.

Table 2. Research Subjects' Psychometric Examination Profile (n=104)

Components	June 2018 (n = 55)		November 2018 (n = 15)		June 2019 (n = 24)		November 2019 (n = 10)		Total (n = 104)	
	f	%	f	%	f	%	f	%	f	%
OLSAT-G										
Superior	1	1.82	0	0	0	0	0	0	1	0.96
Above Average	0	0	0	0	2	8.33	0	0	2	1.92
Average	21	38.18	6	40	15	62.50	2	20	44	42.31
Below Average	30	54.55	8	53.33	7	29.17	7	70	52	50.00
Low	3	5.45	1	6.67	0	0	1	10	5	4.81
Arithmetic										
Above Average	1	1.82	0	0	0	0	0	0	1	0.96
Average	12	21.82	1	6.67	0	0	1	10	14	13.46
Below Average	28	50.91	13	86.67	2	8.33	4	40	47	45.19
Low	14	25.45	1	6.67	22	91.67	5	50	42	40.39
Reading Comprehension										
Average	9	16.36	1	6.67	0	0	0	0	10	9.62
Below Average	11	20	11	73.33	0	0	0	0	22	21.15
Low	35	63.64	3	20	24	100	10	100	72	69.23

Legend: 128 and above-Superior; 112-127-Above Average; 88-111-Average; 78-87-Below Average; 71 and below-Low

Of the one hundred four (104) research subjects, fifty-two (52) or half of them had below-average OLSAT-G test results, while forty-four (44; 42.31%) obtained average ratings. Only one (1) or only 0.96% had superior ratings in the abovementioned test. It can be inferred from the data that most Bachelor of Science in Nursing (BSN) graduates of the University of Cebu in the school year 2018 and 2019 had low OLSAT-G performance or Intelligence Quotient (IQ) levels.

The OLSAT-G or the Otis-Lennon School Ability Test is an aptitude test high school students take when applying to gifted students or higher-level/advanced courses. It is issued by Pearson, a well-known

publisher of educational materials, to assess a student's natural abilities and aptitude. This will generally be for pupils in grades 9 to 1 (Jobling, 2023).

Moreover, the data also revealed that forty-seven (47) research subjects, or 45.19%, had below-average ability in arithmetic, while forty-two (42), or 40.39%, had low arithmetic abilities. Fourteen (14), or 13.46%, had an average arithmetic ability, and there was also one (1), or 0.96%, who obtained above-average arithmetic abilities. These results show that more BSN graduates of UC-Banilad in 2018 and 2019 obtained below-average arithmetic competencies.

The numeracy test is the most basic numerical aptitude test and is designed to assess the testee's ability to manipulate basic mathematical concepts without the help of a calculator. This cognitive test assesses the candidate's ability to quickly analyze mathematical problems and draw logical conclusions. A distinction must be made between two types of numeracy tests: the numeracy test and the numerical reasoning test (Psychometric Tests UK, 2022).

Bound et al. (2009) said that gaining entrance to a four-year college or university, particularly a selective institution, has become increasingly competitive over the last several decades. Thereby, the admission process in universities is critical. Like any other nation, admissions information has historically been used as a predictor of academic success by most institutions. When evaluated, it may likely help identify students that may be at risk of low academic performance, as well as revolve the factors that may probably predict quality but may not be factors that predict low performance (Agboola et al., 2014).

Academic performance or achievement is the extent to which a student, teacher, or institution has attained their short or long-term educational goals and is measured either by continuous assessment or cumulative grade point average (CGPA) (Talib & Sansgiry, 2012). Table 3 shows the data about the academic performance of the research subjects.

Table 3. Research Subjects' Academic Performance for the School Year from 2014-2019 (n = 135)

Academic Performance	Frequency	Percentage (%)
June 2018 (n=55)		
Very Good	4	7.27
Good	48	87.28
Fair	3	5.45
November 2018 (n=15)		
Good	2	13.33
Fair	13	86.67
June 2019 (n=24)		
Good	4	16.67
Fair	20	83.33
November 2019 (n=10)		
Good	2	20
Fair	8	80
Overall (n=104)		
Very Good	4	3.85
Good	56	53.84
Fair	44	42.31

Legend: 1.0 (Excellent); 1.1-1.5 (Very Good); 1.6-2.5 (Good); 2.6-2.9 (Fair); 3.0 (Passing); 5.0 (Failed)

Of the fifty-five (55) Bachelor of Science in Nursing (BSN) graduates of the University of Cebu-Banilad who took the Philippine Nurse Licensure Examination (PNLE) in June 2018, only forty-eight (48) or 87.28% had an excellent academic performance based on their grade weighted average (GWA). On the

other hand, three (3) of 5.45% had fair PNLE ratings, while only four (4; 7.27%) had very good PNLE scores. It can be deduced from these results that most research subjects obtain grades at the middle level based on the University of Cebu standards on the subjects they enrolled in while studying for a BSN.

Of the fifteen (15) research subjects who took the PNLE in November 2018, thirteen (13) or 86.67% had a fair academic performance, and only two (2), or 13.3%, had an excellent scholastic rating. This data indicates that the majority of them had low grades. Also, based on the records, most of them were retakers or those who failed to pass the board examination on their first and even second attempt.

Further to the twenty-four (24) research subjects who took the June 2019 PNLE, twenty (2) or 83.33% had a fair academic performance, and only four (4) or 16.67% had a good performance. This information denotes that most of the BSN graduates in March 2019 had mediocre ratings in the subjects they took at UC-Banilad.

Moreover, for the ten (10) research subjects who took the November 2019 PNLE, eight (8) or 80% had fair academic achievement, while two (2) 20% had excellent academic performance. It can be gleaned from this information that most of them were struggling to pass the Bachelor of Science in Nursing courses.

Overall, out of one hundred four (104) Bachelor of Science in Nursing (BSN) graduates of the University of Cebu-Banilad for the school year 2018-2019, only four (4) of them had an excellent academic performance based on their grade-weighted average (GWA). Further, the data also shows that fifty-six (56), or 53.84%, got a good class performance, and forty-four (44), or equivalent to 42.31%, obtained a fair academic rating. It can be noted that nursing students need to show superior academic performance. This data implies that BSN graduates have average competencies to grasp knowledge relating to the courses they enrolled in their curriculum while having difficulty attaining excellent academic performance.

Intelligence quotient (IQ) is critical for independent participation in core activities such as education, self-care, and in later life, employment and living independently (Rebecca et al., 2013). The measures of 'Global IQ' reflect an individual's overall 'ability to understand complex ideas, to adapt effectively to the environment, to learn from experience, to engage in various forms of reasoning, [and] to overcome obstacles by taking thought' (Baron & Leonberger, 2012).

However, intelligence and academic performance are different but interrelated concepts as intelligence is said to be one of the most important cognitive factors responsible for the variations in achievement scores (Kaya et al., 2015). Gaining knowledge, attitudes, values, and skills through education is not a simple task but a long and challenging trip in life. Students are expected to study much time and must graduate with good academic results (Tadese et al., 2022). Further, Mahnaz et al. (2013) opined that intelligence is affected by both environmental and biologic factors.

The Nurse Licensure Examination is conducted by the Professional Regulatory Commission (PRC) to screen Bachelor of Science in Nursing (BSN) graduates who will be licensed to practice nursing (Pulgarinas Jr., 2022). Table 4 shows the data about the research subjects' Philippine Nurse Licensure Examination Performance (PNLE).

Table 4. Research Subjects' Philippine Nurse Licensure Examination Performance (PNLE) (n = 104)

Board Examination Performance	Frequency	Percentage (%)
June 2018 (n=55)		
Passed	43	78.18
Failed	12	21.82
November 2018 (n=15)		
Passed	3	20.00
Failed	12	80.00
June 2019 (n=24)		
Passed	19	79.17
Failed	5	20.83

November 2019 (n=10)		
Passed	2	20.00
Failed	8	80.00
Overall (n=104)		
Passed	67	64.42
Failed	37	35.58

Of the fifty-five (55) Bachelor of Science in Nursing (BSN) graduates of the University of Cebu-Banilad who took the Philippine Nurse Licensure Examination (PNLE) in June 2018, only forty-three (43) passed while only twelve (12) or 12.82% failed. Moreover, of the fifteen (15) research subjects who took the PNLE in November 2018, twelve (12) or 80.00% failed, while only three (3; 20%) passed the examinations. It can be gleaned that most of those who took the said licensure examinations did not make it since most of them were retakers or failed in the previous PNLE. Also, the academic performance of these research subjects was categorized as fat, which means they struggled in their academic course while taking the Bachelor of Science in Nursing.

In addition, to the twenty-four (24) research subjects who took the June 2019 PNLE, nineteen (19), or 79.17%, passed, and five (5), or equivalent 20.83%, failed. Moreover, for the ten (10) research subjects who took the November 2019 PNLE, eight (8), or 80%, passed, while two (2) 20 failed. It can be deduced from this information that most Bachelor of Science in Nursing graduates who took the PNLE did not hurdle the examinations considering that they had low academic profiles.

Overall, out of one hundred four (104) Bachelor of Science in Nursing (BSN) graduates of the University of Cebu-Banilad for the school year 2018-2019, only sixty-seven (67) passed, while thirty-seven (37) failed. These results indicate that most BSN graduates from UC-Banilad were able to overcome the difficulties of passing the PNLE.

Russell (2015) divulged that most of the respondents' performance in the Nurse Licensure examination falls in the middle of the normal distribution, which is average, and the number decreases on both extremes of the curve, which are outstanding and poor. This may be due to the complexity of the examination or due to any other external factors.

Table 5 shows the test results of a significant relationship between the research subjects' psychometric examination results and their academic performance (based on Grade Point Average [GPA]).

Table 5. Results of the Test of Significant Relationship Between the Research Subjects' Psychometric Examination Results and their Academic Performance

Paired Variables	Pearson R Comput ed Value	df	Pearson R Critical Value	P- Value	Decisio n	Interpretati on	Strength
Academic Peformance &							
• Intelligence Quotient	0.412	10 2	0.162	0.0001	Reject	Significant	Moderate Correlation
• Arithmetic Abilities	0.423	10 2	0.162	0.0001	Reject	Significant	Moderate Correlation
• Reading Comprehensio n	0.429	10 2	0.162	0.0001	Reject	Significant	Moderate Correlation
Factor Average	0.421	10 2	0.162	0.0001	Reject	Significant	Moderate Correlation

Significant at $\alpha=0.05$ level (2-tailed)

There is a significant relationship between the research subjects' intelligence quotient (IQ) and their academic performance, based on the Pearson R computed value of 0.412, which is more significant than the Pearson R computed value of 0.162. Also, the P-value of 0.0001 is less than a 5% significance level. This result denotes that the cognitive abilities of the Bachelor of Science in Nursing (BSN) graduates influenced their performance in the various subjects in the curriculum they enrolled in.

Akubuilu et al. (2020) posit that intellectual capacity, measured as intelligence quotient (IQ), is one of the determinants of children's school performance. It influences academic achievement, future personal health, and social wellbeing and is of public health significance.

There is also another significant relationship between the research subjects' arithmetic abilities and their academic performance, based on the Pearson R computed value of 0.423, which is more significant than the Pearson R computed value of 0.162. The BSN graduates' numerical competence connects to their abilities to obtain high ratings in the subjects they enrolled in the 5-year curriculum.

Mathematics is essential because it is applicable in daily life and in solving various types of problems (Cazare et al., 2020), as well as having interdisciplinary connections to other parts of the curriculum (Gilat & Amit, 2013). This generalization to routine everyday contexts is a fundamental aspect of being included as a critical skill in education (Mendez et al., 2015). In the case of mathematics, it is included in math competency and essential competencies in science and technology (Perales & Ruiz, 2021).

There is also another significant relationship between the research subjects' reading comprehension and their academic performance, based on the Pearson R computed value of 0.429, which is more significant than the Pearson R computed value of 0.162. It can be gleaned from this information that the BSN graduates' language comprehension influenced their abilities to understand nursing theories.

Unlike watching television or streamed entertainment, reading requires focus. This engages the mind and stimulates more brain regions than passive forms of entertainment. Reading widely allows students to encounter different ideas and ways of understanding the world, compelling them to consider what they believe and why (Australian Christian College, 2019.).

Likewise, Akbasli et al. (2016) opined that many benefits lead students to academic success. In recent years, educators have found that many factors affect students' performance in science and math classes. Significantly, reading comprehension has changed many traditional teaching procedures in math and science. It also shows remarkable benefits.

Table 6 reflects the results of the test of significant relationship between the research subjects' psychometric examination results and their performance in the Philippine Nursing Licensure Examination (PNLE).

Table 6. Results of the Test of Significant Relationship Between the Research Subjects' Psychometric Examination and Licensure Examination Performance

Paired Variables	Pearson R Computed Value	df	Pearson R Critical Value	P-Value	Decision	Interpretation	Strength
BSN Graduates' Psychometric Examination Results & PNLE Performance	0.449	102	0.162	0.0001	Reject	Significant	Moderate Correlation

There is a significant relationship between the psychometric examination results of the Bachelor of Science in Nursing (BSN) graduates of the University of Cebu-Banilad and their performance in the

Philippine Nurse Licensure Examination (PNLE). The findings show a positive moderate correlation between the two paired variables, as denoted in the computed value of Pearson R of 0.449, more significant than the critical value of 0.162. Moreover, the P-value was less than a 5% level of significance. Thus, the null hypothesis was rejected. This result indicates that the research subjects' entrance examination subjects during their application to the BSN program are connected to their passing in the PNLE. It can be gleaned from this data that the intelligence quotient, arithmetic, and language abilities played an essential role in preparing BSN students to be successful in the licensure examinations.

Oducado et al. (2019) revealed pre-entry qualification, academic performance or achievement in nursing school, and pre-board examination significantly correlate with Nurse Licensure Examinations (NLE) rating. They opined that the use of students' pre-admission qualification, academic performance in nursing school, and terminal test scores might assist nursing schools in identifying the performance of nursing graduates in the Nurse Licensure Examinations (NLE) that may be useful in the development of admission and retention policy in the nursing program.

Pearson product-moment correlation coefficient was computed to assess the relationship between the research subjects' academic performance (based on grade weighted average (GWA) and their performance in the Philippine Nurse Licensure Examination (PNLE). Table 7 shows the results.

Table 7. Results of the Test of Significant Relationship Between the Research Subjects' Grade Point Average (GPA) and their PNLE Performance

Paired Variables	Pearson R Computed Value	df	Pearson R Critical Value	P-Value	Decision	Interpretation	Strength
Research Subjects' GPA & PNLE Performance	0.449	102	0.162	0.0001	Reject	Significant	Moderate Correlation

There is a moderate positive correlation between the research subjects' academic performance and their performance in the Philippine Nurse Licensure Examination (PNLE), as shown in their Grade Point Average (GPA), based on the Pearson R value of 0.449, which is greater than the Pearson R critical value of 0.162. Also, the P value of 0.0001 is less than the 0.05 significance level. This result implies that the higher the on-grade weighted average (GWA) or academic grades of the Bachelor of Science in Nursing (BSN) of the University of Cebu-Banilad graduates, the higher their abilities to hurdle the rigors of the Philippine Nurse Licensure Examinations (PNLE) and pass the same.

The student's academic performance in their baccalaureate program and their performance in the preboard examination are significant bases in determining the success and failure of students' licensure examination performance (Ong et al., 2012).

CONCLUSION

The Bachelor of Science in Nursing (BSN) program aims to prepare the students to develop competencies to render safe, competent, and comprehensive nursing care to individuals, families, and groups in promotive, preventive, therapeutic, and rehabilitative health situations in the hospital or community. They need to have a high intelligence quotient (IQ), numerical abilities, and language comprehension so that they possess the competence to make sound and appropriate decisions in the use of the nursing process and problem-solving approach. Likewise, they should have high scholastic attainment. There are the necessary elements that prepare them to hurdle the rigors of getting the license to practice as a nurse in the Philippines. Hence, the BSN students' cognitive abilities and performance in the different

courses taken are vital predictors of success or failure in the Philippine Nurse Licensure Examination (PNLE).

TRANSLATIONAL RESEARCH

Concerning the salient findings of this investigation, the Dean of the College of Nursing of the University of Cebu-Banilad shall undertake a program-level intervention scheme emphasizing strengthening the teaching-learning process towards optimizing the potentials of the Bachelor of Science in Nursing (BSN) students. The proposed intervention scheme shall include curricular reinforcement activities and co-curricular activities to directly connect the knowledge of the learning materials to nursing skills. The teaching-learning activities aim to prepare the BSN students to be critical players in the healthcare industry.

To produce globally competent nursing graduates, the intelligence quotient (IQ), numerical and language comprehension, and academic performance are critical indicators to quantify if this goal is realized and materialized. Proper instructional delivery shall be implemented to ensure the university's ultimate goal is realized and materialized—the proposed program-level intervention scheme, the plan's design, and strategic implementation. The key result areas cover not only the students' side but also the educators' side in mobilizing the said plan. This proposal is intended to be based on the study's findings.

The proposed intervention scheme aims to increase the quality of students' business competencies. This objective will be quantified by increasing their IQ and academic performance to prepare them for the Philippine Nurse Licensure Examination (PNLE).

Proposed Program-Level Intervention Scheme

Key Result Area	Objectives	Scheme of Implementation	Budget	Locus of Control	Expected Output
1. BSN students' fair/low academic performance	- To improve the academic performance of the BSN students - To increase the students' IQ level, arithmetic abilities and reading comprehension	Align instructional approach to learning standards. The course instructional delivery must be properly mapped and aligned to the intended learning objectives & outcomes. It can be determined if the instructors and the department head have a measurable learning target since the students' mastery on the course is dependent on the instructional methodologies and strategies provided by the teacher/clinical instructor. It is proposed that the <i>instructors shall be evaluated by the Dean/ Level Chair to determine their training needs in order to improve their teaching competencies.</i> Align formative and authentic assessments to the KSA/ Learning Competencies set for the BSN program's courses. Assessments are	Proposed budget will be based on the training needs of the instructors.	Dean Level Chair Human Resource Director Campus Director Vice-Chancellors for Academic Affairs President	To increase the number of BSN students at 80% to reach excellent or very good academic performance

significant indicators in determining the students' ability to attain the intended learning objectives. Hence, the proper combination of formative and authentic assessments is essential. On the issues of low academic performance based on the GPA, it directly relates with BSN students' level of learning of the said course. Also, the assessments' alignment with the target KSAs. The course content designed by the respective instructor should identify the proper combination and alignment of these formative and authentic assessments that target the attainment of the intended learning competencies.

- **Proper feedbacking program.** There should be proper implementation of the feedbacking program to the students' academic performance, especially in the major courses. The issues to be hurdled are time constraint, big class size, since the instructors find it hard to provide individual feedbacking activities.
- **Amend, align and intensify the standards and evaluation criteria for research and presentation skills of the students.** Updated standards for evaluation criteria are needed to be aligned with the intended learning objectives and the required competencies that the healthcare industry's standard has set. Intensify BSN students' motivation and interest in research and presentations will also be very helpful in improving their professional nursing competencies.
- **Empower the community.** The spirit of collaboration, immersion and networking with the different healthcare stakeholders would be essential for the students to be exposed to the real-world healthcare setting.

Strategy Fitness:

- *Up-to-date instructional material/resources for students and instructors*
- *Intensifying consultation programs*
- *Periodic student progress monitoring*

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