

RESEARCH ARTICLE

THE ACADEMIC AND LICENSURE EXAMINATION PERFORMANCES OF BACHELOR OF SCIENCE IN NURSING GRADUATES IN A STATE COLLEGE

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Abstract

The practice of safe and effective nursing care is what a Bachelor of Science in Nursing graduate can provide based on the established competencies of the curriculum. However, they need to be on the list of registered nurses before entry into practice. This study analyzed the academic and licensure examination performances of Bachelor of Science in Nursing graduates in a state college to ascertain relationships and predictors of the licensure examination as the basis for future planning. Descriptive-retrospective design was utilized where 208 graduates who took their licensure examination from 2013 to 2017 were conveniently chosen. Statistical Package for Social Sciences Version 22.0 was used where Pearson product-moment correlation coefficient and Simple Regression Analysis were employed. The academic and nurse licensure performances of graduates were found lower than the ideal and are opposite in terms of skewness and kurtosis. Moreover, a strong positive relationship was noted between the graduates' performances in their academics and licensure examinations. 5 from 21 nursing courses are significant predictors with strong unique contributions to the nurse licensure examination at which 2 from the 5 were found common in all parts of the examination. Thus, it is vital to always look into predictors as basis in the modification of institutional policy on curriculum implementation.

Keywords: *Academic performance, Philippine nurse licensure examination, Nursing education, Nursing professional courses, Nursing program*

Introduction

The United Nation established the Sustainable Development Goals to change the world for the better. At which, quality education in any discipline is one that must be imposed and sustained for it is considered the primary avenue for upward social and economic mobility (Pontillas, 2018). Bachelor of Science in Nursing (BSN) is a discipline in education that is focused on the arts and science of caring. This profession is global in nature not only in nursing practice but also in the field of research, academe, and alike. Koy (2015) posed that nursing is an important profession in providing health care services. Therefore, nursing schools that play a major role in producing professional nurses must move forward together to strengthen nursing education and nursing service in ASEAN countries and the world. At this point, its implementation should be congruent with the standard set for quality education that is essential before the graduates go into practice. The ASEAN Mutual Recognition Arrangement on Nursing Services disclosed the strengthening of professional capabilities. This is by promoting the flow of relevant information

and exchange of expertise, experience, and best practices suited to the specific needs of ASEAN Member Countries.

In the Philippines, nursing education is guided by a memorandum from the Commission on Higher Education (CHED). It served as the framework in the implementation of quality nursing education based on qualifications mandated by CHED Memorandum Order (CMO) 14, series 2009 as well as the nursing competencies learners need to acquire. These competencies are essential features of the Philippine Nurse Licensure Examination (PNLE) as directed by the Philippine Nursing Act of 2002 or Republic Act 9173 before the practice of nursing. Oducado & Penuala (2014) affirmed that, before one can legally practice as a licensed nurse, one must pass the Nurse Licensure Examination (NLE) given by the Professional Regulatory Board of Nursing (PR-BON). Moreover, Havrilla, Zbegner, & Victor (2018) asserted that the passing rate in the national licensure examination for nurses is considered a key indicator of the quality of the nursing program.

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Furthermore, it was believed that the process on how learners learn promotes the quality of nursing competencies. It was equated that having a good academic performance would increase the chance of passing the PNLE. Hence, it became a measurement basis on the number of graduates who will pass the PNLE. This was affirmed by Kiblasan, Abufayed, Sehari et al. (2016) on how learners can be learned usually depend on the learning style they prefer and the habit they utilized that will lead them to success. At this point, adherence to the CMO that governs the implementation of nursing education is essential. Furthermore, Hon. Carmelita Divinagracia (n.d), one of the members of the Professional Regulation Commission (PRC) Board of Nursing, expressed in her message in the Philippine nursing education scene today that, the globalized demand is pushing the academe to come up with innovative programs that fit the current contexts and needs of nursing. Inability to adopt to current trends and demands poses a threat to the image of Philippine nursing abroad and exacerbates the quality of nursing and health service in our own country. On the other hand, Rabanal (2016) suggested to come up with quality output in the success of the nurse licensure examination leading graduates towards employment. Educational institutions should continue to seek professional development ventures for the improvement of teaching competencies and professional preparations. Bautista, Ducanes, and David (2019) posed that Higher Education Institutions should consider decreasing their student-faculty ratio to improve Nurse Licensure Examination performance due to a downward trend among those taking and passing the NLE between 2010 and 2016. Whereas, Belo-Delariarte, Oducado, & Penuela, (2018) affirmed that Terminal Competency Assessment (TCA) is an institutional assessment given to all graduating students to determine their workplace readiness and assess their performances in the different behavioral competencies and specialized knowledge. Moreover, the stance of Lagano (2017) on Licensure examination for Teachers is used to check the quality of the graduates of Teacher Education Institutions in the country. From this, Castillo (2017) suggested that schools should look for corrective measures to perform better in the next examinations.

In the Cordillera Administrative Region, fifty percent of state universities and colleges offered the BSN academic program. One of which started in 2004 with 247 enrollees that decline as they go to the next level of their studies. Indeed, only 42 graduated in 2008. Though not all of them took the PNLE, there was a high rate of licensure examination performance. However, the succeeding batches showed up-and-down traces. The sudden decline in the number of students as they progress in their schooling and the unpredictable direction of licensure examination performance are not good indications in terms of the sustainability of quality curriculum implementation. At this point,

this endeavor was conceptualized intentionally to analyze the academic and licensure examination performances of BSN graduates, ascertain the relationship, and identify what nursing professional course/s that predict/s their performance in the PNLE as a basis in planning for the betterment of the program implementation.

Methodology

Descriptive-retrospective design was utilized for it described the characteristics of a population or phenomenon being studied and does not answer questions about how, when, or why the characteristics occurred, but rather, it addresses what the characteristics of the population or situation are being studied (Shields & Rangarjan, 2013). Further, data used in this study were the academic performance and the licensure examination results of BSN graduates from school years 2013 to 2017. Academic performance was measured using the graduates' data on their nursing professional courses. The 2 elective courses were excluded because these are dependent on the preference of the assigned teaching staff from the choices stipulated in the CMO No. 14, series 2009 of the Philippines. Often times, their concepts are also integrated into the NCM courses.

Moreover, this study utilized convenience sampling for it is the only way to contain up participants at which sample items are all connected in some way. Whereas, this study considered all BSN graduates who took their PNLE from 2013 to 2017 which is either first or re-takers. At this point, 208 was provided by the PRC through the college representative who requested the summary list of the examinees' names and their scores while their academic performance was obtained from the college registrar upon the approval of the College President. Further, only grades or scores were considered in this study. Names were only used in retrieving needed data and the document disclosing the names was properly disposed for confidentiality.

Furthermore, data were subsequently subjected to statistical treatment using the Statistical Package for Social Sciences Version 22.0 (SPSS). Mean, standard deviation, skewness, and kurtosis were used to find the general features of the distribution that is considered as the most dependable criterion. Skewness assesses the extent to which a variable's distribution is symmetrical while Kurtosis is a measure of whether the distribution is too peaked or a very narrow distribution with most of the responses in the center. (Hair, Hult, Ringle and Sarstedt, 2017) Moreover, Pearson product-moment correlation coefficient (PPMCC) was employed to investigate the relationship of graduates' academic performances and their PNLE ratings. Simple Linear Regression Analysis was utilized to determine nursing professional courses that best predict the PNLE.

Table 1. *BSN graduates' Academic Performance and their Licensure Examination rating*

Variables	Mean	Std. Deviation	Skewness	Kurtosis
Academic Performance	81.42	2.3408	.570	.351
Nurse Licensure Examination	72.49	6.0428	-.856	.225

Table 2. *Relationship between the BSN graduates' academic performance and their licensure examination rating*

Variables		Academic Performance	Licensure Examination Performance
Academic Performance	Pearson Correlation	1	.514**
	Sig. (2-tailed)		.000
	N	208	208
Licensure Examination Performance	Pearson Correlation	.514**	1
	Sig. (2-tailed)	.000	
	N	208	208

Results and Discussions

Academic Performance and the Nurse Licensure Examination

Academic performance referred to BSN students' achievements in their professional courses at which percentage has been used in scoring. 100 percent is the highest while 75 is the passing grade. Below 75 is considered failed at which, any student to incur below 75 must re-enroll the course. On the other hand, PNLE is an assessment process on nursing competencies before practice. Its scoring is the same as that of academic performance. Table 1 revealed the academic performance and licensure examination of BSN graduates. Grades of BSN graduates in their professional courses were considered for it was the most important feature that is expected to be relevant to their licensure examination and is the source of variability among students. As gleaned from the table, the two variables were skewed oppositely. The academic performance was moderately skewed to the right which means that more students got lower scores or grades than what is normally expected. The reasons behind could be the instructors or educators give lower grades to those whose performance was lower than the expected and the tests or activities they were administering were generally easy.

On the other hand, the nurse licensure examination result was highly skewed to the left which shows that most of the graduates have secured much better grades when they were students. Two probable reasons for this deviation from normalcy are the kind or type of test questions and activities they incurred during college days and the educational system of the school they graduated from. Further, academic performance is leptokurtic which

denotes further investigation on how graduates can learn academically in preparation for their licensure examination. On the other hand, nurse licensure examination is Platykurtic which signifies the lack of outliers due to extreme values that are less than the normal distribution.

Relationship of the Academic Performance and the Nurse Licensure Examination

There were times that we want to know whether two variables of our research are related to one another. If they are related, we want to know the extent that is whether strong or weak and what is the direction of its relationship. At this point, Table 2 disclosed the validated relationship of the BSN graduates' academic performances and their licensure examination rating. As gleaned from the table, the statistically derived values that are essential in validating the relationship of the BSN graduates' academic performance and their licensure rating has a strong positive relationship. The finding corroborates with the study of De Leon (2016) where academic performances in nursing professional subjects are related to nursing licensure performance.

Therefore, if academic performance of graduate is high, the licensure examination performance also becomes high and if it is bad, the other also becomes bad. Thus, nursing professional courses has great influence to test takers in the PNLE at which it can be presumed as predictor of the licensure examination. The result is supported by the study of Rosales, Arugay, Divinagracia & Palaganas (2014) which revealed the significant findings that correlates the performance of graduates of Philippine colleges of nursing in 8 Nurse Licensure Examinations (NLE) with selected variables. Their findings may provide a better understanding of

the issues and problems concerning the performance of examinees in the NLE. Further, Rudio (2013) discovered a significant relationship between the academic performance of the graduates and their performance in the Licensure Examination for Teachers (LET) while Lockie, Van Lanen, & Mc Gannon (2013) concluded that level of performance in nursing school is crucial to achieve a high Professional Board Examination – a critical factor to pass the Philippine Nurse Licensure Examination. In contrary, Soriano (2016) asserted that, academic performance in a City-Subsidized University is inversely correlated to the nurse licensure examination.

Predictors of the Nurse Licensure Examination

Making predictions is a valuable strategy to improve learning. Predictors, according to Cambridge dictionary, is an event or fact that enables anyone to pennyworth what will happen in the future, encourage them to actively think ahead and ask questions, and allows them to learn then make connections to what they must learn that is vital. In this research, academic performance of BSN graduates is the independent variable while the dependent variable is their PNLE rating. Learners can make predictions about licensure examination based on their learnings that can lead them to become actively involved in the learning process. An example is the finding of Soriano (2016) that Critical Appraisal II, Nursing Care Management 104, and Nursing Care Management 106 were significant predictors of graduates in the nurse licensure examination.

There were 21 professional courses assumed as predictors. These are: Nursing 11 (Theoretical Foundations of Nursing), NCM 100 (Fundamentals of Nursing Practice), Nursing 12 (Health Assessment), NCM 101 (Care of Mother, Child & Family), Nursing 13 (Community Health Nursing), NCM 102 (Care of Mother, Child & Population Group at Risk or with Problems), Nursing 14 (Nutrition and Diet Therapy), Nursing 15 (Pharmacology), Nursing 16 (Health Education), NCM 103 (Care of clients with Problems in Oxygenation, Fluid and Electrolyte Balance, Metabolism and Endocrine),

NCM 104 (Care of Clients with Problems in inflammatory and Immunologic Response, Perception and Coordination), NRES 1 & 2 (Nursing Research 1 and 2), NCM 105 (Care of Clients with Maladaptive Pattern of Behavior), NCM 106 (Care of Clients with Problems in Cellular Aberrations, Acute Biologic Crisis including Emergency and Disaster Nursing), CA 1 (Competency Appraisal 1), NCM 107-A (Leadership and Management–Lecture), NCM 107-B (Leadership and Management – RLE), INP (Intensive Nursing Practicum), CA 2 (Competency Appraisal 2), and NURSING 17 (Nursing Appraisal).

On the other hand, there are five (5) parts of the PNLE. These are NURSING PRACTICE I – Foundation of PROFESSIONAL Nursing Practice, NURSING PRACTICE II – Community Health Nursing and Care of the 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). Simple regression was used on proper identification of predictors.

Table 3 revealed only the significant predictors of the PNLE in each nursing practice test. As per the rule of thumb of simple regression, a nursing professional course is considered a significant predictor if computed p-values is smaller than 0.05. And if it closer to zero, the extent of significance is stronger.

Table 1. Simple Linear Regression Analysis of predictors in the Philippine Nurse Licensure Examination

Variables	Predictors	Std. Error	Standardized Coefficients	R ²	p-value
NURSING PRACTICE I – Foundation of PROFESSIONAL Nursing Practice	(Constant)	19.806		0.259	0.028
	Nur16	0.143	0.148		0.035
	NCM101	0.184	0.200		0.049
	NCM106	0.19	0.301		0.001
NURSING PRACTICE II – Community Health Nursing and Care of the Mother and Child	(Constant)	19.084		0.296	0.020
	NCM101	0.177	0.284		0.004
	NCM106	0.183	0.158		0.041
NURSING PRACTICE III – Care of Clients with Physiologic and Psychosocial Alterations (Part A)	(Constant)	22.437		0.318	0.029
	Nur16	0.163	0.169		0.035
	NCM101	0.208	0.248		0.011
	NCM102	0.219	0.194		0.034
NURSING PRACTICE IV – Care of Clients with Physiologic and Psychosocial Alterations (Part B)	(Constant)	25.66		0.359	0.041
	Nur16	0.186	0.197		0.011
	NCM101	0.238	0.263		0.006
	NCM106	0.246	0.416		0.001
NURSING PRACTICE V – Care of Clients with Physiologic and Psychosocial Alterations (Part C)	(Constant)	23.849		0.347	0.002
	NCM101	0.221	0.267		0.005
	NCM102	0.233	0.153		0.036
	NCM106	0.228	0.271		0.002

Generally, NCM 101 and NCM 106 were found significantly predicted the PNLE in all nursing practice tests. To a surprise because, Nursing Practice I focused on the foundation of professional nursing practice while NCM 106 is on higher level of learning. This is an awakening concern because foundation of nursing practice was integrated across the BSN program. Though, it is usually introduced and practiced in the earlier stage, it must be demonstrated independently in the latter.

Moreover, as to level of significance at 0.010 (highly predictive) and 0.001 (very highly predictive), it was gleaned from the table that NCM 101 is highly predictive in NURSING PRACTICE II, IV, and V. This only shows how important the concepts and skills on basic foundation of nursing practice particularly on nursing process. While NCM 106 which belongs to the higher level of courses is highly predictive in NURSING PRACTICE I and V but very highly predictive in NURSING PRACTICE IV. NCM 106 focused on care of clients with health problems on Acute Biologic Crisis, Emergency and Disaster Nursing, and Cellular Aberration. Taking into consideration its contents, the basic nursing skills learned in lower level of the BSN program is still very much important to be practiced independently in support to other higher level of patient care taught in the said course. This is an issue that needs to be addressed for it seems that only those students who are almost complete in their nursing education are the most concerned in passing the PNLE. It's nice to know that NCM101 was one of the predictors in all part of the exam. However, it is still a must to develop learners' higher order levels of thinking. This is to let them move beyond remembering and recalling information and lead them to move deeper into application, analysis, synthesis, evaluation, and creation. Considering the strong relationship of the academic performance and licensure examination rating of the BSN graduates, implementation of programs that develop learners' abilities beyond memorization should start as early as their first year of studies and sustained up to the last year of the program.

On the other hand, the b coefficients tell us up to what extent the PNLE performance increases in each predictor. Like so, 1-point increase in each of the identified predictor corresponds to the computed value of standardized coefficient, which is the point of increase in the PNLE performance. This means that, the lower the computed p-value, the higher the standardized coefficients. One thing, if the standardized coefficient is positive, there is association between the two variables. At this point, it was observed that all standardized coefficients are positive numbers which denotes that all predictors are associated with PNLE performance. However, we cannot always use for comparing the relative strengths of our predictors because they depend only in the scales.

Conclusion and Recommendations

The academic and licensure performances of BSN graduates were found to be lower than the ideal and better than their performance in the PNLE. Furthermore, a strong positive relationship was noted on the learner's learning behaviors and their performance on PNLE.

On the other hand, 5 courses, namely NCM 101, NCM 106, Nurs 16, NCM 102 and INP, were found as significant predictors of PNLE. Out of the 5 courses, NCM 101 and NCM 106 were the common predictors in all nursing practice tests. Further, NCM 106, which belongs to higher level of courses, was found highly predictive. With this, students who are almost complete in their program are the most concerned in passing the PNLE. Based on the study results, learners must be taught higher order levels of thinking as early as their first year in the nursing program. This will enable learners to go beyond memorization and recall as they move into application, analysis, synthesis, evaluation, and creation. This must be sustained up to their last year in the program.

With the strong relationship of academic performance and nurse licensure examination, institutional policy on curriculum implementation and educators' attributes play a vital role in building the niche of the learners in preparation to all endeavors they need to accomplish and perform after graduation. Moreover, this paper challenges educators to continuously improve their instructional materials and use the best strategy in educating their learners.

Further, continuous validation studies should be done to closely monitor not only the predictors but other aspects in nursing education that will equip learners' holistic learning that is essential to the licensure examination and practice of nursing.

Lastly, this research should be reconducted to expand its scope such as factors affecting teaching-learning process.

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