

The Predictive Strength of Academic Performance in Passing the Philippine Nurse Licensure Examination

Jordan H. Llego^a, Salman Al- Saqri^b, Ellen P. Gabriel^c, Jennie L. Corpus^d, ^{a,b}College of Nursing, University of Ha'il, Kingdom of Saudi Arabia, ^aGraduate School, Texila American University, Georgetown Guyana, ^{c,d}College of Nursing, University of Luzon, Philippines, Email: ^allegojordan@gmail.com, ^bs.alsaqri@uoh.edu.sa, ^culcn@ul.edu.ph, ^dJennie.corpus@gmail.com

This study aimed to examine the existing relationship between academic performance and Philippine Nurse Licensure Examination (NLE) rating; assess the predictive strength of academic performance in passing the Philippine NLE; and find out the percentage of contribution of academic performance of nursing graduates in passing their Philippine NLE. This study used correlational and regression analysis. Total enumeration was employed through the use of archives, with 107 collected data from nursing graduates batch 2014- 2016. Data collection was from June 2018 to July 2018. The statistical test used were mean, SD, Pearson-r and Multiple Regression Analysis. Results were as follows: regarding grade in Nursing Care Management (NCM) Courses the mean (SD) score is 80.21 (2.27), regarding Related Learning Experiences (RLE) Courses the mean (SD) score is 83.83 (2.17), regarding the Pre-board rating the mean (SD) score is 72.89 (6.98), and Philippine NLE rating has mean (SD) score of 72.89 (6.98). Regarding the relationship between academic performance and Philippine NLE rating, for NCM Courses Pearson-r scored ($r= 0.59$, $n= 107$, $p= 0.001$); regarding RLE, Pearson-r scored ($r= 0.56$, $n= 107$, $p= 0.001$); regarding the Pre-board rating, Pearson-r scored ($r= 0.32$, $n= 107$, $p= 0.001$). The predicted NLE Rating, $F(3, 103) = 21.07$, $p= 0.001$, $R^2= 0.38$. Furthermore, the predicted NLE rating = $-49 + (3.26 \times \text{Nursing Care Management Grade}) - (1.73 \times \text{RLE Grade}) + (0.08 \times \text{Pre-Board Exam Rating})$. Conclusions include: Academic Performance of the nursing graduates has moderate influence in passing the Philippine NLE. Also, grades in NCM and RLE courses and Pre-Board Examination is a weak determinant in passing the Philippine NLE, and

grade in NCM courses has the highest predictive value in passing the Philippine NLE. The nursing education the respondents received during their baccalaureate year has relatively low influence, about 38% contribution in passing the NLE.

Key words: *Academic Performance, Graduate Nurses, Multiple Regression Analysis, Nurse Licensure Examination, Philippines.*

Introduction

Securing a license to practise nursing is the final step in fulfilling the dream of becoming a Registered Nurse in the Philippines. This caring profession demands the combination of acquiring enough knowledge, proficient skill and possession of appropriate values. Not everybody has the potential to give care to patients because it requires procedures that ensures the delivery of safe and quality nursing care. Nursing students who want to practise nursing in the Philippines need to undergo the final screening for them to practise which is the Philippine Nurse Licensure Examination.

The mission of any educational system is to discover and develop the minds of individuals to become productive citizens and well-prepared for life. Learning experiences in academic institutions leads and strengthens the base of one's development towards achieving their goal in life. To achieve this, students should have a strong foundation and should receive a quality education (Navarro, Vitamog, Tierra, Gonzalez, 2011). One way to gauge the quality of nursing education is through the board exam performance of graduates. Passing the nurse licensure examination assures that the nursing graduate is ready to enter the world of professional nursing; it is also the gauge of the 11- core competency of a Filipino nurse set by the Philippines Professional Regulations Commission- Board of Nursing (PRC-BON) in the year 2005 (Professional Regulation Commission, 2005). It is implicated that poor Nurse Licensure Exam (NLE) rating means poor quality of education.

The Philippine NLE is a 500-item exam that tests the first level nursing competencies. It is a five-part exam; each exam is 100 points; part one covers Fundamentals and Professional Nursing Practice; part two covers Community Health Nursing and Care of Normal and High-Risk Mother and Child; and parts three to five cover the Care of the Clients with Physiologic and Psychosocial Alterations. To pass the exam, the results should have a 75% average and no grade less than 60 in any parts of the exam. The results of the NLE are considered to be a significant determinant of the quality of nursing education provided to future professional nurses towards competent nursing practice (Rosales et al., 2014).

Maintaining quality education is equivalent to quality human resources. Poor nursing graduates means poor nursing care. Hence this study is an eye-opener to learning institutions to provide a better quality nursing education so that their graduates would be a quality human resource that could contribute to the improvement of the nursing practice.

The Philippines is known as one of the suppliers of nurses in the whole world. It is also a challenge to meet the demand of nurses for the whole world; with the current status of the passing percentage of NLE takers, the Philippines may not catch up with demands to supply nurses. It is also empirical that in the coming years, there will be a shortage of nurses because of retirement.

Review of Literature

In the United States of America, the quality of the nursing program is evaluated, also using the success rate of takers of the National Council Licensure Examination for Registered Nurses (NCLEX-RN) (Bondmass et al., 2008). In the Philippines, all the professional boards under the Professional Regulation Commission use the board rating as one parameter to measure quality education. Meanwhile, another way to assess the performance of a University is the academic performance of its students (Abubakar et al., 2018). According to Shelton and Pedersen (2017), academic performance is the grade point average (GPA) earned by students. The tertiary institution uses GPA as a summary measure of the academic performance of the students. Williams (2018) claims that GPA carries more weight in professions such as law, medical, and finance. In this regard, a nursing graduate needs to have an above passing GPA. It is, therefore, implicated that if a student performs well in academics, the success rate of delivering quality education is also high.

There are few research works regarding the relationship between academic performance and licensure examination rating; one of these is the work of Dardis (1984, cited on June 2019), wherein she studies the relationship between GPA and NCLEX rating using regression analysis; the author claimed that GPA is proven to be useful as a predictor in passing the NCLEX. Meanwhile, in Professional Teaching in the Philippines, Garcia (2013) conducted a test of the relationship between the academic performance of graduate teachers and their licensure exam rating using Pearson-r; the author claimed that academic performance of examinees is not a determinant for passing the Licensure Exam for Teachers (LET). On the other hand, Apare, Arcilla, and Vasquez (2018) conducted a similar study and concluded that there is a positive relationship between academic performance and LET rating.

Also, Roman (2018) conducted a test of relationship using Pearson- r to check the significant relationship of the pre-board exam rating of graduates of a Bachelor of Science in Elementary Education and a Bachelor of Science in Secondary Education and their LET

rating. The author found out that there is no significant relationship between the two variables.

In the study of Rosales et al. (2014), they found out that there is a significant decline in the passing percentage of NLE, which is equivalent to the decrease of the quality nursing education. The authors attributed this to the rapid proliferation of nursing schools and programs. There are nursing schools that are even below the national passing percentage of the NLE.

In this review of literature, it is worth noting that there is limited data available for the relationship between academic performance and NLE; the available literature and data in the Philippines are focused in the teaching profession. Moreover, the work of Dardis was completed in 1984, more than two decades ago, which needs to be updated. Furthermore, the study of Rosales et al. (2014) did not look at the relationship between the academic performance and NLE rating, and the predictive strength of academic performance in passing the NLE. With all these in mind, this prompted the researchers to conduct this study.

Objectives of the Study

Taking into consideration the available literature, the researchers aimed to 1) examine the existing relationship between academic performance: a. Grades in Nursing Care Management (NCM) Courses; b. Grades in Related Learning Experience; c. Pre-Board Rating) and NLE rating; 2) assess the predictive strength of academic performance: a. Grades in Nursing Care Management (NCM) Courses; b. Grades in Related Learning Experience; c. Pre-Board Exam Rating in passing the NLE; and 3) determine the percent of contribution of academic performance of nursing graduates in passing their Philippine NLE.

Hypothesis

This study was guided with the hypothesis that there is no significant relationship between academic performance and NLE rating; and there is no significant prediction on the board examination rating by the classroom, clinical, and pre-board performance.

Methodology

This study used a correlational-regression approach using the archive data available in the college of nursing at a University in Pangasinan. The study aimed to look at the relationship between the academic performance of the nursing graduates and their NLE rating and to examine the predictive strength of the academic performance of the nursing graduates and

their NLE rating. This study tried to look at the existing relationship between the academic performance of nursing graduates and their NLE rating without inferring causation. Hence correlational design was utilised. Moreover, this study also looked at the predictive strength of academic performance (grades in NCM and RLE courses, and Pre-Board rating) in passing the NLE. Hence, multiple regression analysis was used (Polit and Beck, 2017).

Total enumeration was utilised in this study; this was to represent the nursing graduates adequately (Laerd, 2012). In the available data, there were 107 available for data organisation and analysis. This study focused on the data of the nursing graduates from 2014 to 2016 at a University in Pangasinan. Included in this study were the graduates who took the NLE for the first time. Excluded in the data analysis were the data from the retake exam, non-nursing courses, and foreign nurse licensure examination.

For ethical consideration, this study focused on a single University and numeric measurement in passing the Philippine NLE. The researchers sought the permission of the Registrar's Office of the University to access the academic performance of the nursing graduates, and there were only two components that were requested, namely: Nursing Care Management Courses and Related Learning Experience Courses. Regarding the Pre-board rating and Philippine Nurse Licensure Exam Rating, the researchers sought the approval of the Dean of the College of Nursing since she was the keeper of the records. The researchers treated the data with anonymity and confidentiality. Moreover, the descriptive data on academic performance and NLE ratings were not divulged in this study. Also, no coercion or reward system was implemented throughout the study in any party involved.

The data were organised using Microsoft Excel and were processed and analysed using the Statistical Package for Social Sciences version 22.

To describe the academic performance and actual Philippine NLE rating of the graduates, mean and standard deviation was utilised. To examine the relationship between academic performance and NLE rating, Pearson- r was utilised; since the data gathered here are both continuous.

To assess the predictive strength of academic performance of the nursing graduates in passing the Philippine NLE, and to know the percentage of contribution of the academic performance of the nursing graduates in passing the Philippine NLE, multiple regression analysis was utilised, since the data gathered here are both continuous.

Results and Discussion

Table 1: The Academic Performance of Nursing Graduates and Philippine NLE Rating
N=107

Variables	Mean	SD
NCM	80.21	2.27
RLE	83.83	2.17
Preboard Rating	61.55	13.22
Philippine NLE Rating	72.89	6.98

Table 1 depicts the academic performance of nursing graduates and Philippine NLE.

Regarding the grades in NCM, the graduates have a mean (SD) score of 80.21 (2.27), which means that they performed fairly in these courses. Regarding the RLE grade the graduates has a mean (SD) score of 83.83 (2.17), which means that they performed satisfactorily in their clinical duty. Regarding the Preboard Rating the graduates has a mean (SD) score of 61.55 (13.22), which means that they did not meet the passing rate. Regarding the Philippine NLE, graduates have a mean (SD) score of 72.89 (6.98), which means that they fall short in passing the NLE.

Academic performance is important because it is associated with a positive outcome; it is linked to successful employment and has more opportunities (Regier, 2011). In nursing, getting a license is the first step Moreover, Tarun (2017), claimed that individuals who are academically successful have a higher chance of passing the board exam. On the other hand, preboard is also important because it makes students serious for the board exam; it also helps to track their performance and aids in the identification of subject areas' strength and weakness, and it is also an indication of preparation (Chauhan, 2019).

Table 2: Relationship between the Academic Performance and Board Examination Rating
N=107

Variables	r-value	p-value	Interpretation	
NLE Rating	Grade in NCM Courses	0.59	0.001	Moderate Positive Relationship
	Grade in RLE Courses	0.56	0.001	Moderate Positive Relationship
	Pre-Board Rating	0.32	0.001	Weak Positive Relationship

Table 2 shows the relationship between the academic performance and board exam rating of the nursing graduates.

Regarding Grade NCM Courses, Pearson-r scored ($r= 0.59$, $n= 107$, $p= 0.001$); this finding suggests that there is a moderate positive relationship between Grade in NCM courses and NLE rating and vice versa. This means that as the grade in NCM courses increases, the NLE rating is modestly increased and vice versa.

Regarding Grade in RLE Courses, Pearson-r scored ($r= 0.56$, $n= 107$, $p= 0.001$), this finding suggests that there is a moderate positive relationship between a grade in RLE courses and NLE rating and vice versa. This means that as the grade in RLE courses increases, the NLE rating is modestly increased and vice versa.

Regarding the Pre-board rating, Pearson-r scored ($r= 0.32$, $n= 107$, $p= 0.001$); this finding suggests that there is a weak positive relationship between Grade in NCM courses and the NLE rating and vice versa. This means as the pre-board rating increases, the NLE rating is slightly increased and vice versa.

The findings suggest that theoretical knowledge is essential in passing the NLE. Theoretical knowledge helps graduate nurses to effectively and accurately address the problem or questions at hand during the NLE. A student who has an excellent performance in the academics has a greater chance to be successful in an examination (Bañez, 2002). Moreover, Tarun (2017), affirms that the higher the GPA the higher chance of passing the board examination.

What graduates learn in the RLE is also essential; practical knowledge or skill is also tested in the NLE. Hence, what was learned in the RLE helps graduate nurses to sort out the real problem in a given scenario in the NLE (Jacobson, 2008). Nursing is known to involve both science and art; to be an effective nurse, there should be a balance in both aspects. According to Rosales, et al, (2014), clinical exposure is a critical part of the curriculum of Nursing, since the PNLE is measuring not only the theoretical knowledge of nursing graduates but also their clinical judgement.

Regarding the pre-board rating, some universities use this as a gauge for their graduates if they are ready to take the NLE; the result suggests that pre-board rating has a little influence in passing the NLE. This finding is parallel to the claims of Arce and Belen (2011) wherein, they studied the relationship between the pre-board rating and the LET rating of graduate teachers; they found out that the pre-board rating can validly predict the performance in the LET.

Moreover, the visual presentation of the existing relationship between academic performance and the NLE rating is shown in figure 1.

Figure 1. Scatter Plot for the Existing Relationship between Academic Performance and NLE Rating

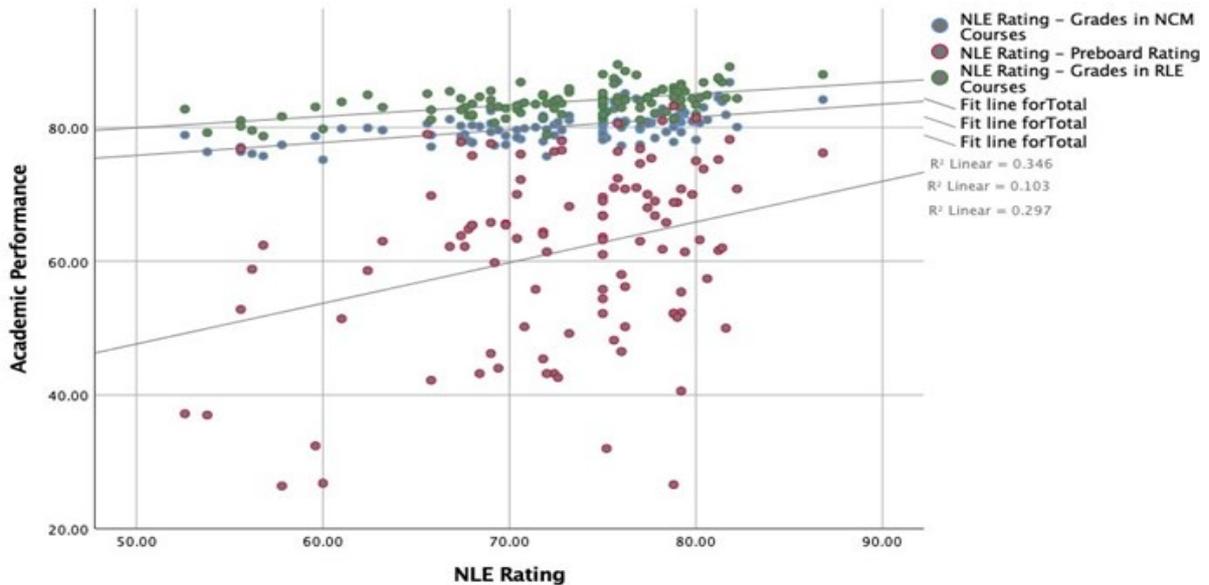


Table 3: The Predictive Strength of the Academic Performance of Nursing Graduates in the NLE Rating

Dependent Variable	Independent Variable	R ²	F	df	p	Unstandardize d		
						Consta nt	B	
NLE Rating	Grade in NCM Course	0.38	21.07	Regression= 3	0.001	-49.00	3.26	
	Grade in RLE Courses			Residual= 103			-1.73	
	Preboard Rating			Total= 106			0.08	
							t	-2.23
							p	0.001

Table 3 displays the predictive strength of the Academic Performance of Nursing Graduates in the NLE rating. Multiple regression analysis scored the predicted NLE Rating, F (3, 303) = 21.07, p= 0.001, R²= 0.38. All three variables added statistical significance to the

prediction, $p= 0.001$. This means that the academic performance of nursing graduates is a predictor in passing the NLE. It is also worth noting that the Grades in NCM are the highest predictor among the three components of academic performance. The preboard has the lowest predictive factor; this is may be due to the low rating garnered by the respondents as seen in Table 1. As per the researchers' observation, there are lots of educational institutions that look at this parameter, if the graduate is ready to take the board exam. Since this has the lowest predictive value, maybe it is high time to look at other parameters, if graduates are ready to take the board exam. Further, 38% is the total contribution of the academic performance of the nursing graduates in passing the Philippine NLE.

Moreover, the Predicted NLE rating= $-49 + (3.26 \times \text{Nursing Care Management Grade}) - (1.73 \times \text{RLE Grade}) + (0.08 \times \text{Pre-Board Exam Rating})$. This means that if a nursing graduate has a grade of 75 in NCM, RLE, and Pre-board, their total academic performance, the predicted NLE rating, is 71.75.

The findings of this study regarding the predictive strength of academic performance in passing the NLE is congruent to the finding of Banua (2017), wherein she studied the determinants of passing the NLE among the students in Bicol University, and found out that academic performance is the best predictor in passing the NLE. Theoretical knowledge from the NCM courses still accounts for the highest predictor; this finding supports the claim of Boulet (2016) that theoretical knowledge can help develop skills easier. Therefore, the teaching and learning process in the NCM courses must be effective.

Conclusion

Based on the findings, the researchers concluded that the academic performance (grades in NCM and RLE courses and Pre-Board Examination) of the nursing graduates have a moderate influence in passing the Philippine Nurse Licensure Examination. Also, grades in NCM and RLE courses and Pre-Board Examination is a weak determinant in passing the Philippine NLE, and grade in NCM courses has the highest predictive value in passing the Philippine NLE. The nursing education the respondents received during their baccalaureate year has relatively low influence, about 38% contribution in passing the NLE.

It is strongly recommended by the researchers to make the course offering of the College of Nursing to be relevant and up-to-date. There should also be a well-planned and a strong clinical experience that could further enhance the learning of the nursing students. It is also recommended to continue the review sessions after graduating the Bachelor of Science in Nursing, as an added quality measure to ensure the passing of the Philippine NLE. Moreover, since this study focused on a single University and numeric measurement in passing the Philippine NLE, the researchers encouraged to conduct a broader scope of this



study, including exploratory research, in finding the other factors that contribute to passing the Philippine NLE.



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