

## Predictors of Nursing Board Examination Performance

REMEDIOS T. NAVARRO

AURELIA T. VITAMOG

RIZZA JOY C. TIERRA

DONNA MARIE J. GONZALEZ

alma\_012768@yahoo.com

University of Northern Philippines

**Abstract** - This study determines if the UNP College Admission Test (UNP CAT), Nursing Aptitude Test (NAT) and academic performance are significant predictors of the Nursing Board Examination Performance of the graduates of the University of Northern Philippines for the period 2006-2009. The descriptive-correlational method of research was employed with documentary analysis as primary tool for data gathering. The respondents consisted of the 750 Bachelor of Science in nursing graduates, who were first takers of the Nursing Board Examination. Data were analyzed through frequency, percentage and multiple regression analysis. Majority of the Nursing graduates performed at a good level in the UNP-CAT, and at a very good level in their academics. Most performed at an average passed level in the NAT, and majority, at a fair level, in the Nursing Board Examination. The UNP-CAT, NAT and academic performance, taken singly and as a whole are significant predictors of performance in the Nursing Board Examination. Students who perform better in the UNP-CAT, NAT,

and in their academics tend to perform better in the Nursing Board Examination. Academic performance as the best predictor underscores the importance of the kind of education and training the university provides to its studentry.

## INTRODUCTION

Nursing is considered a caring profession. This is so because, taking care of the sick requires the possession of appropriate virtues and the adherence to proper nursing procedures to ensure the safety and fast recovery of patients. In view hereof, not everybody has the potential to deliver such procedures. Hence, students who would like to be nurses should be properly screened to determine their aptitudes and qualifications.

Many nursing schools administer a variety of tests to applicants who have shown interest, ability, and inclination to pursue the profession (Rubio, 1992). This includes pre-admission and aptitude tests. Upon entry, strict retention is implemented. That is why, the ability of the students is measured through their academic performance. Pace (1979), as cited by Bajet (2001), contends that the students' quality of effort may be the single most influential variable in accounting for their progress towards educational outcomes. Further, he mentioned that the most common strategy, the faculty use to motivate students is their grades.

Bañez (2002), however, believes that a person's educational accomplishment cannot be predicted by just finishing the course alone. The extent of knowledge acquired is also measured by his performance in a given examination and academic achievement contributes to the outcome of examination. She further said that if a person has excelled academically in the past, there is a greater chance for him to have a successful performance in an examination.

Having finished the nursing course, graduates find their luck in the board examination, to test their professional competence and have a greater chance for employment. They must adhere to the provisions of the Republic Act No. 9173 particularly Article IV, Section 12 which mandates that "all applicants for license to practice nursing shall be

required to pass a written examination” ([http://en.wikipedia.org/wiki/Philippine\\_Nursing\\_Licensure\\_Exam](http://en.wikipedia.org/wiki/Philippine_Nursing_Licensure_Exam)). Like many other universities in the Philippines, the University of Northern Philippines also offers nursing as one of its curricula. Despite decline in employment demand, locally and abroad, many students still aspire to be a part of the said program.

To provide greater chance to graduates in the Licensure Examination and land in gainful employment, the College of Nursing endeavors to provide quality education to its students. Because of this, prospective students are required to undergo screening with the purpose of determining their qualifications for admission.

It is at this juncture that the staff of the University Testing Center, tasked in administering the screening tests to students, became interested in conducting a study on the Predictors of Nursing Board Examination Performance. This undertaking tried to find out whether variables like the UNP-College Admission Test (UNP-CAT), Nursing Aptitude Test (NAT) and Academic Performance of graduates, significantly influence their success in the Nursing Board Examination. It is hoped that findings of this investigation may help improve the quality of nursing program in the University of Northern Philippines. Further, graduates of this profession may be assisted with the best preparation so that a higher percentage of passing in the national level may be achieved.

## FRAMEWORK

The very purpose of the educational system is to develop and mold the minds of the young individuals to become responsible and rational adults who are well-prepared for life. Educational experiences guide and strengthen the foundation of one’s development towards achieving one’s goal in life, which is success (Guirra, 1998). For the students to attain this vision in life, they should have the much needed academic preparation, to be able to pass a licensure examination (Blankas, 2003).

An entrance examination is conducted by educational institutions to determine whether prospective students are qualified to enter. It is also used to determine the candidate’s preparation for a course of study (<http://en.wikipedia.org>).

Nursing institutions always administer entrance examination to upgrade the professional standard, evaluate the intellectual capability of the applicant as well as some other personal and social aspects. Institutions that offer nursing course cannot just admit applicants who cannot show excellent academic performance to meet the challenging needs of the course (Bajet, 2001).

Aptitude tests measure one or more clearly defined and relatively homogeneous segments of ability. They are often used to predict success in an occupation, training course, or educational endeavor (Gregory, 2004).

Research data show that individually administered aptitude tests have the following qualities: a) excellent predictors of future scholastic performance, b) provide ways of comparing an individual's performance with that of others in the same situation, c) provide a profile of strengths and weaknesses, d) assess differences among individuals, e) uncover hidden talents in individuals, thus improving their educational opportunities, and f) serve as valuable tools for working with the handicaps (<http://www.ericdigest.org>).

Achievement tests attempt to assess what a person has learned following a specific course of instruction. These tests have as their goal the endpoint evaluation of a student's knowledge after a standard course of training (Kaplan & Sacuzzo, 2001). Moreover, an achievement test may also be used as a predictor of future learning.

In Blankas (2003), Robles as cited by Espiritu (2001), stated that a certification examination is conducted to provide license to graduates of a specific course for the professional practice. Licensing is a way of assuring that practitioners meet the minimum qualifications required for the proper practice in their area of training. Such test intends to measure certain domains in the training that the graduate has completed. If the test adequately assessed the particular domain that it intends to measure, its scores should be significantly related with other indices of the individual's past training.

Roble (1995), as cited by Bajet (2001), concluded that the board examination performance of Siliman University College of Nursing (SUCN) graduates is significantly related with their academic achievement. Further, Martinez (1980), Gagajena (1975), and Refuerzo, (1989) also in Bajet (2001) pointed out that there exists a correlation

between academic achievement of nursing graduates and their performance in the Nursing Board Examination. They also stated that academic achievement is a good predictor of performance in the Nursing Board Examination.

Braga still in Bajet (2001), found out that there is a positive correlation between pre-entrance test and success in the nursing school and the state board examination. Further, Rubio in Esguerra (1993) stressed that there is a significant relationship between NCEE ratings and academic achievement, and NCEE ratings and performance in the Board Examination for Nurses. She also found out that academic achievement is a better predictor of success in the Nursing Board Examination than the NCEE ratings. Her dissertation study on the other hand revealed that academic performance significantly relate with Nursing Licensure Examination performance.

Martinez, et al. (1980) made An Analytical and Correlational Study of State Board Examination Rating and Academic Achievement of Nursing Students, and they deduced from the results of the study that there is a strong relationship between performance in the nursing state board examination and achievement in high school, pre-nursing and nursing proper. They further stated that academic achievement is a good predictor of performance in the Nursing Licensure Examination.

Likewise Carreon's (1983) study showed that there is a substantial positive correlation between college achievement and board examination performance. In addition, Tolentino (2010) found that college academic performance, nursing aptitude test, dominance and perfectionism as components of personality test are factors significantly related to passing the Philippine Nursing Licensure Examination.

The study focused on the predictors of Nursing Board Examination Performance which included the UNP-CAT, Nursing Aptitude Test and Academic Performance. This has a resemblance with the study conducted by Tolentino (2010) as she used academic performance, nursing aptitude test as factors related in passing the Nursing Licensure Examination. In addition, the studies conducted by Martinez (1980), Refuerzo (1989) and Roble (1995) correlated the academic achievement of the nursing graduates with their performance in the Nursing Board Examination.

## OBJECTIVES OF THE STUDY

This study tried to determine the predictors of Nursing Board Examination Performance, of the nursing graduates of the University of Northern Philippines, for the period 2006 – 2009.

## MATERIALS AND METHODS

**Research Design.** This study employed the descriptive-correlational method of research. Documentary analysis was utilized in gathering the needed data. Data gathered were analyzed through frequency, percentage and multiple linear regression analysis.

**Population.** The 750 nursing graduates of the University of Northern Philippines for the period 2006 – 2009 and who took the board examination during the same period constituted the population of the study. They are distributed as follows: 184 (2006); 225 (2007), 169 (2008), and 172 (2009), Re-takers of the Nursing Board Examination were excluded in the study.

**Data Gathering Procedure.** The Staff of the University Testing Center asked permission from the Dean of the College of Nursing to gather the needed data. Upon approval of the request, the appraisal sheets that contained the academic grades and the rooster on the results of the nursing board examination were borrowed for scrutiny and analysis. The weighted average grades of the respondents were computed by the researchers to ensure the accuracy of data. On the other hand, results of their UNP-CAT and Nursing Aptitude Test were taken from the records filed at the UNP Testing Center.

**Statistical Treatment of the Data.** The study made use of frequency, percentage and multiple linear regression analysis in treating the collected data.

## RESULTS AND DISCUSSION

The data gathered are presented in tabular form, analyzed and interpreted in this section.

Reflected in Tables 1 to 4 are the levels of performance of the nursing graduates along the following variables: College Admission Test, Nursing Aptitude Test, Academics and Nursing Board Examination.

Table 1. The Level of performance of the nursing graduates in the UNP-college admission test

Level of Performance	YEARS GRADUATED									
	2006		2007		2008		2009		As a Whole	
	F	%	F	%	F	%	F	%	F	%
Superior	3	1.63	1	0.44	3	1.72	5	2.91	12	1.60
Very Good	39	21.19	58	25.78	82	48.52	159	92.44	338	45.07
Good	126	68.48	162	72.00	83	49.11	8	4.65	379	50.53
Fair /Passing	16	8.70	4	1.78	1	0.59	0	0	21	2.80
<b>Total</b>	<b>184</b>	<b>100.00</b>	<b>225</b>	<b>100.00</b>	<b>169</b>	<b>100.00</b>	<b>172</b>	<b>100.00</b>	<b>750</b>	<b>100%</b>

**Legend:**

Norm Scores	Descriptive Rating
97-100	Excellent
91-96	Superior
85-90	Very Good
80-84	Good
75-79	Fair/Passing
74 & below	Failure

Table 1 shows that as a whole, majority (379 or 50.53%) of the nursing graduates performed at a “good” level in the UNP College Admission Test (UNP-CAT). The finding suggests that the graduates on those years covered have the potential to enroll in a degree program. The said majority however, failed to meet the UNP-CAT cut-

off score of 85, which the university has set for an individual to qualify for the BSN program. This indicates that the College of Nursing has leniently implemented the said policy and has used other criteria in their acceptance such as their high school average and results of the interview which is conducted to further screen its applicants.

A closer look at the data shows that the majority of the graduates of 2008 and 2009 (50.24% and 95.35%, respectively) performed at the “very good” and “superior” levels. On the other hand, only 22.82% and 26.22%, of the graduates of 2006 and 2007 respectively, performed at the said levels.

Table 2. The level of performance of the nursing graduates in the nursing aptitude test

Level of Performance	YEARS GRADUATED									
	2006		2007		2008		2009		As a Whole	
	F	%	F	%	F	%	F	%	F	%
High Passed	12	6.52	16	7.11	25	14.79	24	13.95	77	10.27
Average Passed	81	44.03	86	38.22	70	41.42	91	52.91	328	43.73
Low Passed	56	30.43	79	35.11	50	29.59	55	31.98	240	32.00
Failed	35	19.02	44	19.56	24	14.20	2	1.16	105	14.00
<b>Total</b>	<b>184</b>		<b>100.00</b>		<b>169</b>	<b>100.00</b>		<b>100.00</b>	<b>750</b>	<b>100.00</b>

**Legend:**

Norm Scores	Descriptive Rating
76-100	High Passed
51-75	Average Passed
26-50	Low Passed
1-25	Failed

As a whole, most (328 or 43.73%) of the BSN graduates for the period 2006 -2009 performed in the Nursing Aptitude Test at an “average passed” level. Also, 77 of them (10.27%) performed at a “high passed” level. These indicate that a total of 405 or 54% of said graduates have good potentials and are expected to perform well and benefit from their learning and trainings in the program. Given the right attitude



and the motivation, they can effectively handle the requirements of their course and have higher chance of making it in the Nursing Board Examination.

Further scrutiny of the data shows that it is among the graduates of 2008 and 2009, where the majority (56.21% and 66.86 %, respectively) performed at the “average and high passed” levels in the NAT. Among the graduates of the 2006 and 2007, only 50.55% and 45.33% respectively, performed at the said levels. These data parallel the findings in the UNP-CAT. The graduates of 2008 and 2009 performed better both in the UNP-CAT and NAT, hence are also expected to perform better in their subjects and in the board examination.

It is also interesting to note that 105 of the said graduates (14%) failed in the NAT, with 2009 having the least percentage (1.16%). This implies that said students may have experienced the greatest difficulty, hence needed more time and effort to handle the demands of their course.

Table 3. The level of academic performance of the nursing graduates

Level of Performance	YEARS GRADUATED									
	2006		2007		2008		2009		As a Whole	
	F	%	F	%	F	%	F	%	F	%
Superior	1	0.54	4	1.78	0	0	2	1.16	7	0.93
Very Good	98	53.26	122	54.22	100	59.17	107	62.21	427	56.93
Good	85	46.20	99	44.00	69	40.83	62	36.05	315	42.00
Fair	0	0	0	0	0	0	1	0.58	1	0.13
<b>Total</b>	<b>184</b>	<b>100.00</b>	<b>225</b>	<b>100.00</b>	<b>169</b>	<b>100.00</b>	<b>172</b>	<b>100.00</b>	<b>750</b>	<b>100.00</b>

**Legend:**

Norm Scores	Descriptive Rating
97-100	Excellent
91-96	Superior
85-90	Very Good
80-84	Good
75-79	Fair
71-74	Conditional Failure
70 & below	Failure

In terms of academics, table 3 reveals that as a whole, majority (427 or 56.93%) of the nursing graduates for the period 2006 – 2009 performed at a “very good” level. This indicates that the graduates are capable of handling the mental demands of their course. Further, this indicates that they are capable of maximizing their potentials in varied learning situations hence successfully carry out the requirements of the nursing program.

While it is consistently shown that the majority of the graduates per year obtained a “very good” level of academic performance, the graduates of 2008 (59.17%) and 2009 (62.21%), still performed better than those of 2006 (53.26%) and 2007 (54.22%). This finding is also in consonance with findings on their performance in the UNP-CAT and NAT.

Table 4. The Level of performance of the graduates in the nursing board examination

Level of Performance	YEARS GRADUATED									
	2006		2007		2008		2009		As a Whole	
	f	%	f	%	f	%	f	%	f	%
Good	3	1.63	9	4.00	27	15.98	13	7.56	52	6.93
Fair	127	69.02	109	48.44	107	63.31	123	71.51	466	62.14
Failure	54	29.35	107	47.56	35	20.71	36	20.93	232	30.93
<b>Total</b>	<b>184</b>	<b>100.00</b>	<b>225</b>	<b>100.00</b>	<b>169</b>	<b>100.00</b>	<b>172</b>	<b>100.00</b>	<b>750</b>	<b>100.00</b>

**Legend:**

Norm Scores	Descriptive Rating
97-100	Excellent
91-96	Superior
85-90	Very Good
80-84	Good
75-79	Fair
71-74	Conditional Failure
70 & below	Failure

As a whole, the majority (466 or 62.14%) of the graduates for the period 2006 – 2009 performed at a “fair” level in the Nursing Board Examination. Only 52 or 6.93 % performed at a “good” level. The data show that they were hard up in the said examination. This could imply the need to enhance the students’ preparation or strengthen the nursing curriculum.

While a total of 69.07% of the graduates passed in the board examination, a considerable percentage (30.93) did not make it. Said percentage of failure indicates a need to undertake measures to enhance performance in the board examination.

Further analysis of the data reflects a similarity in the trend of the graduates’ performance in the UNP-CAT, NAT and in their academics. The graduates of 2008 and 2009 still performed better (79.29 and 79.07 percentage of passing, respectively) than those of 2006 and 2007 (70.65% and 52.44% respectively).

Table 5. The multiple regression analysis on the predictors of nursing board examination performance

Variables	Beta	t-value	t-prob
UNP CAT	0.168	4.824**	0.000
NAT	0.270	7.465**	0.000
Academic Performance	0.343	10.534**	0.000

Multi R. = 0.635  
 R. Sq = 0.403  
 F-ratio = 167.689  
 Sig. = 0.000

When the three variables of the respondents: UNP-CAT, NAT and Academic Performance were regressed, together, they yielded a significant influence in the Performance in the Nursing Board Examination (F-ratio=167.689; Sig. =0.000). This means that UNP-CAT, NAT and Academic Performance significantly contribute to the performance in the Nursing Board Examination.

Based from the value of RSq (.403), the variables, when taken together, account 40.3 percent of the variance in the performance of the graduates in the Nursing Board Examination. The remaining 59.7 percent can be explained by other factors not included in the investigation such as the kind of review centers the graduates availed, their physical, emotional and mental conditions during the board examination, the physical condition of the test venues, the human and non-human resources of the university.

Taken singly, UNP-CAT (t-prob = 0.000), NAT (t-prob = 0.000), and Academic Performance (t-prob = 0.000), came out as significant predictors of performance in the Nursing Board Examination. These imply that graduates who obtained higher ratings in the aforementioned variables tend to perform better in the board examination. Academic performance (Beta=.343) as the best predictor underscores the importance of the kind of education and training the university provides to its studentry. Ultimately, the quality of education the university provides, and how much the students make out of it, will have the greatest impact in their performance in a board examination which is generally curriculum-based.

The findings were supported by Rubio (1992), when she stated that academic performance significantly relate with Nursing Licensure Examination performance. Likewise, the results of the study conform with the findings of Martinez, et al. (1980), in the existence of a correlation between academic achievement of nursing graduates and their performance in the Nursing Board Examination, and academic achievement being a good predictor of performance in the said Board Examination.

In addition, the above findings agree with Tolentino's (2010) study. She affirmed that college academic performance and nursing aptitude test are factors related in passing the Nursing Board Examination.

## CONCLUSIONS

In view of the above findings, the following conclusions are drawn:

1. Majority of the nursing graduates for the period 2006 - 2009 performed at a "good" level in the UNP- College Admission Test;

most of the respondents performed at an “average passed” level in the Nursing Aptitude Test; majority of the respondents performed at a “very good” level in their academics; and majority of the respondents performed at a “fair” level in the Nursing Board Examination.

2. The UNP-CAT, Nursing Aptitude Test and Academic Performance taken singly and as a whole are significant predictors of performance in the Nursing Board Examination. Students who perform better in the UNP-CAT, NAT and in their academics, tend to perform better in the board examination. Academic performance as the best predictor underscores the importance of the kind of education and training the university provides to its studentry.

### RECOMMENDATIONS

Based on the findings and conclusions, the following recommendations are advanced:

1. The College of Nursing should strictly and constantly implement the 85% or higher UNP-CAT rating as one of the standard requirements for first year admission.
2. The conduct of the yearly Nursing Aptitude Test for the first year students should be maintained and only the passers should be allowed to pursue the nursing profession in the university.
3. The retention policies of the College of Nursing particularly along academic performance should be re-evaluated and strictly followed to ensure that only students capable of handling the mental demands of the course are retained.

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