

Research Article

Analytical Study of the Nurses Licensure Examination Performance of Graduates of Philippine Colleges of Nursing



Amelia Rosales, RN



Yolanda Arugay, RN



Carmelita Divinagracia, PhD, RN



Erlinda Castro-Palaganas, PhD, RN

Abstract

Performance in the eight Nurse Licensure Examinations from December 2006 to December 2010 was analyzed 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 type of examinees. The variables from each NLE were categorized into *Examinee variables*, *Institutional variables*, and *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, had higher passing percentage and significantly higher average rating than repeaters in all the NLEs. Among the repeaters, those who took the examination for at most two times showed higher passing percentage and average rating. Examinees from accredited schools also had higher passing percentage and average rating than examinees from non-accredited schools. Those from government-owned schools showed higher passing percentage 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 the accredited and government-owned schools had higher passing percentage and average rating compared to 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. Number of examinees per school appeared not to have affected nor influenced either the passing percentage or average rating of schools in the eight (8) NLEs. The study reveals significant findings that correlate the performance of graduates of Philippine colleges of nursing 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.



Key words: Nursing, Licensure Examination, Regulation, Accreditation

A collaborative study of the PRC-Board of Nursing (Amelia B. Rosales, RN, Ed.D., Yolanda C. Arugay, RN, Ed.D), Association of Deans of Philippine Colleges of Nursing (Carmelita Divinagracia, RN, PhD), and the Philippine Nursing Research Society, Inc. and University of the Philippines Baguio (Erlinda Castro-Palaganas, RN, PhD) and the team's research assistant (Joseph Alvin Santos). Special thanks to Dr. Milagros Ibe, PRC Consultant who provided valuable feedback in the conceptualization and analysis of the data. The assistance of Ms. Desiree Lynn de Ramos, PRC Consultant and OIC Test Development Research and Statistics Office in making the data available and manageable is likewise acknowledged.

he practice environment is increasingly complex and requires that decisions regarding the issues affecting the practice of the nursing profession be evidence-based. This particularly applies to the Nurse Licensure Examination (NLE) where graduates of nursing schools in the Philippines must pass a competency based examination before they can legally practice nursing.

The Board of Nursing adopted, promulgated and issued in March 2006, the "Philippine Nurses' Licensure Examinations Covering Nursing Practice I, II, III, IV and V" through Board Resolution No. 18 series of 2006. The new Philippine Nurses' Licensure Examination Framework was adopted pursuant not only to a new law, Republic Act No. 9173 known as the "Philippine Nursing Act of 2002" and its Implementing Rules and Regulations but also to a new, modern, and updated Bachelor of Science in Nursing curriculum prescribed by the Commission on Higher Education (CHED) as contained in the CHED Memorandum 30, (CMO 30) series of 2001. The nursing curriculum is competency-based. The terminal competencies expected of the graduate are the entry competencies of a nurse occupying the first level position in any setting. The new test framework, likewise, was also based on the Core Competency Standards promulgated through Board Resolution no. 112 series of 2005. The Nurse Licensure Examination Competency-based Test Framework was implemented in June 2006 and in subsequent Nurse Licensure Examinations.

The Nurse Licensure Examination (NLE) is a 500-item multiple-choice examination prepared by the Board of Nursing to test first level nursing competencies. Taking into account the objectives of the nursing curriculum, the broad areas of nursing and other related disciplines are considered, thus making up the five test subjects, each consisting of 100 questions. The test subjects are: Basic Foundation of Nursing and Professional Nursing Practice, Community Health Nursing and Care of Normal and High Risk Mother and Child, and Care of the Clients with Physiologic and Psychosocial Alterations (Parts A, B, and C). The test items are assessed regularly for validity and reliability. The results of the NLE are considered to be a major determinant of the quality of nursing education provided to future professional nurses towards competent nursing practice.

To pass the examination, an examinee must obtain a general average of at least 75 percent with a rating of not below 60 percent in any of the five test subjects. Article IV, Section 12 of the Philippine Republic Act No. 9173

stipulates that," all applicants for license to practice nursing shall be required to pass a written examination, which shall be given by the Board of Nursing in such places and dates as may be designated by the Professional Regulation Commission, provided that it shall be in accordance with Republic Act No. 8981, otherwise known as the PRC Modernization Act of 2000".

For many years, researchers have studied academic and non-academic variables that have the potential to predict performance in the National Council Licensure Examination for Registered Nurses - NCLEX-RN (Davenport, 2007). Examples of academic variables include study habits, such as number of hours spent studying, academic performance/grades and IQ while non-academic variables include demographic variables, stress, number of hours of sleep, and exercise. A pilot study by Beerman and Waterhouse (2003) which explored postgraduate influences on NCLEX-RN success showed that more hours of study are associated with passing the examination. A positive correlation was also found between more study on the week prior to taking the exam and passing. However, no relationship was found between examination success and exercise, sleep, ongoing stress, major life event, or any demographic variables (Davenport, 2007).

Other variables showing no significant correlation with passing the NCLEX-RN are: [1] the number of weeks between graduation and licensure examination; [2] completing a review course; and [3] number of hours worked (Davenport, 2007). In contrast, Crowe, Handley, Morrison, & Shelton (2004) found commercial reviews to be a significant intervention. Differing from Beerman and Waterhouse, the National Council of State Boards of Nursing (2002) reported that the longer a student waits between completing a program and sitting for the NCLEX-RN, the lower the chances of success in the examination.

Griffiths, et.al. (2004) listed these factors identified by unsuccessful candidates: poor program preparation, inadequate study habits, poor test-taking skills, employment, and anxiety. Graduates who initially fail the NCLEX-RN are more likely to fail again unless structured interventions occur prior to retesting. Faculty coaching and mentoring were viewed as reaffirming strategies in helping the graduates' preparation.

A recent study by Boshier and Bowles (2008) on the effects of linguistic modification on ESL (English as second language) students' comprehension of nursing course test

items revealed that a significant barrier to the success of ESL students is the difficulty with multiple-choice tests, including the NCLEX. Linguistic modification, a methodology for reducing the language load of items, allows ESL students to demonstrate their nursing knowledge while increasing the validity and reliability of test scores.

On another note, in the United States of America, nursing programs are also evaluated through their graduates' success rate in the National Council Licensure Examination for Registered Nurses [NCLEX-RN]. Because of the apparent nurse shortage in the United States of America, nursing programs are challenged to produce more graduates who are able to pass the NCLEX-RN on their first attempt and enter into practice immediately [Bondmass, Moonie & Kowalski, 2008].

Background

The vast opportunities in nursing jobs overseas in the 1990s, which peaked after 2000, generated a rapidly growing nurse education sector in the country. To address this, the commercialization of medical/nurse education witnessed the increase of nursing schools from 40 in 1970 to 440 in 2005 to 460 in 2006 and to 475 in 2008, as against 30 medical, 31 dental, 129 midwifery, 35 pharmacy colleges, and 95 physical therapy and occupational therapy colleges (Lorenzo, 2005; <http://www.ched.gov.ph>, Lorenzo et. al., 2007). According to the Commission on Higher Education (CHED) data, there has been an enormously large fourteen-fold swell in nursing program enrolment from 27,833 in SY 2000-2001 to 397,195 in SY 2005-2006 and an eight-fold increase in nursing graduates from only 4,409 in SY 2000-2001 to 34,589 in SY 2004-2005. Graduates of medical and allied disciplines are the fastest growing groups of graduates in the country and increased more than three-fold from 27,296 in SY 2000-2001 to 86,373 in SY 2005-2006, accounting for one-fifth (20.1%) of the total 421,444 graduates nationwide in SY 2005-2006 (IBON Books, 2008, 93). Lorenzo, Galvez-Tan, Icamina, & Lara Javier (2007) opined that the country has a net surplus of registered nurses based on production and domestic demand patterns, but "the country loses its trained and skilled nursing personnel much faster than it can replace them".

The number of registered nurses and nursing students in the Philippines ballooned into enormous numbers as a

response to the increased demand for nurses during the last decade in the developed countries, namely the United States of America, the United Kingdom, Ireland, Saudi Arabia, and Singapore. This increased demand was brought about by their advancing geriatric population. In a study done by Health Alliance for Democracy (HEAD) in 2006, 80% of the Filipino doctors had applied or wished to apply abroad not as physicians but as nurses; while 90% of the municipal health officers in different areas in the Philippines had the same thing in mind, not to mention the number of non-health professionals who left their degree programs to shift or start again toward a BS Nursing degree (Cheng, 2009).

In response to the increasing demand for nurses, schools and colleges of nursing proliferated in the country in the past decade. From 170 in the 1990's, it bloomed to 475¹ schools offering full nursing courses. Of these, 45 offered abridged courses for doctors wanting to be nurses.

Furthermore, Lorenzo et.al. (2007) observed an enormous increase in the number of professional nurse licenses issued from 5,784 in 2000 to 30,423 in 2006, while licenses of professionals, like x-ray technologist, dentist, occupational therapist, and physical therapist declined. Increase in opportunities for overseas employment became a strong motivation for doctors to study to become nurses (known as "nurse medics"). Professional Regulation Commission (PRC) data showed that there were about 2,000 "nurse medics" in 2001; 3,000 in 2003; 4,000 in 2005; and there were likely 80% of all public sector physicians in 2004 who were currently or had already retrained as nurses.

However, the rapid proliferation of nursing schools/programs resulted also in the declining quality of nursing education as indicated in the decrease in the passing percentage in the Nurse Licensure Examination. Existing data from the Professional Regulation Commission (PRC) showed passing rates of 80-90% from 1970-1980. From 1998 to 2008, the average passing rate ranged from 41.23% as the lowest to 57.55% as the highest with 88,649 as the biggest number of examinees. The lowest passing rate was noted in the December 2010 Nurse Licensure Examination where only 35.26% of the examinees passed.

Ordonez and Ordonez (2009) claimed that the decrease in the passing rate of Filipino graduates in the

¹ The Colleges of Nursing increased from 40 in 1970 to 440 in 2005 to 460 in 2006 and to 475 in 2008 (Lorenzo, 2005; CHED, 2006)

various licensure examinations is a symptom of the deteriorating quality of higher education institutions in the Philippines. A possible reason behind this depreciation could be the loose implementation of standards to be achieved by CHED- recognized schools in the country. There are various accrediting bodies in the country aiming to institutionalize standards that CHED intends to implement . The Federation of Accrediting Associations of the Philippines (FAAP) was established to uphold quality in the administration of various education institutions in the Philippines.

With the above cited backdrop, the Nurse Licensure Examination serves as an evaluation of the nursing programs being offered. The graduates' success rate in the Nurse Licensure Examination is on the creation of success not only for the student but also for the nursing program. Taking into consideration relevant factors perceived to contribute to the current state of the passing rate in the Nurse Licensure Examination, this study aims to 1) describe the Nurse Licensure Examination performance of graduates of colleges of nursing; and 2) determine the relationship between the NLE performance of the examinees and selected variables based on data collected in eight NLEs from December 2006 to December 2010². Fig. 1 illustrates the framework of the study.

The following Research Questions guided this study:

1. What is the Nurse Licensure Examination (NLE) performance in terms of passing percentage and average rating of the examinees as influenced by the following groups of variables?
 - A. **Examinee Variables**
 - i. First timer and repeater
 - ii. Number of times the examinee took the examination before
 - iii. School type graduated from
 - B. **Institutional Variables**
 - i. Accreditation status
 - ii. School ownership
 - iii. Geographic location
 - iv. Number of examinees
 - C. **Program and Other Variables**
 - i. Test subject
 - ii. Testing center
2. Are there significant relationships between the NLE performance in terms of passing percentage and average rating and the following groups of variables?

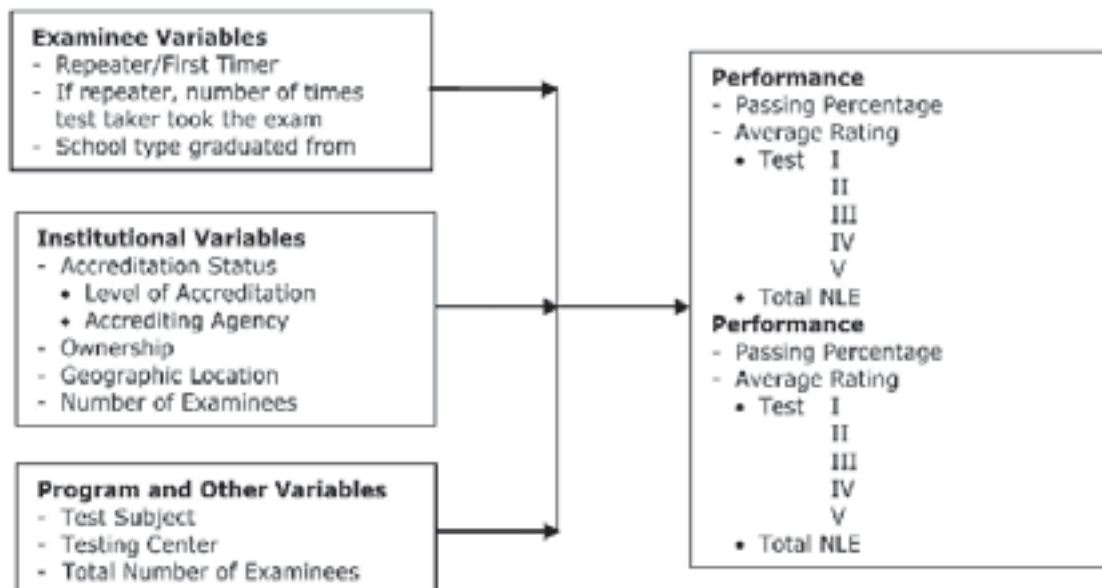


Figure 1: Determinants of Performance in the Nurse Licensure Examination

² November 2009 was excluded since it was used as the pilot study. The data generated in the Nov 2009 NLE is also limited thus cannot be integrated in the report at this stage. The number of variables taken for the 8 periods is not comparable with the November 2009, thus when comparing the results of one NLE to another, there will be a lot of missing comparisons for the November 2009 NLE.

- A. Examinee Variables**
 - I. Number of times examinee took the examination before
 - B. Institutional Variables**
 - i. Number of examinees
3. Are there significant differences in the NLE performance of examinees in relation to the categories under the following groups of variables?

- A. Examinee Variables**
 - i. First timer and repeater
 - ii. School type graduated from
 - B. Institutional Variables**
 - i. Accreditation Status
 - ii. School ownership
 - iii. Geographic location
 - C. Program and Other Variables**
 - i. Test subject
 - ii. Testing center
4. What are the joint and separate effects of the three groups of variables on NLE performance in terms of the passing percentage and average rating of the examinees?

Methodology

A descriptive correlational design was used to: 1) describe the Nurse Licensure Examination (NLE) performance of graduates of colleges of nursing, and 2) determine the relationship between the NLE performance of the examinees and selected variables based on data collected in eight NLEs from December 2006 to December 2010.³

Participants

The study included all graduates of colleges of nursing who participated in the eight NLEs. Examinees on conditional status and whose test results were withheld were excluded from the study.

Procedure

The main data collection method was a review of existing secondary data from the Professional Regulation

Commission (PRC). Data from the eight NLEs were collected and compiled. The participants of each NLE were divided into groups according to examinee, institution, and program and other variables.

The examination consisted of these five test subjects: *Basic Foundation of Nursing and Professional Nursing Practice, Community Health Nursing and Care of the Normal and High Risk Mother and Child, and Care of the Clients with Physiologic and Psychosocial Alterations (Parts A, B, and C).*

Other data used in the study were obtained utilizing networks and the websites of the Association of Deans of Philippine Colleges of Nursing (ADPCN) and the Commission on Higher Education (CHED). These data are:

- a. Lists of accredited and non-accredited schools which participated in the NLE, acquired from the Association of Deans of Philippine Colleges of Nursing from October 2002 to October 2009. The lists included nursing schools accredited by any of the members of the Federation of Accrediting Associations of the Philippines (FAAP).
- b. Lists of government and non-government schools which participated in the NLE, downloaded from the Commission on Higher Education's website (<http://www.ched.gov.ph/>). The lists included CHED supervised institutions classified into state and local universities, and private sectarian and non-sectarian schools. The list from the website was last updated on October 23, 2009.
- c. Geographic distribution by region in which the school or testing center belongs, acquired from ADPCN and counterchecked with data from the CHED's website.

Data Analysis

Quantitative data from each NLE were individually entered and analyzed using SPSS Statistics 17.0. The analyses included descriptive statistics, correlations, comparison of means, and multiple regression to determine relationships between variables. Relationships between variables and groups/categories were determined. A *p* value of = 0.05 was considered statistically significant for all statistical tests used in the study.

³ As earlier stated in the previous footnote, the November 2009 NLE result was excluded since it was used as the pilot study. Other reasons for non-inclusion were also cited. (Please refer to Footnote 2)

The examination data shown in Table 1 show the following trends.⁴

The number of examinees increased through the years, with July 2010 registering the highest number of examinees. The number of participating schools increased from 270 in the December 2006 NLE to 470 in the December 2010 NLE. The passing percentages of the eight NLEs ranged from 35.26% to 49.15% as recorded in the December 2010 and December 2006 NLEs, respectively. The lowest recorded average rating among the eight NLEs was 68.81 (December 2010) while the highest average rating was 71.95 (June 2008).

Passing percentage and average rating

Analysis of the results was done per NLE. The variables in each NLE were categorized as Examinee variables, Institutional variables, and Program and Other variables.

A. Examinee Variables

Figure 1 shows that in the eight NLEs studied, first timers showed higher NLE performance than repeaters in terms of passing percentage and average rating. The highest computed difference between the passing percentage of first timers and repeaters was 44.66%. The first timers had a 59.44% passing percentage while the

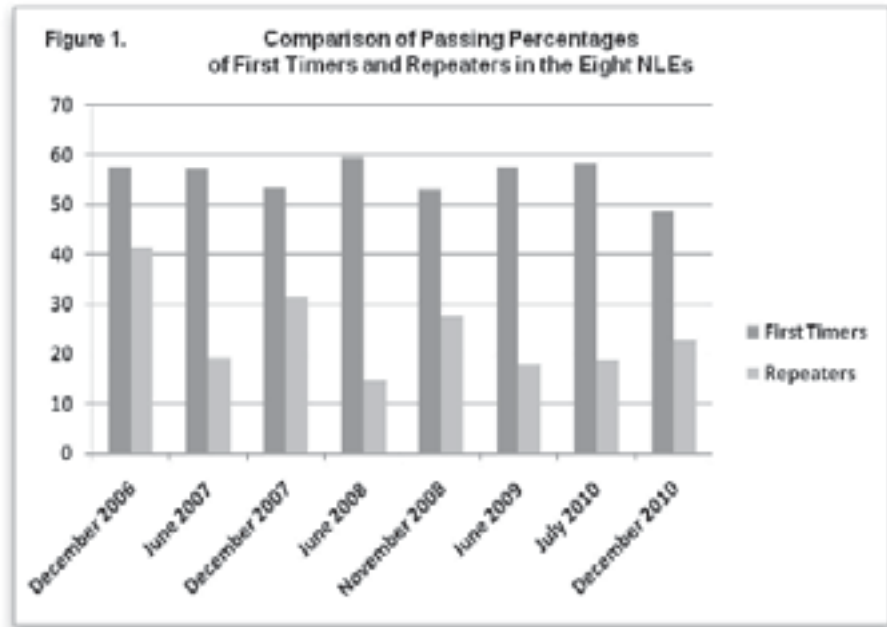


Table 1: Profile of the Eight Nurse Licensure Examinations, 2006-2010

	December 2006	June 2007	December 2007	June 2008	November 2008	June 2009	July 2010	December 2010
Total number of examinees	40,127	65,256	66,596	64,459	88,649	77,901	91,003	84,285
Withheld results	4	2	0	1	0	4	0	0
On conditional status	41	33	1	23	121	39	92	16
Examinees included in analysis	40,102	65,221	66,595	64,435	88,528	77,853	90,911	84,269
Participating schools	279	505	405	429	442	470	463	470
Testing centers	11	11	11	11	12	13	15	18
Examinees who passed	19,712 (49.15%)	31,532 (48.35%)	28,934 (43.45%)	27,765 (43.09%)	39,455 (44.57%)	32,617 (41.89%)	37,679 (41.45%)	29,711 (35.26%)
Examinees who failed	29,390 (50.85%)	33,689 (51.65%)	37,661 (56.55%)	36,670 (56.91%)	49,073 (55.43%)	45,241 (58.11%)	53,232 (58.55%)	54,558 (64.74%)
Mean average rating	71.52	71.46	70.63	71.95	71.63	70.36	70.77	68.81

⁴ For this study, examinees with conditional grades and withheld scores were not included in the analysis.

repeaters had only a 14.78% passing percentage. This was recorded in the June 2008 NLE.

In terms of the average rating, the highest achieved mean score by the first timers was 74.20 (June 2008) and the lowest was 70.85 (December 2010). The repeaters scored 70.23 in December 2006 and 66.87 in December 2010, respectively (Fig. 2). First timers also had higher average ratings than repeaters in all of the five test subjects.

Figure 2. Comparison of the Average Ratings of First Timers and Repeaters in the Eight NLEs

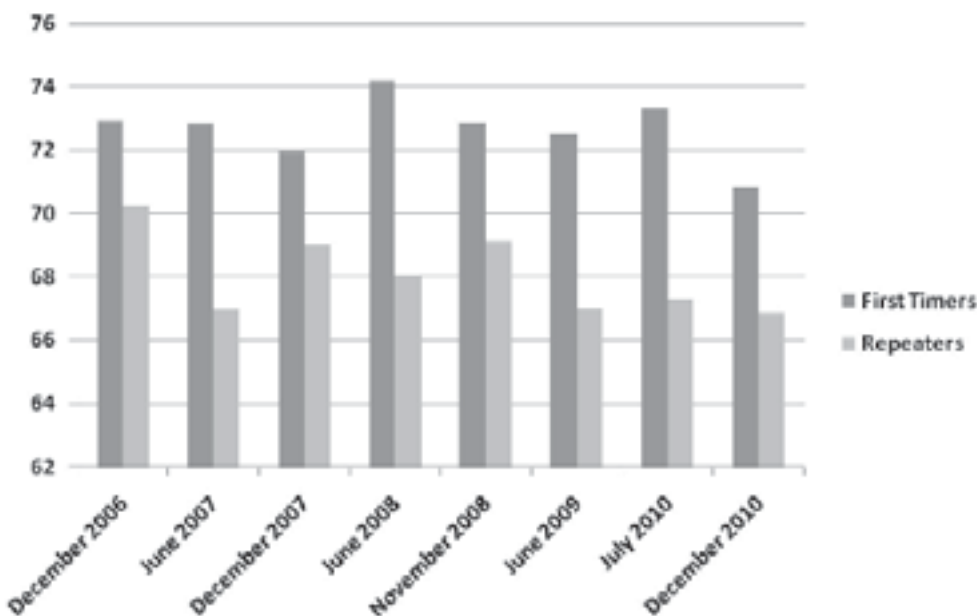
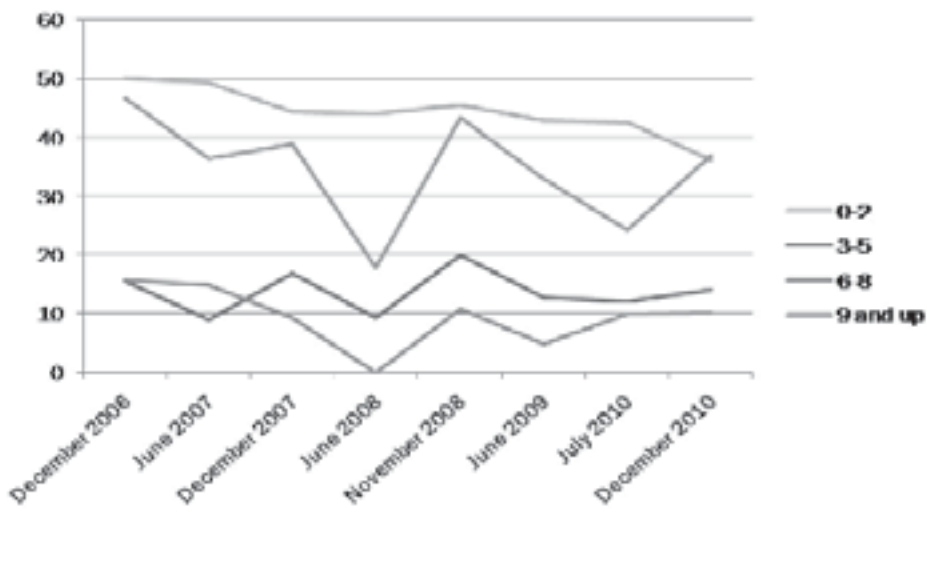


Figure 3 shows that in the eight NLEs, groups of examinees who took the examination for at most two times had the highest passing percentage as well as average rating. There was only one instance when the group of examinees taking the examination for more than 9 times exceeded the passing percentage of this group, which was recorded on the December 2010 NLE, and one instance when the same group of examinees exceeded the average rating. (November 2008 NLE).

Figure 3. Comparison of the Passing Percentages of the Four Groups of Examinees in the Eight NLEs



In all of the eight NLEs, examinees from accredited schools showed higher passing percentage and average rating than examinees from non-accredited schools. The same was true of examinees from government-owned

schools compared to examinees from non-government-owned schools. The latter exceeded the average rating of the first group only in one instance (December 2007 NLE).

Among examinees from accredited schools, those who came from schools with level III accreditation had higher passing percentage and average rating than those who came from schools with level II or level I accreditation status (Fig. 4 and 5). Only in two instances did examinees from schools with level II accreditation status exceed the

passing percentage of examinees from schools with level III accreditation status (June 2007 NLE and June 2008 NLE). Furthermore, only in the June 2007 NLE did examinees from schools with level II accreditation status surpass the average rating of examinees from schools with level III accreditation. In all of the eight NLEs, examinees from schools with level I accreditation status ranked lowest in terms of passing percentage and average rating.

In terms of accrediting agency, examinees from schools accredited by PAASCU had higher performance scores in all of the eight NLEs compared to examinees from schools accredited by other agencies. Examinees from AACCU-accredited schools ranked second, followed by PACUCOA and lastly, ACSCU-AAI.

Among examinees from government-owned schools, those from state universities showed relatively higher performance scores compared to examinees from local universities. There was only one instance in the eight NLEs when examinees from local universities obtained a higher passing percentage and average rating (December 2010 NLE) than examinees from state universities.

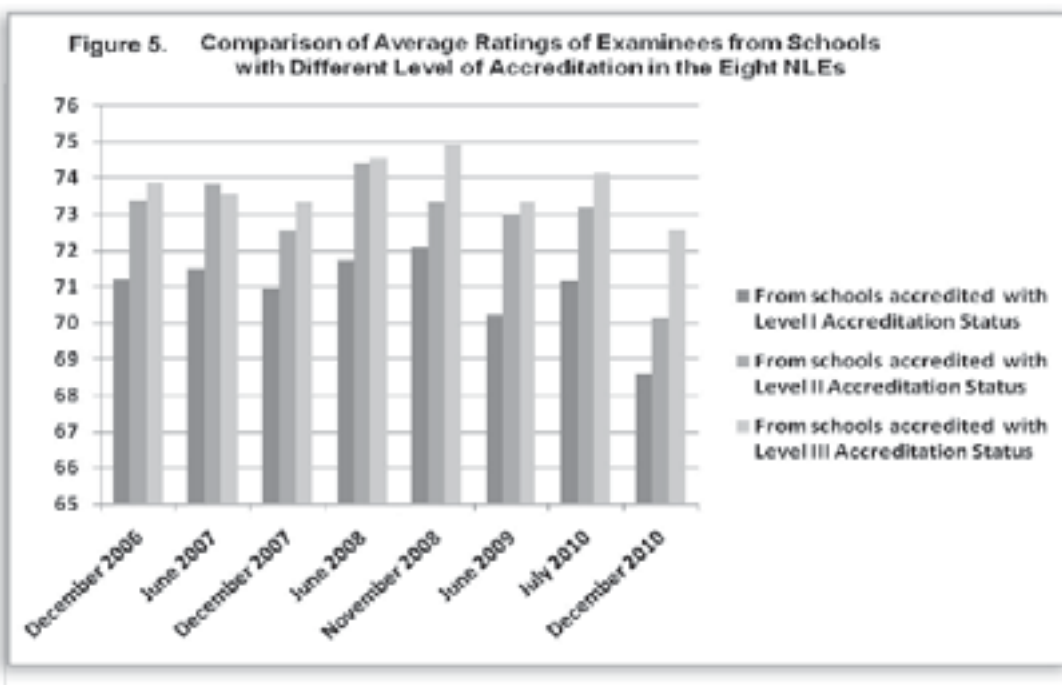
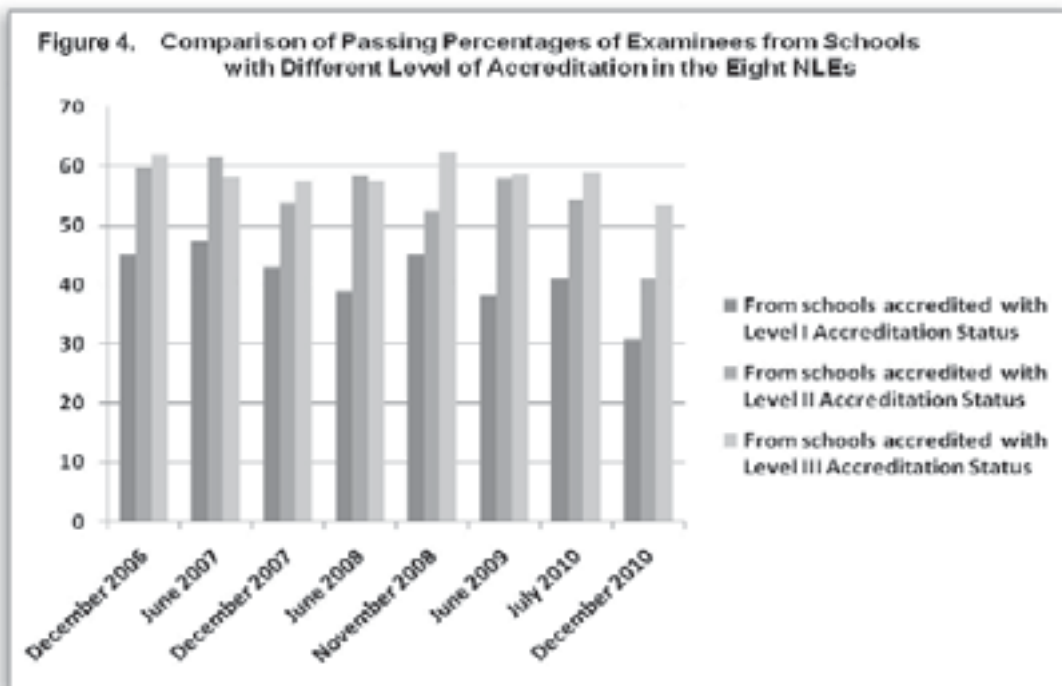


Table 2: Geographic Location and Passing Percentages of Schools in the NLEs

REGION	DEC 06	JUN 07	DEC 07	JUN 08	NOV 08	JUN 09	JUL 10	DEC 10
Region 1	35.17	35.64	29.78	23.32	31.48	29.59	31.90	26.48
Region 2	58.40	41.85	36.45	41.89	47.56	43.16	38.55	43.60
Region 3	43.82	44.44	31.01	37.87	38.35	34.44	34.55	25.45
Region 4	46.36	36.97	37.94	33.82	41.75	33.13	38.80	34.81
Region 5	31.36	28.17	28.18	34.11	35.87	37.71	39.86	29.67
Region 6	56.27	43.67	48.98	38.82	56.53	38.30	40.33	51.96
Region 7	65.48	58.02	57.02	56.74	53.40	52.63	47.86	41.47
Region 8	53.76	34.32	54.25	21.65	53.65	44.82	38.17	47.46
Region 9	38.23	35.87	34.57	30.05	37.42	37.95	34.54	34.33
Region 10	49.45	35.60	43.62	36.49	50.13	37.95	38.46	45.89
Region 11	50.69	50.01	50.68	24.30	48.92	26.68	22.82	39.18
Region 12	43.54	33.55	42.83	22.63	45.34	32.94	29.17	38.45
CARAGA	41.48	24.54	45.79	17.49	32.92	26.62	21.40	29.08
CAR	55.20	60.04	47.14	47.35	50.79	50.63	43.87	38.44
NCR	57.87	56.24	46.83	47.86	49.34	45.62	45.98	38.33
ARMM	28.89	29.55	29.02	24.20	26.33	20.82	16.93	19.52

B. Institutional Variables

Consistently, accredited schools and government-owned schools performed better in terms of passing percentage and average rating as compared to their counterparts.

Among accredited schools, those with level III accreditation exceeded those with lower accreditation status in terms of both average rating and passing percentage. On the other hand, schools accredited by PAASCU and AACCUP showed higher passing percentage and average rating, ranking either first or second in all the NLEs. Schools accredited by PACUCOA and AACCUP ranked third and fourth. Schools accredited by PACUCOA had better performance compared to schools accredited by ACSCU-AAI.

By geographic location, regions which ranked among the top three highest passing percentages and average ratings in the eight NLEs consisted of: Regions 2, 6, 7, 8, 10, 11, CAR, and NCR. Among the eight regions, only Region 7 appeared in the top three highest passing percentages and average ratings in seven out of eight NLEs. It was followed by NCR which appeared in five out of the eight NLEs, and by CAR which ranked four times among the three highest passing percentages and average ratings (Table 2).

Regions which were listed in the lowest ranks in terms of passing percentages and average ratings are Regions 1, 3, 5, 8, 9, 11, 12, CARAGA, and ARMM. Of these regions, only ARMM ranked the lowest in seven of the eight NLEs in terms of passing percentage and among all of the NLEs in terms of average rating. CARAGA appeared five times among the lowest passing percentages and six

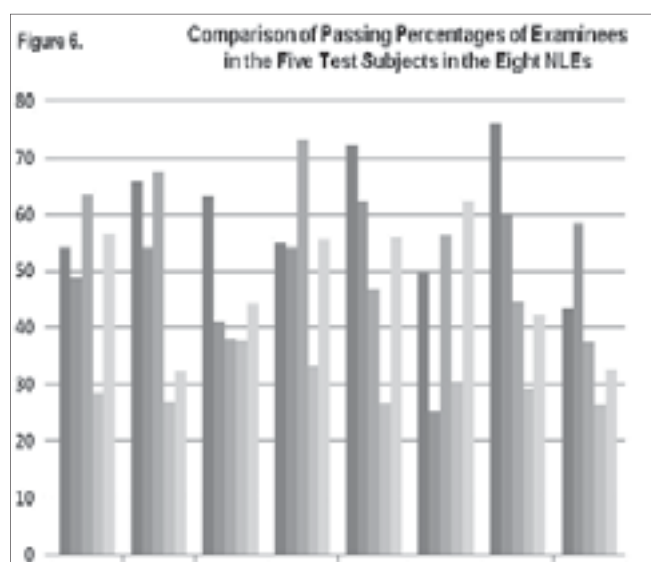
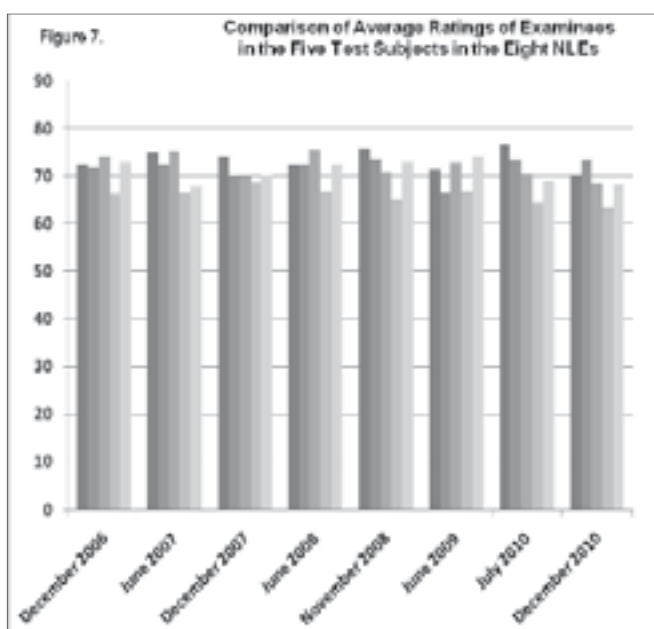
Table 3: Geographic Location and Average Ratings of Schools in the NLEs

REGION	DEC 06	JUN 07	DEC 07	JUN 08	NOV 08	JUN 09	JUL 10	DEC 10
Region 1	68.64	68.06	67.22	68.51	68.50	67.48	67.77	66.36
Region 2	72.66	70.78	68.89	71.31	72.11	69.96	70.38	69.95
Region 3	70.44	70.61	68.54	70.29	69.78	69.13	69.17	67.17
Region 4	71.18	69.93	70.08	70.62	70.85	69.04	70.21	68.35
Region 5	67.24	67.80	67.50	70.11	69.65	68.89	70.05	67.59
Region 6	73.27	71.82	72.34	71.06	73.50	70.66	71.31	72.16
Region 7	74.32	73.51	72.80	74.25	72.90	72.38	71.96	70.04
Region 8	72.26	67.91	71.05	69.01	73.41	70.95	70.12	71.45
Region 9	68.73	67.46	69.77	69.84	70.19	69.92	69.40	68.96
Region 10	70.41	68.88	70.78	71.04	72.28	70.07	70.13	70.30
Region 11	71.50	71.15	71.94	69.95	72.36	68.38	68.36	69.63
Region 12	70.00	70.04	70.45	68.02	71.65	69.33	68.80	69.37
CARAGA	70.74	67.18	68.65	66.97	69.48	68.24	65.92	66.99
CAR	72.48	73.77	71.63	72.00	72.71	71.52	71.32	70.14
NCR	73.06	72.23	71.39	72.91	72.53	71.24	71.43	69.60
ARMM	63.75	67.45	66.12	65.42	64.73	63.89	61.87	61.64

times among the lowest average ratings (Table 3). Although Regions 8 and 11 appeared in the top three highest passing percentages and average ratings, these two regions also appeared in the lowest ranks in terms of passing percentage. Region 8 ranked second to the lowest in the June 2008 NLE, whereas, Region 11 ranked third to the lowest in the December 2010 NLE. (Table 2).

C. Program and Other Variables

Examinees registered the highest passing percentages and average ratings in test subjects I and III. On the other hand, examinees got the lowest passing percentage and average rating in test subject IV in seven out of the eight NLEs (Fig. 6 and 7).



■ Nursing Practice I ■ Nursing Practice II ■ Nursing Practice III ■ Nursing Practice IV ■ Nursing Practice V

Cebu, Iloilo, and Tacloban were the testing centers which appeared frequently among the three highest passing percentages and average ratings in the eight NLEs. Conversely, the testing centers which appeared most often among the three lowest passing percentages and average ratings were Davao, Baguio

and Legazpi (Tables 4 and 5). It is noted that the examinees are allowed to choose the testing centers where they take the NLE. Thus, the testing centers where the examinees took the examination is not necessarily the location of their school.

Table 4: Testing Centers and Passing Percentages of Examinees in the NLEs

TESTING CENTER	DEC 06	JUN 07	DEC 07	JUN 08	NOV 08	JUN 09	JUL 10	DEC 10
Manila	48.03	50.24	40.04	45.80	40.90	44.39	42.67	30.72
Baguio	40.79	41.06	37.55	35.84	37.95	34.80	39.00	31.82
Butuan	-	-	-	-	-	-	-	37.15
Cagayan de Oro	51.09	47.63	51.19	41.92	54.80	35.92	40.19	49.38
Cebu	56.18	56.74	52.50	52.87	50.52	52.86	47.78	40.35
Davao	52.43	39.43	51.26	26.66	52.23	26.88	27.93	41.21
Iloilo	58.84	52.11	58.23	42.08	62.66	38.45	37.87	49.45
La Union	-	-	-	-	-	-	40.67	23.42
Legazpi	37.72	37.72	33.42	43.21	38.52	43.83	43.20	31.13
Lucena	46.48	44.57	35.03	44.52	41.01	38.74	39.55	39.58
Pagadian	-	-	-	-	-	21.47	23.20	24.14
Pampanga	-	-	-	-	-	-	59.30	27.25
Sulu	-	-	-	-	27.81	31.85	-	-
Tacloban	60.82	68.77	63.67	36.71	62.86	30.38	34.34	53.83
Tuguegarao	61.47	47.19	47.93	31.43	51.42	36.16	39.73	49.58
Zamboanga	44.26	47.11	35.97	37.77	39.79	49.01	44.22	34.85
Dagupan	-	-	-	-	-	-	31.91	21.95
Ilocos Sur	-	-	-	-	-	-	-	29.36
Nueva Ecija	-	-	-	-	-	-	-	22.62

Table 5: Testing Centers and Average Ratings of Examinees in the NLEs

TESTING CENTER	DEC 06	JUN 07	DEC 07	JUN 08	NOV 08	JUN 09	JUL 10	DEC 10
Manila	71.33	71.81	70.22	72.34	71.14	70.79	71.04	68.15
Baguio	70.14	70.19	69.35	70.72	70.20	68.87	70.52	68.48
Butuan	-	-	-	-	-	-	-	68.94
Cagayan de Oro	71.58	71.27	71.90	71.73	73.31	69.71	70.58	71.28
Cebu	72.68	72.87	72.02	73.55	72.71	72.30	72.07	69.95
Davao	72.12	69.98	71.96	69.73	72.93	68.19	68.83	69.83
Iloilo	73.48	72.40	73.28	72.43	74.89	70.64	70.82	71.71
La Union	-	-	-	-	-	-	70.69	66.65
Legazpi	69.11	69.23	68.42	71.68	70.41	70.48	70.44	67.50
Lucena	71.28	70.94	69.55	72.25	71.12	69.99	70.35	69.66
Pagadian	-	-	-	-	-	64.74	65.98	65.63
Pampanga	-	-	-	-	-	-	73.70	68.03
Sulu	-	-	-	-	68.41	67.15	-	-
Tacloban	73.34	74.34	73.84	71.39	75.16	69.35	69.72	72.43
Tuguegarao	73.46	71.28	71.50	70.12	72.61	69.24	70.53	71.11
Zamboanga	70.35	70.94	68.44	70.55	69.80	71.14	70.56	67.87
Dagupan	-	-	-	-	-	-	68.21	65.22
Ilocos Sur	-	-	-	-	-	-	-	68.22
Nueva Ecija	-	-	-	-	-	-	-	65.67

Relationship between the NLE passing percentage and average rating and Examinee and Institutional Variables

The examinee variable *number of times test taker took the examination before* was found significantly correlated with the overall average rating of examinees in all the NLEs (Table 6). Results revealed a strong negative correlation between the above variables. This means that as the number of times the examinees take the exam increases, their average rating decreases, and vice versa.

Number of examinees had a weak correlation with overall average rating in three of the eight NLEs. The variable *number of examinees* was found significantly correlated with overall passing percentage only in the June 2008 NLE. No significant relationships were found with the rest of the NLEs.

Effects of Examinee, Institutional, and Program Variables on Performance Scores

Table 7 compares the difference between the mean average ratings of first timers and repeaters in the eight NLEs. First timers consistently had higher mean average ratings than repeaters in all the eight NLE.

Comparison of the means of the level of accreditation of schools from where examinees came as well as the accrediting agencies revealed statistically significant

Table 6: Correlations Between Number of Times Examinee Took Exam Before and after Overall Average Rating

NLE	Pearson Correlation Coefficient	Sig. (2-tailed)
December 2006	-.240(**)	.000
June 2007	-.302(**)	.000
December 2007	-.203(**)	.000
June 2008	-.352(**)	.000
November 2008	-.227(**)	.000
June 2009	-.300(**)	.000
July 2010	-.310(**)	.000
December 2010	-.209(**)	.000

** Correlation is significant at the 0.01 level

Table 7: Comparison of Mean Average Rating of First Timers and Repeaters in the Eight NLEs

NLE	MEAN AVERAGE RATINGS		t-RATIO	p-value
	FIRST TIMERS	REPEATERS		
December 2006	72.90	70.23	t = 34.84	.000
June 2007	72.85	66.98	t = 87.65	.000
December 2007	71.94	69.04	t = 51.63	.000
June 2008	74.20	68.07	t = 113.55	.000
November 2008	72.89	69.10	t = 72.32	.000
June 2009	72.52	67.00	t = 106.92	.000
July 2010	73.32	67.31	t = 117.92	.000
December 2010	70.85	66.87	t = 71.68	.000

differences between the mean average rating for the different groups, in all the NLEs. The same applies to the comparison of the means of examinees from state and local universities.

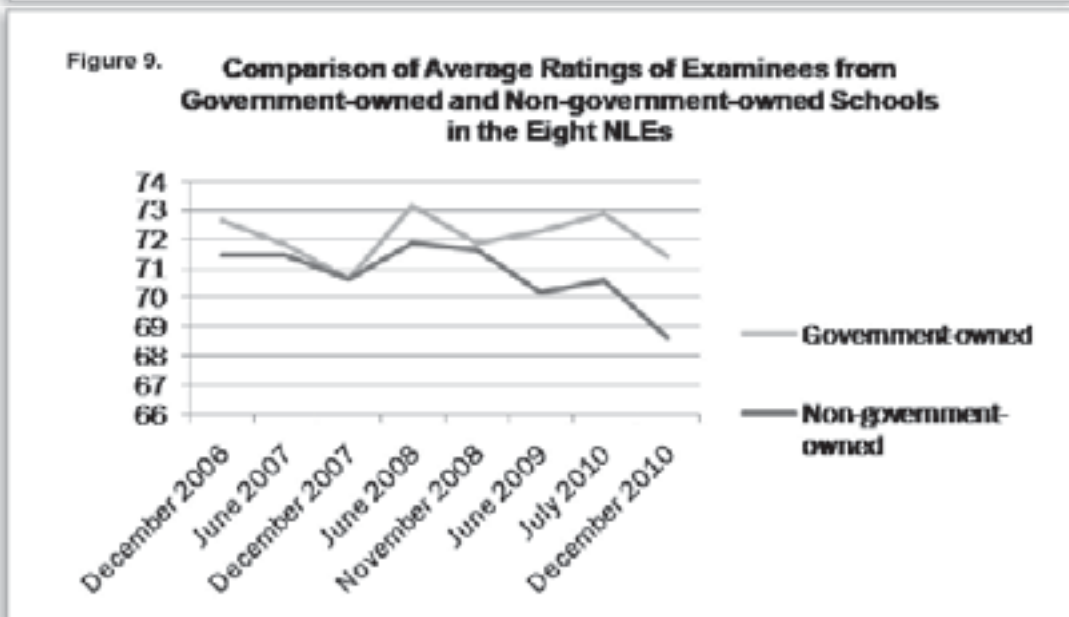
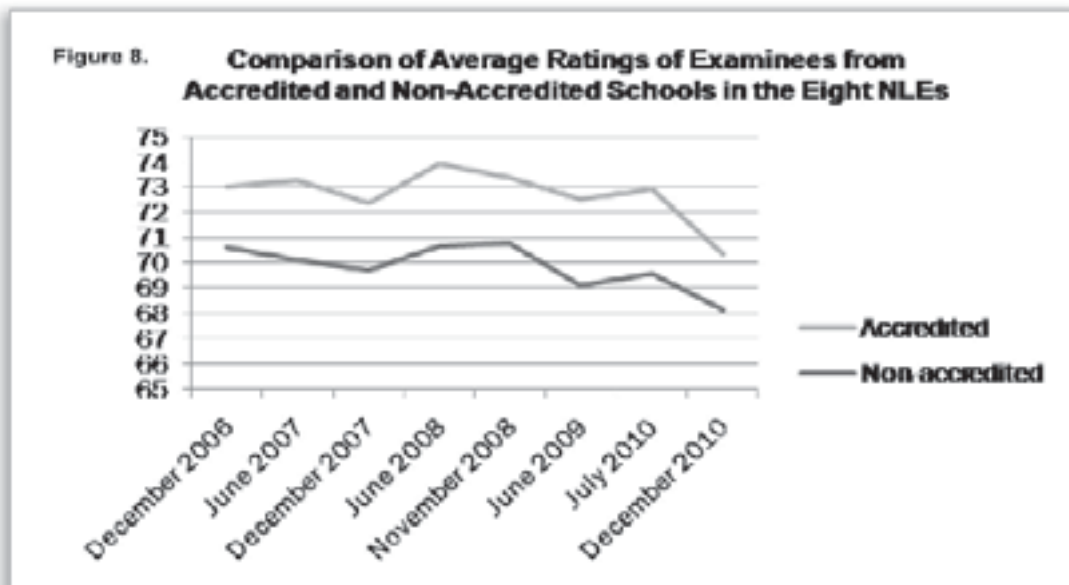
There was a statistically significant difference between the mean average rating and mean passing percentage of

accredited and non-accredited schools in the eight NLEs. Accredited schools have higher mean average rating and mean passing percentage than non-accredited schools (Fig. 8). There were statistically significant differences found between the mean passing percentage and average rating of schools with different levels of accreditation in seven of the eight NLEs (except June 2007). In addition, there were statistically significant differences between the mean passing percentage and average rating of schools with different accrediting agencies in all the NLEs.

Government-owned schools have higher mean average rating and mean passing percentage than non-

government-owned schools (Fig. 9). Analysis revealed that there was a statistically significant difference between the two variables in six of the eight NLEs. However, no significant difference was found between the mean average ratings and the passing percentages of state and local universities, although the former had relatively higher average ratings and passing percentages than the latter.

One way ANOVA results revealed statistically significant differences among the mean passing percentages as well as mean average ratings for the different regions in all the NLEs.



Average ratings of first timers and repeaters were compared in the five test subjects. First timers have higher performance scores than repeaters. Statistically significant differences between the performance score of first timers and repeaters were found in all the test subjects in all the eight NLEs except in test subject III in the November 2008 NLE.

One way ANOVA showed significant differences in the mean average ratings of the testing centers in all the NLEs.

Stepwise multiple regression of the variables revealed how much each influenced the average rating and passing percentage of the examinees in each NLE. The top predictor of average rating was being a first timer or repeater. Number of times test taker took the examination before follows. It predicted the average rating of examinees in two NLEs (December 2006 and December 2007).

School type graduated from: accredited or non-accredited exceeded the variable school type graduated from: government-owned and non-government-owned in the list of top predictors of average rating in all the NLEs.

Among the institutional variables (accreditation status, school ownership and number of examinees), multiple regression performed revealed that the number of examinees did not influence either the average rating or passing percentage of the schools which participated in the eight NLEs (Table 8). In contrast, accreditation status and school ownership influenced both the average rating and passing percentage of the schools. In the eight NLEs, accreditation status had a stronger predictive ability than school ownership (Table 9).

Table 8: Multiple Regression Results of Institutional Variables and Average Rating in the Eight NLEs

NLE	ADJUSTED R SQUARE	NO. OF PREDICTOR VARIABLES	PREDICTOR VARIABLES		
			LIST OF PREDICTORS	BETA	P
December 2006	.154	2	Accreditation Status	-.337	.000
			School Ownership	-.232	.000
June 2007	.039	1	Accreditation Status	-.202	.000
December 2007	.086	2	Accreditation Status	-.286	.000
			School Ownership	-.112	.019
June 2008	.107	2	Accreditation Status	-.277	.000
			School Ownership	-.199	.000
November 2008	.102	2	Accreditation Status	-.286	.000
			School Ownership	-.165	.000
June 2009	.133	2	Accreditation Status	-.297	.000
			School Ownership	-.234	.000
July 2010	.177	2	Accreditation Status	-.335	.000
			School Ownership	-.275	.000
December 2010	.157	2	Accreditation Status	-.296	.000
			School Ownership	-.285	.000

Table 9: Multiple Regression Results of Institutional Variables and Passing Percentage in the Eight NLEs

NLE	ADJUSTED R SQUARE	NO. OF PREDICTOR VARIABLES	PREDICTOR VARIABLES		
			LIST OF PREDICTORS	BETA	P
December 2006	.174	2	Accreditation Status	-.354	.000
			School Ownership	-.251	.000
June 2007	.036	1	Accreditation Status	-.195	.000
December 2007	.067	1	Accreditation Status	-.263	.000
June 2008	.099	2	Accreditation Status	-.268	.000
			School Ownership	-.190	.000
November 2008	.087	2	Accreditation Status	-.262	.000
			School Ownership	-.157	.001
June 2009	.113	2	Accreditation Status	-.289	.000
			School Ownership	-.197	.000
July 2010	.180	2	Accreditation Status	-.338	.000
			School Ownership	-.270	.000
December 2010	.158	2	Accreditation Status	-.300	.000
			School Ownership	-.283	.000

For each of the eight NLEs, predictors of the performance scores in terms of passing percentage and average rating of examinees were identified. The adjusted R square values ranged from .087 to .218, the beta coefficients are all negative but significant at $p = .000$.

Multiple regression performed in all the eight NLEs revealed the following variables as significant predictors of performance scores:

1. First timer or repeater
2. Number of times test taker took the examination before
3. School type graduated from: accredited or non-accredited
4. School type graduated from: government-owned or non-government-owned

The four came out as significant predictors in the same sequence as listed above. Thus, it can be said that it matters much in the prediction of performance that the examinee is taking the test for the first time, or if a repeater had taken the NLE at most twice before, and that he/she graduated from an accredited or government-owned school. The summary of the stepwise regression analyses are shown in Tables 8 and 10.

As far as the institutional variables are concerned, only two variables emerged as significant predictors of performance. The two are: 1) accreditation status, and 2) school ownership (See Table 9).

Joint and Separate Effects of the Three Groups of Variables on the Performance Scores

Table 10: Multiple Regression Results of Examinee Variables and Average in the Eight NLEs

NLE	ADJUSTED R SQUARE	NO. OF PREDICTOR VARIABLES	PREDICTOR VARIABLES		
			LIST OF PREDICTORS	BETA	P
December 2006	.100	3	Number of times test taker took examination before	-.168	.000
			School type graduated from: accredited or non-accredited	-.136	.000
			School type graduated from: government-owned or non-government-owned	-.039	.000
June 2007	.145	3	First timer or repeater	-.228	.000
			School type graduated from: accredited or non-accredited	-.176	.000
			Number of times test taker took examination before	-.062	.000
December 2007	.087	4	Number of times test taker took examination before	-.090	.000
			School type graduated from: accredited or non-accredited	-.169	.000
			First timer or repeater	-.094	.000
			School type graduated from: government-owned or non-government-owned	-.008	.036
June 2008	.218	3	First timer or repeater	-.312	.000
			School type graduated from: accredited or non-accredited	-.159	.000
			School type graduated from: government-owned or non-government-owned	-.024	.000
November 2008	.108	4	First timer or repeater	-.177	.000
			School type graduated from: accredited or non-accredited	-.153	.000
			School type graduated from: government-owned or non-government-owned	-.031	.000
			Number of times test taker took examination before	-.025	.000
June 2009	.181	3	First timer or repeater	-.266	.000
			School type graduated from: accredited or non-accredited	-.171	.000
			School type graduated from: government-owned or non-government-owned	-.048	.000
			Number of times test taker took examination before	-.020	.000
July 2010	.190	4	First timer or repeater	-.246	.000
			School type graduated from: accredited or non-accredited	-.146	.000
			School type graduated from: government-owned or non-government-owned	-.044	.000
			Number of times test taker took examination before	.029	.000
December 2010	.106	4	First timer or Repeater	-.177	.000
			School type graduated from: accredited or non-accredited	-.120	.000
			School type graduated from: government-owned or non-government-owned	-.075	.000
			Number of times test taker took examination before	.021	.000

Discussion

Performance in the NLE of the different schools in the Philippines reflects state of Nursing Education in the country. This study explored the reliability of the NLE results as measures of the quality of nursing education being provided by the different higher education institutions in the Philippines.

In principle, all nursing programs strive to offer an educational experience that will train their students for competent practice. However, there are situations when factors such as the export policy of the government determines the opening of a College or School of Nursing and not its capacity to produce quality graduates. Anyway, the performance of the school's graduates in the NLE represents a mark of success, not only for the student but also for the nursing program. It is, therefore, considered a visible measure of program quality. The low passing percentage of the eight NLEs (range: 35.26% to 49.15%) and low average rating among the eight NLEs (range: 68.81 to 71.95) is an indication of the declining quality of education. It is significant to note that about this period, there was an unprecedented mushrooming of nursing schools in the country from over 200 in 2006 to 470 in 2010. This fact created a gap of qualified deans, faculty and adequate facilities. This observation added to the pressing concerns of nursing leaders.

Another factor that contributes to the above scenario is the situation where the greater number of examinees who fail in the past Nurse Licensure Examinations take the succeeding NLEs. This adds to the number of new examinees in each subsequent NLE. First-time takers consistently have higher passing percentage and statistically significant higher average rating than repeaters in all the eight NLEs analyzed. The number of repeaters increases after every NLE schedule. Examinees who took the examination for at most two times had higher passing percentages and statistically higher average ratings than the other groups of examinees. Being a first timer or repeater and the number of times an examinee had taken the examination prior to a particular NLE are the leading predictors of the average rating of an examinee. While it is a welcome change in the Nursing Law that an examinee who fails several times can take the NLE for as long as he/she wants, the value of undergoing a refresher course after the third failure (similar to the Nursing Law: RA 7164 of 1991) may have to be reconsidered. This and other provisions of the nursing law and the nursing curriculum

that may contribute to this NLE result phenomenon must be looked into, for example; qualifications of deans and faculty, facilities, and the like.

Quality in higher education means the pursuit of quality assurance. It focuses on developing and managing educational programs and services that are usually benchmarked on standards set at the national, regional and/or international higher education. The value of accreditation needs to be underscored. The Commission on Higher Education (CHED) has a very critical responsibility to make sure that all the recognized schools follow the Policies, Standards and Guidelines set for the BSN program. Likewise, the Professional Regulation Commission and the Board of Nursing have equally important responsibilities in making sure that the policies, standards and guidelines are implemented in all Higher Education Institutions (HEIs). In the Philippines, accreditation is voluntary. Accrediting bodies assess the quality of teaching and learning as supported by governance and management. The process of accreditation specifically monitors and evaluates the institutions' support for students, relations with the community and management of resources. Such areas are recognized to contribute to the effectiveness of the institution and ensure the quality and standards of the programs offered (Ordonez & Ordonez, 2007).

Dator's study (2010) supports the significance of a school's accreditation to its performance in the NLE. The results of the study showed that the performance of higher education institutions (HEI) in the 2000 to 2004 NLE was greatly affected by the accreditation of their nursing programs mainly by certain accrediting bodies such as PAASCU, PACUCOA, ACSCU-AAI, and AACUP. Schools which were accredited performed better in the NLE compared to non-accredited schools. The structures and processes of the different HEIs are reflected by their accreditation status, making accredited schools more qualified to teach the nursing program they have presented. Moreover, the level from which accredited schools belong, based on the categories set by the above mentioned accrediting bodies, is positively related to their performance in the NLE. HEIs that have been accredited by these institutions are classified into three levels which indicate the quality they have already achieved. Their classification from Level I to III also translated to their performance ranking in the NLE. This implies that the accreditation of a higher education institution is a reliable indicator of the quality of the

nursing education program in the country with the NLE results used as basis of the desired outcome in measurement.

In the current study, examinees from accredited schools have higher passing percentage and significantly higher average rating than examinees from non-accredited schools in all the NLE. It was also noted that the higher the level of accreditation of a school, the higher the passing percentage and average rating of its examinees. Examinees from schools accredited by PAASCU and AACCUP have higher passing percentages and significantly higher average ratings than examinees from schools accredited by PACUCOA and ACSCU-AAI. Level III accredited schools have statistically higher passing percentages and average ratings than schools with lower accreditation status in seven of the eight NLEs studied. Furthermore, PAASCU-accredited and AACCUP-accredited schools perform statistically higher than PACUCOA- and ACSCU-AAI-accredited schools. Thus, the value of accreditation as a predictor of quality education must be seriously considered by the regulating bodies and professional organizations such as the PRC-BON, CHED, and the ADPCN. The rigor of accreditation should be maintained and respected by any accrediting body.

Quality is ensured when a HEI accepts students based on its capacity and resources, an aspect covered by accreditation processes. This is true with government-owned schools, specifically the state universities and colleges. Due to limited resources from the coffers of the national or local government, the admission of students is limited to a quota identified by the school. This specified quota limits the number of students to be accepted. Academic performance in secondary education and results of admission tests contribute to ranking for admission. This policy of selective admission could be a contributory factor to the findings that examinees from government-owned schools have higher passing percentage in all the NLEs, and significantly higher average rating in six of the eight NLEs. Examinees from state universities have higher passing percentages and higher average ratings than their counterparts in seven of the eight NLEs. This makes school type graduated from (government or non-government-owned) a predictor of the average rating of an examinee.

Significant differences were found between the passing percentage and average rating of the examinees by testing center in all the eight NLEs. Among the five test

subjects in all the NLEs, the highest passing percentage and average rating is in Nursing Practice I and III; and their lowest performance scores were in Nursing Practice IV. While it is a welcome finding that the examinees, both first timers and repeaters, rated highest in Test I (*Basic Foundation of Nursing and Professional Nursing Practice*) which reflects the state of their foundation in nursing education, the mean average still needs improvement. Educators and examiners must seriously look into reasons why Test IV (*Care of Clients with Physiologic and Psychosocial Alterations*) is performed most poorly as shown by the mean average score. Aware that Test IV looks into integrated medical surgical concepts, factors such as content, related learning experiences and competencies measured must be looked into. This is a reflection of lack of learning experiences or opportunities due to the large influx of students in limited learning hospitals. It becomes a double jeopardy when both theory and practice are weak. Analyzing each examination question by focusing on both test question construction and analysis of answers can be done vis-à-vis expected competencies. This brings the issue of implementing Article XI of CHED Memorandum 14, Series 2009 (CMO 14 s. 2009). This article states the sanctions that "non-compliance with the provisions of the CMO, shall after due process, cause the Commission to revoke government permit/recognition or deny issuance of authority to operate the nursing program". The provision further states that the official results of the Nurse Licensure Examination issued by the Board of Nursing of the Professional Regulation Commission and that Higher Educational Institutions (HEIs) with an average passing rate of below 30% in the Nurse Licensure Examination for the past three years shall be the basis in phasing out of the nursing programs. If strictly implemented as provided for in the policies, standards and guidelines of the CHED, this will send a message to the public that the regulating bodies ensure the delivery of safe and quality nursing care to clients by professional nurses.

To maintain the stature of Philippine Nursing in the global market as one of the best source of competent and caring nurses, it is a must to continue conducting evaluation measures such as this research to improve nursing practice. This is not only the concern of the PRC Board of Nursing but of all stakeholders, thus the value of collaborative efforts.

Conclusions and Recommendations

Findings of the study lead to these conclusions: being a first timer or repeater and the number of times the examinee has taken the examination are predictors of the average rating obtained by the examinee in the NLE. Therefore, through the leadership of the PRC Board of Nursing and with the support of all recognized nursing organizations, policies relevant to application to the NLE by first timers and repeaters should be reviewed and revised to conform to existing situation. Other factors that possibly apply to repeaters also need to be explored. Further research studies on variables which may influence the performance of repeaters in the NLE may be studied. These variables may include the following: 1) primary purpose in enrolling in the nursing program, 2) BSN as a secondary course, 3) time gap from date of graduation to the date of first examination, and 4) other relevant demographic variables.

Accreditation status has a strong predictive ability: examinees from schools with level 3 accreditation status have high passing percentage and average rating. It is recommended that colleges of nursing pursue accreditation. Meeting the minimum standards of nursing education set by the Commission on Higher Education is not enough to ensure quality nursing education. The Association of Deans of Philippine Colleges of Nursing could explore programs which will assist the schools to achieve accreditation status.

CHED must continuously use the performance of examinees in the NLE in evaluating schools offering the BSN program. The system by which results and findings are processed and provided to CHED by PRC should be reviewed and improved accordingly to ensure that these data could be used promptly and effectively for school monitoring and evaluation.

Continuous validation studies should be done. A competency based framework should be used to ensure that the test items measure the nursing competencies expected to be developed by the Nursing schools. Further studies should be conducted to determine the extent to which the core competency standards integrated in the BSN curriculum are implemented.

Evaluation should be conducted by the Professional Regulation Commission (PRC) to determine the efficiency and effectiveness of its systems, processes, and facilities

related to the administration of the Nurse Licensure Examination.

This research could be replicated to include other variables which affect performance of examinees in the Nurse Licensure Examination. Colleges of Nursing are encouraged to do studies to determine other variables.

Policy Implications

The declining performance in the NLE is an important issue to health policy makers. Deriving policy implications from the study entails understanding the context of the phenomenon. Reflections from the above study mirror the situation at the macro level. The current situation of low performance in the NLE for the past five years is multifaceted. It is but a tip of the iceberg of larger national and global developments. According to Lorenzo, et. al., (2007), the rampant global nursing shortages in the late 1990s, made recruitment conditions more favorable to destination countries that created strong “pull factors” (p.1408). Filipino labor migration was originally intended to serve as a temporary measure to ease unemployment. Perceived benefits included stabilizing the country's balance-of-payments position and providing alternative employment for Filipinos. However, dependence on labor migration and international service provision has grown to a point where there are few efforts to address domestic labor problems (Villalba, 2002).

The vast opportunities in nursing jobs overseas in the 1990s, which peaked after 2000, generated a rapidly growing nurse education sector in the country enhanced by the export policy of the government. The consequent rapid proliferation of nursing schools/programs, however, has adversely affected the quality of nursing education. Palaganas (2004) contends that the prevailing commercialized educational system has turned the schools to diploma mills, as passports to a “brighter future” and where values of social commitment and responsibility have been continually eroded.

According to IBON (2008), a paradox of the Philippine health sector is that it has a huge health force for an underdeveloped country and yet it experiences severe domestic shortage. Thus, there is a need to examine the shared responsibility of government agencies, such as; the Commission on Higher Education (CHED), Professional Regulation Commission (PRC), Board of Nursing (BON), Department of Health (DOH) and

Department of Labor and Employment (DOLE) in line with the government's priority thrusts.

Strict implementation of the CHED Policies, Standards and Guidelines must be supported by intensive monitoring of schools with consistently low passing percentage by the PRC-BON-CHED. To ensure the quality of students who enter the nursing program, it is important to consider students' motivations in taking up nursing. There is a need to assess, measure, and/or evaluate aptitude and qualifications of applicants in nursing. Likewise, retention policy of the school to progressively assess capability of students to demonstrate competencies expected in each level of the nursing program must be continuously reviewed and evaluated for improvement. On the other hand, capacity building for competency development among deans and faculty members must be enhanced to promote effective and efficient implementation of the policies, standards and guidelines set for nursing education.

The oversupply of nurses is likely to alter the country's human resource portfolio because on the supply side, there are 332,206 Filipino nurses, but the demand side is only in need of 193,223. Of the 193,223 employed nurses, 29,467 (15.25%) are based in the local and national labor market, but there are 163,756 (84.75%) employed in the international scene (Lorenzo et.al., 2007, 1409).

There are other factors underlying such a phenomenon, such as the state of wages and working conditions obtaining in the country. R.A. 7305 or the Magna Carta for Public Health Workers of 1992 was promulgated to address policy issues on salaries and benefits for health care workers. Unfortunately, this law has been poorly implemented and has been further undermined in mid-1990s by the devolution of public health services to the local government units (LGUs).

Despite the problems related to the training/education, employment and migration of the country's health professionals, certain policy gaps exist: 1) "there is no official unified government policy in health human resource development; 2) there is no single government agency responsible for concerted health human resource development planning and management; and 3) there is no official information and data base of health human resources in the country". (*UP Forum*, July-August 2005). Added to these concerns is the chronic underfunding of the health sector, the

government's sheer neglect of the people's health and the privatization of the health system that fails to create an enabling environment for nurses and other health personnel for employment and for productive use in the country (IBON, 2008).

This web of causes related to the situation necessitates policies on rational production and utilization of human health resources to make more efficient use of available personnel. It also necessitates policies related to compensation and management strategies, especially on public health personnel.

The number and types of health personnel produced should be consistent with the needs of the country. Most of the strategies involve education and training. This is ensured by policies related to rational production of human health resources. Therefore, there is a need for more effective regulation of nursing schools: the opening of new schools and the closure of non-performing schools of nursing. The moratorium on opening of new nursing programs must be strictly enforced.. This has implication in the Human Resources for Health (HRH) Master Plan 2005-2030 where the recruitment, retention, career development, compensation and benefit development for health human resources must be in place.

In the rational utilization of human health resources, it is important to look at the geographic distribution as well as using multi-skilled personnel. This implies developing innovative health sciences education experiments that can address the severe shortage of health professionals in rural and marginalized communities. Along this line, the mandatory service in underserved areas by new graduates can be explored. The institution of the National Health Service Act (NHS Act) should compel graduates from state-funded nursing schools to serve locally for the number of years equivalent to their years of study. The University of the Philippines (UP) College of Medicine already has this in place by having anyone wanting to study in UP for a medical degree sign a contract of mandatory service for three years. Monetary and other forms of incentives can be explored for health professionals wanting to serve the country side. On a more holistic note, a long-term comprehensive health human resource development plan can be formulated.

Policies related to public sector personnel compensation and management strategies need to be designed to improve the productivity and motivation of

public sector health care personnel. This can include short term/immediate interventions such as increasing wages, increasing budget for health, holding national consultations with all stakeholders, improving regulation of nursing schools and rethinking commitments to the General Agreement in Trade and Services (GATS). Long-term strategic interventions can include a review of the over-all health care system.. Thus, health-related organizations such as the Professional Regulation Commission (PRC), Board of Nursing (BON), Philippine Nurses' Association (PNA), Association of Deans of Philippine Colleges of Nursing (ADPCN), Association of Nursing Service Administrators of the Philippines (ANSAP), nursing specialty organizations and other interest groups should collectively work to prevent work-related exploitation, domestically and internationally.

If the Philippines were able to produce and retain enough nurses to serve its own population, there would be widespread support for additional quality nurse production and migration (Lorenzo, et.al., 2007). Attending to source country needs will also benefit the global health workforce and ensure improved quality of health care services for all.

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