



Original Research Article

Academic and licensure examination performances of BSN graduates: Bases for curriculum enhancement

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This study involved the correlation of academic performance and licensure examination results which were used as bases for curriculum enhancement. A descriptive-correlational design was used to describe the academic performances, licensure examination, changes and perception of faculty in the curriculum and relationship of the academic and Nursing Licensure Examination (NLE) performances. Nursing graduates and faculty from the College of Nursing from chosen nursing schools were the respondents of the study. Mean and standard deviations were used to describe the academic performances and perceptions of faculty in the changes of the curriculum while Pearson's correlation was used in determining the relationship between academic and NLE performance in each of the 5 subjects. The results showed that academic performances are satisfactory in Nursing Care Management, Community Health Development and Research subjects. Nursing Licensure performances are also satisfactory however, graduates have difficulty passing examinations with Medical, Surgical and Psychiatry Nursing concepts. The academic performances in nursing professional subjects are related to nursing licensure performance. The changes in the curriculum brought additional subjects contents, units, hours and placement in the Bachelor of Science in Nursing (BSN) curriculum. Curriculum enhancement is necessary to improve academic and NLE performance of nursing graduates.

Key words: Curriculum, curriculum change, development, enhancement, nursing care management.

INTRODUCTION

The nurse's role in society demands a blend of certain competencies, skills, sensitivity, care and commitment based on broad knowledge and practical application. With the profound effect of the explosion of knowledge on medical procedures, patterns and organization of patient care and increased effectiveness for patients, registered nurses' preparations and skills have similarly expanded thus allowing the nurse to move into primary health care roles with different and distinctive kinds of activities. Nursing is the key to improving quality care through patient safety (Mitchell, 2008). Thus, nursing care must be learned and practiced as a science and as an art; which means adding new knowledge and skills and having deep commitment to human service. In the Philippines, the

responsibility of producing professional nurses with such quality is mainly placed on those in the educational setting, particularly the institution/ university where the nurse-aspirants are taught, trained and developed until they graduate, enabled to meet the licensure requirements prior to nursing practice. Thus, with regard to providing competent manpower that can be part of the useful citizenry of the country, the institution/ university supports two national government agencies; the Commission on Higher Education (CHED) and the Professional Regulations Commission (PRC). For the Nursing Program, CHED Memorandum Order (CMO) 30 was issued in 2001. It was replaced by CMO 05 in 2008 and the most recent was CMO 14 issued in 2009. Correspondingly, the chosen College of

Nursing, had its Bachelor of Science in Nursing (BSN) curriculum revised. On the other hand, the legal requirement of passing a national examination before a nursing graduate can practice the profession is implemented through the PRC which takes charge of administering the examinations prepared by its appointed board of examiners and then issuing those who get passing marks their license to practice. Studies by Salustiano (2013) and De Guzman and Guy (2013) have shown that one of the important factors that predict the nursing licensure examination results is academic performance. Academic performance shows how students meet standards of the curriculum. Embedded in the curriculum is the evaluation of how students demonstrate their knowledge, skills and attitudes. Thus, a study of the effect(s) of curriculum differences or changes on students' academic and licensure performance became of interest to the researcher.

BACKGROUND

There have been many changes in the curriculum for the last years and yet its correlation with academic performance and passing rate in the Nurses Licensure Examination (NLE) has not been studied. The BSN curriculum was revised in consecutive years such that three batches of students (who graduated in 2010, 2011 and 2012) followed different curricula. The chosen college of nursing is a top in nursing education with Level 2 Philippine Accrediting Association of Schools, Colleges and Universities (PAASCU) accreditation status and ranked as second among the top performing nursing schools according to the PRC. The school also maintains its standards by having top-notchers in the recent nursing licensure examination and still continue to provide quality education by improving its curriculum (PAASCU Report, 2010). As a faculty member and an active member of the nursing profession, the researcher believes that part of her responsibility is to continue searching for improvement of the BSN curriculum. Furthermore, the need for the College of Nursing to maintain its PAASCU accreditation status and rank as the top performing nursing school in the Philippines, is the context why the study was conducted. The researcher aimed to relate graduates' academic and licensure examination performances with a comparison of different BSN curricula implemented by the College of Nursing. Furthermore, the researcher aimed to identify aspects of the curriculum implementation where enhancements can be effected.

The study was based on the concepts of what curriculum is traditional and new; broader concepts together with its implications. The traditional concept of the curriculum is that it is a course of study or the list of subjects/ courses for a specific program. In its new and broader concepts, the curriculum is the planned and guided learning experiences and intended learning outcomes, formulated through the systematic reconstruction of knowledge and experience

under the auspices of the school for learners' continuous and willful growth in personal-social competence (Tanner, 1980 as cited in Bilbao (2008).

Since the curriculum, in this case, the Bachelor of Science in Nursing (BSN) curriculum, is the sum of all the learning content experiences and resources that are purposely selected, organized and implemented by the School in pursuit of its particular mandate as a distinct institution of learning and human development (Palma, 1992 as cited in Bilbao (2008). The graduates' academic performance and results in the licensure examinations are outcomes of the curriculum that are based on specific targets since a true measure of a good curriculum lies in the changed behavior of the learners and the applied learning or transfer of training to other situations. Only when the graduates' behavior has become better and they can correctly apply what they have learnt, can the curriculum be said to be effective and functional.

Changes in the curriculum brought forward the following additions in the BSN curriculum. According to CMO 05 of 2008 and compared to CMO 30 of 2001, nursing care management subject description and content were changed across the two curriculum years. Additional NCM subjects were included in the 2007 and 2008 curricula. NCM 103 (RLE) was also replaced with NCM 105 (RLE) in curriculum year 2008 making the RLE concept much broader in concept, covering NCM 101 to NCM 104. Nursing care management topics/subject contents and specific problems were divided among the NCM subjects. Research 1 was offered as pure lecture with no RLE while Research 2 was added and as pure lecture and not as pure RLE.

Additional units were added in NCM subjects in curriculum year 2007 as mandated by CMO 05 (2008). The addition of NCM 101B subject did not bring about additional units to the curriculum. The addition of NCM 106 (Elective Nursing Practice) brought additional four (4) units in the RLE. The same was observed in the subject Research 2. In curriculum year 2008, additional units were added to NCM 101, NCM 103 and NCM 104 RLE while a decrease in the units of NCM 102 and NCM 107 was observed.

An increased number of hours were added to NCM 100 to NCM 105 with additional hours added to NCM 106 and Research 2, while decreased hours were noted in NCM 104 during the implementation of the BSN curriculum of 2007 (CMO 05, 2008).

In curriculum year 2008, additional hours were added to NCM 101, 103 & 104 RLE while a decrease hour in NCM 102 and NCM 107 was observed (CMO 05, 2008).

Subject placement across the curriculum years differ in subject offering per semester when CMO 05 (2008) and CMO 30 (2001) was compared. New subject placements were observed in curriculum year 2007 and 2008. NCM subjects were moved down to one semester to accommodate the additional NCM subjects based on CMO 05 recommendations. An additional summer class during the 2nd year was added in curriculum year 2007 to implement the additional NCM 101B and CHD RLE subjects.

A good curriculum must be flexible to allow reasonable and relevant assertions and changes. The changes in the BSN curriculum brought curriculum planners to arrange learning opportunities flexibly for adaptation to particular situations and individuals. Provisions are made for transition and continuing achievement of nursing graduates from one level to another. Learning activities are selected based on the maturity and experiential background of learners.

Graduates must acquire the necessary skills and attitude after graduation before entering the nursing profession. The curriculum is vital in achieving this requirement. Significant changes can be reflected on the graduates' academic and licensure performance and the process of comparing and evaluating the different curriculum would bring about curriculum enhancement to improve the present nursing curriculum.

METHODS

Design

The descriptive-correlational method was used in this study as its main concern was to describe academic and NLE performances of the 2010, 2011 and 2012 BSN graduates, changes in the BSN curriculum and determine the relationship between nursing graduates' academic and NLE performances. Survey was also conducted to faculty respondents to determine the perceptions of the faculty on the changes in the curriculum.

Setting of the study

The study was conducted in a private, non-sectarian higher education institution with an enrollment of over 20,000 students in three campuses: Manila, Makati and Malolos. Considered as one of the most stable institutions in the country, the chosen university has continuously pursued academic excellence in its 106 years of existence. Permission to conduct the study was approved by the College of Nursing.

Subjects of the study

Utilizing purposive sampling technique, the respondents of the study were nursing graduates of 2010, 2011 and 2012 academic years. Nursing graduates of 2010 and 2011 followed the curriculum based on the Commission on Higher Education (CHED) memorandum order (CMO) 30 or popularly known as Associate in Health and Science Education (ASHE) Curriculum, while nursing graduates of 2012 followed the curriculum based on the CHED memorandum order (CMO) 05 or the BSN curriculum of 2008.

The total population of nursing graduates was 2,180. This included 945 nursing graduates who took the 2010 NLE, 786 nursing graduates who took the 2011 NLE and 449

nursing graduates who took the 2012 NLE. The study also involved twenty three (23) faculty members of the School of Nursing in the three campuses of Manila, Makati and Malolos.

Instrumentation

A survey questionnaire was utilized in determining the perceptions of the faculty on the extent of changes in the curricular components with regards to subject description and content, number of units, number of hours and placement in the BSN curriculum. The questionnaire composed of 30 items that described the extent of changes in the 2006, 2007 and 2008 BSN curricula. The response categories on a Likert scale were four, with (4) representing strongly agree and (1) strongly disagree.

Documents and literatures were used in obtaining answers to the other problems of the study. Documents included copies of CHED Memorandum Order (CMO) 30 BSN curriculum and CMO 05 BSN curriculum; the 2006, 2007 and 2008 BSN curricula; Transcript of Records of 2006, 2007, and 2008 BSN curricula graduates; and NLE results of the nursing graduates in July and December 2010, 2011 and June and December 2012 from the Philippine Regulation Commission (PRC).

Academic performances were evaluated according to the grades of the students in professional nursing subjects. It followed the grading system used by the chosen university. The aggregated grades in the different professional nursing subjects were computed and ranked according to the grading scale. Grading scales were from excellent (1.0) to unsatisfactory (5.0).

The NLE performances were evaluated according to the students' ratings in professional nursing subjects. It followed the standard grading scale evaluation used in rating the nursing licensure examination by PRC in accordance with Republic Act (RA) 9173 (2002). Grading scales were from excellent (91-100) to unsatisfactory (below 60).

The questionnaire was tested for content validity, comprehensibility and readability by five experts in nursing education. A pilot study of the instrument was done with 5 respondents from the college of nursing who had the same characteristics with the respondents of the study. These five respondents were excluded from the actual study. Using Cronbach's alpha, the instrument was tested for coefficient reliability. An α -value of 0.736 was obtained, suggesting that the items in the instrument have relative internal consistency.

Data collection

A documentary review of records was conducted to provide data for the study. Copies of 2006, 2007 and 2008 BSN curricula were obtained and compared for its curricular components based on CMO 30 and CMO 05. Transcripts of records of nursing graduates' academic performances were taken from the Registrar's office. Records of students

Table 1. Academic Performances of Graduates in Nursing Professional Subjects Comprising NLE NP1-5

Nursing Professional Subjects	2010 Graduates		2011 Graduates		2012 Graduates	
	Mean± SD		Mean± SD		Mean± SD	
	July	Dec	July	Dec	July	Dec
Nursing Practice 1	2.39±.30 S	2.58±.22 S	2.40±.31 S	2.52±.24 S	2.35±.30 VS	2.55±.32 S
Nursing Practice 2	2.33±.32 VS	2.52±.26 S	2.35±.30 VS	2.55±.32 S	2.35±.30 VS	2.58±.26 S
Nursing Practice 3	2.39±.32 S	2.58±.22 S	2.51±.30 S	2.62±.26 S	2.40±.31 S	2.64±.26 FS
Nursing Practice 4	2.39±.26 S	2.53±.20 S	2.56±.26 S	2.54±.30 S	2.46±.32 S	2.62±.24 FS
Nursing Practice 5	2.44±.29 S	2.61±.20 S	2.43±.31 S	2.57±.30 S	2.55±1.11 S	2.75±.22 FS
Over-all Mean of all professional subjects	2.39±.30 S	2.55±.22 S	2.45±.29 S	2.56±.28 S	2.42±.46 S	2.63±.26 FS

included academic performances in professional nursing subjects and related learning experience (RLE) in Nursing Care Management (NCM) 100, 101, 101B, 102, 103, 104, 105, 106 and 107, Nursing Research Community Health Development, and Community Health Nursing RLE. Academic Performances were evaluated according to the grading system used. Nursing Licensure Examination (NLE) ratings of nursing graduates were taken from the College of Nursing and PRC office. NLE performance was expressed according to the five Nursing Practice subtests: (NP) 1, NP2, NP3, NP4, and NP5. Performances were evaluated according to the standard criterion for grading scale of the PRC in accordance with Republic Act (RA) 9173 (2002).

Changes in the BSN curriculum in the curricular years 2006, 2007 and 2008 were reviewed and compared to CMO 30 and CMO 05 to understand the changes in each curriculum according to the subject description and content, number of units, number of hours and placement.

A survey was conducted on the faculty of the college of nursing who had handled nursing graduates of the 2010, 2011 and 2012 academic years to illicit additional information on the perceptions of the faculty on the extent of changes in the BSN curriculum.

Statistical analyses

Data were tabulated, analyzed and interpreted. Mean scores and standard deviation were utilized to describe the academic, NLE performance of the graduates and perceptions of the faculty on the changes in the curricula components with regards to subject description and content, number of units, number of hours and placement. Pearson correlation and test of significance r was used in

determining the relationship between academic and NLE performances in each of the 5 subjects. All statistical data were analyzed using the Statistical Package for Social Science (SPSS) version 20.

RESULTS

Comparisons of academic performances of graduates are shown in Table 1. Nursing graduates of 2010, 2011 and 2012 academic years showed a very satisfactory performance in Nursing Practice 2 (NP2) which comprises the subjects; maternal and child nursing. The lowest performance of graduates of 2010 and 2012 was observed in Nursing Practice 5 (NP5) (Mean= 2.44 and 2.55) which included the nursing subject, psychiatry while for graduates of 2011 the lowest performance was observed in Nursing Practice 4 (NP4) (Mean= 2.56) which comprises of Medical Surgical Nursing subject.

Table 2 shows the NLE performance of graduates in the licensure examinations. The highest mean rating, 81.72 % described as "satisfactory," was obtained by a 2010 graduate in the Nursing Practice (NP)1 while the lowest, with a mean of 67.27% was obtained by a 2012 graduate in NP2. The graduates who took the July examinations got slightly higher means to get satisfactory ratings than the December takers whose ratings were in the "barely satisfactory" level only, except for two "satisfactory" ratings with means of 76.86 and 76.36% obtained in NP2 and NP3 respectively, by 2011 graduates.

As shown in Table 3, "substantial" correlation exists between NLE performances and Foundations of Nursing Practice, Promotive Preventive Nursing Care Management 1

Table 2: Performance Ratings In the Nursing Licensure Exams, NP1-5

	2010 Graduates		2011 Graduates		2012 Graduates	
	Mean± SD		Mean± SD		Mean± SD	
	July	Dec	July	Dec	July	Dec
Nursing Practice 1	81.72 ± 3.5 Satisfactory	73.18 ± 6.1 Barely	75.47±6.2 Barely	69.00±10.0 Barely	76.07±5.2 Satisfactory	75.45±3.5 Barely
Nursing Practice 2	79.00±3.9 Satisfactory	75.00±6.1 Barely	79.47±4.4 Satisfactory	76.86±6.8 Satisfactory	75.59±4.6 Barely	67.27±9.5 Barely
Nursing Practice 3	75.82±4.9 Barely	72.46±7.0 Barely	78.84±5.6 Satisfactory	76.36±6.3 Satisfactory	77.29±5.3 Satisfactory	68.0±8.3 Barely
Nursing Practice 4	74.07±6.5 Barely	67.79±9.0 Barely	75.30±6.9 Barely	70.42±10.63 Barely	73.34±7.3 Barely	71.27±7.7 Barely
Nursing Practice 5	76.07±5.2 Satisfactory	71.47±6.7 Barely	75.76±5.9 Barely	71.22±7.2 Barely	75.26±6.7 Barely	73.91±7.1 Barely
Over-all Mean	77.34±5.2 Satisfactory	71.92±6.98 Barely	76.97±5.8 Satisfactory	72.77±8.19 Barely	76.52±5.54 Satisfactory	71.18±7.2 Barely
		Satisfactory		Satisfactory		Satisfactory

Table 3. Correlation Between Academic Performance with the Licensure Examination Performance of 2010 Graduates

Correlation Coefficient r						
Professional Subjects	NP1	NP2	NP3	NP4	NP5	Ave NLE
Foundation of Nursing Practice NCM 100	-.460**	-.421**	-.345**	-.420**	-.418**	-.412**
	SC	SC	LC	SC	SC	LC
Promotive Preventive Nursing Care Management NCM 101	-.436**	-.432**	-.380**	-.414**	-.410**	-.414**
	SC	SC	LC	SC	SC	LC
Curative & Rehabilitative Nursing Care Management 1 NCM 102	-.380**	-.371**	-.363**	-.393**	-.374**	-.376**
	LC	LC	LC	LC	LC	LC
RLE NCM 103	-.326**	-.323**	-.331**	-.337**	-.332**	-.329**
	LC	LC	LC	LC	LC	LC
Curative & Rehabilitative Nursing Care Management 2 NCM 104	-.371**	-.355**	-.378**	-.384**	-.371**	-.371**
	LC	LC	LC	LC	LC	LC
Nursing Management & Leadership NCM 105	-.437**	-.428**	-.394**	-.413**	-.409**	-.416**
	SC	SC	LC	SC	LC	LC
CHD	-.357**	-.351**	-.299**	-.334**	-.333**	-.334**
	LC	LC	LC	LC	LC	LC
Research	-.259**	-.240**	-.259**	-.281**	-.290**	-.265**
	LC	LC	LC	LC	LC	LC
Ave Professional	-.378**	-.365**	-.343**	-.372**	-.367**	-.364**
	LC	LC	LC	LC	LC	LC

** Very Significant *Significant LC= Low Correlation SC= Substantial Correlation

and Nursing Management and Leadership. However, there is only a “low” correlation that exists between Foundations of Nursing Practice, Promotive Preventive Nursing Care Management 1 and Nursing Management and Leadership and NP3. A “Low” correlation exists between Curative and Rehabilitative Nursing Care Management 1, RLE, Curative & Rehabilitative Nursing Care Management 2, CHD and research in all the subtests of the NLE. Overall, a “low” correlation ($p \leq .01$) exists between academic performance

and the licensure examination results of 2010 graduates. Thus, the null hypothesis is rejected and the alternative hypothesis is accepted.

There is a “Substantial” correlation between NLE performance and Fundamentals of Nursing Practice, Promotive, Preventive Nursing Care Management 1 and 2, Curative and Rehabilitative Nursing Care Management 1, and Nursing Management and Leadership while a “Low” correlation exists between NLE performance and Curative

Table 4. Relationship of the Academic Performance to the Licensure Examination Performance of 2011 Graduates

Correlation Coefficient r						
Professional Subjects	NP1	NP2	NP3	NP4	NP5	Ave NLE
Fundamentals of Nursing Practice NCM 100	-0.475**	-0.492**	-0.483**	-0.501**	-0.475**	-0.485**
	SC	SC	SC	SC	SC	SC
Promotive Preventive Nursing Care Management 1 NCM 101	-0.461**	-0.446**	-0.458**	-0.460**	-0.415**	-0.448**
	SC	SC	SC	SC	SC	SC
Promotive Preventive Nursing Care Management 2 NCM 101B	-0.428**	-0.456**	-0.480**	-0.492**	-0.449**	-0.461**
	SC	SC	SC	SC	SC	SC
Curative & Rehabilitative Nursing Care Management 1 NCM 102	-0.449**	-0.401**	-0.445**	-0.470**	-0.439**	-0.440**
	SC	LC	SC	SC	SC	SC
Curative & Rehabilitative Nursing Care Management 2 NCM 103	-0.159**	-0.155**	-0.150**	-0.171**	-0.134**	-0.153**
	NC	NC	NC	NC	NC	NC
Curative & Rehabilitative Nursing Care Management 3 NCM 104	-0.317**	-0.410**	-0.376**	-0.388**	-0.365**	-0.371**
	LC	SC	LC	LC	LC	LC
Nursing Management and Leadership NCM 105	-0.448**	-0.429**	-0.443**	-0.481**	-0.446**	-0.449**
	SC	SC	SC	SC	SC	SC
Elective Nursing Practice NCM 106	-0.152**	-0.165**	-0.151**	-0.174**	-0.135**	-0.155**
	NC	NC	NC	NC	NC	NC
CHD	-0.357**	-0.381**	-0.364**	-0.397**	-0.354**	-0.379**
	LC	LC	LC	LC	LC	LC
Research 1	-0.344**	-0.373**	-0.371**	-0.397**	-0.353**	-0.367**
	LC	LC	LC	LC	LC	LC
Research 2	-0.375**	-0.390**	-0.383**	-0.404**	-0.315**	-0.374**
	LC	LC	LC	LC	LC	LC
Ave Professional	-0.360**	-0.372**	-0.373**	-0.394**	-0.356**	-0.371**
	LC	LC	LC	LC	LC	LC

and Rehabilitative Nursing Management 3, CHD, Research 1 and 2. However, a “negligible” correlation exists between NLE performance and Curative and Rehabilitative Nursing Practice 2 and Elective Nursing Practice. The null hypothesis is rejected and the alternative hypothesis is accepted (Table 4).

Table 5 revealed that there is a “Substantial” correlation between NLE performance and Fundamentals of Nursing Practice, Promotive and Preventive Care Management 1, Curative and Rehabilitative Nursing Care Management 1 NCM, CHN RLE, Nursing Management and Leadership and Research 1. On the other hand, the data also shows that a “low” correlation exists in NP4 and Elective nursing practice and between Research 1 and NP2 and NP4. All relationships have very significant effect. A “low” correlation exists between NLE performances and RLE, Curative and Rehabilitative Nursing Care Management 1, CHD and Elective Nursing Practice NCM, yet there is a “substantial” correlation between Elective Nursing Practice and NP4 and NP5 as well as CHD and NP1. There is “negligible” correlation between NLE performance and Curative and Rehabilitative Nursing Care Management 2 with a very significant effect in NP1, NP3, NP4 and NP5. The null hypothesis is accepted and the alternative hypothesis is rejected. Overall, the results revealed that a “low” negative correlation ($p=0<.01$) exists between academic performance and NLE performance of 2012 graduates. The null hypothesis is rejected and the alternative hypothesis is accepted.

The perceptions of the faculty on the changes of the curricular components

In Table 6 the faculty “strongly” agreed on the changes in the curriculum with regards to subject description and content (mean= 3.71) and “agreed” on the changes in the curriculum with regards to number of units (mean=3.05), number of hours (mean=3.30) and placement (mean=3.42).

DISCUSSIONS

Academic performance of graduates

Academic performance is the representation of the overall scholastic standing of students used for evaluation. It is considered the important parameter in the promotion of students to the next level (Salustiano, 2013). In general, it may be said that the over-all level of academic performance of the graduates is “Satisfactory”. De Guzman and Guy (2013) also supported this finding and stated that nursing students perform fairly in major subjects. The graduates’ academic performances are also observed to have low standard deviations indicating the close similarities of their performances. This could perhaps be attributed to comparable capabilities, similar intelligent quotient (IQ) levels, then having been exposed to the same learning experiences in the university, they have shown the

Table 5. Relationship of the Academic Performance to the Licensure Examination Performance of 2012 Graduates

Correlation Coefficient r						
Professional Subjects	NP1	NP2	NP3	NP4	NP5	Ave NLE
Fundamentals of Nursing Practice NCM 100	-.560** SC	-.477** SC	-.532** SC	-.482** SC	-.504** SC	-.511** SC
Promotive Preventive nursing Care Management 1 NCM 101	-.561** SC	-.535** SC	-.525** SC	-.510** SC	-.509** SC	-.528** SC
Curative & Rehabilitative Nursing Care Management 1 NCM 102	-.399** LC	-.349** LC	-.408** LC	-.395** LC	-.381** LC	-.386** LC
Curative & Rehabilitative Nursing Care Management 2 NCM 103	-.431** SC	-.415** SC	-.463** SC	-.452** SC	-.427** SC	-.437** SC
Curative & Rehabilitative Nursing Care Management 3 NCM 104	-.122** NC	-.085 NC	-.106* NC	-.104* NC	-.095* NC	-.102** NC
RLE NCM 105	-.327** LC	-.340** LC	-.334** LC	-.356** LC	-.334** LC	-.338** LC
Nursing Management & Leadership NCM 106	-.466** SC	-.443** SC	-.437** SC	-.408** SC	-.382** LC	-.427** SC
Elective Nursing Practice NCM 107	-.407** LC	-.404** LC	-.389** LC	-.414** SC	-.415** SC	-.405** LC
CHD	-.427** SC	-.359** LC	-.363** LC	-.334** LC	-.357** LC	-.368** LC
CHN RLE	-.447** SC	-.452** SC	-.479** SC	-.455** SC	-.450** SC	-.456** SC
Research 1	-.480** SC	-.383** LC	-.431** SC	-.403** LC	-.422** SC	-.423** SC
Research 2	-.341** LC	-.292** LC	-.340** LC	-.343** LC	-.331** LC	-.329** LC
Ave Professional	-.414** SC	-.377** LC	-.400** LC	-.388** LC	-.460** LC	-.391** LC

Table 6. Faculty's Perception on the changes of the curriculum

CurriculumComponent	Mean \pm SD	Rank	Verbal Interpretation
Subject Description and content	3.71 \pm .26	1	Strongly Agree
Number of Units	3.05 \pm .45	5	Agree
Number of Hours	3.30 \pm .40	4	Agree
Placement	3.42 \pm .37	3	Agree

same level of performances.

Further analysis of the data for identification of the subjects where curriculum enhancements may be given for much better performances revealed subjects with medical-surgical nursing and psychiatry nursing components. These are the subjects classified as curative and rehabilitative nursing care management.

Licensure performance of graduates

Among the graduates, the 2010 graduates who took the July examinations had the highest over-all mean, which was still just a satisfactory rating. The next higher over-all mean was attained by the July 2011 takers. The over-all mean of the July 2012 examinees was also satisfactory. The graduates' performances were observed to have high standard deviation showing that the performances of the graduates are spread out over a large range of values. The findings revealed that graduates have difficulty passing NP4

and NP5. NP4 is composed of the subject Curative and Rehabilitative Nursing Care Management. Medical surgical nursing concepts is dubbed as the most difficult nursing subtest in the Nursing licensure examination. Graduates have difficulty in passing licensure examination with Medical Nursing Subject and the addition of a new subject - Elective Nursing Practice (care of clients across population groups with problems in immunologic reactions, biologic crisis, including emergency and disaster nursing) may have added more burden to the graduates instead of boosting their NLE performance. The results of this study support the findings of Neri (2008) that although graduates succeed in hurdling the exam, they get low passing scores and the lowest scores were in the areas of Medical-Surgical Nursing (curative and rehabilitative nursing care management) topics. Curative and Rehabilitative Nursing Care Management 2 and 3 (psychiatry nursing concept) is dubbed as the second most difficult subtest in the NLE. The finding suggests that graduates also have difficulty in

passing NP5 with its psychiatry nursing component. This finding is also supported by Palaganas et al. (2012) and Rosales et al. (2014) in which the lowest passing percentage observed was in Nursing Practice 4 with Medical Surgical Nursing concept.

Correlation between academic and licensure performances of graduates

Graduates who took the licensure examination from July 2010 to December 2012 followed three (3) different curricula. As such, the researcher opted to correlate academic performance with the results of licensure examination per curriculum year since subject distribution and units differ in the said curricula. Since the academic performances are expressed in 1.0 to 5.0 (highest is 1.0) and NLE performances in 60 to 90 (highest is 90), the correlation value will be expressed as negative. With regard to the correlation between academic and NLE performances, the lower is the numerical value expressing academic performance (which means for better performance, a higher NLE performance is expected). Results revealed a significant negative correlation that exists between academic and NLE performances of 2010 and 2011 graduates. However, there is a "Negligible" correlation that exists ($p > .01$) between NLE performance and academic performance of graduates in Curative Rehabilitative Nursing Care Management 2 and Elective Nursing Practice (Medical Surgical Nursing concepts). It is deduced from the data that there is no significant correlation that exists between NLE performance and graduates' academic performance in Curative & Rehabilitative Nursing Care Management 3 where no significant correlation exists in this subject and NP1, NP3, NP4 and NP5. However, the results of the previous studies of Neri (2008), Ong et al. (2012) and Salustiano (2013) have shown that the academic performances of the nursing graduates are good predictors for passing the NLE.

There is a significant correlation between academic and NLE performances of 2012 graduates. However, there is no significant ($p < 0.01$) correlation between NP1 and Rehabilitative Nursing Care Management 3. The performance of graduates in Curative and Rehabilitative Management 3 did not reflect what were emphasized in the classroom. This combined subject did not sufficiently equip students with essential knowledge during their licensure examination. Conversely, CHD and specialized subjects (NCM) of the curriculum according to Garcia (2011) were significantly correlated to nursing board examination performance.

In terms of the faculty's perception, the results implied that faculty is more concerned with changes in the curriculum in terms of subject description and content rather than the number of units and hours.

Conclusions

Academic performances in nursing professional subjects

are related to the nursing licensure performance. The changes in the curriculum brought additional subject contents, units, hours and placement in the BSN curriculum. There is a need to enhance academic performance of students in all their subjects, especially in the professional nursing subjects. Curriculum enhancement is necessary to improve the academic and NLE performances of nursing graduates.

The findings of the study suggest further study of the BSN curriculum, academic performance of graduates and licensure performance. Other factors may be included in future studies like pre-board examinations, clinical grade and entrance examination of graduates to determine the relationship of these variables with performance in the licensure examination of nursing graduates.

Competing interests

The author declare that there is no competing interests.

REFERENCES

- Bilbao P, Lucido P, Iringan T, Javier R (2008). Curriculum development. Loreman Publishing. Centro Escolar University (CEU). College of Nursing. PAASCU Report. 2010. n.pag.
- Commission on Higher Education (CHED) (2008). CHED Memorandum Order 30 series of 2001 updated policies and standards for nursing education. 2001. n. pag.
- Commission on Higher Education (CHED). (2008). CHED Memorandum Order 05 series of 2008 policies and standards for Bachelor of Science in Nursing (BSN) program. 2008. n.pag.
- De Guzman R, Guy I (2013). Teacher's Time Management and Student's Academic Achievement in LPU College of Nursing: Basis for an Enhanced Classroom Management. E - International Scientific Res. J. 5(3):225-236.
- Garcia E (2011). Correlates of Board Examination Performance of Nursing Graduates of Lyceum -St. Cabrini College of Allied Medicine. Lyceum of the Philippines-Laguna Res. J., 1(1):1-13
- Mitchell P (2008) Patient Safety and Quality: An Evidence-Based Handbook for Nurses. Agency for Healthcare Research and Quality (US). 2008 Apr. Accessed in
- Neri DL (2008). Intellectual variables as predictors to Nursing Licensure Examination (NLE) performance. Liceo Journal of Higher Education Research.
- Ong M, Palonpon D, Banico L (2012). Predictors' of Nurses Licensure Examination Performance of Graduates in Cebu Normal University, Philippines. Asian Journal of Health.
- Palaganas E, Divina GC, Rosales A (2012). Nurse Licensure Examination Performance of Graduates of Philippine Colleges of Nursing in the Philippines: Policy Implications. 23rd International Nursing Research Congress. Sigma Theta Tau International, the Honor Society of Nursing, Brisbane, Australia.
- Republic Act (RA) 9173, Philippine Nursing Act of 2002. (2002). n. pag.

Rosales A, Arugay Y, Divina Gracia C, Palaganas E (2014). Analytical Study of the Nurses Licensure Examination Performance of Graduates of Philippine Colleges of Nursing. *Philipp J Nurs.* 84(1):4-20.

Salustiano RP (2013). Correlation Analysis of Performance

in College Admission Test, Nursing Aptitude Test, General Weighted Average and Nurse Licensure Examination of Nursing Graduates. *Arellano University Graduate School J.*