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Number of units of the associate degree nursing program as a predictor of success on the NCLEX-RN

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predictor of success on the NCLEX-RN**

Roach, Rose Brown, M.S.

San Jose State University, 1989

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Ann Arbor, MI 48106**

NUMBER OF UNITS OF THE ASSOCIATE DEGREE NURSING PROGRAM
AS A PREDICTOR OF SUCCESS ON THE NCLEX-RN

A Thesis

Presented to

The Faculty of the Department of Nursing
San Jose State University

In Partial Fulfillment
of the Requirements for the Degree
Master of Science

By

Rose Brown Roach

December, 1989

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ABSTRACT

NUMBER OF UNITS OF THE ASSOCIATE DEGREE NURSING PROGRAM AS PREDICTOR OF SUCCESS ON THE NCLEX-RN

by Rose Brown Roach

The purpose of this study was to compare the overall success rate of California's Associate Degree Nursing (ADN) programs on the National Council Licensure Examination for Registered Nurse Licensure (NCLEX-RN) with the number of units required for graduation.

The conceptual framework was Chater's model for curriculum development. The research question examined the total number of units required for graduation as a predictor of NCLEX-RN success. The study sample consisted of 52 out of 70 California ADN programs. Data were collected from a California grant project, the Comparative Study of ADN Curriculum and Employer Requirements, Phase I and II.

Results of the comparison indicated a very low to negligible correlation between the number of units required for graduation and NCLEX-RN success. Schools with the highest percentage of graduates successfully completing the NCLEX-RN were those that met the National League for Nursing ADN program accreditation criteria of 72 semester units or less.

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TABLE OF CONTENTS

	Page
LIST OF TABLES	vii
LIST OF FIGURES.	viii
 Chapter	
1. INTRODUCTION	1
The Problem.	2
Research Question.	4
Definition of Terms.	4
Research Design.	5
Scope and Limitations.	6
2. CONCEPTUAL FRAMEWORK AND REVIEW OF	
LITERATURE.	8
Conceptual Framework	8
Student	9
Subject	11
Setting	11
Related Literature	12
Summary.	15
3. THE METHOD	17
Research Design.	17
Data Collection.	17
Analysis of the Data	18
4. ANALYSIS AND INTERPRETATION OF DATA.	20
Description of the Sample.	20

Chapter		Page
4.	ANALYSIS AND INTERPRETATION OF DATA	
	Analysis	21
	Interpretation	22
5.	CONCLUSIONS AND RECOMMENDATIONS.	28
	Conclusions.	28
	Recommendations.	28
	REFERENCES	32
	APPENDIXES	37
	A. Institutional Review Board Approval	
	Letter.	38
	B. Consent Letter	40

LIST OF TABLES

Table	Page
1. Pearson Correlation Coefficient and Coefficient of Determination of Total Units and Mean NCLEX-RN Scores by Examination Date	26

LIST OF FIGURES

Figure	Page
1. Chater's Model for Conceptual Framework for Curriculum Development.	10
2. Percentage of Graduates' Success on the NCLEX-RN by Group and Examination Date. . .	23
3. Mean NCLEX-RN Scores by Group and Examination Date.	24
4. Distribution of Mean NCLEX-RN Scores by Group and 6 Examination Dates	25

Chapter 1

INTRODUCTION

Associate degree nursing (ADN) education programs began as an experiment in 1952 in response to the post-war nursing shortage. An initial objective of these programs was to determine whether a nurse could be educated within two years in a community college setting (Montag, 1959).

The identification of variable factors that affect success in nursing programs provides valuable information, not only for allocating and assessing the appropriation of educational resources, but also for recruitment and retention programs of potential employers of the graduates. One way to evaluate the ultimate success of the country's ADN programs is by measuring the related success rate of their graduates when they complete the National Council Licensure Examination for Registered Nurse Licensure (NCLEX-RN). Another way to evaluate the programs is to correlate the success rate with the number of units required for graduation.

This study was conducted to determine the relationship between the number of units required for graduation from various ADN programs and their graduates' successful completion of the NCLEX-RN within a curriculum development framework.

The Problem

A grant project, Comparative Study of the ADN Curriculum and Employer Requirements, was funded by the Chancellor's Office of the California Community Colleges to compare the curriculum content with employers' entry-level requirements. While tabulating the self-reported curriculum information, the task force members noted variability in the class hours allotted for subjects. This information was reported to the Chancellor's Office in January, 1988 (Limon & Hazelton, 1988).

Programs requiring more than 72 units are of particular interest because the National League for Nursing (NLN) specifies a total of no more than 72 semester units as ADN program accreditation process criteria (NLN, 1982). The varying number of units required for graduation may make it more difficult for the administrators of the university and community college systems to develop a state-wide articulation program. The articulation process allows the graduates from the community college system to receive advanced placement in the university system's baccalaureate nursing (BSN) programs. A formal agreement between the systems would permit an automatic transfer of a predetermined number of units or classes. At present, each ADN program negotiates individually with the BSN programs. More consistency in the ADN programs may facilitate the

development of formal articulation agreements between the community college and university systems in California.

The varying unit requirements prompted the state-funded grant project, the Comparative Study of the ADN Curriculum and Employer Requirements, to recommend the development of curricula with common content and design for the ADN programs in California (Limon & Hazelton, 1988). Therefore, the community college system funded Phase II of the project. An objective of the grant project was to examine the feasibility of a model system-wide curriculum. During the preparation meeting for curriculum revision and development, some task force members discussed a desired range of total units to be less than 74. Members representing programs with greater than 76 units challenged this desired recommendation by inquiring whether the task force could affirm that a significant difference in successful completion of the NCLEX-RN existed among the state's programs. The answer was unknown, yet the members believed it to be vital administrative information that should accompany the recommendation.

The success of an ADN program is measured in terms of the successful pass rate of its graduates on the NCLEX-RN; therefore, recommending revision of the curriculum, particularly in regard to reducing program units, generally caused anxiety among those faculty who perceived a potential adverse effect on NCLEX-RN success. Because California's

programs currently require a wide range of units for graduation, this study was designed to determine the relationship between the number of units and related NCLEX-RN success.

Research Question

The objectives of this study were to:

1. Determine NCLEX-RN success rates of California's ADN programs.
2. Determine the relationship between the schools' number of units and corresponding NCLEX-RN success rates.

The research question examined the total number of units required for graduation from a California ADN program as a predictor of NCLEX-RN success.

Definition of Terms

For the purpose of this study, the following definitions apply:

1. Units are a measurement of time indicative of subject length and based on California's community college academic semester (16-18 weeks). Programs expressed in academic quarter hours/units were converted by the researcher to semester units.
2. Number of units required for graduation are the total curriculum units including general education, support, and nursing courses. This figure represents program length.
3. NCLEX-RN is the examination required by law since July, 1982, to obtain a license to practice registered

nursing in California. Minimum passing score is 1,600 (Woodham & Taube, 1986). Success on the NCLEX-RN is defined as a pass score.

4. ADN Program is a course of nursing study within California's community college system designed to prepare a technical nurse for general bedside practice. Graduates obtain an associate degree in nursing and qualify for licensure via testing of the NCLEX-RN.

Research Design

The Institutional Review Board at San Jose State University granted approval (Appendix A) to the researcher to study the relationship between the number of units required for graduation from a California ADN program and NCLEX-RN success. Data collected by the state-wide grant project for the Comparative Study of ADN Curriculum and Employer Requirements, Phase I and II, were requested (Appendix B), tabulated, coded, described, and statistically analyzed using a correlational design.

Phase I data, including the number of units required for graduation, were collected in November, 1987, with 89% return from the 70 ADN programs (Limon & Hazelton, 1988). Phase II data, NCLEX-RN scores, were collected in March, 1989, from the California Board of Registered Nursing. NCLEX-RN scores for each ADN program have been collected from the examinations administered from July, 1985 through February, 1988.

Following the approval of this study by San Jose State University's Institutional Review Board (Appendix A), the interval data representing the independent variable (the number of units required for graduation) and the dependent variable (NCLEX-RN success) were subjected to a computational statistical analysis using the Pearson product-moment correlation coefficient and the coefficient of determination to test their relationship.

Scope and Limitations

Basic assumptions pertinent to this study were:

1. The NCLEX-RN is a reliable and valid measurement instrument that remained stable for the time period investigated.
2. The number of total units reported by each school to the grant project remained stable during the time period of NCLEX-RN results investigated.
3. Data collected by the grant project are accurate, complete, and free of biases.

The data and analysis were limited to ADN programs in California. No comparisons were conducted with the other 707 ADN programs in the United States. Therefore, the ability to generalize is limited to California programs.

The study results have implications for administrators and faculty in developing and evaluating curriculum. It also has implications for prospective students who desire entry into ADN programs in California.

Other non-cognitive and cognitive variables, such as grade point average and high school rank, were not used for predictability although the researcher recognizes their effect on academic and NCLEX-RN scores.

Chapter 2

CONCEPTUAL FRAMEWORK AND REVIEW OF RELATED LITERATURE

Conceptual Framework

Important events with significant influence on nursing education were the organization of the Department of Curriculum and Teaching at Teacher's College, Columbia University in 1937 and their establishment of the Association for Supervision and Curriculum and Development (Chater, 1975). Mildred Montag, Professor of Nursing Education at Teacher's College, was Project Director of the experiment that led to the ADN program. The ADN program has the distinction of being the only nursing education program developed through organized research and experimentation. Its characteristics, curriculum, length, and evaluation were carefully planned (Montag, 1959; Montag, 1980; Rines, 1980).

In 1947, Ralph Tyler provided a link between the past and present curricula in nursing with other university curricula fields. He proposed a framework for curriculum development that he labeled conceptual, as opposed to theoretical (Murdock, 1983). Tyler (1969) provided a rationale for curriculum development that involved a desired link between topics and their relationships to the total curriculum.

Chater (1975), a nurse educator, developed a model for conceptual framework for curriculum development consistent with Tyler's rationale. Chater's model and/or Tyler's

rationale are utilized by nursing educators in texts as frameworks for curriculum development, structure, instruction, and evaluation (Bevis, 1982; Cork, 1987; Greaves, 1984; Greaves, 1987; Murdock, 1983; Scales, 1985; Wells, 1987). Chater's model is used nationally by academic nursing administrators for the curriculum development of both ADN programs and baccalaureate nursing (BSN) programs (Bourgeois, et al., 1988). Examples of local nursing programs using Chater's model are an ADN program at Ohlone College (1986) in Fremont, California, and a BSN program at San Jose State University (1985) in San Jose, California. Chater also applies her model to developing graduate nursing education (Wilson & Chater, 1973).

The Student-Subject-Setting components represent Chater's model. Three equal sized, interlocking circles illustrate the components (Figure 1, Chater, 1975, p. 430) which are equally important and affect the others. Each component will be discussed in relation to this study.

Student

The Student component represents characteristics of the student population: (a) their motivational concepts, (b) their theories, and (c) self-perception. Curriculum design is influenced by these student component characteristics. The school designs student selection criteria based on prediction studies of the successful student.

Model For Conceptual Framework

Figure 1. Chater's Model for Conceptual Framework For Curriculum Development: Model showing interrelationships of components of equal importance within the curriculum (Chater, 1975, p. 430).

In this study, students were viewed as the consumers of the product of the curriculum design process. They seek a curriculum which teaches relevant nursing skills that allow them to compete in the market place in a time-efficient process. The time-related elements of a curriculum are influenced by the length of time required for completion of the subject matter.

Subject

The Subject component represents the various explicit definitions of nursing and the conceptualizations of nursing practice. The definitions and conceptions are translated by administrators and faculty into appropriate identification, inclusion, and sequence of topics or classes within a given curriculum during the curriculum development process. The determination of specific content leads to the assignment of units and, in part, determines the length of the program.

In this study, the subject component is defined by the length of the program (number of units) which the student is required to complete. It is within the institutional setting that students are selected and subject matter is determined.

Setting

The Setting component represents the geographic locale and the institutional requirements for graduation. The curriculum development process occurs within the setting. The process is influenced by the spectrum of social,

political, economic, and cultural parameters, both internal at the institutional level, and external within the immediate and larger community. Social and cultural issues include racism, sexism, and equal access to higher education. Economic and political aspects can influence the length of the nursing program by imposing classwork required for the completion of the Associate of Arts degree from the particular institution. Another influence is the allocation of monies that affect the selection of class content and support resources, as well as the number and quality of instructors. In this study, the setting component is defined as the evaluation of the curriculum development process.

Chater's model for curriculum development provides the guide for this study. Nursing curricula are evaluated (as designed) by the nurse administrators and faculty (setting) to determine whether or not the length of the program (subject) leads to time-efficient completion by the consumer (student) as expressed by the successful completion of the NCLEX-RN.

Related Literature

For years, researchers have studied variable factors, cognitive and non-cognitive, that affect student success in nursing programs. Identification of those variables provides valuable information to assist recruitment and retention. Variables have political and socioeconomic

implications for determining the appropriation of educational resources to programs, whether community-based, private, or public.

Nursing students from the three entry-level educational programs (baccalaureate, associate, and diploma) have been studied using similar variables. This literature review will focus on the ADN program, its academic and NCLEX-RN success variables, and research related to program length (number of units).

Variables for predicting success within the ADN program use both cognitive and non-cognitive measures. Studies have related success on the NCLEX-RN to traditional cognitive measures such as high school grades, college admission scores, college grade point average (GPA), and nursing achievement tests (Aldag & Rose, 1983; Balint, 1988; Breyer, 1984; Felts, 1986; Oliver, 1985; Richards, 1976; Wisenbaker & Lee, 1986; Woodham & Taube, 1986). Oliver (1985) further states that prenursing GPA and/or high school rank are cited most frequently as significant predictors of academic success.

Non-cognitive variables (age, sex, race, psychological measures, personality traits, and previous nursing experiences) have produced inconsistent or inconclusive results as predictors of academic success (Aldag & Rose, 1983; Balint, 1988; Burbach, 1987; Felts, 1986; Richards, 1976; Woodham & Taube, 1986). The Oliver (1985) study

characterized the successful ADN student as an older, part-time student with previous college attendance. Oliver additionally reports that faculty predictions of applicants' first quarter GPA and program completion potential significantly correlate with academic success. She did not attempt specific correlation with NCLEX-RN success.

Schoen (1983) used the State Board Test Pool Examination (SBTPE--precursor to NCLEX-RN), the ADN program GPA, final year clinical evaluations, and length of time taken to complete the program to predict success of clinical competency of the graduate 2.5 years after his/her graduation. Schoen reported that the strongest competency predictor was length of time for student completion of the 2-year designed curriculum. The average was 2.36 years and was possibly related to motivational factors, academic difficulties, health problems, and competition from other commitments. There was no indication that program completion time was related to the curriculum design of the program.

Surveys of ADN students found that the most important factors students used in selecting the ADN program were costs, good reputation (NCLEX-RN success rates of the graduates), brevity of the program, and geographic location (Reach, 1988; Williams, 1989). Except during initiation of the ADN program in 1952, no further published studies used program length, either in time or units, as a variable.

The length in years of the ADN program was addressed in the initial experiment which established ADN programs. The ADN program was characterized as a 2-year curriculum in nursing combined with general education. The length was determined by each college, based on college policy, nursing faculty input, and legal concessions established by each state board of examiners at the time, such as the unit requirements to complete the SBTPE examination. The initial eight programs in the United States varied in length from two academic years to two academic years plus two summer sessions (Montag, 1959, p. 88).

Recent literature identifies the increasing length of time for program completion as an erosion of the ADN philosophy (Bensen, 1977; Montag, 1980). Montag (1980) believes that program lengthening is caused by an increasing tendency to teach the students "everything, with little discrimination as to what the technical nurse really needs to know in order to deal with common recurring health problems" (p. 250).

Summary

Review of the literature revealed perspectives of the ADN program and its length, a nursing curriculum development model, and cognitive and non-cognitive variables for predicting academic and NCLEX-RN success. Studying the number of units and NCLEX-RN success, using Chater's curriculum development framework, is a beginning step to

recommending the desired number of curriculum units for consistency of ADN programs in California.

Chapter 3

THE METHOD

Research Design

The design of this study was ex-post facto correlational. The aim of this type of study was to describe the relationship among variables rather than to infer cause and effect relationships (LoBiondo-Wood & Haber, 1986). This study investigated the relationship between the number of units required for graduation from California's Associate Degree Nursing (ADN) programs and the successful completion of the National Council Licensure Examination for Registered Nurse Licensure (NCLEX-RN) by the graduates.

Data Collection

Following approval by San Jose State University's Institutional Review Board (Appendix A), data collected by a California grant project for the Comparative Study of ADN Curriculum and Employer Requirements, Phase I and II, were requested from the Project Director by letter (Appendix B).

Phase I data included the number of units required for graduation and these data were collected in November, 1987, with 89% return from all 70 ADN programs (Limon & Hazelton, 1988). Information was also returned from schools with career mobility programs, such as Licensed Vocational Nurses (LVN) returning to Registered Nurse (RN) programs. These data were excluded from the data set because such curriculum designs consist of larger numbers of units and would skew

the results. The curriculum for LVN students includes additional topic components which enables them to attend classes with the generic nursing students. Therefore, the sample consisted of 54 ADN programs (87% return rate). The data from these 54 ADN programs were coded and tabulated.

Phase II data, NCLEX-RN scores, were requested from the California Board of Registered Nursing by the grant project in March, 1989. Scores for the ADN programs were compiled from NCLEX-RN examinations administered biannually by the Board from July, 1985 through February, 1988. Scores from the 54 ADN programs were tabulated and matched with the coded community college. Two programs were eliminated because their NCLEX-RN scores were not included in the data received. The NCLEX-RN scores included for each program: (a) the NCLEX-RN mean score for each test date, (b) the number of students with successful NCLEX-RN scores, and (c) the percentage of passage on the NCLEX-RN.

Analysis of the Data

The final coded sample consisted of 52 ADN programs. The data set from each program included the total number of units required for graduation and a maximum of six mean NCLEX-RN scores with corresponding number and percentage of successful NCLEX-RN completion.

The interval data representing the independent variable (number of units required for graduation) and the dependent variables (NCLEX-RN scores) were subjected to statistical

analyses using the Pearson product-moment correlation. The Pearson r was selected for analysis because it is designed to test the relationships between variables and is used to describe the magnitude and direction of the relationship when the researcher does not intend to make inferential statements about the larger population (LoBiondo-Wood & Haber, 1986).

The findings were organized using tables and figures to illustrate graphically and statistically the extent of interrelatedness between the variables. Since the purpose of this study was to describe relationships between the specific variables, this analysis does not attempt to infer causation.

Chapter 4

ANALYSIS AND INTERPRETATION OF DATA

Description of the Sample

The sample consisted of 52 California ADN programs. Each program had a data set which included the total number of units required for graduation and a maximum of six mean NCLEX-RN scores with corresponding numbers and percentages of successful NCLEX-RN completion. The NCLEX-RN examination is administered biannually in February and July. Of the possible maximum 312 data sets, 270 (86.5%) were received. The missing data sets occurred primarily in February because some schools graduate students once in June, instead of twice each year. The data for July (98.4%) and the data for February (88.1%) were received and analyzed.

Data were divided into 4 subgroups based on total units required for graduation:

1. Group A consisted of 19 programs that met NLN accreditation criteria of 72 semester units or less. The minimum number of units was 62.
2. Group B consisted of 14 programs requiring 73-76.5 units.
3. Group C had 9 programs requiring 77-80 units.
4. Group D had 10 programs requiring 84-110 units.

The sample was analyzed using descriptive and correlational statistics.

Analysis

The minimum passing score for the NCLEX-RN examination is 1,600 (Woodham & Taube, 1986). The total number of students who successfully completed the NCLEX-RN during this investigated period was 8,873. Group A consisted of 3,934 students (89.16%); Group B had 2,254 students (84.66%); Group C had 1,311 students (87.5%); and Group D had 1,374 students (87.16%). These students represented an overall successful percentage rate of 87.33.

The mean NCLEX-RN score represents the mean of all student examination results, including successes and failures, for each school per test date (J=July, F=February). The percentages and mean scores per group are presented in Figures 2 and 3. Figure 4 illustrates the distribution of the mean scores using a dot or scatter diagram.

Correlation between the units required for graduation and mean NCLEX-RN scores was accomplished using Pearson product-moment correlation coefficient (r) and coefficient of determination or shared variance (r^2) for the reported data set. The coefficients were computed using the total sample (not subgroups) of mean NCLEX-RN scores and the total number of schools with their units required for graduation (62-110). Each coefficient was repeated substituting the computed average mean score of the examination date for the

missing data to determine to what extent the sample's missing data might skew the correlation results (Table 1).

Interpretation

Figure 2 represents the percentage of student graduates who successfully completed the NCLEX-RN examination. Group A had the largest number of students who successfully passed the NCLEX-RN at a rate of 89.16%. Group C ranked second in percentage (87.5), but had the fewest number of successful students (1,311). Group D placed third in percentage (87.16) and third in student successful numbers (1,374). While Group B had the lowest percentage (84.66), it was second in the number of successful students (2,254). Therefore Group A, requiring 62-72 units for graduation, appeared to have the best NCLEX-RN success rates using percentages as the measure.

Figure 3 depicts the mean NCLEX-RN scores by unit-required groups. Although Group A did not have the highest mean scores for all examination dates, they had the most consistent scores when compared with the other groups.

Figure 4 further illustrates the findings in Figure 3 by using a dot or scatter diagram to depict distribution. Because the points are spread in various directions, no single line (whether vertical, horizontal, or diagonal) would summarize the distribution or correlation between the units required for graduation and the mean NCLEX-RN scores.

Figure 2. Percentage of Graduates' Success on the NCLEX-RN by Group and Examination Date.

Figure 3. Mean NCLEX-RN Scores by Group and Examination Date

Figure 4. Distribution of Mean NCLEX-RN Scores by Group and Examination Dates (N=52).

Table 1

Pearson Correlation Coefficient and Coefficient of Determination of Total Units and Mean NCLEX-RNScores by Examination Date

	July 85		Feb 86		July 86		Feb 87		July 87		Feb 88	
	n	r	n	r	n	r	n	r	n	r	n	r
		r^2		r^2		r^2		r^2		r^2		r^2
Total	50	.244	.06	37	-.047	.002	50	-.041	.002	42	-.102	.01
Units												
(62-110)	52	.222	.049	52	-.04	.002	52	-.037	.001	52	-.083	.007
											52	-.1
											39	-.117

 n = number of schools r = Pearson Correlation Coefficient r^2 = Coefficient of Determination

The extent of correlation is statistically depicted in Table 1. The sample of interval, parametric data using units and means were subjected to the Pearson product-moment correlation. The computed coefficient represented the strength and direction of the correlation for each examination date. The highest numerical coefficient was $\underline{r} = .244$ in July, 1985 ($\underline{n} = 50$) and July, 1987 ($\underline{n} = 51$). This represented a very low relationship between variables. A repeat computation substituting the average mean of the examination date for missing data sets yielded almost identical coefficients ($\underline{r} = .222$) for each date. The remaining computed coefficients were negative in value with similarly very low correlations. The coefficient of determination or shared variance ($\underline{r}^2$) further illustrated very low correlation with the highest value of $\underline{r}^2 = .06$ (July, 1985, $\underline{n} = 50$). This means that only 6% of the NCLEX-RN scores can be attributed to the number of units required for graduation. With $\underline{N} = 52$, the coefficient was $\underline{r}^2 = .049$ or 4.9%. Therefore, there was a negligible relationship between number of units in a program and success on the NCLEX-RN examination.

Chapter 5

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

This study was conducted to determine if there is a relationship between the NCLEX-RN success rate of ADN programs in California and the number of units required for graduation. The overall success rate on the NCLEX-RN was 87.33%. Schools that required 62-72 units for graduation and met the NLN accreditation criteria (Group A) had the highest percentage (89.16) of graduate pass rate. They also had the most consistent NCLEX-RN mean scores.

The relationship between the variables, units and NCLEX-RN scores, was computed and consisted of positive and negative coefficients. All of the coefficients indicated very low to negligible correlations. The computed coefficient of determination provided a basis for comparing the amount of variance shared by the variables. When the coefficient of determination was converted to percentages, the highest shared variance was 6%.

There was no significant correlation between the variables. Therefore, a relationship was not shown between the number of units required for graduation from the program and NCLEX-RN success.

Recommendations

The results of this study have direct application to the evaluation process for ADN curriculum revision. Phase

III of the Comparative Study of the ADN Curriculum and Employer Requirements will be making recommendations to the Chancellor's Office of Community Colleges regarding a model curriculum. These recommendations will include the number of units required for the ADN program. The data from this study have shown that the length (or number of units) of a program are not related to success on the NCLEX-RN. Other factors not studied at this time may have influenced successful passage rates. However, the project members should consider the time needed for program completion since all ADN programs are considered to be two-year completion programs. From the results of this study, it appears that students can indeed be successfully prepared for technical bedside practice within the shorter time frame.

Faculty desire their graduates to score well above the minimum passing level because they believe such scores are a reflection on the quality of the curriculum. Such faculty concern often results in additional classes and/or units being added to the curriculum. Nursing administrators and faculty must institute curriculum revisions that reflect a philosophy for ADN programs that it is acceptable and desirable to graduate increasing numbers of students who can successfully complete the NCLEX-RN. Higher unit programs produce fewer graduates because the students must complete longer programs. These revisions would better serve the

consumer (student), the nursing profession, and the beneficiary consumer (employers of these graduates).

The ADN program was created to address the post-war nursing shortage in 1952. Today, the ADN program has the potential to help relieve the nursing shortage. In some California ADN programs, however, the program length has expanded to as many as 110 units, equivalent to nearly four academic years and almost two years longer than originally intended.

Nursing research should be directed towards identifying those factors in schools with fewer units which have a positive effect on their graduates' NCLEX-RN passage rate.

Other factors which might be identified include:

(a) teaching techniques and strategies, (b) sequencing of topics, and (c) identifying areas of repetition.

Investigating factors that contribute to NCLEX-RN success is important because the NCLEX-RN results represent the current cognitive licensing measurement. The NCLEX-RN is the uniform standard for comparing RN programs nationally, and it is the evidence that a school's curriculum contains essential content for minimal practicing competence (Breyer, 1984).

This study was relevant to nursing theory because it used Chater's model to demonstrate the importance of the inclusion of all components (student-subject-setting). Chater's model also stresses the need for evaluation and

revision of the curriculum in order to achieve a balance of these components.

In addition to the relevance to practice, research, and theory, this study's design and results can be used by nursing administrators and grant projects in other states to evaluate their ADN programs. The National League for Nursing can utilize the results as it relates to the process of educational standards accreditation criteria. Nurse recruiters can use the results of this study as they communicate the needs of their employers regarding graduate expectations with the academic nurse administrators.

References

References

- Aldag, J., & Rose, S. (1983). Relationship of age, American college testing scores, grade point average, and state board examination scores. Research in Nursing and Health, 6(2), 69-73.
- Balint, M. (1988). Using the comprehensive nursing achievement test as a predictor of success on the national council licensure examination (Report No. CEO49602). Santa Ana, CA: Nova University, Department of Education. (ERIC Document Reproduction Service No. ED 290 912).
- Bensen, P. A. (1977). Have we lost sight of the AD philosophy? Nursing Outlook, 25, 511-513.
- Bevis, E. O. (1982). Curriculum building in nursing: A process (3rd ed.). St. Louis: Mosby.
- Bourgeois, P. M., Darland, N. W., Fife, B. P., Fullerton, R. R., Moore, P. G., Murphy, L. B., & Pyles, S. H. (1988). Applying a conceptual framework to ADN education. AD Nurse, 3(6), 25-28.
- Breyer, F. J. (1984). The comprehensive nursing achievement test as a predictor of performance on the NCLEX-RN. Nursing & Health Care, 5, 193-195.
- Burbach, M. F. (1987). A comparison of state board examination scores and clinical performance of generic and LPN-admission associate degree nursing students. AD Nurse, 2(3), 34-37.

- Chater, S. S. (1975). A conceptual framework of curriculum development. Nursing Outlook, 23, 428-433.
- Cork, N. M. (1987). Approaches to curriculum planning. In B. D. Davis (Ed.). Nursing education: Research and development (pp. 1-35). London: Croom Helm.
- Felts, J. (1986). Performance predictors for nursing courses and NCLEX-RN. Journal of Nursing Education, 25, 372-377.
- Greaves, F. (1984). Nursing models and their relationship to the nursing curriculum. In F. Greaves, Nurse education and the curriculum: A curricular model. London: Croom Helm.
- Greaves, F. (1987). The concept of curriculum. In F. Greaves, The nursing curriculum: Theory and practice (pp. 1-8). London: Croom Helm.
- Limon, S., & Hazelton, S. (1988). Comparative study of ADN curriculum and employer requirements (Contract No. IIB-7-600). Sacramento: California Community Colleges.
- LoBiondo-Wood, G., & Haber, J. (1986). Nursing research: Critical appraisal and utilization. St. Louis: Mosby.
- Montag, M. L. (1959). Community college education for nurses: An experiment in technical education for nursing. New York: McGraw-Hill.
- Montag, M. L. (1980). Looking back: Associate degree education in perspective. Nursing Outlook, 28, 248-250.

- Murdock, J. (1983). Curriculum development in nursing: Historical perspective. In M. B. White (Ed.), Curriculum development from a nursing model (pp. 1-25). New York: Springer.
- National League for Nursing. (1982). Criteria for the evaluation of associate degree programs in nursing (6th ed.). New York: National League for Nursing.
- Ohlone College. (1986). Nursing: A self study toward accreditation. Fremont, CA: Author.
- Oliver, D. H. (1985). The relationship of selected admission criteria to the academic success of associate degree nursing students. Journal of Nursing Education, 24, 197-206.
- Reach, R. M. (1988). Why choose AD nursing? AD Nurse, 3(3), 36.
- Richards, H. B. (1976). An assessment of factors related to success in inner city nursing programs (Doctoral dissertation, Columbia University Teachers College, 1976). Xerox University Microfilms, 76-21, 034.
- Rines, A. R. (1977). Associate degree education: History, development, and rationale. Nursing Outlook, 25, 496-501.
- San Jose State University. (1985). Department of nursing: Accreditation self-study report for the NLN. San Jose, CA: Author.
-

- Scales, F. (1985). Introduction: Model for curricular development. In F. Scales, Nursing curriculum: Development, structure, function (pp. 1-4). Connecticut: Appleton.
- Schoen, D. C. (1983). Predictors of success of ADN graduates. Nursing Leadership, 6, 104-112.
- Tyler, R. W. (1969). Basic principles of curriculum and development. Chicago: University of Chicago Press.
- Wells, G. (1987). Curriculum evaluation. In P. Allan & M. Jolley (Eds.), The curriculum in nursing education (pp. 176-208). London: Croom Helm.
- Williams, J. K. (1989). Why students choose ADN programs. American Journal of Nursing, 89, 396-398.
- Wilson, H. S., & Chater, S. S. (1973). Graduate education: Challenge to the status quo. Nursing Outlook, 21, 440-443.
- Wisnabaker, S., & Lee, M. (1986). Predicting success. AD Nurse, 1(15), 15-17.
- Woodham, R., & Taube, K. (1986). Relationship of nursing program predictors and success of the NCLEX-RN examination for licensure in a selected associate degree program. Journal of Nursing Education, 25, 112-117.

APPENDIXES

APPENDIX A
Institutional Review Board Approval Letter

Appendix A

SAN JOSE STATE UNIVERSITY
GRADUATE STUDIES AND RESEARCHHUMAN SUBJECTS INSTITUTIONAL REVIEW BOARD
PROJECT PROPOSAL REVIEW

Regular Review ☐ Expedited Review ☐ Deadline Date _____

I, the undersigned member of the San Jose State University Human Subjects Institutional Review Board, have reviewed the following proposal submitted to the Board on 5/23/89 by:

PRINCIPAL INVESTIGATOR: Rose B. Roach
 PROTOCOL #: 7511 DEPT: Nursing
 PROJECT TITLE: LENGTH OF THE ASSOCIATE DEGREE NURSING PROGRAM AS A
PREDICTOR OF SUCCESS ON NCLEX-RN

I recommend the following action (indicate one):

1. Approved for clearance as involving minimal risk to Human Subjects. ☒
2. Approved for clearance with risk to Human Subjects. ☐
3. Approval depends upon the satisfactory completion of the following conditions. ☐

4. I have serious concerns about this protocol and it should go before the full committee to review. ☐

Signature of IRB-HS member

Robert A. Nelson

5-24-89

Date

5. Not Approved. ☐

Approved. ☒

OFFICIALS SIGNING FOR INSTITUTION

Jon Campbell 6/2/89
 Chair, Human Subjects Institutional Review Board

Date

Serena Stanford
 Serena Stanford, Ph.D.
 AAVP for Graduate Studies & Research

6/7/89

Date

Please return to: San Jose State University Foundation, One Washington Square, San Jose, CA 95192-0139
 (408) 924-1438

APPENDIX B
Consent Letter

Appendix B

May 20, 1988

Sharlene Limon M.S., R.N.
Project Director
Comparative Study of ADN Curriculum and
Employer Requirements
Ohlone College
Fremont, CA

Dear Ms. Limon:

I am requesting permission to use data collected by the project grant for research purposes required for completion of the thesis at San Jose State University, San Jose, California.

The objective of my thesis is to determine the relationship between the varying lengths of study in California's associate degree nursing programs and the successful completion of the NCLEX-RN. Data utilized will involve review, tabulation, description, and statistical analysis. Results from the study may be published, however, anonymity of the programs will be protected and confidentiality maintained by use of a coding system. In addition, the study is required to be screened by the University's Institutional Review Board.

Data will be returned in its original condition.

Questions regarding this study will be answered by myself as the responsible investigator or Marcia Canton Ph.D., R.N., thesis advisor, at (408) 924-3173.

Your signature below grants permission for participation in the study and confirms receipt of a copy of this consent.

Thank you for your assistance for continued support of graduate education.

Rose B. Roach B.S.N., R.N.
Graduate Student
San Jose State University

Sharlene Limon M.S., R.N.
Project Director
Ohlone College