



Performance evaluation of ADN and BSN graduates
by Daniel J Nicholls

A thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Education
Montana State University
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Abstract:

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Principles from Dillman's Mail and Telephone Surveys: A Total Design Method (1978) were used to design the questionnaire, conduct a pilot study and implement a survey that was conducted during December 1983 and January 1984. A return rate of 293 or 89 percent was achieved. Data analysis was completed on 249 questionnaires or 76 percent.

A non-parametric Sign Test indicated baccalaureate graduates were rated higher than associate degree on more items of the Six-D Scale.

A Two-Way Analysis of Variance found that there was significant interaction between the initial "type" of RN education of the responding Directors and the ratings they gave ADN and BSN preparation on the total scale score and five of six subscales. The nature of the interaction showed that Directors receiving their initial RN education in ADN and diploma nursing programs rated ADN and BSN graduate preparation closely. Directors who received their initial RN education in BSN programs rated BSN graduates preparation markedly higher and ADN graduates lower. It should be noted that BSN graduates received higher assessments by Directors regardless of their preparation on all measures except when the Directors received their initial RN education in ADN programs. Those Directors rated the preparation of ADN graduates higher than BSN graduates on the Critical Care subscale.

A descriptive analysis, grouped by subscale, of the competencies and deficiencies of ADN and BSN graduate preparation was presented. Accompanying tables with item analysis was presented to assist in curricular planning and modification for nursing educators.

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A thesis submitted in partial fulfillment
of the requirements for the degree

of

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APPROVAL

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This thesis has been read by each member of the thesis committee and has been found to be satisfactory regarding content, English usage, format, citations, bibliographic style, and consistency, and is ready for submission to the College of Graduate Studies.

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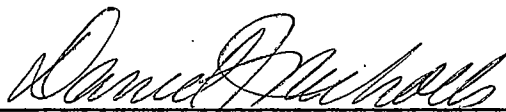
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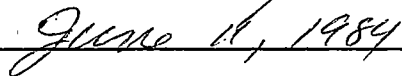


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Chapter 1

Introduction to the Problem and the Study

Since about 1950, the locus for registered nurse (RN) education has shifted from the hospital-based diploma nursing programs to institutions of higher education (associated degree programs [ADN] in junior/community colleges and baccalaureate programs [BSN] in colleges and universities). This trend continues into the 1980's, as demonstrated by statistics provided by the National League for Nursing in their most recent edition of the Nursing Data Book 1980 (1981). The number of diploma nursing programs has decreased from 900 in 1960 to 333 in 1980, while programs in institutions of higher education have increased from 57 to 678 for associate degree nursing programs and from 171 to 363 for baccalaureate degree nursing programs during the same time span.

With this shift to institutions of higher education has come a problem identified in the nursing literature as the "nursing service-nursing education gap." The nature of this gap is well stated by Nelson:

Nursing education and nursing service lack unity. Nursing service personnel claim educators are not preparing graduates for the "real" world of nursing,

and nursing educators report that service is not utilizing graduates in roles for which they are prepared (1977, p. 1).

Wagner (1980), in her analysis of the situation, believes that the pendulum has swung too far to the opposite extreme. In correcting the abuses of "apprentice-type, service-oriented programs, education now prepares RN's in varying programs, removed from the realities of the work situation." She states that a major complaint from nurse administrators is "that the new graduate lacks the basic skills required to practice nursing in the acute care setting" (p. 559). Wagner reports a study done at Harborview Hospital Medical Center, Seattle, Washington, in which a fellow nursing administrator estimated the costs of preparing a new graduate to work in that facility. The cost of orientation for a full-time new graduate was \$5,791 per employee (includes recruitment, hiring, orientation and in-service). Additionally, preparing the new graduate for work in an intensive care situation raises the cost to \$9,558 per employee. As for the experienced nurse entering the organization, orientation and in-service costs are estimated at \$2,115 in general and \$5,500 for the intensive care units. This added expense of the orientation period is linked to the new graduate's inability to set priorities, make judgments and adapt to the work system (pp. 559-560).

Numerous others reiterate the issues outlined by

Wagner (1980), and cite other problems such as nursing faculty being removed from the practice setting (Murphy, 1974), lack of collaboration between nursing service and education (Jackson and Cumbie, 1976), and the need to develop lengthy "internships" for new graduates (Roell, 1981 and Rothovich, 1973).

Even graduates speak out about the gap between nursing service and education. House (1976) lists numerous problems associated with the first job for the new graduate: new graduates starting at the same salary and job description regardless of educational background, lacking support from the organization, being kept doing bedside care for months for so-called lack of experience, having suggestions for change ignored, being assigned duties regardless of talents or interests and being criticized for spending too much time and effort on psychosocial aspects of patient care.

The majority of new graduate nurses obtain their initial employment in the hospital. The National League for Nursing reports in "Registered Nurses Newly Licensed in February 1980 and July 1980: Type of Employer Six to Eight Months After Licensure...", 92.2 percent (%) work in the hospital setting (1982, p. 122). Therefore, the focus of this study was on the perceptions of Directors of Nursing working in hospitals and their assessment of new graduate nurse preparation.

STATEMENT OF THE PROBLEM

The problem of this study was an assessment of the preparation of new graduates from associate degree (ADN) and baccalaureate degree (BSN) nursing programs by Directors of Nursing. A stratified random sample of hospitals was selected from the thirteen state region represented by the Midwest Alliance in Nursing (MAIN). The Directors of Nursing in the selected hospitals were asked to complete the Six-Dimension Scale of Nursing Performance (Six-D-Scale) (Schwirian, 1978), assessing the preparation of new graduates, from associate and baccalaureate degree nursing programs, to begin the practice of nursing in the hospital setting.

NEED FOR THE STUDY

There has been a marked shift of locus for nursing education programs from hospital-based diploma programs to programs located in institutions of higher education since the late 1950's and early 1960's. In the academic year 1959-60, the number of graduates from basic diploma registered nurse programs accounted for 83.5 percent of the total graduations from basic registered nurse programs. By the 1979-80 academic year, that proportion dropped to 19.2 percent. Accordingly, the proportion of associate degree and baccalaureate degree graduates has increased (NLN,

1982, p. 39). A more detailed comparison is presented in Table 1 of this report.

As the proportion of registered nurses prepared in ADN and BSN programs increased, the problem of the nursing service-nursing education gap received increasing attention in nursing's professional journals. A large number of authors published polemical articles discussing the nature of the service-education gap and proposing a variety of solutions.. However, there appears to be very little research-based analysis of the discrepancy between nursing services' needs and nursing educations' product. In preparing the review of literature for this study, this researcher was able to locate only a limited number of studies that were directly related to the analysis of this gap.

Over two dozen articles were reviewed for substantiating the need for this study (Baker, 1978; Boyle, 1977; Brock, 1974; Davidson and Brock, 1974; Dexter and Laidig, 1980; Dickerson, 1977; Fine, 1976; Jackson and Cumbie, 1976; Johnson, 1980; Kramer, 1974; Kramer and Schmalenberg, 1977; McClure, 1976; Murphy, 1977; National League for Nursing, 1977a and 1977b; Nayer, 1980; Niederbaumer, 1968; Nursing Administration Quarterly, 1979; Olson, 1975; Schmalenberg and Kramer, 1979; Spees, 1977; Wagner, 1980; and Werner, 1980). Despite the large number of individual viewpoints, there seems to be a consensus in

the nature of nursing services' complaints. Nursing service representatives charge that nursing education does not provide the new graduate with the basic skills required to practice safe, efficient nursing care within the acute care setting. Agreement among these authors ends at this point. The suggested solutions are quite varied.

The suggested solutions to the nursing service-nursing education gap can be generally grouped into four related approaches. The first group of authors thinks that "unification" of nursing service and education could be achieved by having nurse educators on joint appointments, combining both teaching and working practice responsibilities (Baker, 1981; Dickerson, 1977; Johnson, 1980; Nayer, 1980; Nursing Administration Quarterly, 1979; Wagner, 1980). A second group believes "the gap" can be lessened through an increased communication mechanism, thus allowing for a sharing of problems unique to each group, a better identification of needs of each group and a mutual selection of solutions better designed to satisfy both sides (Brock, 1974; Jackson and Cumbie, 1976; Murphy, 1977; Olson, 1975; Werner, 1980). A third approach suggests a socialization program of upper level nursing students and new graduates to lessen the effects of "reality shock" and create a "bicultural" individual (Kramer, 1974; Kramer and Schmalenberg, 1977; Schmalenberg and Kramer, 1979). The final group takes the position that changes in nursing

education and practice are in order. The suggestions include:

- improving the new graduates' skills in care planning, teaching of clients, assessment of clients, and leadership and management techniques;
- improving the new graduates' abilities in verifying the quality of care delivered to the clients;
- restructuring nursing practice to better utilize the skills of the various levels of beginning nursing practitioners. (Davidson and Brock, 1974; Dexter and Laidig, 1980; Fine, 1976; McClure, 1976; Niederbaumer, 1968).

Consequently, the direction of this study was to accept nursing services' position that new graduates of associate degree and baccalaureate degree nursing lack some of the basic skills to begin practice as a registered nurse; furthermore, that changes in education could better meet the needs of nursing service for a safe beginning practitioner. Therefore, this study was intended to delineate the component parts of the nursing service-nursing education gap by identifying the competencies and deficiencies of the two types of graduates and providing a broad, data-based platform for making curricular change decisions in these nursing programs.

QUESTIONS TO BE ANSWERED

1. Do Directors of Nursing Service (DNS) assess the preparation of associate degree nursing (ADN) and baccalaureate degree nursing (BSN) graduates differently?
2. Is there any interaction between the assessment of ADN and BSN "program" graduates' preparation by Directors of Nursing Service, and the Director's (DNS's) initial "type" of Registered Nurse education?
3. What are the areas of deficiency and competency in the education and preparation of graduates of associate degree in nursing programs?
4. What are the areas of deficiency and competency in the education and preparation of graduates of baccalaureate degree in nursing programs?

GENERAL PROCEDURES

The study utilized the Six Dimension Scale of Nursing Performance (Six-D Scale) developed by Schwirian in 1978. In their critical description of this instrument, Ward and Fetler said that: "This instrument represents careful attention to the important aspects of instrument development" (1979, p. 641). They indicated that content and construct validity were addressed by the source of the

items and procedure development, and criterion related validity was obtained through an instrument development study (1979, p. 640). Ward and Fetler said also that the scale was easily administered and produced six subscales that represent nursing-specific dimensions of performance, each subscale having a high reliability coefficient. A detailed description of this tool is provided in Chapter 3 of this study.

Permission was obtained from the author (Schwirian) and the copyright holders (the American Journal of Nursing Publishing Company) to use and adapt the Six-Dimension Scale of Nursing Performance for the purposes of this study (Appendix III).

The Six-Dimension Scale of Nursing Performance was adapted to the booklet form recommended by Dillman (1978) in his book, Mail and Telephone Surveys: The Total Design Method. Following the guidelines described in his total design methodology, a pilot study and mail survey were carried out.

In the pilot study a stratified random sample of 21 Directors of Nursing within the study area, was sent the questionnaire booklet and the proposed cover letter. Given a description of the objectives of the study they were asked to complete the questionnaire, comment on its usefulness, suggest needed changes, and return the packet for analysis. At the same time a group of eight (8)

nurse educators and two (2) nursing experts (doctorally prepared nurses outside of nursing education) were asked to complete the same assignment. The pilot study group of 21 Directors of Nursing, returned 19 questionnaires. Fifteen (15) questionnaires were filled out correctly and completely. The other four respondents did not have graduates of one or the other nursing programs employed at their hospital and therefore did not complete the questionnaire. The eight (8) nurse educators and two (2) nursing experts all returned their questionnaires and cover letters. In both groups, the Directors and Educator/Expert, there were selected problems with "awkward wording" of items/response categories. However, no pattern or specific problem items were discernible. This researcher, upon review of the comments and concern for the established reliability and validity of the instrument (the Six Dimension Scale of Nursing Performance), chose to leave the scale item stems worded as developed by Schwirian (1978). A detailed analysis of the pilot study is given in Chapter 3 of this report.

Following the pilot study, a mail survey of 329 Directors of Nursing in hospitals in thirteen midwestern states was conducted. The sample of 329 hospitals was selected on a stratified random basis, utilizing the directory published by the American Hospital Association (1981b). The questionnaire was mailed to the Directors of

Nursing (DNS) in the selected hospitals following the survey guidelines established by Dillman (1978). An initial mailing and a seven week follow-up process was completed during December 1983 and January 1984. The Directors were asked to assess the preparedness of associate degree (ADN) and baccalaureate degree (BSN) nursing program graduates, using the Six-Dimension Scale of Nursing Performance (Schwirian, 1978).

They also completed a brief checklist of demographic characteristics as part of the questionnaire.

ASSUMPTIONS

1. Directors of Nursing Service in the selected hospitals will be able to assess accurately the preparation of graduate nurses from both associate degree and baccalaureate degree nursing programs.
2. Directors of Nursing Service are interested in improving patient care quality through input into the preparation process of new graduate nurses.
3. The Six-Dimension Scale of Nursing Performance (Six-D Scale) will yield an accurate accounting of strengths and weaknesses of graduates from associate degree and baccalaureate degree nursing programs.
4. The attitudes and beliefs of the stratified random sample of Directors of Nursing Service within the 13 state region represented by the Midwest Alliance of

Nursing (MAIN) reflect the attitudes and beliefs of all Directors of Nursing Service within that region.

LIMITATIONS

This study was limited to:

1. Acute care hospitals, since they employ a majority of new graduate nurses during their initial entry into the practice of nursing. (NLN, 1982, p. 122).
2. Directors of Nursing as respondents, to delineate an accessible population that would be able to assess new graduate nurses and their preparation.
3. The use of the mail survey method, for its effectiveness and efficiency in obtaining data from a large sample (Dillman, 1978).

DEFINITION OF TERMS

Associate Degree in Nursing Program (ADN): A two-year technically oriented registered nurse preparation program, generally supported and controlled within junior and community colleges, and occasionally four-year institutions.

Baccalaureate of Science in Nursing Program (BSN): A four-to-five year professionally oriented registered nurse preparation program, with a major in nursing. These programs are generally supported within and

controlled by colleges and universities.

Diploma in Nursing (Diploma): A two and one-half to three year private program in nursing, usually associated with specific hospitals.

Midwest Alliance in Nursing (MAIN): A new 13 state organization of midwestern nursing agencies whose purpose is:

... to advance and protect the health status of persons in the midwest region through collaborative endeavors designed to: (1) promote a rational system of education in nursing, (2) improve nursing practice, and (3) advance nursing research (MAIN Interim Bylaws, p. 1).

The organization represents the states of Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, Oklahoma, South Dakota, and Wisconsin. The MAIN organization serves regional interests as does the older, more well-known Western Interstate Council on Higher Education in Nursing (WICHEN).

Directors of Nursing Service (DNS): The high ranking executive officer within hospitals, responsible for the administration of nursing service. Titles such as Nursing Service Director, Assistant Administrator for Nursing, Vice President for Nursing or other similar titles are the usual designations.

"Program" of the new graduates: For the purposes of this paper this label will be used to refer to the programs

that prepared the two kinds of new graduates being studied here, associate degree and baccalaureate degree nursing graduates.

"Type" of initial Registered Nurse education: For the purposes of this paper this label will be used to refer to the three types of initial Registered Nurse education program that the responding Directors of Nursing received their initial preparation, associate degree, diploma, or baccalaureate degree program in nursing.

SUMMARY

This study asked Directors of Nursing to assess the education and preparation of associate degree nursing graduates and baccalaureate degree nursing graduates. A stratified random sample of 329 Directors of Nursing Service, from hospitals within the 13 state region represented in the Midwest Alliance in Nursing (MAIN), were asked to complete the Six-Dimension Scale of Nursing Performance (Schwirian, 1978) to assess the preparation of both types of graduates. Data were gathered in December 1983 and January 1984 and analyzed to answer the following questions:

1. Do Directors of Nursing Service (DNS) assess the preparation of associate degree nursing (ADN) and

baccalaureate degree nursing (BSN) graduates differently?

2. Is there any interaction between the assessment of ADN and BSN graduates preparation by Directors of Nursing Service, and the Director's initial "type" of Registered Nurse education?
3. What are the areas of deficiency and competency in the education and preparation of graduates of associate degree in nursing programs?
4. What are the areas of deficiency and competency in the education and preparation of graduates of baccalaureate degree in nursing programs?

Chapter 2

Review of Related Literature

This chapter presents a review of the literature conducted in the area related to this study. The chapter will be divided into two major parts, the first containing research that compares graduates of associate degree, diploma and baccalaureate degree registered nurse education programs. The emphasis of the review of these research reports will be comparisons between associate and baccalaureate degree graduates or students. The second part of this chapter will focus on studies that attempt to delineate how nursing education and nursing service differ in their perceptions of what is needed in a beginning registered nurse practitioner.

It has only been since about 1970 that the majority of new graduate nurses have come from institutions of higher education (the associate degree and baccalaureate degree nursing programs) rather than the hospital-based diploma programs. Table 1 demonstrates the clear pattern of this shift. In 1960, 83.5 percent of the graduates were from diploma schools of nursing; by 1980, that proportion dropped to 19.1 percent (adapted from NLN, 1982, p. 39).

Table 1

THE NUMBER AND PROPORTIONS OF GRADUATIONS FROM
ALL TYPES OF RN PROGRAMS IN THE UNITED STATES:
1959-60 TO 1979-80 (Five-year Increments)

Academic Year	Total No. RN Graduates	Types of Programs*			
		BSN No. (%)**	ADN No. (%)**	Dip. No. (%)**	
1959-60	29,895	4,132 (13.8%)	789 (2.6%)	24,974 (83.5%)	
1964-65	34,497	5,376 (15.6%)	2,510 (7.3%)	26,611 (77.1%)	
1969-70	43,103	9,069 (21.0%)	11,483 (26.6%)	22,551 (52.3%)	
1974-75	73,915	20,170 (27.3%)	32,183 (43.5%)	21,562 (29.2%)	
1979-80	75,523	24,994 (33.1%)	36,034 (47.7%)	14,495 (19.2%)	

(Adapted from: NLN Nursing Data Book: 1981. (NLN, 1982, p. 39)

* BSN = Baccalaureate Degree Nursing Program
ADN = Associate Degree Nursing Program
Dip = Diploma Nursing Program

** = Percentages are the proportion of the total for that year rounded to the nearest 0.1%.

The shift in locus of nurse education to institutions of higher education, and the subsequent perception gap between nursing personnel and nursing education personnel started to receive a great deal of attention in the professional journals late into the 1970's. However, researchers started to compare the three types of graduates earlier. The review of research related to this study begins with a study done in 1969.

COMPARISONS OF GRADUATES FROM THE THREE TYPES OF RN PROGRAMS

The first group of studies reviewed are germane to the first question of this study, because they are comparisons of different types of registered nurse graduates outside of the educational setting. An early study done by the American Journal of Nursing (1969) surveyed 110 Directors of Nursing (DNS) in states that had operated associate degree schools for several years, and an additional 20 DNS's in other states. There were two general findings: approximately one-half of the respondents made no distinction between graduates "... so far as orientation, supervision, work assignment, charge duties, and evening and night responsibilities are concerned" (p. 1009), while the other half made distinctions based on what nurses of the different types of programs "cannot do" (P. 1009). Generalizations that represent these findings include:

- associate degree graduates need prolonged orientation and supervision, with limited work assignments;
- both associate and baccalaureate degree graduates need a prolonged acclimatization period;
- the increased job responsibility of evening, night or charge duty comes at about eight weeks for baccalaureate and diploma graduates and after about 12 weeks for associate degree graduates (p. 1010).

Waters, et al (1972) studied the performance of associate degree and baccalaureate degree students in 12 different hospitals in the San Francisco area. They also interviewed Head Nurses and Directors of Nursing to see if they identified differences in practice between the two types of graduates. From the hospitals, a sample of 12 DNS's, 22 HN's, and 48 staff nurses (24 each of associate degree and baccalaureate degree programs) with one to five years experience, were selected for the exploratory study. Data gathering on the staff nurses included an observation period by trained observers, a 10-15 minute interview about the observed actions and a second 45-50 minute interview away from the work setting (p. 127). The Head Nurses and the Directors of Nursing were then interviewed regarding the performance of the two groups of nurses. The primary objective of this study was to "describe technical and professional nursing practice in the clinical setting" (p. 127). On analyzing the observations and interviews, Waters

et al. (1972) found that:

The actions and attitudes described by associate degree graduates appeared to be consistent with technical nursing practice as it is described in nursing literature. In most cases, the nursing problems were concrete and specific, and the nursing actions had fairly predictable outcomes. The nursing problems and interventions were more often physiological and physical than psychological or social, ... (p. 127).

The findings indicate that only six of the baccalaureate graduates practiced at a professional level, whereas the "basis for practice are theoretical as well as empirical and often extended beyond standardized approaches" (p. 128). The judges did not reach agreement on the remaining 18 baccalaureate graduates' practice, but it was generally thought their practice tended to be more technical than professional (p. 128). Head Nurses in the study generally thought that baccalaureate graduates had more depth in problem-solving, were more aggressive in reasoning why and examined more the psychological aspects of care (p. 129). These findings were not supported later in the interviews by requesting specific examples. Ten of the 12 DNS's reported specific differences between the two different types of graduates. The major examples showed that baccalaureate graduates administered more comprehensive care, used special services for patients such as social services and community agencies, patient and family teaching, and dealt therapeutically with psychological problems (p. 129).

Meleis and Farrell (1974) also studied a large number of registered nurses in the San Francisco area. The study compared 38 associate degree graduates, 53 diploma graduates, and 97 baccalaureate degree graduates on multiple measures assessing intellectual characteristics, aptitude for leadership, research orientation, and sociopsychological factors. On the intellectual characteristics tested by the Omnibus Personality Inventory (OPI) no significant differences were found. The Leadership measurements yielded mixed results. On the overall Leadership Opinion questionnaire the three levels of nurses were the same; however, on the structure component associate degree graduates were the highest, to a significant degree. Utilizing the autonomy subscale of the DPI for analysis, baccalaureate and associate degree graduates were similar, scoring significantly higher than diploma graduates. Although there are significant differences among the graduates regarding leadership, they are mixed and do not reflect increased education. In the hypothesis testing related to research orientation, Meleis and Farrell demonstrated significant differences with diploma graduates scoring highest and baccalaureate degree lowest in valuing research. Then in the final area, no differences were found for the graduates in the area of sociopsychological outlook and future aspirations.

Stanton (1982) did a rating of the competencies of associate and baccalaureate degree nurses 3 to 12 months after initial licensure as registered nurses in selected hospitals in Colorado. Using the Slater Nursing Competencies Rating Scale, Stanton asked for head nurses to rate new associate and baccalaureate degree nurses under their supervision. Stanton reported, however, that the evaluators turned out to be head nurses, directors of nursing, supervisors and one staff nurse, making a group better called immediate supervisors (p. 91). Subsequently, Stanton reported that:

"... the BSN graduates' clinical performance was evaluated as significantly better than the ADN graduates' performance ... on all 6 subsections of the Slater Rating Scale:

1. fulfilling the psychosocial needs of individual patients;
(Psychosocial: Individual)
2. fulfilling the psychosocial needs of patients as members of a group;
(Psychosocial: Group)
3. fulfilling the physical needs of patients;
(Physical)
4. fulfilling either psychosocial or physical needs of patients or both at the same time;
(General)
5. communicating with other health team members on behalf of the patients;
(Communication)
6. fulfilling professional responsibilities of a nurse in care given to patients which reflects initiative and responsibility indicative of professional expectations.
(Professional Implications) (p. 123-24)

On item analysis, Stanton indicated "... however, many individual items were not able to differentiate between the two groups." (p. 146)

Stanton (1982) also examined the effects of selected demographic variables of the raters and ratees, on the outcome of the Slater Scale. Summarizing the more important ones related to the raters' characteristics, it was found that:

- the raters' position and educational level did not affect how they evaluated new graduates (p. 139)
- increased time in the position did not have significant effect on three subscales: Psychosocial: Individual, Communication, and Professional Implication. (p. 140).
- male raters assessed the graduates higher on three subscales: Psychosocial: Group, Physical, and General. (p. 141)

Then, in analyzing the characteristics of the nurses being evaluated, Stanton made these observations:

- age, marital status, first job, shift working, written job description, distance traveled and size of the institution had no effect on the evaluation of the graduates (p. 142).
- new graduates in charge or assistant supervisor positions were rated higher. (p. 144)

- continuing formal education gained higher ratings (p. 145)
- previous experience in other health care positions resulted in better ratings. (p. 144)
- length of experience in the position resulted in higher ratings. (p. 143)

In summarizing this cross-analysis of characteristics and ratings Stanton said:

"... the relatively small difference between the two groups could be accounted for by the fact that as the new AD nurses approach the end of 12 months experience, their clinical performance more nearly parallels the BSN graduates. If true, experience could erase the difference that education made earlier." (p. 148).

Employer preferences for the three types of graduates (diploma, associate degree and baccalaureate degree) were studied by Reichow and Scott (1976) when they surveyed Administrators and Directors of Nursing of Kansas hospitals and nursing homes associated with their respective state associations. The participants were asked to rank each type of graduate from 1 for best to 3 for worst, on ten measures, plus an overall ranking. Diploma graduates were consistently ranked highest with the exception of two items for which baccalaureate graduates were ranked first or tied for first with diploma graduates. Baccalaureate graduates fared the best on leadership roles and tied with diploma graduates in terms of leadership ability and ability to learn new concepts in the group of hospitals with fewer

than 100 beds. Associate degree nurses did not demonstrate any areas of strength and were consistently rated third.

A similar survey was done by Howell (1978) when he assessed Directors' of Nursing perceptions of all three types of graduates on 16 nursing functions plus an overall ranking. Surveying all 86 hospitals in the state of Oregon, it was found that associate degree graduates were ranked inferior to other graduates on the first eight technical items: dealing with patients, recognizing patient disorders requiring physician attention, application of technical nursing procedures, ability to learn new concepts and/or procedures, ability to adapt to new situations, self-confidence, conscientiousness, and initiative. These held consistent for both large hospitals, (100 or more beds) and small hospitals (fewer than 100 beds). In small hospitals, the diploma graduate was ranked superior in all areas except in the ability to learn new concepts for which baccalaureate graduates were ranked higher. In larger hospitals, baccalaureate graduates were ranked superior to or equal to diploma graduates in dealing with patients, in their ability to learn new concepts, in the ability to adapt, in conscientiousness and in initiative. The diploma graduate scored better on the remainder of the areas, such as recognizing patient disorders requiring physician attention, performing of technical skills and self-confidence. In the process skills, again associate

degree graduates were ranked lowest in all hospitals. The only exception was that small hospital respondents believed associate degree graduates could utilize the nursing process as a problem-solving process better than diploma graduates. Also in small hospitals, respondents thought baccalaureate and diploma graduates were equal in leadership skills. In the remaining process skills, understanding and utilizing research in practice, utilizing nursing process as a problem-solving tool, conveying an attitude of professionalism, instructing clients, understanding how biopsychosocial-cultural factors may affect health status, allowing open communication and concept of administrative procedures, baccalaureate graduates scored highest in both large and small hospitals. The overall ranking was diploma graduates first, then baccalaureate graduates, and last, associate degree graduates for small hospitals. In larger hospitals, baccalaureate graduates were preferred, followed by diploma, then associate degree graduates (pp. 449-50).

Zarrett (1980) took the employer preference rating one step further, and included an analysis of associate degree, diploma, and baccalaureate degree nursing graduates' performance on state board exams in Pennsylvania during 1977 and 1978. First, Zarrett surveyed Directors of Nursing in 323 hospitals with census ranges from 50 to

2,000 beds (p. 33). She asked the Directors to rate the types of graduates on eleven (11) general nursing functions. Associate degree graduates were rated lowest in performance in eleven areas. Diploma graduates were rated highest in nine of eleven areas: performing nursing skills accurately and safely, respecting the rights and values of patients, assuming responsibility for patients, degree of commitment to quality nursing care, performing independently, interacting effectively with health team, patients, families and society, systematically reporting and recording pertinent data, setting appropriate priorities and utilizing the nursing process competently. Baccalaureate degree graduates were rated highest in two areas; identifying the need for self-actualization and continuing education, and applying knowledge concerning biopsychosocial influences on health status. In none of the areas were baccalaureate ratings significantly higher than the associate degree ratings although they were rated slightly better (p. 30-32). In reporting their respective performance on state board exams, however, the associate degree graduates fared a little better during 1977 and 1978. Comparing mean scores for the respective groups, diploma graduates scored highest in all areas (Medical, Surgical, Obstetrics, Pediatrics) except Psychiatric Nursing in which baccalaureate graduates had the highest scores. Generally, associate degree graduates scored

higher than baccalaureate graduates in all areas except Psychiatric nursing. (p. 32 and 78). All mean scores displayed in this study are quite close and Zarett did not report any statistical tests on these differences. Therefore, it is assumed these are not significant differences.

McQuaid and Kane (1979) compared the performance of Associate Degree (ADN) , Diploma (Dip.) and Baccalaureate Degree (BSN) nursing graduates taking the State Board Licensing Exam nationwide in July 1977. In their analysis the most obvious findings were that variations between individuals within nursing programs were far greater than differences associated with the type of program. Some patterns were evident in their descriptions of the categories and subcategories of the test. They noted that BSN graduates scored higher on some portions of the test, Diploma graduates highest in other areas, while ADN graduates tended to score lower than the others. No inferential statistical analysis was applied to the results and review of the tables indicate that the differences in standardized mean scores were frequently very small.

A study conducted by Chaming and Teevan (1979) compared expectations of deans/directors of baccalaureate and associate-degree nursing programs on the competencies of their respective graduates. The researchers grouped the

tool into subscales of:

Conceptual Competencies: "Activities requiring the ability to reason, to know and use theoretical content, and to recognize, analyze, synthesize and evaluate situations in order to plan and implement creative patient care."

Human Competencies: "Intellectual competencies merged with technical behaviors in a humanistic fashion and comprise interpersonal and intrapersonal interactions."

Functional Competencies: "Primarily psychomotor or technical skills" (p. 18).

Using a nationwide random sample of 100 baccalaureate and 100 associated degree nursing programs, Chamings and Teevan found that:

1. Baccalaureate degree program expectations were higher but not clearly different from associate degree programs (p. 18-19).
2. Baccalaureate degree program expectations were higher on the conceptual and human competencies subscales, and similar on the functional subscale (p. 18-19).

A nationwide view of nurse performance was studied by Jacobs (1980) when she utilized 9,884 critical incidents gathered from over 2,000 nurses, which provided the data base for the recent revision of the test plan for the State Board Test Pool Examination. These critical incident

reports were either self-reports or reports of observed nurse performance, and Jacobs was able to identify performance differences among the different types of nurses. Classifying behaviors in the incidents into ten behavioral areas, Jacobs found that:

Significant differences (p. .001) were found both between and within behavioral areas in the types of behaviors reported about baccalaureate, associate degree and diploma nurses. ... the profiles of highest and lowest frequencies of behavioral area for the associate degree and diploma nurses followed the same general pattern although they were not congruent. However, the baccalaureate nurse profile was clearly different from the other two. The differences supported traditional distinctions between professional and technical nurses (p. 2).

Again baccalaureate degree graduates were most often involved in incidents concerning leadership, professional responsibility, patient teaching, promotion of psychological well-being, communications and planning patient care. The associate degree graduates most often involved precautions/prevention, medications/treatments, emergencies and patient teaching (pp. 2-3).

Although these studies show some variance between types of graduates, especially with regard to the baccalaureate graduates, the studies have a large number of limitations, such as small samples and limited scope. A more sophisticated study was done by DiMarco and Hillard (1978) using multiple measures. The sample was small -- 25 baccalaureate degree (five different programs), and 44

technical nurses (four associate degree and three diploma nursing programs), all within one 300-bed midwestern hospital with university affiliation. All participants were functioning as team leaders (the first level for management for groups of patients and supervision of other health care providers) and were measured at the outset of the study by a nursing audit score that measures quality of patient care through various nursing care indices, and a Competency Rating Scale, completed by trained auditors and observers. Both measures provided no significant differences among all three types of graduates. At a time period approximately one-and-a-half years later, a subgroup of this sample, seven each of baccalaureate degree, diploma and associate degree graduates who had remained in the team leader capacity, were assessed in greater depth. Comparing nursing audit scores and competency ratings, plus supervisor ratings, subordinates' satisfaction with supervision, state board test pool exam scores, and a self-report on job satisfaction measures, again no significant differences were found on all measures.

A study of limited scope was done in the Chicago area by McCloskey analyzing "Nursing Education and Job Effectiveness" (1983). McCloskey did, however, develop a very carefully designed study that used a large sample of nurses and their immediate supervisors (head nurses). As a result, McCloskey was able to do a sophisticated statisti-

cal analysis that included multiple regression analysis of thirty-six variables and the effect on job performance (p. 55). The researcher collected demographic data on the nurses and head nurses, self-ratings and head nurse ratings on Schwirian's Six-D Scale of Nursing Performance, and finally a rating by the head nurses of their staff nurses' job effectiveness. The predictors that accounted for the majority (57%) of the variance on job effectiveness were the nurses's self-rating on specific skills and the head nurses' ratings on overall skill competence (p. 57). Formal education components accounted for a very small proportion of the variance on job effectiveness. In her discussion of the results, McCloskey was able to disclose some effects of education on job effectiveness. In presenting the results on the 20 point job effectiveness scale, the rankings came out as follows:

Associate degree or Diploma Nurses with an additional Baccalaureate Degree	16.4
Associate Degree only	14.6
Diploma	14.2
Baccalaureate Degree only (p. 57)	13.3

Then, to deflate a myth regarding the need for more clinical time in nursing education programs, McCloskey stated that:

Although clinical experience in the educational program was correlated strongly with years of nursing education and nursing degree, it was not significantly correlated with either job effectiveness rating or head nurse job skills rating (p. 57).

McCloskey (1983) also compared the types of graduates on Schwirian's Six-D Scale of Nursing Performance, which is the same tool selected for this study. On the self-ratings baccalaureate graduates rated themselves significantly higher on the subscales measuring leadership, teaching/collaboration, and planning/evaluation. The head nurses' ratings reported no differences (p. 58). Of the six subscales, all graduates and head nurse ratings rated teaching/collaboration lowest and professional development and interpersonal relations/communications first and second respectively (p. 58).

Studies within the actual practice arena yield mixed results on the question of differences among different types of graduate nurses. Studies within the educational setting, however, consistently support differences between baccalaureate degree and associate degree nursing students. Mandrillo (1969) studied the cognitive skills of graduating baccalaureate and associate degree nursing students. Using an investigator-constructed test that measured recall of knowledge and intellectual abilities, skills of understanding, analyzing and applying knowledge, Mandrillo tested 155 baccalaureate and 106 associate degree nursing students. The study found baccalaureate nursing students

scores significantly higher in all intellectual competencies tested.

Bullough and Sparks (1975) and Gray, et al (1977) found similar results when studying students in baccalaureate and associate degree programs just prior to graduation. Both studies were done in an attempt to differentiate professional (baccalaureate degree) from technical (associate degree) nursing practice. Bullough and Sparks were able to demonstrate that baccalaureate degree nursing students were significantly more "care-oriented" whereas associate degree nursing students, though more diverse in their orientation, tended more toward cure-orientation (1975, p.690).

Gray et al. achieved similar findings when testing graduates for professional versus technical orientation at a two-plus-two associate degree to baccalaureate degree nursing program at the University of Vermont. They found that:

BD graduates tended to rank higher totally on the test and received more professional points than did AD graduates. The latter group scored higher on technical points ... Significant differences ($p=0.05$) among the total scores of each group on the test, their professional points and their technical points were substantiated by t-Tests (1977, p. 371).

VALUES AND NEEDS IN THE "REAL WORLD"
OF NURSING SERVICE

Two studies in this section take a similar approach to the nursing service-nursing education gap. Smith (1965) and Dickerson (1975) both examined nursing service personnel values and nursing education personnel values, then compared their findings. First, Smith (1965) gathered 52 performance evaluations done by head nurses and 56 performance evaluations done by nurse educators, then analyzed them for the values content of the respective groups. In 13 of the 25 categories, Smith was able to find significant differences between head nurses and nurse educators (p. 197). To a significant extent, these two groups evaluated the performance of nurses based on quite different criteria (p. 201). The areas that head nurses emphasized were:

- ability in leadership, especially over lesser prepared personnel;
 - obedience to authority;
 - conformity to organization rules and regulations;
 - cooperation;
 - friendliness;
 - good personal appearance;
 - composure while functioning in the work setting;
 - a good humored approach to daily activities
- p. (199-200)

On the other hand, nurse educators were more inclined to value:

- directiveness in evaluating work of others and questioning physician orders;
- sensitivity to emotional needs of patients;
- emotional supportiveness toward patients;
- physical supportiveness in patient care;
- cognitive skills applied to an intellectual, analytical approach to nursing care (pp. 199-200).

Dickerson (1975) compared the values of administrators of nursing service and administrators of nursing education programs. Utilizing a rating scale (30 items), Dickerson mailed 292 questionnaires and received 161 usable returns, approximately a 55 percent return. Seventy-four (74) were from nursing service administrators and 87 were from nursing education administrators, fairly equally distributed across all three types of education programs. In the grouped comparisons, the general findings were that significant differences were demonstrated on eight (8) items of the rating scale. The areas nursing service administrators rated higher were:

- importance of interpersonal relationships (item 22);
- cognizance of group dynamics necessary for effective practice (item 23) (pp. 39-48).

Whereas nurse education administrators accented:

- providing a safe environment for the patients (item 5);
- evaluating patient care (item 6);
- incorporating community agencies in providing continuity of patient care (item 11);
- establishing priorities in planning patient care (item 13);
- altering the plan of patient care as indicated by changes in the patient's condition (item 14);
- applying problem-solving techniques to nursing activities (item 30) (pp. 39-48).

Dickerson (1975) analyzed the data in relationship to comparing the specific types of nursing education program administrators, to nursing service administrators' responses. When comparing the responses of associate degree program administrators to nursing service, Dickerson found almost identical results regarding the expectations of the level of practice expected from associate degree graduates. The exceptions were items 5 and 11, providing a safe environment and utilizing community agencies respectively, that were not significant in the analysis (pp. 49-57). When analyzing baccalaureate programs administrators' responses, only two were significantly different from those of nursing service administrators. In

both cases, nursing educators thought the need for nurses to incorporate community agencies in providing continuity (item 11) and the application of problem-solving techniques (item 30) were more important than nursing service administrators rankings (p. 64). Both items were also part of the overall analysis.

Stark (1978) surveyed groups of associate degree and baccalaureate degree nursing program administrators, and directors of nursing in hospitals in the southern part of Florida. A 77 item competency list was developed by that researcher; that was grouped into six subscales: 1) preparation for patient care; 2) carrying out patient care; 3) teaching and guidance; 4) evaluation; 5) management/supervision; and 6) professionalism (p. 38). Stark asked respondents to label each item as characteristic of baccalaureate degree nurses only, associate degree nurses only or both types. Twenty-three percent (23%) or eighteen (18) items were identified as baccalaureate degree nurse behaviors (p. 61). All other items were associated with both types of graduates. Generally speaking, educators and administrators alike were unable to identify competencies peculiar to the different types of graduates.

An attempt to identify minimal competencies for associate degree, diploma, and baccalaureate degree nursing program graduates was done by Schuyler in 1983. Her study gathered the perceptions of a small sample of first-line

nursing supervisors, recent graduates and nurse educators on a tool designed from 49 statements of nursing activities divided into ten subscales. Study participants were distributed across the Northeastern and Southern States of the U.S. Schuyler was trying to find agreement among these groups of study participants regarding the basic competencies of all three types of graduates. She was able to show statistically significant agreement on the rankings of the subscales among all groups. Relating the findings to this study, Schuyler essentially found that there was no differentiation of the expected beginning competencies of recent graduates from associate degree, diploma and baccalaureate degree nursing programs.

The remaining three studies represent varied approaches to assessing the needs of the "real world" of nursing. The first of this group, done by Cicatiello (1974), surveyed Directors of Nursing (13 in Florida and five in surrounding states). The intent was to assess the Directors' viewpoints regarding the expectations of the associate degree nursing program graduate. The Directors were able to identify the major strengths of these graduates as knowledge of nursing theory, understanding scientific concepts related to nursing procedures, and flexibility as a result of their educational experience. The expectations Directors thought that remained

inadequately met were sufficient clinical experience, adequate knowledge of pharmacology, leadership ability for taking charge of the afternoon and night shifts and ability to set priorities "on the run."

A more refined approach to the same purpose was Burnside's report, Perceived Need for Technical Specialists in Nursing Care of Hospitalized Patients (1974). Restricting her study to the New York metropolitan area, Burnside surveyed 287 Directors of Nursing, Assistants to Directors and Nursing Service Administrators of identified units (such as supervisors and head nurses) within 43 hospitals. The questionnaire had six major sections including background information (demographic data), the technical and/or professional nature of general staff nurses in the hospital, appropriateness of certain functions and activities for technical nurses, areas of service responsibility and nature of services within specialty areas, nurses in the specialty areas, and finally assessing the desire to utilize "technical nurse specialists." One hundred and ninety-one (191) questionnaires were returned. In summarizing the findings, Burnside found that in the general hospital setting, associate degree nurses were considered technical nurses, and diploma and baccalaureate degree nurses were considered professional. About one-fifth (1/5) of the respondents showed their confusion of the status of ADN, diploma and

BSN graduates by responding to the "not sure" category. The findings demonstrate further confusion that exists regarding the different types of nursing graduate. Baccalaureate and associate degree graduates, the majority acknowledged, do function differently, but when asked if they should, the respondents shifted to the majority thinking they should function the same. Generally the respondents were dissatisfied with the product coming out of associate degree programs and so, on a list of nursing functions, they were asked to determine the appropriate functions of a technical nurse. Ninety percent (90%) of the respondents agreed with the functions traditionally delineated for technical practitioners; however, the areas traditionally identified as the areas of responsibility for professional nurses, well over 50 percent thought that these also were appropriate for technical nurses (1970, p. 40).

Finally, Schroeder et al. (1981) studied a group of new graduate nurses entering the hospital setting, and attempted to identify areas of need among different types of graduates. The group included 71 baccalaureate graduates whose training was associated with that hospital, 20 baccalaureate graduates from elsewhere, 36 diploma graduates and 19 associate degree graduates, for a total of 146 new graduates. The test instrument consisted of four

major parts. Part I, the Emergency Test, tested the graduate's ability to recall "significant factors involved in monitoring patients," and ability to select immediate and necessary nursing actions. Part II, the Medications Test, was designed to measure the general knowledge required for safe and effective medication administration. Part III, the Complications Test, assessed how nurses could intervene to prevent complications. Part IV, the Experience Survey, asked the respondents to estimate the number of hours spent in each clinical nursing specialty area, the number of times they performed certain procedures and how much time they spent working as nursing assistants or licensed practical nurses prior to and during their education as registered nurses (p. 11). Overall it was determined that "no major areas were mastered by all graduates," and that "subjects from the different educational programs ... did not differ appreciably in responses to the tests" (p. 16). Summarizing their findings, Schroeder et al. said:

... Our study seems to show that (1) we can not predict level of knowledge on the basis of educational program, (2) all content covered by the study instrument will be needed by some of the new graduates, and (3) all new graduates will need most of that content (p. 16).

SUMMARY

The review of research literature is divided into two major parts. The first part covers research that compares associate degree, diploma and baccalaureate degree nursing students or graduates. Studies done outside the educational setting include a survey of Directors of Nursing, the performance of associate degree and baccalaureate degree nursing graduates as assessed by Directors of Nursing, Head Nurses and performance assessments of nurses in practice, employer (administrators of hospitals and Directors of Nursing) surveys done in different states, a critical incident analysis done to compare graduate nurse functions, and finally a study of the three types of programs' graduates being compared on multiple measures such as quality of patient care, competency ratings, supervisory ratings, subordinate satisfaction with supervision, state board test pool exam scores and self-reports of job satisfaction.

Generally, these studies have yielded mixed results. Assessment of preferences, attitudes and beliefs generated differences among the different types of graduates. Baccalaureate degree graduates supposedly were better equipped in leadership activities, meeting psychological/emotional patient needs, applying the nursing process, communication skills, patient teaching, and

professional attributes. However, these differences dimmed in the "real world" of nursing practice. Diploma graduates were, over-all, the most desired to practice nursing in the hospital setting and associate degree nurses were easily classified as practicing nursing at the technical level generally identified in the literature. These technical practitioners were involved in procedural tasks, applying nursing interventions to specific areas with predictable outcomes and working well in subordinate type roles.

In the educational setting, the differences are easier to discern. The studies done in this setting yielded findings that support the traditional technical-professional split advocated in nursing literature.

In the second part of this review are studies that examined the values and needs of the "real world" of nursing service. Studies contrasting the values and beliefs of nurse educators to those of nursing service personnel found significant differences in what are thought to be desirable characteristics for a practicing nurse. On the whole, nursing service people were more valuing of organizational supporting behaviors and interpersonal skills that enhanced work relationships, whereas the educators preferred intellectual abilities and assertive behaviors. Other studies assessed perceived needs of nursing service, and noted differences in their preparation but thought that there should not be any differences. Even

for orientation in-service needs, no real difference among types of graduates could be ascertained.

In conclusion, it would appear there are no clear distinctions among the different levels of ADN, diploma and BSN nursing graduates. Attitudes held by educators and nursing administrators indicate there are differences in preparation especially with regard to the associate degree being least capable to practice nursing at the level expected. In the real world, however, differences among the three levels cannot be demonstrated or substantiated through providing examples or analyzing nurse performance.

Chapter 3

Design of the Study

The purpose of this study was to analyze and compare Directors' of Nursing assessments of associate degree and baccalaureate degree registered nurse graduates preparation. This chapter gives the details of the population and sampling procedure, the survey method, the instrument used and methods for analyzing the data.

POPULATION AND SAMPLING PROCEDURE

The population of this study was limited to Directors of Nursing in hospitals within the thirteen (13) state region represented by the Midwest Alliance in Nursing. Three factors combine to make this an acceptable and readily available population. First, the NLN Nursing Data Book - 1980 indicates that nationwide, 92.2 percent (%) of newly licensed nurses are employed in hospitals (National League of Nursing, 1982, p. 122). Thus the clear majority of new graduates get their first position as a registered nurse in hospitals. Secondly, the American Hospital Association publishes a guide that lists hospital names and addresses in each state. And finally, the 13 state Midwestern Alliance in Nursing (MAIN) is a newly organized

non-profit organization of health care institutions, schools of nursing and other organizations whose purpose is to promote a national system of education in nursing, improve nursing practice and advance research in nursing (Midwest Alliance in Nursing, 1979, p. 1). Therefore, this organization provides a definitive area to limit the states to be included in this study.

First, a pilot study was conducted that included 21 randomly selected Directors of Nursing from states within the MAIN Region (see Table 2, p. 51), eight (8) nurse educators, and two (2) nursing experts (doctorally prepared nurses working outside of the educational setting). These selected individuals were asked to review the proposed cover letter, then complete and critique the questionnaire based on the objectives of the study. Nineteen (19) of the 21 Directors of Nursing returned questionnaires, and all 10 questionnaires were returned from the nurse educator/expert group. Of the 19 questionnaires returned by the Directors of Nursing, 15 were filled out correctly and completely indicating they did not have difficulty completing the questionnaire or understanding the directions in the accompanying letters. Four of the Directors indicated they did not have new graduates of associate degree and/or baccalaureate degree nursing programs working in their hospital at the time they returned the incomplete

questionnaire. This indicated that there would be some loss of usable responses due the absence of one or both types of graduates working in hospitals for the Directors of Nursing to assess. Eight (8) nurse educators and two (2) nursing experts also were able to complete the questionnaire completely and correctly. In both groups of respondents, the Directors and nurse educator/experts, there were selected complaints related to "awkward wording" between the item stem and the response wording. Upon analysis there was no discernable pattern or specific items identified more frequently than others. In the interest of preserving the established reliability and validity of Schwirian's (1978) Six Dimension Scale of Nursing Performance, this researcher decided not to make changes in the questionnaire item wording or ordering of items. All pilot group respondents were also able to complete the demographics portion of the tool without difficulty.

Within the 13 state region of the Midwest Alliance in Nursing, the American Hospital Association (1981b) directory lists 2111 hospitals. This listing was the population list used to select a sample of Directors of Nursing. Using Krejcie's and Morgan's (1970) calculations and graph, they indicate that a sample of 325 Directors of Nursing would be required to be 95 percent (%) confident that the sample values would not deviate by more than 0.05 from the population values. This sample size is a 15.4

percent (%) proportion of the population; therefore, a stratified sample of 15.4 percent (%) of each state's listed hospitals was selected using a table of random numbers. Selection and rounding errors resulted in a sample size of 329 selected hospitals in which the questionnaires were mailed to the "Directors of Nursing". The population size, pilot-study and study sample size are listed by state on Table 2, p. 51.

The Directors of Nursing Service in the selected hospitals were asked to evaluate the preparation of associate degree graduate nurses and baccalaureate degree graduate nurses. The survey design utilized many of the principles recommended by Dillman (1978) in his book, Mail and Telephone Surveys: The Total Design Method. Dillman states that utilizing the Total Design Method, one can generally expect a 60-75 percent response rate from surveys of the general public and in excess of 85 percent from selected groups with special interests such as "economics teachers, state employees and State Supreme Court judges" (p. 51). Based on these expectations, this researcher expected a minimum 75 percent response rate.

The sample of 329 Directors of Nursing was surveyed during December 1983 and January 1984. Following the initial mailing and a postcard reminder one week later, 200 (61%) Directors had responded to the questionnaire. At

week number three a follow-up letter with a replacement questionnaire was mailed to each Director who had not responded as of that point. This follow-up mailing netted an additional 67 (20%) responses. Seven weeks following the initial mailing a third and final follow-up mailing with replacement questionnaire was sent to all Directors who had not yet returned a questionnaire. The final mailing resulted in an additional 26 (8%) of the Directors returning questionnaires. The total return rate was then 293 questionnaires for a response rate of 89 percent (%) (Table 3, p. 52).

Table 2

NUMBER OF HOSPITALS IN EACH STATE WITHIN
THE MIDWEST ALLIANCE IN NURSING REGION,
PILOT SAMPLE SIZE AND STUDY SAMPLE SIZE

<u>States in the Midwest Alliance in Nursing Region</u>	<u>Number of Hospitals Per State*</u>	<u>Number in Pilot Sample ** (1% of Population</u>	<u>Number in Study Sample ** (15.4% of Population</u>
Illinois	286	3	44
Indiana	133	1	21
Iowa	140	1	22
Kansas	166	2	26
Michigan	242	2	38
Minnesota	185	2	29
Missouri	173	2	27
Nebraska	109	1	17
North Dakota	60	1	9
Ohio	240	2	38
Oklahoma	143	1	22
South Dakota	69	1	11
Wisconsin	<u>165</u>	<u>2</u>	<u>25</u>
TOTALS	2111	21	329

* Adapted from America Hospital Association, 1981b.

** Rounded to the nearest whole number.

Table 3

RETURN RATE OF THE INITIAL AND FOLLOW-UP MAILINGS
TO SELECTED DIRECTORS OF NURSING
NUMBER AND PERCENTAGE

(Sample Size N=329)

Stage Description	Number Returned	Percentage
I: Initial mailing of questionnaire with cover letter, followed by a postcard reminder one week later (Appendix I, A and B)	200	61%
II: Follow-up mailing at week number three (3) with a different cover letter and a replacement questionnaire (Appendix I, C)	67	20%
III: Follow-up mailing at week number seven (7) with a different cover letter and a replacement questionnaire (Appendix I, D)	26	8%
TOTAL	293	89%

Of the 293 returned questionnaires, 249 (76 percent) were usable for the statistical and item analysis. Forty-four or (13 percent) were not included in the analysis because 24 (7 percent) Directors indicated they had not recently employed any new baccalaureate and/or associate degree graduate nurses, 11 (3 percent) questionnaires were

less than 80 percent complete, 6 (2%) Directors returned questionnaires blank, refusing to participate, and 3 (1%) hospitals had been recently closed (See Table 4).

Table 4

NUMBER AND PERCENTAGE OF
SAMPLE SIZE, RETURN RATE,
USABLE RETURNS AND LOSSES
(Sample Size N=329)

Description	Number	Percent % rounded to the nearest whole number
Return Rate	293	89%
Nonrespondents	36	11%
Usable Returns	249	76%
Losses		
a) Hospital did not currently employ graduates of ADN or BSN programs	24	7%
b) Questionnaire returned less than 80% complete	11	3%
c) Returned questionnaire but refused to participate	6	2%
d) Hospital closed	3	1%

DESIGN OF THE SURVEY

The 52 item rating scale was laid out in a 6 1/8 inches by 8 1/4 inches booklet format. Printing was done on colored paper with contrasting color cover. The ordering of the individual questions within the tool follow the prescription of Schwirian (1978). Schwirian suggested random ordering of all the items except the last ten items in the professional development subscale. Those are suggested to be grouped together at the end of the tool.

A second part was added to the end of the instrument requesting some demographic data on the Directors of Nursing completing the survey. The items include: the type of initial Registered Nurse program they completed, how many years they had been a Registered Nurse, their gender, how many years they had been in a position as a Director of Nursing and finally the current level of completed formal education.

The Instrument

The instrument chosen for use in this study was selected after reviewing Ward and Fetler's Instruments for Use in Nursing Education (1979). This catalogue is a compilation of a large number of published and unpublished tools currently used for evaluating nursing education, nurse performance, prediction of success, and similar lines of inquiry in nursing education and practice. The

criteria for selection of a tool used by this researcher included that the tool:

1. was adaptable to the survey approach;
2. was capable of evaluating several separate components of nursing preparation; and
3. showed reasonable validity and reliability.

After reviewing a number of instruments described by Ward and Fetler, the nursing performance assessment scale developed by Schwirian (1978) was selected as best fit for the needs of this study.

Schwirian (1978) developed the Six-Dimension Scale of Nursing Performance (Six-D Scale) from a contract project between October 1974 and August 1977. The criteria Schwirian used to develop the tool were:

- applicable to nursing performance in a variety of practice settings ... ;
- consistent with a nursing process model of good nursing practice;
- applicable to the practice of nurses who had completed their basic nursing education within the past one or two years;
- usable not only by nurses to appraise their own performance but also by their immediate superiors;
- composed of items stated in terms of observable nurse behaviors;
- composed of items that could be read and interpreted consistently without additional explanation or expansion (p. 347).

The Six-D Scale is a 52-item, four-point rating scale with six performance subscales:

1. Leadership (5 items)
2. Critical Care (7 items)

3. Teaching/Collaboration (11 items)
4. Planning/Evaluation (7 items)
5. Interpersonal Relationships and Communications
(12 items)
6. Professional Development (10 items)

It is a self-administered scale, requiring approximately 10 to 15 minutes to complete (Ward and Fetler, 1979, p. 639).

Content and construct validity were insured through the source of the items and the development process. Content validity came about through the construction phase of the instrument. Schwirian and her project staff used:

... literature review; materials and instruments shared by other investigators and educators upon request; operational definitions of "effective nursing performance" and "successful nurses" provided by responding deans and directors of 151 basic schools of nursing in an earlier phase of the project; review of the developing scale and subsequent recommendations by immediate colleagues, project consultants (a group of knowledgeable and experienced nurse educators, researchers, and administrators); and the individuals who served as pilot respondents (1978, p. 347).

The outcome was a 76-item, seven subscale appraisal instrument. This initial tool was pilot tested on a group of "recently graduated nurses who were working in hospitals in the Columbus, Ohio area" (p. 348). Only ten persons constituted the pilot group, thus precluding any rigorous tests of validity and reliability (p. 349). Schwirian further states that:

Construct validity had been established through consensus among the developers, consultants, and pilot respondents that the behaviors were, in fact,

descriptive of nursing behaviors contributory to good client care (p. 348).

The next step in tool development was the major study undertaken to establish criterion-related validity, construct validity and reliability. Schwirian (1978) surveyed 151 schools of nursing in a nationwide stratified random sample. The first step was to obtain cooperation of the directors of those schools, have them provide a list of 1975 graduates, identify 25 percent of the "more promising" and finally identify one-quarter of that group as the "most promising". Twenty percent of the entire list was sampled to provide a "non-selected group".

A sample of 3,000 1975 new graduate registered nurses were contacted and asked to evaluate themselves utilizing the study tool. Schwirian reported a 30.4 percent return (N=914) of these self-evaluations. The participants were also asked to supply the name and address of their immediate supervisor.

The immediate supervisors of the participating new graduate registered nurses were contacted and asked to evaluate these individuals utilizing the study tool. Five hundred eighty-seven supervisors (587) or 89 percent returned their evaluations to the new graduates.

The results were analyzed utilizing the FACTOR subroutine of the Statistical Package for the Social Sciences (SPSS). Analyzing first the self-appraisals and supervisor

appraisals, the tool was found to provide high congruence. This congruence formed the basis to reduce the instrument to its present 52-item, six subscale form. Analysis of results from supervisor evaluation and the identified (by Directors of Nursing Schools) "more promising" graduates yielded no significant differences.

Reliability was examined utilizing Cronbach's alpha, "... a fairly conservative index, that has been proved to be bound to true reliability" (Schwirian, 1978, p. 350). The range of reliability for the subscales extended from a low of .844 to a high of .978. The individual measures of reliability are reproduced on Table 5 on page 59.

The recommended average score formula, Schwirian indicated, would yield an average score that could be used to compare subscales of differing lengths and adjust for behaviors not rated because of non-requirement in that setting (1978, p. 350).

Table 5

RELIABILITY ESTIMATES (CRONBACH'S) OF THE SIX-D
NURSING PERFORMANCE SUBSCALES FROM GRADUATE'S
SELF-APPRAISALS AND EMPLOYER'S APPRAISALS

Subscales	Self Appraisals	Employer Appraisals
Leadership	.901	.844
Critical Care	.919	.859
Teaching/Collaboration	.926	.899
Planning/Evaluation	.936	.900
IPR/Communications	.959	.907
Professional Development	.978	.890

(Reproduced from Schwirian, 1978, p. 350)

In the tool development, Schwirian used an unbalanced rating scale:

- 1 - Not very well
- 2 - Satisfactorily
- 3 - Well
- 4 - Very Well
- x - Not expected in this job

This researcher views this unbalanced scale as a limitation to analysis of the data and modified the response scale to read:

- 1 - No preparation
- 2 - Poor preparation
- 3 - Acceptable preparation
- 4 - Very good preparation

Such a balanced scale will facilitate analysis of the data by providing an arbitrary neutral point at 2.5, making the use of mean response level more meaningful, and forcing the respondents to decide if this item is an area of deficiency or competency. Permission to alter the response rating scale has been sought and granted by the author, Schwirian, and the copyright holders, American Journal of Nursing Company. The letters requesting permission to use the tool and alter response categories, and letters granting permission are included as Appendix III of this report.

Schwirian's Six Dimension Scale of Nursing Performance (Six-D Scale) (1978) was used by McCloskey (1983). In that

study, McCloskey gathered data on staff nurse self-ratings and staff nurse performance as rated by head nurses using the Six-D Scale to assess job skills. The reliability of the instrument maintained a consistently high level for McCloskey. She checked the reliability of the Six-D Scale through two methods. In a small pilot group McCloskey had the staff and head nurses complete the questionnaire two times, at a two to three week interval. Examining intra-rater reliability through the test-retest method McCloskey reported the reliability coefficients for the scale at .77 for the entire scale with a range of .75 to .82 for each of the six subscales" (p. 54). Inter-rates reliability was ascertained by comparing head nurse ratings with assistant head nurse ratings. The resulting reliability coefficients were: ".89 for the entire scale with a range of .73 to .94 for the six subscales" (p. 54).

STATISTICAL HYPOTHESES

Three statistical hypotheses were developed for testing:

1. The number of items in which baccalaureate degree graduates received a higher median score than associate degree graduates is equal to the number of items in which associate degree graduates received a higher median score than baccalaureate degree graduates as measured by the 52-item Six-Dimension Scale of Nursing Performance (Six-D Scale) (Schwirian, 1978).

2. There is no interaction between the initial "type" of Registered Nurse education of the Directors' of Nursing and their assessment of the preparation of associate degree and baccalaureate degree nursing program graduates as measured by:

- a) the Six-Dimension Scale of Nursing Performance (Six-D Scale).
- b) the Teaching/Collaboration Subscale of the Six-D Scale.
- c) the Planning/Evaluation Subscale of the Six-D Scale.
- d) the Leadership Subscale of the Six-D Scale.
- e) the Critical Care Subscale of the Six-D Scale.
- f) the Interpersonal Relations/Communications Subscale of the Six-D Scale.
- g) the Professional Development Subscale of the Six-D Scale.

3. There is no difference between the assessment of preparation of associate degree and baccalaureate degree nursing program graduates by midwestern Directors of Nursing, and among the different levels of initial "type" of Registered Nurse education of the Directors of Nursing as measured by:

- a) the Six Dimension Scale of Nursing Performance (Six -D Scale).

- b) the Teaching/Collaboration Subscale of the Six-D Scale.
- c) the Planning/Evaluation Subscale of the Six-D Scale.
- d) the Leadership Subscale of the Six-D Scale.
- e) the Critical Care Subscale of the Six-D Scale.
- f) the Interpersonal/Communications Subscale of the Six-D Scale.
- g) the Professional Development Subscale of the Six-D Scale.

DATA COMPILATION

AND ANALYSIS

The responses to two-hundred and forty-nine (249) usable returned questionnaires were typed into a mainframe computer (4341 IBM OSVS I, model and system) for compilation and analysis of the data. All usable responses were viewed and typed into the computer by this researcher. Questionnaires that were returned but not usable were not recorded in the computer (i.e. less than 80% complete). The types and reasons for losses of returned questionnaires were discussed earlier in this chapter. Data analysis was done in three major steps: testing of Hypothesis 1, testing of Hypothesis 2 and 3, and a descriptive item analysis of the respective graduate's level of preparation on each subscale of the questionnaire, identifying the

areas of competency and deficiency as assessed by midwestern Directors of Nursing. All hypothesis were tested at the 0.05 level of significance.

Testing of Hypothesis 1

Using 249 returned questionnaires, median scores were calculated for each item of the Six Dimension Scale of Nursing Performance (Six-D Scale) (Schwirian, 1978) for both associate degree and baccalaureate degree nursing graduates. A Sign Test from the Statistical Package for the Social Sciences (SPSS-X, 1983) was run using item median scores to determine if the number of items in which baccalaureate degree graduates were rated higher than associate degree graduates was equal to the number of items in which associate degree graduates were rated higher than baccalaureate degree graduates.

Testing of Hypotheses 2 and 3

Using the full data set of 249 questionnaires, seven separate Two-Way Analysis of Variances (2-way ANOVA) from the Statistical Package for the Social Sciences (SPSS-X, 1983) were run, one each for the six subscales of the Six Dimension Scale of Nursing Performance (Six-D Scale): Teaching/Collaboration, Planning/Evaluation, Leadership, Critical Care, Interpersonal Relations/Communications and Professional Development mean scores and one 2-Way ANOVA on the full Six-D Scale mean scores. The initial "type" of

Registered Nurse education of the Directors of Nursing was used as one variable to determine if there was any interaction between their "type" of initial Registered Nurse education and the assessment they gave for the preparation of the associate degree or baccalaureate degree nursing program graduates (Hypothesis 2). If there was no significant interactions then the 2-Way ANOVA was examined to determine if there were any differences between the assessments for preparation of associate degree and baccalaureate degree graduates "programs" and among the three "types" of Registered Nurse education the Directors of Nursing (Hypothesis 3).

Descriptive Analysis: Identifying the Competencies and Deficiencies of ADN and BSN Graduates

Each type of program, associate degree (ADN) and baccalaureate degree (BSN) nursing, was analyzed on each of the six subscales to identify the areas of competency and deficiency through the use of mean item scores and a descriptive analysis. Each item in the respective subscales of the Six Dimension Scale of Nursing Performance (Schwirian, 1978) is listed in tabular form, from highest mean score to lowest mean score, in Appendix IV for associate degree program graduates and Appendix V for the baccalaureate degree program graduates. The item analysis is then discussed in detail in Chapter 4 of this report.

SUMMARY

This chapter presented the details of the design of this study. The purpose of the study was to have Directors of Nursing from selected hospitals, within thirteen midwestern states, assess the preparation of graduates from associate degree (ADN) and baccalaureate degree (BSN) nursing programs.

The directory published by the American Hospital Association (1981) that lists registered and unregistered hospitals by state was used to identify the 2111 hospitals within the Midwest Alliance in Nursing thirteen state region, that served as the population base. Using Krejcie's and Morgan's (1970) calculations for sample size, 329 hospitals were selected on a stratified by state, random basis to identify the address of hospitals. Directors of Nursing of these selected hospitals were mailed the questionnaires used in this study to assess ADN and BSN new graduate preparation.

The survey method used was the "Total Design Method" of Dillman's (1978). His recommendations were used to construct the booklet for the questionnaire, conduct a pilot study and then implement a seven week, four-stage survey design with an initial mailing and three follow-up mailings.

The questionnaire itself was set up utilizing Schwirian's Six Dimension Scale of Nursing Performance (Six- D Scale (1978)). This scale was a 52 item, four point rating scale, with six performance subscales on:

- 1) Leadership
- 2) Critical Care
- 3) Teaching/Collaboration
- 4) Planning/Evaluation
- 5) Interpersonal Relationships/Communications
- 6) Professional Development

Schwirian established the content and construct validity during the construction phase of this questionnaire. In a later study, criterion-related validity was established utilizing practicing registered nurses, their immediate supervisors, and directors of the nurses' initial nursing program. Reliability of the scale was also assessed by Schwirian using Cronbach's alpha, and the reliability coefficients ranged from 0.844 to 0.978 on each of the subscales.

The analysis of the data was done by computer, compiling and analyzing the returned responses through the Statistical Package for the Social Sciences (SPSS-X, 1983). A Sign Test was run to test Hypothesis 1 to determine if there was no systematic difference between the item median scores received by associate degree and baccalaureate degree nursing program graduates as measured by the Six

Dimension Scale of Nursing Performance (Six-D Scale)
(Schwirian, 1978). Following this, a Two-Way Analysis of Variance (2-Way ANOVA) was done to test if there was any interaction between the initial "type" of Registered Nurse education the Directors of Nursing had received and the way they rated the graduates of associate degree and baccalaureate degree nursing programs (Hypothesis 2) and the test differences of the main effects among the two levels of graduate "programs" and the three "types" of preparation of the Directors (Hypothesis 3). This 2-Way ANOVA was run on the total scale average score and the average score on each of the six subscales of the Six-D Scale. Finally, an item analysis was done to identify specific areas of competency and deficiency of the associate degree and baccalaureate degree nursing graduates with each subscale.

Chapter 4

Analysis of the Data

This chapter presents a detailed description of the analysis of data in three major steps. First, the results of the survey design, return rate, and summary of the demographic data of the respondents are presented. Second, the statistical hypotheses are tested and the results presented. And finally, a descriptive item analysis was undertaken to identify specific areas of competency and deficiency of the graduates of associate degree and baccalaureate degree nursing programs within each subscale of the Six-D Scale.

SURVEY RETURN AND DEMOGRAPHICS OF RESPONDENTS

Two-hundred and forty-nine (249) or 76 percent (%) of the questionnaires were usable for the testing of Hypothesis 1 and the item analysis portion of this study. In the testing of Hypotheses 2 and 3, a sample number of 244 (74%) were used in the Two-way Analysis of Variance. Five (5) Directors had failed to complete the demographic portion of the questionnaires, necessitating their

exclusion for the 2-way ANOVA's.

The demographic characteristics gathered in Part II of the questionnaires included questions about the Directors of Nursings' education, years in nursing and Director positions, and gender. The first of these question asked in which type of program the Directors received their initial preparation as a Registered Nurse (Table 6). The clear majority (164 or 65.8%) received

TABLE 6

"TYPE" OF INITIAL REGISTERED NURSE
EDUCATION PROGRAM OF THE
RESPONDING DIRECTORS
OF NURSING
(N=249)

Type of Program	Number	(Percent (%))*
Associate Degree in Nursing	32	(12.9)
Diploma in Nursing	164	(65.8)
Bachelors Degree in Nursing	48	(19.3)
Omissions	5	(2.0)
TOTAL	249	

* rounded to nearest 0.1%

their initial preparation in diploma programs in nursing. Forty-eight (48) or 19.3 percent (%) received their initial

Registered Nurse education in baccalaureate degree nursing programs. A slightly smaller number of Directors (32 or 12.9%) received their initial Registered Nurse education in associate degree nursing programs. Five (5) respondents did not answer this question.

On the item requesting the Directors to report their current level of completed education, there was inconsistent compliance in marking all levels of completed education. Therefore, the representativeness of this data was subject to question. A frequently occurring problem was a Director indicating completion of a masters degree without indicating which type of bachelors degree program they had completed. In other cases, Directors marked multiple completed degrees. The frequencies of completed degrees are presented as Table 7.

TABLE 7
FREQUENCIES OF RESPONDING
DIRECTORS OF NURSING
COMPLETED FORMAL EDUCATION
(N=249)

Type of completed formal education	Number indicating completion
Associate Degree in Nursing	18
Diploma in Nursing	110
Bachelors Degree in Nursing	58
Bachelors Degree in Another Discipline	47
Masters Degree in Nursing	43
Masters Degree in Another Discipline	26
Doctoral Degree in Nursing	2
Doctoral Degree in Another Discipline	1
Other	5
Omissions	5

Note: This item received inconsistent compliance, and therefore may not be representative. See text for explanation.

Answering the questions regarding the number of years in nursing and the number of years as a Director of Nursing, the Directors responded to the items correctly. Of the respondents, the large majority of Directors have been a Registered Nurse for 11 to 30 years. The clear majority served as Directors of Nursing from 0 to 10 years. Table 8 presents the frequencies and percentage of responding Directors of Nursing's answers to the items on years as Registered Nurse and years as a Director of Nursing.

TABLE 8
RESPONDING DIRECTORS OF NURSING
YEARS AS REGISTERED NURSES
AND YEARS AS DIRECTORS
FREQUENCY AND PERCENTAGES
(N=249)

Number of Years	As an R.N. Frequency (%)*	As a Director Frequency (%)*
0 to 5	5 (2.0%)	133 (53.4%)
6 to 10	48 (19.3%)	63 (25.3%)
11 to 20	89 (35.7%)	38 (15.3%)
21 to 30	71 (28.5%)	5 (2.0%)
31 or more	30 (12.0%)	2 (0.8%)
omissions	6 (2.4%)	8 (3.2%)
TOTAL	249 (100%)	249 (100%)

* rounded to the nearest 0.1%

The final demographic item gathered was requesting the gender of responding Directors of Nursing. Two-hundred and thirty-one (231) or 92.8 percent (%) indicated they were female and 11 indicated they were male (4.4 percent (%)). See Table 9 for the summary of this item.

TABLE 9
GENDER OF RESPONDING DIRECTORS
OF NURSING
FREQUENCY AND PERCENT
(N=249)

Gender	Frequency (percent)*	
Female	231	(92.8%)
Male	11	(4.4%)
Omissions	5	(2.8%)
TOTAL	249	

* rounded to the nearest 0.1%

TESTING THE STATISTICAL HYPOTHESIS

HYPOTHESIS 1:

This hypothesis stated that the number of items on which baccalaureate degree nursing graduates were rated higher than associate degree graduates were equal to the number of items on which associate degree graduates were rated higher than baccalaureate degree graduates as measured by the 52-item Six Dimension Scale of Nursing Performance (Six-D Scale) (Schwirian, 1978). Utilizing median item scores to compare baccalaureate degree graduate scores to associate degree graduate scores, a Sign Test was calculated to test Hypothesis 1. Baccalaureate degree

graduates were rated higher on 12 items, associate degree graduates were rated higher on one (1) item and on the remaining 39 items they were equal. Baccalaureate degree nursing program graduates were rated higher by Directors of Nursing from thirteen midwestern states on a larger number of items. This difference was significant at $p=0.05$ level, therefore Hypothesis 1 was rejected (See Table 10).

TABLE 10

SIGN TEST FOR THE LEVEL OF PREPARATION
OF ADN AND BSN GRADUATES
ON THE SIX-D SCALE
(N=52 items)

Number of Median Scores Differences	(Binomial) 2-Tailed p.	Level of Significance
1 BSN less than ADN	$p=0.0034$	$p=0.05$
12 BSN greater than ADN		
39 Ties		
52 TOTAL		

HYPOTHESES 2 and 3:

These hypotheses stated that there would be no interaction between the "type" of initial Registered Nurse education of the Directors of Nursing and the rating they gave the two "programs" of the graduates (associate degree and baccalaureate degree nursing programs) (Hypothesis 2),

and there would be no differences on the main effects between the two "programs" of the graduates and among the three "types" of Registered Nurse education of the Directors (Hypothesis 3). The testing of these hypotheses took the form of seven separate Two-Way Analysis of Variances (2-way ANOVA's). One 2-way ANOVA was done on the total scale mean score for the Six Dimension Scale of Nursing Performance (Six-D Scale) (Schwirian, 1978) and then one 2-way ANOVA was done on each of the six subscales. These 2-way ANOVA's have been summarized in Table 11 on p. 77-78.

The Two-Way Analysis of Variance had detected interaction at a $p < 0.05$ level of significance between the initial "type" of Registered Nurse education of the responding Directors of Nursing and the way they rated the ADN and BSN "program" graduate's preparation on six of seven measures. Hypothesis 2, of no interaction, was rejected on the Six-D Scale total mean scores (hypothesis 2a), the Teaching/Collaboration subscale mean scores (hypothesis 2b), the Leadership subscale mean scores (hypothesis 2d), the Critical Care subscale mean scores (hypothesis 2e), the Interpersonal Relations/Communications subscale mean scores (hypothesis 2f), and the Professional Development subscale mean scores (hypothesis 2g). On the Planning/Evaluation subscale mean scores the interaction level was not significant, with $p=0.081$, therefore hypothesis 2c, of no interaction, was accepted.

Table 11

SUMMARY OF TWO-WAY ANALYSIS OF VARIANCE COMPARING
THE "TYPE" OF INITIAL RN EDUCATION OF RESPONDING
DIRECTORS OF NURSING AND THE MEAN SCORES
THEY GAVE ADN AND BSN "PROGRAM" GRADUATES ON THE
SIX-D SCALE AND EACH SUBSCALE

(N=244, 5 Cases missing data on "type"
of initial RN education of directors)

Source of Variation	df	Mean Square	F-Ratio	p Value
<u>The Six-D Scale</u>				
Program	1	14.632	94.152	0.000*
Type	2	2.178	14.017	0.000*
Program X Type	2	0.901	5.795	0.003*
Teaching/Collaboration Subscale				
Program	1	36.895	169.372	0.000*
Type	2	3.109	14.273	0.000*
Program X Type	2	1.168	5.363	0.005*
Planning/Evaluation Subscale				
Program	1	23.649	91.430	0.000*
Type	2	1.496	5.784	0.003*
Program X Type	2	0.653	2.523	0.081
Leadership Subscale				
Program	1	17.119	52.128	0.000*
Type	2	2.281	6.946	0.001*
Program X Type	2	2.072	6.309	0.002*
Critical Care Subscale				
Program	1	1.431	4.873	0.028*
Type	2	3.294	11.217	0.000*
Program X Type	2	0.961	3.271	0.039*

Table 11 (continued)

Source of Variation	df	Mean Square	F-Ratio	p Value
Interpersonal Relations/ Communications Subscale				
Program	1	7.113	40.187	0.000*
Type	2	1.604	9.061	0.000*
Program X Type	2	0.724	4.092	0.017*
Professional Development Subscale				
Program	1	13.678	70.445	0.000*
Type	2	1.819	9.368	0.000*
Program X Type	2	0.805	4.147	0.016*

Notes:

"Program" = ADN or BSN program of the graduates

"Type" = ADN, Diploma, or BSN, initial RN education of the Directors of Nursing

* = $p < 0.05$ level of significance

In examining the partitioning of the mean scores from the interaction portion of the Two-Way Analysis of Variance (reported in Table 12, p. 80-81), a pattern develops. The pattern is graphically displayed on Figure 1, on p. 82. With significant interaction on six of the seven measures (total scale score on the Six-D Scale, the Teaching/Collaboration subscale, the Leadership subscale, the Critical Care subscale, the Interpersonal Relationship/Communications subscale, and the Professional Development subscale), it appears that when Directors of Nursing received their initial "type" of Registered Nurse education in associate degree and diploma nursing programs, they rated associate degree and baccalaureate degree graduate preparation closely. When Directors of Nursing received their initial "type" of Registered Nurse education in a baccalaureate degree nursing program they rated the preparation of baccalaureate degree graduates markedly higher and associate degree graduates consistently lower. Although there was not significant interaction detected on the Planning/Evaluation subscale, the pattern also appears there.

Testing Hypothesis 3 was intended to test no difference between the ratings for the two "programs" of preparation for the new graduates, and among the three "types" of Registered Nurse education for the responding Directors of Nursing. However, Couch indicates: "When a

Table 12

MATRIX DISPLAYING VARIABILITY OF MEAN SCORES BY CELLS ON THE
 INTERACTION PORTION OF 2-WAY ANOVA
 ANALYZING GRADUATE "PROGRAM" SCORES BY DIRECTOR'S "TYPE"
 OF INITIAL RN EDUCATION
 (N=244, 5 cases missing data on "Type" of RN education of Directors)

Graduates "Program"		"Type" of Initial RN Programs			Ho Action	Level of Significance
Mean Score on Total Scale and Subscale		ADN (Diff.)	Diploma (Diff.)	BSN (Diff.)		
TSS	ADN	2.86	2.54	2.49	Reject	p = 0.003*
	BSN	(0.23)	(0.30)	(0.59)		
T/C	ADN	2.63	2.32	2.25	Reject	p = 0.005*
	BSN	(0.52)	(0.47)	(0.82)		
P/E	ADN	2.83	2.55	2.51	Accept	p = 0.081
	BSN	(0.31)	(0.41)	(0.64)		
L	ADN	2.71	2.37	2.27	Reject	p = 0.002*
	BSN	(0.18)	(0.31)	(0.73)		

Table 12 (con't)

CC	ADN	2.87 (0.14)	2.41 (0.10)	2.44 (0.31)	Reject	p = 0.039*
	BSN	2.73	2.51	2.75		
IP	ADN	3.01 (0.13)	2.73 (0.20)	2.69 (0.45)	Reject	p = 0.017*
	BSN	3.14	2.93	3.14		
PD	ADN	3.00 (0.26)	2.73 (0.28)	2.65 (0.57)	Reject	p = 0.016*
	BSN	3.26	3.01	3.22		

* = p < 0.05 level of significance

KEY: (Mean Scores On)

TSS = Total Scale Score

T/C = Teaching/Collaboration Subscale

P/E = Planning/Evaluation Subscale

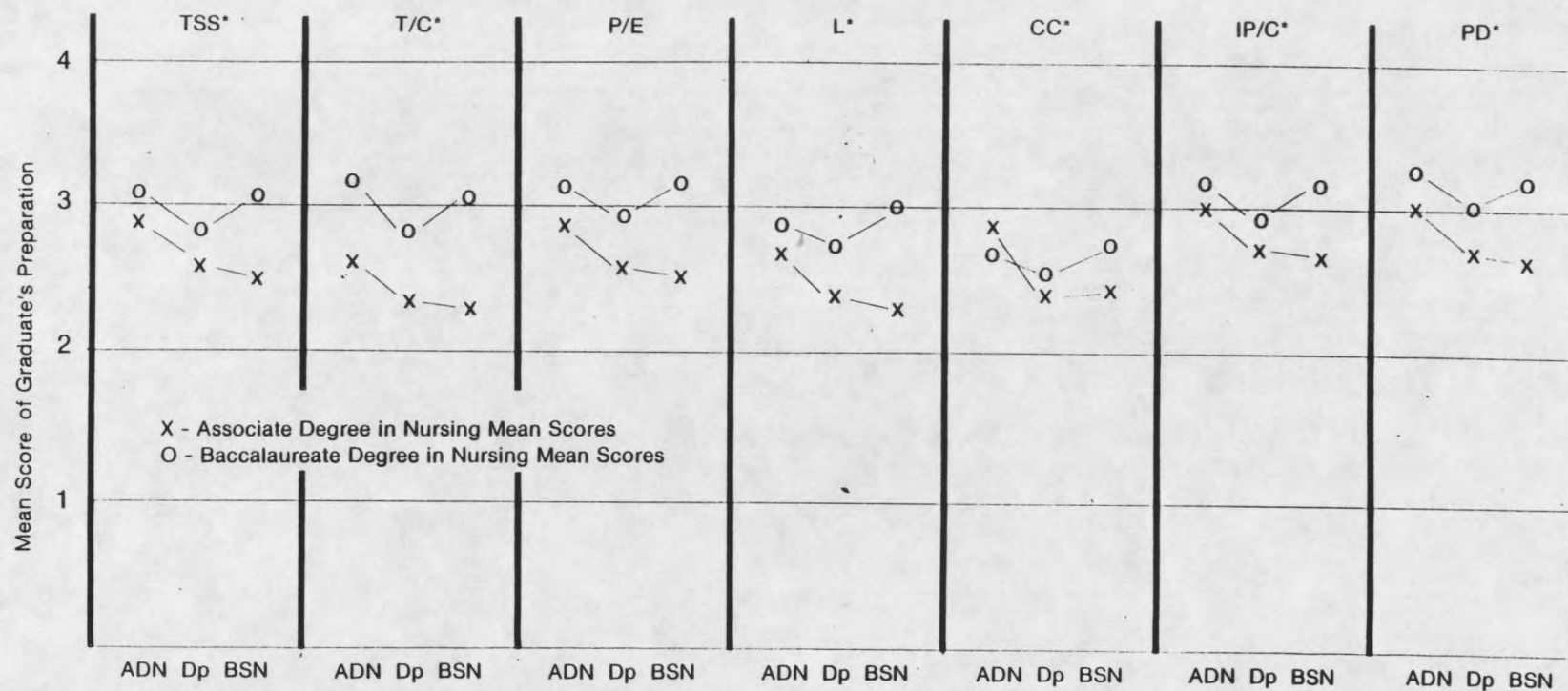
L = Leadership Subscale

CC = Critical Care Subscale

IP = Interpersonal Relations/Communications Subscale

PD = Professional Development Subscale

Figure -1
VARIABILITY OF THE MEANS FROM THE INTERACTION PORTION OF THE TWO-WAY ANALYSIS OF VARIANCE ON THE SIX-D SCALE AND EACH OF THE SIX SUBSCALES



SCALE CODES:

TSS - Total Scale Mean Score, Six-D Scale
T/C - Teaching/Collaboration Subscale
L - Leadership Subscale
CC - Critical Care Subscale
IP/C - Interpersonal Relations/Communication
PD - Professional Development Subscale

Initial RN Education of Directors:

ADN - Associate Degree in Nursing
Dp - Diploma in Nursing
BSN - Baccalaureate Degree in Nursing

* - Significant Interaction $p < 0.05$

two-way analysis of variance results in a significant interaction effect, the interpretation of any significant main effect is difficult, if not impossible" (1982, p. 296). Therefore, the testing and interpretation of Hypothesis 3 is omitted in this study. Although significant interaction was found it should be noted that baccalaureate degree nursing graduates received higher assessments by Directors of Nursing regardless of their preparation on all measures except when the Directors received their initial RN education in associate degree nursing programs. Those Directors rated the preparation of associate degree nursing graduates higher than baccalaureate degree nursing graduates on the Critical Care Subscale.

DESCRIPTIVE ANALYSIS: IDENTIFYING
AREAS OF COMPETENCY AND DEFICIENCY
IN THE PREPARATION OF ADN AND BSN
GRADUATES

This section presents an item analysis, grouped by subscale. The areas of competency and deficiency are identified in the preparation of new graduates from associate degree and baccalaureate degree nursing programs on the Six Dimension Scale of Nursing Performance (Schwirian, 1978). Due to the significant interaction identified in the previous section between the initial

"type" of Registered Nurse education of the responding Directors of Nursing and the ratings they gave ADN and BSN "program" graduates, the representativeness to real performance levels of these assessments is subject to question. With that qualification, the critical assessments provided by the Directors are presented.

The item response scale ranged from 1 = no preparation, through 2 = poor preparation and 3 = acceptable preparation, to 4 = very good preparation. A mean score of 2.5 represents an arbitrary neutral point. Mean scores were calculated on each item and arranged on tables for each subscale from highest mean score to lowest mean score. The item analysis is described in the text here, and refers to the tables of items in Appendix IV for associate degree program graduates and Appendix V for baccalaureate degree graduates.

Competencies and Deficiencies of
Associate Degree Graduates:

The responding Directors of Nursing assessed the preparation of associate degree graduates at or above the arbitrary neutral point (mean score = 2.5) on 34 of the 52 items in the Six Dimension Scale of Nursing Performance (Six-D Scale) (Schwirian, 1978).

Table 13 in Appendix IV presents the items composing the Teaching/Collaboration subscale of the Six-D Scale. In this particular subscale, Directors were critical of the preparation of associate degree graduates. Only two (2) of eleven (11) items were rated above the 2.5 arbitrary neutral point. The Directors thought associate degree graduates were marginally prepared to teach a patient's family about the patient's needs, and encourage the family to participate in the care of the patient. In descending order, the Directors were critical of the associate degree graduates abilities to:

- teach preventative health measures;
- use teaching aids and resource materials;
- identify and use resources within the health care agency;
- adapt teaching methods and materials to audience;
- promote the use of interdisciplinary resource persons;
- identify and use community resources in the plan of care;
- develop innovative methods for teaching patients;
- plan for integration of patient needs with family needs;
- communicating in writing;

In the area of Planning and Evaluation of Nursing Care (Appendix IV, Table 14) the Directors gave associate degree graduates mixed ratings of their preparation. The graduates were rated favorably in the areas identifying and including immediate patient needs in the care plans,

contributing to the plan of nursing care, developing a plan of care, and coordinating the plan of nursing care with the medical plan of care. The areas of less than adequate preparation were identifying and anticipating changes in patient's condition, evaluating the results of nursing care, and initiating planning and evaluation of care with others.

In the Leadership Subscale (Appendix IV, Table 15) the associate degree graduates only received one favorable assessment: that was remaining open to the suggestions of those under their direction. The remaining items in this subscale received a less than acceptable assessment. These included: accepting responsibility for the level of care provided by others under their direction, giving praise and recognition to those under their direction, delegating responsibility for care based on assessment of priorities of nursing care needs and the abilities/limitations of available health care personnel, and guiding other health team members in planning nursing care.

Assessing their preparation in the area representing Critical Care, (Appendix IV, Table 16) the associate degree graduates were generally rated favorably. The items rated above the neutral point were performing technical procedures and giving emotional support to the family of dying patients. Performing appropriate measures in emergency situations, performing nursing care required by

critically ill patients, and the item recognizing and meeting the emotional needs of a dying patient received neutral ratings. The item receiving less than acceptable ratings were using mechanical devices and functioning calmly and competently in emergency situations.

On the subscale measuring Interpersonal Relations/Communications (Appendix IV, Table 17) the Directors of Nursing rated the preparation of associate degree graduates consistently favorable. The highest mean score was given on the item seeking assistance when necessary. All other items ranged from a mean score of 3.0 to 2.6, except one, promoting the inclusion of patients concerning their care which was rated at the arbitrary neutral point.

On the Professional Development subscale (Appendix IV, Table 18) all items except one were also rated favorably with the mean scores ranging from 2.9 to 2.6. Displaying self-direction was the only item rating an arbitrary neutral score of 2.5 mean score.

Competencies and Deficiencies of
Baccalaureate Degree Graduates:

In general, responding Directors of Nursing rated the preparation of baccalaureate degree graduates favorably. The mean scores yielded 48 of 52 items that were above the 2.5 arbitrary neutral point.

The preparation of baccalaureate degree graduates on the Teaching/Collaboration subscale (Appendix V, Table 19) showed generally acceptable levels. Of the eleven (11) items on the subscale only one (1) was rated below the arbitrary neutral point of 2.5. The one item with a mean score of 2.4 was item number 38, communicating facts, ideas and professional opinions in writing to patients and families. The remaining ten items ranged from a mean score of 3.3 to 2.8, indicating acceptable preparation.

The Planning/Evaluation subscale (Appendix V, Table 20) also rated consistently acceptable levels of preparation for the baccalaureate degree graduates. All seven items were rated above the neutral point, with mean scores ranging from 3.2 to 2.8.

In the area of Leadership (Appendix V, Table 21) the baccalaureate degree graduates received slightly less favorable ratings but were still positive overall. All five (5) items in the Leadership subscale were above the neutral point.

In the Critical Care subscale (Appendix V, Table 22) the preparation of baccalaureate degree graduates was rated as less adequate by Directors of Nursing. Four of seven items were rated above the 2.5 arbitrary neutral point. These were: giving emotional support to families of dying patients, recognizing and meeting the emotional needs of

dying patients, performing nursing care required by critically ill patients, and performing appropriate measures in emergency situations. The three items receiving less than acceptable preparations assessment were performing technical procedures, using mechanical devices, and functioning calmly and competently in emergency situations.

On the Interpersonal Relations/Communications subscale (Appendix V, Table 23) all twelve (12) items were rated at or close to an acceptable level. The mean item scores ranged from 3.2 to 2.8 indicating that in this area baccalaureate graduates had a generally acceptable level of preparation.

The Professional Development subscale (Appendix V, Table 24) was also rated quite favorably. All ten items were rated by the Directors to be above the neutral point of 2.5. The range of the mean items ran from 3.3 to 2.8, indicating this area of baccalaureate graduate preparation was generally an acceptable level of preparation.

REVIEW OF WRITTEN COMMENTS

The last page of the survey tool provided space for the Directors of Nursing to comment on the topic being studied: the preparation of new graduates of associate degree and baccalaureate degree nursing programs. Of the 249 questionnaires used for the analysis of data, 87 Directors of Nursing exercised this option to express their thoughts. To summarize this added information, these comments have been grouped into four major topic areas plus a last, small group of miscellaneous comments.

The first major group (27 of 87), indicated they thought that individual characteristics of the graduates made much more difference than the program from which they graduated. Many Directors commented, for both types of graduates, that in all areas, the individual's motivation, intellectual abilities and enthusiasm made the greatest contribution to the level of preparation they displayed. Other Directors indicated this same theme was most evident in the subscales for Professional Development and Interpersonal Relations/Communications.

The second major group of comments (18 of 87), centered around the graduates' lack of clinical preparation. Numerous Directors indicated that new graduates need a prolonged, supervised orientation period

before they could function independently in the hospital setting. Summarizing, Directors thought that all graduates of ADN and BSN programs needed "more hands-on experience", "more technical practice with equipment and procedures", and "a more realistic hospital experience to aid in priority setting".

The third group (18 of 87) indicated through their comments that they indeed perceived differences between the levels of graduates. The Directors felt that baccalaureate graduates had superior theoretical and cognitive skills preparation. Further, they also were better prepared for leadership roles and working through others in interpersonal relations skills. Associate degree graduates were complimented on their ability to use "more common sense approaches" to problems, but generally they were criticized for the protracted length of orientation needed. A large contingent group within this general group remarked that baccalaureate degree graduates had a much more difficult time adjusting to "real world" nursing; however, after approximately one year, they could draw on their superior theoretical and cognitive skills preparation to develop and grow at a faster rate.

The fourth group (7 of 87) indicated generally they saw very little difference between the two levels of graduates. A common description was that after a lengthy

orientation period (occasionally longer for ADN graduates) both types functioned very well in the hospital setting, and any early differences disappeared.

The final group (17 of 87) contained a broad range of different themes. Two Directors indicated they lamented the passing of diploma type nursing programs, as these graduates best suited the needs for hospital nursing. A small group identified other combinations of nurses being prepared; for example, LPN's and RN's (from ADN and Diploma programs) returning to school and coming out as much stronger practitioners, and the important impact that some previous hospital work experience has on the abilities of all graduates. Another small group criticized the transfer of learning to practice in that graduates frequently no longer "use the nursing process", "develop and apply nursing care plans", or "apply their theoretical background to practice of nursing and working cooperatively with other health care workers".

SUMMARY

This chapter presented the analysis of the data. Of the stratified random sample of 329 Directors of Nursing in selected hospitals, from thirteen (13) midwestern states, 293 (89 percent) returned questionnaires. Forty-four (44) returned questionnaires were not usable for analysis because of the hospitals not recently employing new ADN or BSN graduate nurses, questionnaires being less than 80 percent complete, or refusal to complete the questionnaire. Two-hundred and forty-nine (249) questionnaire responses were entered into a computer for compiling the data, which represents a 76 percent usable return rate. This amount was used to test Hypothesis 1 and generate the item analysis. Five (5) cases were lost due to the responding Directors failing to complete the demographic portion of the questionnaire. Thus, 244 cases were used for the testing of Hypothesis 2, which represents a 74 percent usable return rate.

Hypothesis 1: The number of items on the Six Dimension Scale of Nursing Performance (Six-D Scale) (Schwirian, 1978) on which baccalaureate degree nursing program graduates were rated higher than associate degree graduates was equal to the number of items that associate degree graduates were rated higher than baccalaureate

degree graduates. This hypothesis was tested by comparing median scores on each item and applying a Sign Test, and this hypothesis was rejected.

Hypothesis 2: There was no interaction between the "type" of initial Registered Nurse education of the responding Directors of Nursing and the rating they gave the preparation of the graduates of associate degree and baccalaureate degree nursing "programs". This hypothesis was tested using a Two-Way Analysis of Variance on the total scale mean scores on the Six-D Scale, and each of the six (6) subscales. There was significant interaction on six of the seven measures, therefore, the hypothesis was rejected on the total scale average score of the Six-D Scale, and five of the subscales. The Planning/Evaluation subscale hypothesis did not have significant interaction and the no interaction hypothesis was accepted. In the presence of significant interaction, any significant differences on main effects can not be interpreted, so Hypothesis 3 was not examined. Although significant interaction was found it should be noted that baccalaureate degree nursing graduates received higher assessments by Directors of Nursing regardless of their preparation on all measures except when the Directors received their initial RN education in associate degree nursing programs. Those Directors rated the preparation of associate degree nursing

graduates higher than baccalaureate degree nursing graduates on the Critical Care Subscale.

Finally, an item analysis was done of the associate degree and baccalaureate degree nursing program preparation of graduates. The associate degree graduates received a generally positive assessment with 34 of 52 items rated above the arbitrary neutral point of 2.5 mean score. The items comprising the Interpersonal Relations/Communications and Professional Development subscales all were rated above the 2.5 mean neutral point. Several items in the Teaching/Collaboration, Planning/Evaluation, Leadership and Critical Care subscales were identified as areas of less than acceptable preparation.

The item analysis for baccalaureate degree graduates was much more positive with 48 of 52 items rated above the arbitrary neutral point of 2.5. The areas of deficiency included Critical Care subscale items (technical skills) and one item on the Teaching/Collaboration subscale. All other subscales were rated positively.

This item analysis was presented to display the critical assessments of Directors of Nursing. However, the qualification must be made that significant interaction was detected between the initial "type" of Registered Nurse education of the Directors of Nursing and the way they rated the preparation of the ADN and BSN graduates on six of the seven measures.

Chapter 5

Summary of the Study, Discussion of the Findings,
Conclusions and Recommendations

SUMMARY OF THE STUDY

This study asked Directors of Nursing to assess the preparation of associate degree nursing graduates and baccalaureate degree nursing graduates. A stratified random sample of 329 hospitals was selected in the thirteen (13) midwestern states represented in the Midwest Alliance in Nursing. The Directors in the selected hospitals were asked to complete the Six Dimension Scale of Nursing Performance (Schwirian, 1978) to assess the preparation of both "programs" of graduates. The data were gathered in December 1983 and January 1984, then analyzed to answer the following questions:

1. Do Directors of Nursing Service assess the preparation of associate degree and baccalaureate degree nursing graduates differently?
2. Is there any interaction between the assessment of associate degree and baccalaureate degree nursing program graduates preparation by Directors of Nursing Service, and the Directors' initial "type" of Registered Nurse education?

3. What are the areas of deficiency and competency in the preparation of graduates of associate degree nursing programs?
4. What are the areas of deficiency and competency in the preparation of graduates of baccalaureate degree nursing programs?

In the thirteen (13) state region represented by the Midwest Alliance in Nursing, there are 2111 hospitals listed in the directory published by the American Hospital Association (1981b). According to Krejcie and Morgan's (1970) article on determining sample size, a sample of 325 would be required to be representative of a population of approximately 2100 with level of accuracy of proportion equal to 0.05. Utilizing the directory listing, a stratified by state, random sample (a 15.4 percent proportion of each state's hospital listing) of 329 hospitals was selected. The Directors of Nursing of these selected hospitals were asked to assess the preparation of associate degree and baccalaureate nursing program graduates utilizing the Six Dimension Scale of Nursing Performance (Schwirian, 1978).

A survey methodology for questionnaire design, seven week pilot study design, and finally a four-stage, seven week survey design of an initial mailing with three follow-up steps were followed (Dillman, 1978). At the outset, this researcher was expecting a minimum of a 75 percent

return rate. At the completion of the seven week follow-up process and subsequent waiting period, 293 responses had arrived for an 89 percent return rate. Two-hundred and forty-nine (249) respondents completed the questionnaires correctly and at least 80 percent complete, for a usable return rate of 76 percent. Forty-four (44) respondents had sent back questionnaires that were not usable for analysis in this study. Losses were due to questionnaires being less than 80 percent complete, refusal to participate or frequently the selected hospital did not have new graduates of either associate degree or baccalaureate degree nursing programs employed at their hospital in the recent past.

The questionnaire was set up utilizing Schwirian's Six Dimension Scale of Nursing Performance (1978). The scale was adapted for this study to a four point rating scale assessing the preparation of the respective graduates. Appendix III has copies of the letters requesting and granting permission to use and adopt this tool for this study. This 52-item tool generates one total scale score, and six subscale scores for:

1. Leadership (L)
2. Critical Care (CC)
3. Teaching/Collaboration (TC)
4. Planning/Evaluation (PE)
5. Interpersonal Relationships/Communications (IP)
6. Professional Development (PD)

Schwirian established the content and construct validity of this instrument during the construction phase. A later study established criterion-related validity by having new graduate nurses rate themselves, immediate supervisors rate the graduates, and a last group of nursing school directors identify the more promising and most promising students of the group. All of these data were analyzed with a high degree of agreement. Using Cronbach's alpha, Schwirian reported a range of reliability coefficients from 0.844 to 0.978 (1978, p. 350). This researcher had modified Schwirian's unbalanced scale to a balanced scale from one equal to "no preparation", through two equal to "poor preparation"; three equal to "acceptable preparation" and four equal to "very good preparation". No neutral response choice was provided; however, an item mean score of 2.5 was established as an arbitrary neutral point.

Three statistical hypotheses were developed for testing in this study. These hypotheses were:

1. The number of items on which baccalaureate degree nursing graduates were rated higher than associate degree graduates were equal to the number of items on which associate degree graduates were rated higher than baccalaureate degree graduates, as measured by the Six Dimension Scale of Nursing Performance (Six-D Scale) (Schwirian, 1978).

2. There is no interaction between the initial "type" of Registered Nurse education of the Directors of Nursing and their assessment of the preparation of associate degree and baccalaureate degree nursing "program" graduates as measured by the Six-D Scale and each of it's six subscales.
3. There is no difference between the assessments of the preparation of associate degree and baccalaureate degree nursing "program" graduates by midwestern Directors of Nursing, and among the different "types" of initial Registered Nurse education programs of the Directors of Nursing as measured by the Six-D Scale and each of it's six subscales.

The Statistical package for the Social Sciences (SPSS-X, 1983) was used for compiling and analyzing the data, testing hypotheses and developing an item analysis on the usable responses. Hypothesis 1 was tested by calculating median item scores for each type of program (ADN and BSN) and a Sign Test was run to test "no difference" at the 0.05 level of significance. Hypotheses 2 and 3 were tested, also at the 0.05 level of significance, using a Two-Way Analysis of Variance (2-Way ANOVA). Finally, a descriptive item analysis was done to identify specific areas of competency and deficiency of graduates of associate degree and baccalaureate degree nursing programs within each subscale.

DISCUSSION OF THE FINDINGS

Hypothesis 1 examined the Six Dimension Scales of Nursing Performance (Six-D Scale) (Schwirian, 1978) to determine if the number of items where baccalaureate degree graduates were rated higher was equal to the number of items where associate degree graduates were rated higher. Utilizing a non-parametric Sign Test this hypothesis was rejected. This test indicated that baccalaureate degree graduates were rated higher on more items at a significant level ($p < 0.05$). This type of finding supports differences found by Stanton (1982), Reichrow and Scott (1976), Howell (1978), Zarrett (1980), Chaming and Teevan (1979), Jacobs (1980), Bullough and Sparks (1975) and Gray (1977), all indicating that baccalaureate degree graduates are prepared differently and/or better than associate degree graduates.

Hypothesis 2 stated that there was no interaction between the initial "type" of Registered Nurse education of the Director of Nursing and the ratings they gave the preparation of associate degree and baccalaureate degree nursing "program" graduates. This hypothesis was tested using a Two-Way Analysis of Variance on the total score on

the Six-D Scale and each of its six subscales. This hypothesis was rejected on six of the seven measures (the total scale score, the Teaching/Collaboration subscale, the Leadership subscale, the Critical Care subscale, the Interpersonal Relations/Communications subscale and the Professional Development subscale). The hypothesis was accepted on the Planning/Evaluation subscale. When examining the variability of the means on a matrix table and graph for the six significant measures the pattern was consistent. When Directors of Nursing received their initial "type" of Registered Nurse education in associate degree or diploma nursing programs they rate the two graduate "programs" closely. When the Directors received their initial "type" of Registered Nurse education in baccalaureate nursing programs, they rated the baccalaureate graduate's preparation markedly higher and associate degree graduates consistently lower. Although significant interaction was found it should be noted that baccalaureate degree nursing graduates received higher assessments by Directors of Nursing regardless of their preparation on all measures except when the Directors received their initial RN education in associate degree nursing programs. Those Directors rated the preparation of associate degree nursing graduates higher than baccalaureate degree nursing graduates on the Critical Care Subscale.

The finding of significant interaction contradicts Stanton's (1982) findings in Colorado, examining immediate supervisor ratings of associate degree and baccalaureate degree performance on a similar performance scale. In her analysis, Stanton claimed that position and education did not affect how the raters evaluated the new graduates.

Waters (1972) studied the technical versus professional nursing practice in the clinical setting using observers, and interviewing Head Nurses and Directors of Nursing. Observers identified technical level nursing practice in all associate degree graduates, but were able to identify professional level nursing practice in only 6 of 24 baccalaureate graduates. During the interviewing process both Head Nurses and Directors of Nursing indicated that baccalaureate graduates practice nursing at a professional level and were different from associate degree graduates.

In employer preference surveys Reichow and Scott (1976), Howell (1978), and Zarrett (1980) found that Hospital Administrators and Directors of Nursing rated baccalaureate degree graduates higher than associate degree graduates. Studies done by Smith (1965), Dickerson (1975), Stark (1978), and Schuyer (1983) tried to delineate differences in what was valued in a new nurse practitioner between nurse educators and nursing service administrators. They were able to identify differences between what educators thought was important and what administrators

thought was important, but could not get agreement on differences between associate degree and baccalaureate degree graduates' levels of practice.

With the exception of Stanton's (1983) study, all of the above studies did not examine the background of the respondents regarding their initial Registered Nurse education and the way they rated the different types of new graduates. Although Waters (1972) did indicate Directors of Nursing were more inclined than Head Nurses to rate associate degree and baccalaureate degree graduates differently.

Hypothesis 3 was intended to test no difference between the assessments of the preparation of associate degree and baccalaureate degree nursing "program" graduates, and among the different "types" of initial Registered Nurse education of the responding Directors of Nursing. This hypothesis was not tested and examined as the differences in main effects is difficult or impossible to interpret in the presence of significant interaction. Only the Planning/Evaluation subscale score did not exhibit a significant level of interaction. The total scale score and the other five subscales scores did have significant interaction. Even on the Planning/Evaluation subscale the same pattern of baccalaureate degree graduate preparation being rated markedly higher by baccalaureate prepared Directors of Nursing was evident. Therefore, the

significant differences on this subscale of the main effects also would be difficult to interpret.

The item analysis was conducted to identify specific areas of competency/deficiency of the respective (ADN and BSN) graduates preparation. The analysis was done by ranking items within a subscale by mean scores (Appendix IV for ADN graduates and Appendix V for BSN). The preparation of associate degree graduates was analyzed first. Overall, the graduates' preparation was rated positively with 34 of the 52 item Six-D Scale rated above the arbitrary neutral point of 2.5 on a 4 point scale (1 low to 4 high). There were no areas of outright excellence in preparation, in that all item mean scores ranged from a high of 3.1 to several items right at 2.5. The mean score of 3.00 was the response category identified as "acceptable preparation". Two (2) of the six (6) subscales had ratings of 2.5 or higher on all items. Associate degree graduates' preparation was rated positively on the Interpersonal Relations/Communications (Range 3.1 to 2.5) and the Professional Development (Range 3.0 to 2.5) subscales. The remaining four subscales had areas of deficiency identified with item mean scores below the 2.5 arbitrary neutral point. On the Critical Care subscale (Range 2.6 to 2.3) two items were rated below the neutral point. These areas of deficiency were using mechanical devices and functioning calmly in emergency situations. The Planning/Evaluation

subscale (Range 2.8 to 2.4) had three items rated below the arbitrary neutral point. These items included initiation of nursing care plans, evaluating nursing care plans and anticipating changes in patient condition as part of the planning process. The remaining two subscales, Teaching/Collaboration and Leadership were the areas of preparation that associate degree graduates were rated the most critically. In the Teaching/Collaboration subscale (Range 2.6 to 2.0) nine of eleven (9 of 11) items were rated below the 2.5 arbitrary neutral point. The only two positive items related to teaching families about the patients' needs and encouraging family participation in care. The areas of deficiencies include such things as utilizing additional resources, adapting and innovating approaches, and communicating in writing. The final area discussed was the Leadership subscale (Range 2.6 to 2.3), in which only one item was rated above the 2.5 neutral point. The areas of deficiency related specifically to the items supervisory in nature. The one positive evaluation was on remaining open to suggestions of subordinates and using them appropriately. The areas of deficiency are consistent with Cicatiello's (1974) findings. Other researchers, Smith (1975), Dickerson (1975), Stark (1978), Burnside (1974) and Schroeder (1981), studying the necessary competencies of beginning practitioners, generally described all these areas as essential.

The preparation of baccalaureate degree graduates was analyzed next, and overall their preparation was rated much more positively. Forty-eight (48) of the 52 items on the Six-D Scale were rated at 2.5 or above on a 4 point scale (1 low to 4 high). With an item mean score of 2.5 equal to the arbitrary neutral point and 3.0 equal to acceptable preparation, the preparation of baccalaureate degree graduates did not receive any outstanding ratings. The range of the 52 items on the Six-D Scale went from a low of 2.4 to a high of 3.3. The preparation of baccalaureate degree graduates was rated positively on four (4) of the six (6) subscales: Professional Development (Range 3.2 to 2.8), Interpersonal Relations/Communications (Range 3.2 to 2.8), Planning/Evaluation (Range 3.2 to 2.8), and Leadership (Range 2.8 to 2.7). On the Teaching/Collaboration subscale (Range 3.3 to 2.4) the baccalaureate degree graduates were rated favorably except on one item. This item was the ability to communicate in writing identified as a deficiency. The remaining subscale that was rated with deficiency areas was the Critical Care subscale (Range 2.9 to 2.4). Three (3) items rated as deficient were performing technical procedures, using mechanical devices, and functioning calmly in an emergency situation. The other four (4) items were rated more favorably (Range 2.6 to 2.9). These types of findings were

consistent with Schroeders' (1981) findings that technical areas are deficient in baccalaureate graduates.

Other researchers, however, frequently identified weaknesses in baccalaureate degree graduates that were not found in this study. Waters (1972), for example, found that only one-third (1/3) of their sample of baccalaureate graduates functioned at the defined professional level. Howell (1978) and Zarrett (1980), in surveying employer preferences, identified areas that baccalaureate degree graduates were rated lower than diploma graduates. These areas include leadership areas, using nursing process skills (similar to Planning/Evaluation subscale of this study), and some professional development areas. Professional attributes identified in nursing literature lead one to believe that these kinds of areas are the ones in which baccalaureate degree graduates should excel. The results of this study through the subscale item analysis would indicate these areas are adequate in their preparation of baccalaureate degree graduates.

The final step in the data analysis was to review the written comments added by 85 of the responding Directors of Nursing. The largest group of comments indicated that the individual graduates and their specific characteristics contributed to much more variation in preparation and practice than did the program from which they graduated. This kind of evaluation was consistent with the findings of

the American Journal of Nursing's (1969) study, Mieleis and Farrell (1974), Zarrett's (1980) portion of the study analyzing state board examination scores, and McQuaid and Kane (1979). The second major group, 17 of 79, indicated both types of graduates were deficient in the area of clinical (technical) skills, and required lengthy orientation. This would support similar findings of the American Journal of Nursing (1969), Cicatiello (1974) and Schroeder (1981). Finally, there were mixed reviews in the written comments about "real differences" between the types of graduates. One group indicated they saw differences (18 of 79) and others indicated they saw very little difference (7 of 79).

CONCLUSIONS

This study demonstrated that baccalaureate degree graduates were rated higher than associate degree graduates on more of the 52 items on the Six Dimension Scale of Nursing Performance (Six-D Scale) (Schwirian, 1978). However, upon conducting a Two-Way Analysis of Variance examining the initial "type" of Registered Nurse education of the responding Directors of Nursing and the ratings they gave the preparation of associate degree and baccalaureate nursing program graduates, a definite pattern of interaction was demonstrated. On six of seven measures there was significant interaction between the Director's initial

"type" of RN education and the way they rated the two "program" graduates. In displaying the variability of the mean scores on these six scales on a graph the pattern was consistent. When Directors received their initial RN education in associate and diploma nursing programs they rated the preparation of associate degree and baccalaureate degree nursing program graduates closely. When the Directors received their initial RN education in a baccalaureate degree program they rated the preparation of BSN graduates markedly higher and ADN graduates consistently lower. This pattern occurred also on the Planning/Evaluation subscale, but to a lesser extent and the level of interaction was not significant. With this level of interaction, then, it becomes difficult to determine if any differences between associate degree and baccalaureate degree graduates preparation are the result of real differences or sample bias.

This study was conducted over a large geographical area, with a large representative sample and an 89 percent return rate on the survey method. Therefore, it is highly probable that the demonstrated sample interaction reflects the attitudes of the Directors of Nursing within the thirteen represented midwestern states. This finding, if true, sheds considerable question on the validity of the studies done by the American Journal of Nursing (1969), Reichow and Scott (1976), Howell (1978), Zarrett (1980),

Dickerson (1975), Stark (1978), Cicatiello (1974), and Burnside (1974), all of which used Directors of Nursing as their sources of information without examining their educational background and/or bias related to their background. Other studies that utilized immediate supervisors as information sources such as McCloskey's (1983), Smith's (1965), and Schuyer's (1983) may also be subject to question for the same reason.

The descriptive item analysis portion of this study and the review of written comments are presented in this study as the critical assessment of leaders in the nursing service community. However, the qualification must be made that this information reflects the attitudes of the Directors of Nursing related to the initial "type" of Registered Nurse education of the Directors and may not reflect real levels of preparation of the graduates. Generally, both types of graduates were rated positively but the majority of the items had mean scores that ranged from 2.5 to 3.0. This area represents the arbitrary neutral point to "acceptable preparation". No items for either program approached a mean item score of 4.0, which would have indicated "very good preparation".

RECOMMENDATIONS FOR NURSING
EDUCATORS

Based on the findings of this study, recommendations to nursing educators would include:

1. A study should be conducted to assess the need for two levels of nursing education. The assessment generated in this study indicates baccalaureate degree graduates are better prepared to practice nursing than associate degree graduates but their preparation is not distinctly different. In all areas of performance measured by the Six Dimension Scale of Nursing Performance (Schwirian, 1978), the assessment mean scores were very close for both types of graduates. If the nursing profession desires two distinct levels of nurse preparation than they should be reflected by two distinct levels of performance.
2. All aspects of both nurse preparation programs require some strengthening as no areas in this study rated markedly higher than "acceptable preparation" for both baccalaureate and associate degree graduates. Particular attention needs to be directed toward the areas of use of mechanical devices, performance of technical procedures in

patient care, handling of emergency situations and communicating in writing.

3. Associate degree nursing programs, educators should strengthen the preparation in patient teaching skills, beginning supervisory/leadership abilities and nursing care planning/evaluation.
4. Baccalaureate degree nursing programs, educators should strengthen all areas, peculiar to the level of "professional nursing practice", so that employers can expect a superior level of performance in these areas.
5. Both associate degree and baccalaureate degree nursing program educators can use the descriptive portion of this study, Appendices IV for Associate Degree Programs and V for Baccalaureate Degree Programs in the analysis, evaluation and revision of their curricula. However, it must be acknowledged that these data reflect attitudes of Directors of Nursing related to their initial RN education and may not be real deficiencies and/or competencies in the ADN and BSN graduates.
6. The promotion and implementation of two plus two nursing programs where a student receives the technical portion of nursing education in an associate degree program than progresses to the professional component in a baccalaureate degree

program should be given serious consideration. This type of structure would more likely enhance the distinction between technical level and professional level nursing.

RECOMMENDATIONS FOR FURTHER RESEARCH

Based on the outcome of this study, recommendations for further research would include:

1. Replicating this study on a different sample to verify the accuracy and patterns of the findings of this study.
2. Replicating this study but gathering assessment data for associate degree graduate and baccalaureate degree graduates on separate samples, to rule out the instrument contributing to any identified differences. This recommendation could be implemented by selecting separate samples to assess the preparation of BSN and ADN graduates.
3. Replicating this study and gathering additional accurate demographic data on respondents such as, continuing formal education level, years as a Registered Nurse, years as a Nursing Administrator, gender, type of "other discipline" education, etc. to analyze if these factors

interact with the assessment of preparation given to graduates.

4. Using other research methods, such as surveying immediate supervisors, self-ratings of graduates, direct observation of new graduates, longitudinal studies of graduates, and measurements with multiple tools, to determine adequacy of preparation and differences in preparation of the two types of graduates.

5. Finally, research in the "real world" of nursing practice needs to be done to determine if there is a real need for two levels (technical/professional) of nursing practice and if there is, what are the characteristics peculiar to those two levels? Research utilizing content analysis of job descriptions, patient care needs assessments, objective surveys, and evaluation of job performance by outside independent evaluators should be conducted.

6. Studies should be done at later stages of the nurses' careers. As currently both types of nurses enter and practice nursing at the same level, longitudinal studies and ex post facto studies at several years increments would be useful to determine if technical-professional distinctions manifest themselves in later years.

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APPENDICES

APPENDIX I

Samples of Cover Letters to
Accompany the Questionnaire

- A: Initial Mailing
- B: First Week Postcard Reminder
- C: Third Week Follow-up with
Replacement Questionnaire
- D: Seventh Week Follow-up
Letter with
Replacement Questionnaire

A.

Room 10E, Learning Resources Bldg.
Department of Baccalaureate Nursing
Northern Michigan University
Marquette, MI 49855

Director of Nursing
Address

Dear Director:

There has been an increasing call from nursing service representatives to have input into nursing education and the quality of the different types of graduate nurses coming out of programs associated with colleges and universities. The purpose of this research project is to enable nursing service experts to assess graduates of associate degree and baccalaureate degree nursing education programs.

Your institution is one of a representative number of nursing services selected to assess the deficiencies and competencies of the two types of graduates (ADN and BSN). You were selected in a stratified random sample of hospitals within the thirteen state region of the Midwest Alliance in Nursing (MAIN). In order for the results to be truly representative of nursing services' evaluation of nursing education, it is important that each questionnaire be completed and returned. The questionnaire will take about fifteen to thirty minutes for completion.

You may be assured of complete confidentiality. The questionnaire has an identification number for mailing purposes only. This is so your name can be checked off the mailing list when the questionnaire is returned. Your name will never be placed on the questionnaire.

The results of this research project will be used to complete the requirements for this doctoral candidate and a copy of the completed study will be sent to the Midwest Alliance in Nursing (MAIN). You may receive a summary of the results by completing the "Copy of results requested" postcard provided inside the questionnaire booklet. Please do not put this information on the questionnaire itself.

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I would be most happy to answer any questions you might have. Please write or call. My phone numbers are: Office (906) 227-2487, and Home (906) 345-9589.

Thank you for your assistance.

Sincerely,

Daniel J. Nicholls R.N., M. Ed.
Doctoral Candidate

(B)

(Date)

Last week a questionnaire seeking your evaluation of nursing education's preparation of new graduate nurses was mailed to you. Your name and institution was selected as one of a stratified random sample of hospitals in the thirteen state region of the Midwest Alliance in Nursing (MAIN).

If you have already completed and returned it to me, please accept my sincere thanks. If not, I would appreciate your completing and returning the questionnaire at your earliest convenience. Because it has been sent to only a small, but representative, sample of directors of nursing service, it is extremely important that yours also be included in the study if the results are to accurately represent the opinions of nursing service experts.

If by some chance you did not receive the questionnaire, or it got misplaced, please call me and I will get another to you in the mail today. Telephone numbers: Office: (906) 227-2487, or Home: (906) 345-9589.

Sincerely,

Daniel J. Nicholls, R.N., M.Ed.

(C)

Room 10E, Learning Resources Bldg.
Department of Baccalaureate Nursing
Northern Michigan University
Marquette, MI 49855

Addressee: Director of Nursing
Address

Dear Director:

I am writing to you about my study of nursing services evaluation of nursing education's preparation of new graduate nurses. As I have not yet received your completed questionnaire, I am writing you again.

This research project was undertaken to evaluate the deficiencies and competencies of both associate degree and baccalaureate degree nursing education programs. The results will be used to complete requirements for a doctoral degree and a copy will be sent to the Midwest Alliance in Nursing (MAIN).

I am writing to you again because of the significance each questionnaire has to the usefulness of this study. Your institution was selected through a stratified random sample process of hospitals within the thirteen state region of the Midwest Alliance in Nursing (MAIN). This means that one in every ten (1 of 10) hospitals was selected. In order for the results of this study to be truly representative of the opinions of directors of nursing service, it is essential that each person in the sample return their questionnaire.

In the event your questionnaire has been misplaced, a replacement is enclosed.

Your cooperation is greatly appreciated.

Sincerely,

Daniel J. Nicholls, R.N., M. Ed.
Doctoral Candidate

(D)

Room 10E, Learning Resources Bldg.
Department of Baccalaureate Nursing
Northern Michigan University
Marquette, MI 49855

January 23, 1984

Dear Director:

I am writing to you about my research project to evaluate the deficiencies and competencies of both associate degree and baccalaureate degree nursing education programs. I have not yet received your completed questionnaire.

The number of questionnaires returned is very encouraging. But whether I will be able to describe accurately the opinions of directors of nursing service depends upon you and the others who have yet responded. Literature suggests that those of you that have not yet sent in your questionnaire may hold quite different opinions from those who have already responded.

The research project is a regional study to evaluate the performance of nursing education in institutions of higher education. The usefulness of the results depends on how accurately I am able to describe directors of nursing service opinions on this subject.

It is for these reasons that I am sending this third and last mailing. In case my other correspondence did not reach you, a replacement questionnaire is enclosed. May I urge you to complete and return it as quickly as possible.

Your contribution to the success of this study will be greatly appreciated.

Sincerely,

Daniel J. Nicholls, R.N., M.Ed.
Doctoral Candidate

Enclosures

APPENDIX II

Content of the Six Dimension
Nursing Performance Scale

Directions: Please circle one number in each column, one for ADN programs and one for BSN programs, that indicates most nearly your assessment of new graduate nurse preparation.

1. Teach a patient's family members about the patient's needs.

GRADUATES OF
ADN
PROGRAMS

GRADUATES OF
BSN
PROGRAMS

(Circle One)

(Circle One)

1

1

NO PREPARATION

2

2

POOR PREPARATION

3

3

ACCEPTABLE PREPARATION

4

4

VERY GOOD PREPARATION

2. Coordinates the plan of nursing care with the medical plan of care.

GRADUATES OF
ADN
PROGRAMS

GRADUATES OF
BSN
PROGRAMS

(Circle One)

(Circle One)

1

1

NO PREPARATION

2

2

POOR PREPARATION

3

3

ACCEPTABLE PREPARATION

4

4

VERY GOOD PREPARATION

3. Gives praise and recognition for achievement to those under their direction.

GRADUATES OF
ADN
PROGRAMS

GRADUATES OF
BSN
PROGRAMS

(Circle One)

(Circle One)

1

1

NO PREPARATION

2

2

POOR PREPARATION

3

3

ACCEPTABLE PREPARATION

4

4

VERY GOOD PREPARATION

4. Teaches preventive health measures to patients and their families.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

5. Identifies and uses community resources in developing a plan of care for a patient and his family.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

6. Identifies and includes in nursing care plans anticipated changes in a patient's conditions.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

7. Evaluates the results of nursing care.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

8. Promotes the inclusion of patient's decisions and desires concerning care.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

9. Develops a plan of nursing care for patient.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

10. Initiates planning and evaluation of nursing care with others.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

11. Performs technical procedures, e.g. oral suctioning, tracheostomy care, intravenous therapy, catheter care, dressing changes.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

12. Adapts teaching methods and materials to the understanding of the particular audience: e.g. age of patient, educational background, and sensory deprivations.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

13. Identifies and includes immediate patient needs in the plan of nursing care.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

14. Develops innovative methods and materials for teaching patients.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

15. Communicates a feeling of acceptance of each patient and a concern for the patient's welfare.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

16. Seeks assistance when necessary.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

17. Helps a patient communicate with others.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

18. Uses mechanical devices: e.g. suction machines, Gomcos, cardiac monitor, respirators.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

19. Gives emotional support to family of dying patient.

GRADUATES OF
ADN
PROGRAMS

GRADUATES OF
BSN
PROGRAMS

(Circle One)

(Circle One)

1
2
3
4

1
2
3
4

NO PREPARATION
POOR PREPARATION
ACCEPTABLE PREPARATION
VERY GOOD PREPARATION

20. Verbally communicates facts, ideas, and feelings to other health team members.

GRADUATES OF
ADN
PROGRAMS

GRADUATES OF
BSN
PROGRAMS

(Circle One)

(Circle One)

1
2
3
4

1
2
3
4

NO PREPARATION
POOR PREPARATION
ACCEPTABLE PREPARATION
VERY GOOD PREPARATION

21. Promotes the patient's right to privacy.

GRADUATES OF
ADN
PROGRAMS

GRADUATES OF
BSN
PROGRAMS

(Circle One)

(Circle One)

1
2
3
4

1
2
3
4

NO PREPARATION
POOR PREPARATION
ACCEPTABLE PREPARATION
VERY GOOD PREPARATION

22. Contributes to an atmosphere of mutual trust, acceptance, and respect among other health team members.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

23. Delegates responsibility for care based on assessment of priorities of nursing care needs and the abilities and limitations of available health care personnel.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

24. Explains nursing procedures to a patient prior to performing them.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

25. Guides other health team members in planning for nursing care.

GRADUATES OF
ADN
PROGRAMS

(Circle One)

1
2
3
4

GRADUATES OF
BSN
PROGRAMS

(Circle One)

1
2
3
4

NO PREPARATION
POOR PREPARATION
ACCEPTABLE PREPARATION
VERY GOOD PREPARATION

26. Accepts responsibility for the level of care provided by those under their direction.

GRADUATES OF
ADN
PROGRAMS

(Circle One)

1
2
3
4

GRADUATES OF
BSN
PROGRAMS

(Circle One)

1
2
3
4

NO PREPARATION
POOR PREPARATION
ACCEPTABLE PREPARATION
VERY GOOD PREPARATION

27. Performs appropriate measures in emergency situation.

GRADUATES OF
ADN
PROGRAMS

(Circle One)

1
2
3
4

GRADUATES OF
BSN
PROGRAMS

(Circle One)

1
2
3
4

NO PREPARATION
POOR PREPARATION
ACCEPTABLE PREPARATION
VERY GOOD PREPARATION

28. Promotes the use of interdisciplinary resource persons.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

29. Uses teaching aids and resource materials in teaching patients and their families.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

30. Performs nursing care required by critically ill patients.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

31. Encourages the family to participate in the care of the patient.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

32. Identifies and uses resources within your health care agency in developing a plan of care for a patient and his family.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

33. Uses nursing procedures as opportunities for interaction with patients.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

34. Contributes to the productive working relationships with other health team members.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

35. Helps a patient meet his emotional needs.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

36. Contributes to the plan of nursing care for the patient.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

37. Recognizes and meets the emotional needs of a dying patient.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

38. Communicates facts, ideas, and professional opinions in writing to patients and their families.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

39. Plans for the integration of patient needs with family needs.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

40. Functions calmly and competently in emergency situations.

GRADUATES OF
ADN
PROGRAMS

(Circle One)

1
2
3
4

GRADUATES OF
BSN
PROGRAMS

(Circle One)

1
2
3
4

NO PREPARATION
POOR PREPARATION
ACCEPTABLE PREPARATION
VERY GOOD PREPARATION

41. Remains open to suggestions of those under their direction and uses them appropriately.

GRADUATES OF
ADN
PROGRAMS

(Circle One)

1
2
3
4

GRADUATES OF
BSN
PROGRAMS

(Circle One)

1
2
3
4

NO PREPARATION
POOR PREPARATION
ACCEPTABLE PREPARATION
VERY GOOD PREPARATION

42. Uses opportunities for patient teaching when they arise.

GRADUATES OF
ADN
PROGRAMS

(Circle One)

1
2
3
4

GRADUATES OF
BSN
PROGRAMS

(Circle One)

1
2
3
4

NO PREPARATION
POOR PREPARATION
ACCEPTABLE PREPARATION
VERY GOOD PREPARATION

43. Uses learning opportunities for on-going personal and professional growth.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

44. Displays self-direction.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

45. Accepts responsibility for their own actions.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

46. Assumes new responsibilities within the limits of their capabilities.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

47. Maintains high standards of performance.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

48. Demonstrates self confidence.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

49. Displays a generally positive attitude.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

50. Demonstrates knowledge of the legal boundaries of nursing.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

51. Demonstrates knowledge of ethics of nursing.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

52. Accepts and uses constructive criticism.

GRADUATES OF ADN PROGRAMS	GRADUATES OF BSN PROGRAMS	
(Circle One)	(Circle One)	
1	1	NO PREPARATION
2	2	POOR PREPARATION
3	3	ACCEPTABLE PREPARATION
4	4	VERY GOOD PREPARATION

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No. 8.

PART II

Directions: Please mark an "X" in the category that most nearly represents your current characteristics. This information will be compiled and used for statistical analysis only. The confidentiality of individual responses will be protected.

1. Which type of nursing program did you receive your initial Registered Nurse education? (select one)

☐ ASSOCIATE DEGREE IN NURSING
☐ DIPLOMA IN NURSING
☐ BACHELORS DEGREE IN NURSING

2. How many years have you been a Registered Nurse? (select one)

☐ 0 TO 5 YEARS
☐ 6 TO 10 YEARS
☐ 11 TO 20 YEARS
☐ 21 TO 30 YEARS
☐ 31 OR MORE YEARS

3. What is your gender? (select one)

☐ FEMALE
☐ MALE

4. How many years have you been in a position as a Director of Nursing (or comparable title)? (select one)

☐ 0 TO 5 YEARS
☐ 6 TO 10 YEARS
☐ 11 TO 20 YEARS
☐ 21 TO 30 YEARS
☐ 31 OR MORE YEARS

5. What is your current level of formal completed education? (select as many as apply)

☐ ASSOCIATE DEGREE IN NURSING
☐ DIPLOMA IN NURSING
☐ BACHELORS DEGREE IN NURSING
☐ BACHELORS DEGREE IN ANOTHER DISCIPLINE
☐ MASTERS DEGREE IN NURSING
☐ MASTERS DEGREE IN ANOTHER DISCIPLINE
☐ DOCTORAL DEGREE IN NURSING
☐ DOCTORAL DEGREE IN ANOTHER DISCIPLINE

If you have any additional comments on this subject, please include them in the space provided here and on the back of this page.

Thank you again for participating in this study. If you would like a summary of the results of this study, write your name and address on the "results requested" postcard included in this booklet. Please remember, do not write your name, institution or address on this booklet, to insure confidentiality.

APPENDIX III
Letters of Permission
for use of the
Six-Dimensional Scale
of Nursing Performance

Room 10E, Learning Resources Bldg.
Department of Baccalaureate Nursing
Northern Michigan University
Marquette, MI 49855
(Date)

Patricia M. Schwirian, Ph.D.
School of Nursing
Ohio State University
1585 Neil Avenue
Columbus, Ohio 43201

Dear Dr. Schwirian:

This letter is a request for permission to use Six-Dimension Scale of Nursing Performance you developed for my research and doctoral dissertation. I am proposing its use in the Assessment of Director's of Nursing attitudes, regarding the strengths and weaknesses in the preparation of graduates from both Associate Degree and Baccalaureate Degree Nursing Programs. I expect to modify slightly the scaling to provide more appropriate response to the questions of preparation and give it a more balanced deficiency/competency range. Otherwise, I will use it intact and all items.

Thank you for your consideration of this request and I am looking forward to hearing from you. Additionally, I would be pleased if you have any comments or suggestions on the use of the scale.

Respectfully,

Daniel J. Nicholls, R.N.
Assistant Professor



The Ohio State University

School of Nursing

Newton Hall
1585 Neil Avenue
Columbus, Ohio 43210
Phone 614 422-5371

January 6, 1982

Daniel J. Nicholls, R.N.
Assistant Professor
R. 10E Learning Resources Building
Dept. of Baccalaureate Nursing
Northern Michigan University
Marquette, Michigan 49855

Dear Mr. Nicholls,

Thank you for your interest in using the Six-D Scale for your research. I do apologize for my tardy response; I hope it did not delay progress on your study.

In terms of exact protocol, my permission to use the Scale is not required since NURSING RESEARCH holds the copyright on the article in which all items and directions for scoring appear. However, I appreciate the professional courtesy of your request.

I fully concur with your scaling modification; I trust it will contribute to refinements in the measures which the Scale can provide.

I have included articles and information related to the 'Prediction' study from which the 6-D Scale emerged. They may be useful to you.

Good luck in your dissertation research. I would be interested in learning of your findings.

Sincerely,

Patricia M. Schwirian, Ph.D., R.N.
Associate Professor of Nursing

Room 10E, Learning Resources Bldg.
Department of Baccalaureate Nursing
Northern Michigan University
Marquette, MI 49855
(Date)

Thelma Sehorr, R.N., President and Publisher
American Journal of Nursing
555 West 57th Street
New York, New York 10019

Dear Mrs. Schorr:

This letter is a request for permission to use the Six-Dimension Scale of Nursing Performance, published in:

Schwirian, Patricia M.: "Evaluating
the Performance of Nurses: A Multi-
Dimensional Approach." Nursing Research,
1978, 27: 347-51.

I plan the use of this scale for my research project and doctoral dissertation: The assessment of Director's of Nursing attitudes, regarding the strengths and weaknesses in the preparation of graduates in both Associate Degree and Baccalaureate Degree Nursing Programs.

Thank you for your consideration of this request and I am looking forward to hearing from you.

Respectfully,

Daniel J. Nicholls, R.N.
Assistant Professor



AMERICAN JOURNAL OF NURSING COMPANY

555 WEST 57TH STREET • NEW YORK, NEW YORK 10019 • 212-582-8820

November 25, 1981

Daniel J. Nicholls, R.N.
Assistant Professor
Learning Resources Building RM. 10E
Department of Baccalaureate Nursing
Northern Michigan University
Marquette, Michigan 49855

Dear Mr. Nicholls:

Thank you for your letter of November 12, 1981.

Permission is hereby granted for you to utilize the "Six-Dimension Scale of Nursing Performance" which accompanies the article "Evaluating the Performance of Nurses: A Multidimensional Approach" from the November-December 1978 issue of Nursing Research.

It is our understanding that this scale will be used for your research project and doctoral dissertation; The Assessment of Director's of Nursing Attitudes, regarding the strengths and weaknesses in the preparation of graduates in both Associate Degree and Baccalaureate Degree Nursing Programs. Please use the following credit line as acknowledgement of permission received.

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No. 8.

Thank you for your cooperation and interest in our materials.

Cordially yours,

Lillian Vega
Lillian Vega
Permissions Editor

/lmv

APPENDIX IV

Tables Ranking Items, Grouped by
Subscale, for Graduates of
Associate Degree Nursing
Programs

Table 13	TEACHING/COLLABORATION
Table 14	PLANNING/EVALUATION
Table 15	LEADERSHIP
Table 16	CRITICAL CARE
Table 17	INTERPERSONAL RELATIONS/COMMUNICATIONS
Table 18	PROFESSIONAL DEVELOPMENT

Table 13

RANKING OF ITEMS WITHIN THE TEACHING/COLLABORATION SUBSCALE
FROM HIGHEST MEAN SCORE TO LOWEST MEAN SCORE FOR
ASSOCIATE DEGREE NURSING PROGRAM GRADUATES
(N=249, Arbitrary neutral point 2.5)

Mean and Standard Deviation	Response Distribution Number (Percentage)					Item Within the Subscale
	0	1	2	3	4	
$\bar{X}$ = 2.6 s= 0.64	2 (0.8)	7 (2.8)	83 (33.3)	148 (59.4)	9 (3.6)	1. Teaches a patient's family members about the patient's needs.
$\bar{X}$ = 2.5 s= 0.72	3 (1.2)	14 (5.6)	90 (36.1)	131 (52.6)	11 (4.4)	31. Encourages the family to participate in the care of the patient.
$\bar{X}$ = 2.4 s= 0.67	0	18 (7.2)	99 (39.8)	126 (50.6)	6 (2.4)	4. Teaches preventive health measures to patients and their families.
$\bar{X}$ = 2.4 s= 0.70	4 (1.6)	16 (6.4)	95 (38.2)	132 (53.0)	2 (0.8)	29. Uses teaching aids and resource materials in teaching patients and their families.
$\bar{X}$ = 2.4 s= 0.78	5 (2.0)	20 (8.0)	100 (40.2)	117 (47.0)	7 (2.8)	32. Identifies and uses resources within your health care agency in developing a plan of care for a patient and his family.
$\bar{X}$ = 2.3 s= 0.83	8 (3.2)	25 (10.0)	108 (43.4)	101 (40.6)	7 (2.8)	12. Adapts teaching methods and materials to the understanding of the particular audience: e.g. age of patient, educational background, and sensory deprivations.

Table 13. CONTINUED
TEACHING/COLLABORATION

Mean and Standard Deviation	Response Distribution Number (Percentage)					Item Within the Subscale
	0	1	2	3	4	
$\bar{X}$ = 2.3 s= 0.70	2 (0.8)	23 (9.2)	114 (45.8)	106 (42.6%)	4 (1.6)	28. Promotes the use of interdisciplinary resource persons.
$\bar{X}$ = 2.2 s= 0.79	7 (3.2)	29 (10.0)	117 (43.4)	91 (40.6)	5 (2.8)	5. Identifies and uses community resources in developing a plan of care for a patient and his family.
$\bar{X}$ = 2.2 s= 0.74	3 (1.2)	38 (15.3)	119 (47.8)	87 (34.9)	2 (0.8)	14. Develops innovative methods and materials for teaching patients.
$\bar{X}$ = 2.2 s= 0.70	3 (1.2)	27 (10.8)	126 (50.6)	92 (36.9)	1 (0.4)	39. Plans for the integration of patient needs with family needs.
$\bar{X}$ = 2.0 s= 0.81	9 (3.6)	59 (23.7)	115 (46.2)	66 (26.5)	0	38. Communicates facts, ideas, and professional opinions in writing to patients and their families.

SCALE: 0 = OMISSIONS 3 = ACCEPTABLE PREPARATION
1 = NO PREPARATION 4 = VERY GOOD PREPARATION
2 = POOR PREPARATION

Table 14
RANKING OF ITEMS WITHIN THE PLANNING/EVALUATION SUBSCALE
FROM HIGHEST MEAN SCORE TO LOWEST MEAN SCORE FOR
ASSOCIATE DEGREE NURSING PROGRAM GRADUATES
(N=249, Arbitrary neutral point 2.5)

Mean and Standard Deviation	Response Distribution Number (Percentage)					Item Within the Subscale
	0	1	2	3	4	
$\bar{X}$ = 2.8 s= 0.67	3 (1.2)	5 (2.0)	56 (22.5)	164 (65.9)	21 (8.4)	13. Identifies and includes immediate patient needs in the plan of nursing care.
$\bar{X}$ = 2.8 s= 0.61	3 (1.2)	3 (1.2)	46 (18.5)	181 (72.7)	16 (6.4)	36. Contributes to the plan of nursing care for the patient.
$\bar{X}$ = 2.7 s= 0.76	8 (3.2)	2 (0.8)	69 (27.7)	151 (60.6)	19 (7.6)	9. Develops a plan of nursing care for a patient.
$\bar{X}$ = 2.6 s= 0.62	2 (0.8)	5 (2.0)	86 (34.5)	149 (59.8)	7 (2.8)	2. Coordinates the plan of nursing care with the medical plan of care.
$\bar{X}$ = 2.4 s= 0.80	7 (2.8)	18 (7.2)	105 (42.2)	109 (43.8)	10 (4.0)	6. Identifies and includes in nursing care plans anticipated changes in a patient's conditions.

Table 14 CONTINUED
PLANNING/EVALUATION

Mean and Standard Deviation	Response Distribution Number (Percentage)					Item Within the Subscale
	0	1	2	3	4	
$\bar{X}$ = 2.4 s= 0.76	7 (2.8)	14 (5.6)	101 (40.6)	120 (48.2)	7 (2.8)	7. Evaluates the results of nursing care.
$\bar{X}$ = 2.4 s= 0.74	7 (2.8)	15 (6.0)	113 (45.4)	110 (44.2)	4 (1.6)	10. Initiates planning and evaluation of nursing care with others.

SCALE: 0 = OMISSIONS
1 = NO PREPARATION
2 = POOR PREPARATION
3 = ACCEPTABLE PREPARATION
4 = VERY GOOD PREPARATION

Table 15
RANKING OF ITEMS WITHIN THE LEADERSHIP SUBSCALE FROM HIGHEST
MEAN SCORE TO LOWEST MEAN SCORE FOR ASSOCIATE DEGREE
NURSING PROGRAM GRADUATES
(N=249, ARBITRARY NEUTRAL POINT=2.5)

Mean and Standard Deviation	Response Distribution Number (Percentage)					Item Within the Subscale
	0	1	2	3	4	
$\bar{X}$ = 2.6 s= 0.83	4 (1.6)	22 (8.8)	61 (24.5)	140 (56.2)	22 (8.8)	41. Remains open to suggestions of those under their direction and use them appropriately.
$\bar{X}$ = 2.4 s= 0.76	3 (1.2)	24 (9.6)	106 (42.6)	106 (42.6)	10 (4.0)	26. Accepts responsibility for the level of care provided by those under their direction.
$\bar{X}$ = 2.3 s= 0.85	2 (0.8)	41 (16.5)	90 (36.1)	101 (40.6)	15 (6.0)	3. Gives praise and recognition for achievement to those under their direction.
$\bar{X}$ = 2.3 s= 0.72	2 (0.8)	22 (8.8)	129 (57.8)	87 (34.9)	9 (3.6)	23. Delegates responsibility for care based on assessment of priorities of nursing care needs <u>and</u> the abilities and limitations of available health care personnel.
$\bar{X}$ = 2.3 s= 0.71	2 (0.8)	23 (9.2)	124 (49.8)	94 (37.8)	6 (2.4)	25. Guides other health team members in planning for nursing care.

SCALE: 0 = OMISSIONS 2 = POOR PREPARATION 4 = VERY GOOD PREPARATION
1 = NO PREPARATION 3 = ACCEPTABLE PREPARATION

Table 16

RANKING OF ITEMS WITHIN THE CRITICAL CARE SUBSCALE FROM HIGHEST
MEAN SCORE TO LOWEST MEAN SCORE FOR ASSOCIATE DEGREE
NURSING PROGRAM GRADUATES
(N=249, ARBITRARY NEURTAL POINT=2.5)

Mean and Standard Deviation	Response Distribution Number (Percentage)					Item Within the Subscale
	0	1	2	3	4	
$\bar{X}$ = 2.6 s= 0.90	9 (3.6)	11 (4.4)	89 (35.7)	108 (43.4)	32 (12.9)	11. Performs technical procedures, e.g. oral suctioning, tracheostomy care, intravenous therapy, catheter care, dressing changes.
$\bar{X}$ = 2.6 s= 0.74	4 (1.6)	6 (2.4)	93 (37.3)	125 (50.2)	21 (8.4)	19. Gives emotional support to family of dying patient
$\bar{X}$ = 2.5 s= 0.77	2 (0.8)	20 (8.0)	100 (40.2)	111 (44.6)	16 (6.4))	27. Performs appropriate measures in emergency situation.
$\bar{X}$ = 2.5 s= 0.81	3 (1.2)	18 (7.2)	98 (39.4)	107 (43.0)	23 (9.2)	30. Performs nursing care required by critically ill patients.

Table 16 CONTINUED
CRITICAL CARE

Mean and Standard Deviation	Response Distribution Number (Percentage)					Item Within the Subscale
	0	1	2	3	4	
$\bar{X}$ = 2.5 s= 0.74	4 (1.6)	11 (4.4)	103 (41.4)	118 (47.4)	13 (5.2)	37. Recognizes and meets the emotional needs of a dying patient.
$\bar{X}$ = 2.4 s= 0.85	3 (1.2)	22 (8.8)	111 (44.6)	86 (34.5)	27 (10.8)	18. Uses mechanical devices: e.g. machines, Gomcos, cardiac monitor, respirators.
$\bar{X}$ = 2.3 s= 0.81	3 (1.2)	31 (12.4)	110 (44.2)	92 (36.9)	14 (5.2)	40. Functions calmly and competently in emergency situations.

SCALE: 0 = OMISSIONS
1 = NO PREPARATION
2 = POOR PREPARATION
3 = ACCEPTABLE PREPARATION
4 = VERY GOOD PREPARATION

Table 17

RANKING OF ITEMS WITHIN THE INTERPERSONAL RELATIONS/COMMUNICATIONS SUBSCALE
FROM HIGHEST MEAN SCORE TO LOWEST MEAN SCORE FOR ASSOCIATE DEGREE
NURSING PROGRAM GRADUATES
(N=249, ARBITRARY NEUTRAL POINT=2.5)

Mean and Standard Deviation	Response Distribution Number (Percentage)					Item Within the Subscale
	0	1	2	3	4	
$\bar{X}$ = 3.1 s= 0.75	3 (1.2)	3 (1.2)	30 (12.0)	139 (55.8)	74 (29.7)	16. Seeks assistance when necessary.
$\bar{X}$ = 3.0 s= 0.73	4 (1.6)	5 (2.0)	26 (10.4)	164 (65.9)	50 (20.1)	15. Communicates a feeling of acceptance of each patient and a concern for the patient's welfare.
$\bar{X}$ = 3.0 s= 0.65	2 (0.8)	2 (0.8)	32 (12.9)	167 (67.1)	46 (18.5)	21. Promotes the patient's right to privacy.
$\bar{X}$ = 3.0 s= 0.63	2 (0.8)	2 (0.8)	31 (12.4)	172 (69.1)	42 (16.9)	24. Explains nursing procedures to a patient prior to performing them.
$\bar{X}$ = 2.7 s= 0.71	3 (1.2)	7 (2.8)	76 (30.5)	143 (57.4)	20 (8.0)	20. Verbally communicates facts, ideas, and feelings to other health team members.
$\bar{X}$ = 2.7 s= 0.75	3 (1.2)	11 (4.4)	65 (26.1)	146 (58.6)	24 (9.6)	22. Contributes to an atmosphere of mutual trust, acceptance, and respect among other health team members.

Table 17 CONTINUED

INTERPERSONAL RELATIONS/COMMUNICATIONS

Mean and Standard Deviation	Response Distribution Number (Percentage)					Item Within the Subscale
	0	1	2	3	4	
$\bar{X}$ = 2.7 s= 0.74	4 (1.6)	10 (4.0)	48 (19.3)	164 (65.9)	23 (9.2)	33. Uses nursing procedures as opportunities for interaction with patients.
$\bar{X}$ = 2.6 s= 0.72	5 (2.0)	11 (4.4)	70 (28.1)	154 (61.8)	9 (3.6)	17. Helps a patient communicate with others.
$\bar{X}$ = 2.6 s= 0.71	3 (1.2)	12 (4.8%)	78 (31.8)	144 (57.8)	12 (4.8)	34. Contributes to the productive working relationships with other health team members.
$\bar{X}$ = 2.6 s= 0.67	3 (1.2)	7 (2.8)	78 (31.8)	151 (60.6)	10 (4.0)	35. Helps a patient meet his emotional needs.
$\bar{X}$ = 2.6 s= 0.66	2 (0.8)	9 (3.6)	96 (38.6)	134 (53.8)	8 (3.2)	42. Uses opportunities for patient teaching when they arise.
$\bar{X}$ = 2.5 s= 0.81	7 (2.8)	14 (5.6)	95 (38.2)	118 (47.2)	15 (6.0)	8. Promotes the inclusion of patient's decisions and desires concerning care.

SCALE: 0 = OMISSIONS 3 = ACCEPTABLE PREPARATION
 1 = NO PREPARATION 4 = VERY GOOD PREPARATION
 2 = POOR PREPARATION

Table 18

RANKING OF ITEMS WITHIN THE PROFESSIONAL DEVELOPMENT SUBSCALE
FROM HIGHEST MEAN SCORE TO LOWEST MEAN SCORE FOR ASSOCIATE DEGREE
NURSING PROGRAM GRADUATES
(N=249, ARBITRARY NEUTRAL POINT=2.5)

Mean and Standard Deviation	Response Distribution Number (Percentage)					Item Within the Subscale
	0	1	2	3	4	
$\bar{X}$ = 3.0 s= 0.63	1 (0.4%)	7 (2.8)	29 (11.6)	178 (71.5)	34 (13.7)	49. Displays a generally positive attitude.
$\bar{X}$ = 2.8 s= 0.76	4 (1.6)	7 (2.8)	56 (22.5)	150 (60.2)	32 (12.9)	43. Uses learning opportunities for on-going personal and professional growth.
$\bar{X}$ = 2.8 s= 0.68	1 (0.4%)	6 (2.4)	68 (27.3)	147 (59.0)	27 (10.8)	45. Accepts responsibility for their own actions.
$\bar{X}$ = 2.8 s= 0.64	0	4 (1.6)	64 (25.7)	153 (61.4)	28 (11.2)	46. Assumes new responsibilities within the limits of their capabilities.
$\bar{X}$ = 2.8 s= 0.70	3 (1.2)	2 (0.8)	58 (23.3)	155 (62.2)	31 (12.4)	47. Maintains high standards of performance.

Table 18 CONTINUED

PROFESSIONAL DEVELOPMENT

Mean and Standard Deviation	Response Distribution Number (Percentage)					Item Within the Subscale
	0	1	2	3	4	
$\bar{X}$ = 2.8 s= 0.68	0	8 (3.2)	58 (23.3)	152 (61.0)	31 (12.4)	51. Demonstrates knowledge of ethics of nursing.
$\bar{X}$ = 2.8 s= 0.65	2 (0.8)	7 (2.8)	55 (22.1)	167 (67.1)	18 (7.2)	52. Accepts and uses constructive criticism.
$\bar{X}$ = 2.7 s= 0.69	0	8 (3.2)	90 (36.1)	127 (51.0)	24 (9.6)	50. Demonstrates knowledge of the legal boundaries of nursing.
$\bar{X}$ = 2.6 s= 0.71	2 (0.8)	10 (4.0)	94 (37.8)	126 (50.6)	17 (6.8)	48. Demonstrates self-confidence.
$\bar{X}$ = 2.5 s= 0.74	2 (0.8)	12 (4.8%)	104 (41.8)	113 (45.4)	18 (7.2)	44. Displays self-direction.

SCALE: 0 = OMISSIONS
 1 = NO PREPARATION
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APPENDIX V

Tables Ranking Items, Grouped by
Subscale, for Graduates of
Baccalaureate Degree
Nursing Programs

Table 19	TEACHING/COLLABORATION
Table 20	PLANNING/EVALUATION
Table 21	LEADERSHIP
Table 22	CRITICAL CARE
Table 23	INTERPERSONAL RELATIONS/COMMUNICATIONS
Table 24	PROFESSIONAL DEVELOPMENT

Table 19

RANKING OF ITEMS WITHIN THE TEACHING/COLLABORATION SUBSCALE FROM
HIGHEST MEAN SCORE TO LOWEST MEAN SCORE FOR BACCALAUREATE DEGREE
NURSING PROGRAM GRADUATES
(N=249, ARBITRARY NEUTRAL POINT=2.5)

Mean and Standard Deviation	Response Distribution Number (Percentage)					Item Within the Subscale
	0	1	2	3	4	
$\bar{X}$ = 3.3 s= 0.68	3 (1.2)	0	15 (6.0)	143 (57.4)	88 (35.3)	1. Teaches a patient's family members about the patient's needs.
$\bar{X}$ = 3.2 s= 0.65	0	2 (0.8)	30 (12.0)	145 (58.2)	72 (28.9)	4. Teaches preventive health measures to patients and their families.
$\bar{X}$ = 3.0 s= 0.76	4 (1.6)	4 (1.6)	338 (15.3)	148 (59.4)	55 (22.1)	29. Uses teaching aids and resource materials in teaching patients and their families.
$\bar{X}$ = 2.9 s= 0.93	7 (2.8)	7 (2.8)	55 (22.1)	109 (43.8)	71 (28.5)	5. Identifies and uses community resources in developing a plan of care for a patient and his family.
$\bar{X}$ = 2.9 s= 0.83	8 (3.2)	3 (1.2)	44 (17.7)	147 (59.0)	47 (18.9)	12. Adapts teaching methods and materials to the understanding of the particular audience: e.g. age of patient, educational background, and sensory deprivations.
$\bar{X}$ = 2.9 s= 0.85	4 (1.6)	7 (2.8)	53 (21.3)	125 (50.2)	60 (24.1)	14. Develops innovative methods and materials for teaching patients.

Table 19 CONTINUED

TEACHING/COLLABORATION

Mean and Standard Deviation	Response Distribution Number (Percentage)					Item Within the Subscale
	0	1	2	3	4	
$\bar{X}$ = 2.9 s= 0.83	4 (1.6)	7 (2.8)	53 (21.3)	128 (51.4)	57 (22.9)	28. Promotes the use of interdisciplinary resource persons.
$\bar{X}$ = 2.9 s= 0.75	3 (1.2)	6 (2.4)	48 (19.3)	149 (59.8)	43 (17.3)	31. Encourages the family to participate in the care of the patient.
$\bar{X}$ = 2.8 s= 0.84	5 (2.0)	8 (3.2)	60 (24.1)	133 (53.4)	143 (17.3)	32. Identifies and uses resources within your health care agency in developing a plan of care for a patient and his family.
$\bar{X}$ = 2.8 s= 0.78	4 (1.6)	8 (3.2)	67 (26.9)	137 (55.0)	33 (13.3)	39. Plans for the integration of patient needs with family needs.
$\bar{X}$ = 2.4 s= 0.97	9 (3.6)	30 (12.0)	88 (35.3)	93 (37.3)	29 (11.6)	38. Communicates facts, ideas, and professional opinions in writing to patients and their families

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Table 20

RANKING OF ITEMS WITHIN THE PLANNING/EVALUATION SUBSCALE
FROM HIGHEST MEAN SCORE TO LOWEST MEAN SCORE FOR BACCALAUREATE DEGREE
NURSING PROGRAM GRADUATES
(N=249, ARBITRARY NEUTRAL POINT=2.5)

Mean and Standard Deviation	Response Distribution Number (Percentage)					Item Within the Subscale
	0	1	2	3	4	
$\bar{X}$ = 3.2 s= 0.65	2 (0.8)	0	25 (10.0)	156 (62.7)	66 (26.5)	2. Coordinates the plan of nursing care with the medical plan of care.
$\bar{X}$ = 3.2 s= 0.84	8 (3.2)	0	21 (8.4)	130 (52.2)	90 (36.1)	9. Develops a plan of nursing care for a patient.
$\bar{X}$ = 3.2 s= 0.62	3 (1.2)	2 (0.8)	7 (2.8)	179 (71.9)	58 (23.3)	36. Contributes to the plan of nursing care for the patient.
$\bar{X}$ = 3.0 s= 0.82	7 (2.8)	2 (0.8)	42 (16.9)	143 (57.4)	55 (22.1)	7. Evaluates the results of nursing care.
$\bar{X}$ = 3.0 s= 0.66	3 (1.2)	2 (0.8)	25 (10.0)	172 (69.1)	47 (18.9)	13. Identifies and includes immediate patient needs in the plan of nursing care.
$\bar{X}$ = 2.9 s= 0.85	7 (2.8)	5 (2.0)	49 (19.7)	136 (54.6)	52 (20.9)	10. Initiates planning and evaluation of nursing care with others.
$\bar{X}$ = 2.8 s= 0.81	7 (2.8)	4 (1.6)	50 (20.1)	147 (59.0)	41 (16.5%)	6. Identifies and includes in nursing care plans anticipated changes in a patients's conditions.

Table 21

RANKING OF ITEMS WITHIN THE LEADERSHIP SUBSCALE FROM
HIGHEST MEAN SCORE TO LOWEST MEAN SCORE FOR BACCALAUREATE DEGREE
NURSING PROGRAM GRADUATES
(N=249, ARBITRARY NEUTRAL POINT=2.5)

Mean and Standard Deviation	Response Distribution Number (Percentage)					Item Within the Subscale
	0	1	2	3	4	
$\bar{X}$ = 2.8 s= 0.80	2 (0.8)	6 (2.4)	74 (29.7)	118 (47.4%)	49 (19.7)	23. Delegates responsibility for care based on assessment of priorities of nursing care needs and the abilities and limitations of available health care personnel.
$\bar{X}$ = 2.8 s= 0.75	2 (0.8)	5 (2.0)	69 (27.7)	133 (53.4)	40 (16.1)	25. Guides other health team members in planning for nursing care.
$\bar{X}$ = 2.8 s= 0.80	3 (1.2)	7 (2.8)	67 (26.9)	128 (51.4)	44 (17.7)	26. Accepts responsibility for the level of care provided by those under their direction.
$\bar{X}$ = 2.7 s= 0.75	2 (0.8)	10 (4.0)	78 (31.3)	133 (53.4)	26 (10.4%)	3. Gives praise and recognition for achievement to those under their direction.
$\bar{X}$ = 2.7 s= 0.80	5 (2.0)	9 (3.6)	68 (27.3)	137 (55.0)	30 (12.0)	41. Remains open to suggestions of those under their direction and uses them properly.

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Table 22

RANKING OF ITEMS WITHIN THE CRITICAL CARE SUBSCALE FROM
HIGHEST MEAN SCORE TO LOWEST MEAN SCORE FOR BACCALAUREATE DEGREE
NURSING PROGRAM GRADUATES
(N=230, ARBITRARY NEUTRAL POINT=2.5)

Mean and Standard Deviation	Response Distribution Number (Percentage)					Item Within the Subscale
	0	1	2	3	4	
$\bar{X}$ = 2.9 s= 0.80	4 (1.6)	5 (2.0)	52 (20.9)	135 (54.2)	53 (21.3)	19. Gives emotional support to family of dying patient.
$\bar{X}$ = 2.8 s= 0.76	4 (1.6)	3 (1.2)	63 (25.3)	140 (56.2)	39 (15.7)	37. Recognizes and meets the emotional needs of a dying patient.
$\bar{X}$ = 2.7 s= 0.77	3 (1.2)	10 (4.0)	81 (32.5)	128 (51.4)	27 (10.8)	30. Performs nursing care required by critically ill patients.
$\bar{X}$ = 2.5 s= 0.72	2 (0.8)	15 (6.0)	90 (36.1)	129 (51.8)	13 (5.2)	27. Performs appropriate measures in emergency situation.

Table 22 CONTINUED

CRITICAL CARE

Mean and Standard Deviation	Response Distribution Number (Percentage)					Item Within the Subscale
	0	1	2	3	4	
$\bar{X}$ = 2.4 s = 0.79	9 (3.6)	10 (4.0)	110 (44.2)	110 (44.2)	10 (4.0)	11. Performs technical procedures, e.g. oral suctioning, tracheostomy care, intravenous therapy, catheter care, dressing changes.
$\bar{X}$ = 2.4 s = 0.73	5 (2.0)	10 (4.0)	124 (49.8)	99 (39.8)	11 (4.4)	18. Uses mechanical devices: e.g. suction machines, Gomcos, cardiac monitor, respirators.
$\bar{X}$ = 2.4 s = 0.76	3 (1.2)	22 (8.8)	109 (43.8)	104 (41.8)	11 (4.4)	40. Functions calmly and competently in emergency situations

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Table 23

RANKING OF ITEMS WITHIN THE INTERPERSONAL RELATIONS/COMMUNICATIONS SUBSCALE
FROM HIGHEST MEAN SCORE TO LOWEST MEAN SCORE FOR BACCALAUREATE DEGREE
NURSING PROGRAM GRADUATES
(N=249, ARBITRARY NEUTRAL POINT=2.5)

Mean and Standard Deviation	Response Distribution Number (Percentage)					Item Within the Subscale
	0	1	2	3	4	
$\bar{X}$ = 3.2 s= 0.60	2 (0.8)	0	13 (5.2%)	168 (67.5)	66 (26.5)	24. Explains nursing procedures to a patient prior to performing them.
$\bar{X}$ = 3.1 s= 0.64	2 (0.8)	2 (0.8)	18 (7.2)	163 (65.5)	64 (25.7%)	21. Promotes the patient's right to privacy.
$\bar{X}$ = 3.1 s= 0.70	4 (1.6)	3 (1.2)	16 (6.4)	165 (66.3)	61 (24.5)	15. Communicates a feeling of acceptance of each patient and a concern for the patient's welfare.
$\bar{X}$ = 3.1 s= 0.72	3 (1.2)	2 (0.8)	31 (12.4)	150 (60.2)	63 (25.3)	20. Verbally communicates facts, ideas, and feelings to other health team members.
$\bar{X}$ = 3.1 s= 0.76	3 (1.2)	4 (1.6)	31 (12.4)	142 (57.0%)	69 (27.7)	35. Helps a patient meet his emotional needs.
$\bar{X}$ = 3.1 s= 0.67	2 (0.8)	1 (0.4)	31 (12.4)	155 (62.2)	60 (24.1)	42. Uses opportunities for patient teaching when they arise.
$\bar{X}$ = 3.0 s= 0.74	3 (1.2)	5 (2.0)	38 (15.3)	153 (61.4)	50 (20.1)	16. Seeks assistance when necessary.

Table 23 CONTINUED

INTERPERSONAL RELATIONS/COMMUNICATIONS

Mean and Standard Deviation	Response Distribution Number (Percentage)					Item Within the Subscale
	0	1	2	3	4	
$\bar{X}$ = 3.0 s= 0.71	4 (1.6)	3 (1.2)	34 (13.7)	166 (66.7)	42 (16.9)	33. Uses nursing procedures as opportunities for interaction with patients.
$\bar{X}$ = 2.9 s= 0.89	8 (3.2)	7 (2.8)	41 (16.5)	135 (54.2)	58 (23.3)	8. Promotes the inclusion of patient's decisions and desires concerning care.
$\bar{X}$ = 2.9 s= 0.74	5 (2.0)	5 (2.0)	34 (13.7)	168 (67.5)	37 (14.9)	17. Helps a patient communicate with others.
$\bar{X}$ = 2.9 s= 0.77	3 (1.2)	10 (4.0)	45 (18.1)	151 (60.6)	40 (16.1)	22. Contributes to an atmosphere of mutual trust, acceptance, and respect among other health team members.
$\bar{X}$ = 2.8 s= 0.72	3 (1.2)	8 (3.2)	52 (20.9)	159 (63.9)	27 (10.8)	34. Contributes to the productive working relationships with other health team members.

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Table 24

RANKING OF ITEMS WITHIN THE PROFESSIONAL DEVELOPMENT SUBSCALE FROM
HIGHEST MEAN SCORE TO LOWEST MEAN SCORE FOR BACCALAUREATE DEGREE
NURSING PROGRAM GRADUATES
(N=249, ARBITRARY NEUTRAL POINT=2.5)

Mean and Standard Deviation	Response Distribution Number (Percentage)					Item Within the Subscale
	0	1	2	3	4	
X= 3.2 s= 0.75	4 (1.6)	2 (0.8)	18 (7.2)	136 (54.6)	89 (35.7)	43. Uses learning opportunities for on- going personal and professional
$\bar{X}$ = 3.2 s= 0.71	0	2 (0.8)	37 (14.9)	119 (47.8)	91 (36.5)	50. Demonstrates knowledge of the legal boundaries of nursing.
$\bar{X}$ = 3.2 s= 0.66	0	3 (1.2)	21 (8.4)	136 (54.6)	89 (35.7%)	51. Demonstrates knowledge of ethics of nursing.
$\bar{X}$ = 3.1 s= 0.72	2 (0.8)	3 (1.2)	30 (12.0)	140 (56.2)	74 (29.7)	44. Displays self-direction.
$\bar{X}$ = 3.1 s= 0.61	0	0	31 (12.4)	152 (61.0)	66 (26.5)	46. Assumes new responsibilities within the limits of their capabilities.
$\bar{X}$ = 3.1 s= 0.66	3 (1.2)	1 (0.4%)	21 (8.4)	165 (66.3)	59 (23.7)	47. Maintains high standards of performance.

Table 24 CONTINUED

PROFESSIONAL DEVELOPMENT

Mean and Standard Deviation	Response Distribution Number (Percentage)					Item Within the Subscale
	0	1	2	3	4	
$\bar{X}$ = 3.1 s= 0.59	1 (0.4%)	2 (0.8)	20 (8.0)	173 (69.5)	53 (21.3)	49. Displays a generally positive attitude.
$\bar{X}$ = 3.0 s= 0.67	1 (0.4%)	4 (1.6)	36 (14.5)	157 (63.1)	51 (20.5)	45. Accepts responsibility for their own actions.
$\bar{X}$ = 3.0 s= 0.77	2 (0.8)	6 (2.4)	47 (18.9)	135 (54.2)	59 (23.7)	48. Demonstrates self-confidence.
$\bar{X}$ = 2.8 s= 0.68	2 (0.8)	7 (2.8)	53 (21.3)	163 (65.5)	24 (9.6)	52. Accepts and uses constructive criticism.

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