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Faculty Perceptions of Competencies in the Nursing Profession

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FACULTY PERCEPTIONS OF COMPETENCIES IN THE NURSING PROFESSION

by

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This dissertation meets the standards for appearance, conforms to the style and format requirements of the Graduate School of the University of North Dakota, and is hereby approved.

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ABSTRACT

In order to respond to the needs of a rapidly changing health care environment, nursing educators must redefine the competencies needed by the beginning registered nurse. The study was designed to assess nursing faculty members' perceptions of competencies used by the beginning registered nurse in practice and their perceptions of the degree to which those same nursing competencies were presented in the nursing curriculum. Faculty members' perceptions were compared also to the results of a previous study which included a survey of beginning nurses to identify their perceptions of such competencies.

Nursing faculty members who teach in professional nursing programs in the state of Minnesota were surveyed using an instrument developed by Hyndman (1999). The instrument identified 35 competencies cited in Hyndman's literature review as needed by beginning registered nurses. Faculty members were asked to rate how frequently the faculty member perceived the competency to be used in practice by beginning registered nurses and to rate how frequently the faculty member perceived the competency to be presented in the nursing curriculum. The 35 competencies were categorized into five domains according to the following constructs: intellectual competencies, interpersonal competencies, technical competencies, care management competencies, and community-based competencies.

The findings of this study revealed that nursing faculty members and beginning registered nurses are in general agreement on the competencies needed by beginning nurses. Care management was seen as the most important facet of nursing practice by both beginning registered nurses and faculty members. Community-based competencies were perceived to be used the least in practice and presented the least in the nursing curriculum.

Economic aspects of health care were perceived by nursing faculty members and beginning nurses to be of a lower importance than other competencies. This may be of concern given the market-driven aspects of the health care environment. Beginning registered nurses reported documentation was the most frequently used competency in practice but perceived the competency was presented less frequently in nursing programs.

CHAPTER I

INTRODUCTION

The provision of professional nursing care in the new millennium will be met with extraordinary challenges and opportunities for the nursing profession and for those academic institutions responsible for preparing the next generation of nurses. The evolution to a market-driven health care system, the increasing diversity of the population in the United States, and the dramatic technological developments in health care have had significant impact on professional nursing practice. Because learning to nurse is grounded in nursing practice as well as academe, it is imperative for schools of nursing planning to prepare nurses for the redesigned health care system to respond to these changes.

Nursing is a practice discipline, and curricula for teaching practice disciplines are different from curricula for teaching cognitive disciplines (Bevis, 1989). In a practice discipline, the objectives do not reflect so much what the graduate will know as what the graduate will be able to do, since what the graduate will be able to do is the ultimate test of any practice-oriented curriculum. While nursing education has a number of different objectives, a principal concern is the preparation of skilled practitioners for health care (While, 1994). Cahill (1997) wrote that "the primary over-riding objective for nurse education continues to be the preparation of skilled, safe and competent practitioners"

(p.148). A major problem inherent when incorporating the theoretical content in the education of students for practice disciplines is that theory consists of generalizations and abstractions while practitioners deal with particular situations (Schwab, 1983). These two types of content, theory and practice, must be drawn together in a complementary fashion in order to generate multiple alternatives for curriculum development.

To design a curriculum to best meet the future needs of the nursing profession, nurse educators must be aware of the competencies required of nurses in practice. Algase (1986) argued that, in order to develop nursing as a discipline and as a profession, nurse educators must remain focused on the realities of practice.

A key challenge currently facing those involved in both nursing education and nursing practice is the determination of skills or competencies required of the nurse in the 21st century. The impending nursing shortage, according to Shaffer (1999), will be defined not only in terms of quantity, but also quality. Nurses must acquire skills and knowledge necessary for effective entrance into the new marketplace. The health care environment is changing rapidly, but the role of the nurse continues to be central to safe, quality patient care.

Florence Nightingale was the first to describe the skills necessary to the function of a nurse in the care of patients. Following her experiences in the Crimean War of 1850, Nightingale (1969) wrote about how the nurse must control the environment in order to treat illness and promote a return to health. Today, entry-level skills or competencies required by the beginning nurse are shaped by a variety of other sources and influences, including the marketplace and regulatory agencies. The identification of competencies needed by beginning practitioners is also influenced by nursing research and the analysis

of health care trends, and these competencies often are reflected in the professional literature.

Hyndman (1999) concluded that there is no agreement on the competencies needed by nurses to function in the health care field. Regulatory agencies, national reports, and nursing literature were all identified as influential forces in the definition of entry-level competencies. What remains a central premise is the interdependence of nursing practice and nursing education. The quality of practitioners entering the workforce is dependent on the quality of educational programs, and the knowledge base to practice nursing is created not only in academic centers but also in the practice areas.

Despite this level of interdependence among nurse educators and nurses in practice, a dichotomy of thinking often exists. Neighbors, Eldred, and Sullivan (1992) wrote, "There has been an ongoing discourse between nursing service and nursing education about what skills are needed by new graduates and the acceptable level of technical proficiency " (p. 92). Often, there is an expectation that nurse educators maintain a link with practice, but the exact nature of this link is unclear. "It remains a fundamental issue of concern, that in a practice discipline, up to half the curriculum content may be delivered by those who have little or no contact with clinical practice" (Murphy, 2000, p. 705). Curriculum developed in isolation of practice leaves nursing education and nursing educators open to accusations of lack of clinical credibility and competence. This problem is compounded by empirical evidence that nursing educators' participation in clinical practice has desirable, demonstrable effects on students' learning outcomes (Just, Adams, & DeYoung, 1989; Kramer, Polifroni, & Organek, 1986;

Rodgers, 1993). In order to align nursing curriculum with the needs of practice, educators must develop methods to assess the relevancy of the curriculum to the practice.

The external forces of health care reform and the changing marketplace for nurses have exerted significant forces to create a gap between expected and actual competencies of entry level nurses. Survival of nursing in the health care delivery system is dependent upon nursing faculty members responding to these external influences. Nursing faculty, therefore, have been challenged to reevaluate the current nursing curriculum.

Forces which influence curriculum change and the revision of program outcomes are also affected by internal forces within a professional preparation program. These internal influences include the balance of practice and theory within the curriculum, and the ratio of faculty who have exposure to current practice to faculty members who teach predominantly from a theoretical perspective. At the same time, there are intraorganizational influences, some of which serve as driving forces and others as restraining forces for needed curricular change. Faculty accountability for programmatic success is a driving force, while fiscal conditions within higher education slow curricular change processes.

Statement of the Problem

In order to respond to the needs of a rapidly changing health care environment, nursing educators must redefine the competencies needed by the beginning practitioner for the 21st century. The identification of these competencies is impeded by both a lack of information and conflicts between existing information provided by those inside and by those outside of the nursing profession. Because nursing is a practice-based

profession, and because nursing education is an expensive undertaking, it is essential that competencies taught in nursing programs reflect competencies required in practice.

A central purpose of this research was to describe, from the perspective of nursing faculty members, the competencies professional nursing students should possess upon graduation from basic nursing programs. A second purpose was to identify theory-practice gaps in the preparation of graduates for practice in the emerging health care delivery system. The following research questions were used to guide the study.

1. What are professional nursing faculty members' perceptions of competencies used in practice by beginning registered nurses and the competencies presented in nursing programs that educate beginning registered nurses?
2. Is there a significant difference in the mean perception scores between intellectual, interpersonal, technical, care management, and community-based competencies?
3. Are demographic variables of professional nursing faculty members related to their perceptions of the competencies used in practice or presented in nursing programs?
4. Is there a relationship between professional nursing faculty members' perceptions of competencies used in practice and competencies presented in nursing programs?

5. Are there differences in perceptions of competencies used in practice and competencies presented in nursing programs between professional nursing faculty members and beginning registered nurses as reported by Hyndman (1999)?

Significance of the Study

Nursing is the largest health profession in the United States. The competencies needed by registered nurses to function and maintain their role in the provision of health care are changing. The study of nursing faculty members' perceptions of competencies required in the workforce will provide valuable information to administrators and faculty members in schools of nursing as they revise and develop curriculum to meet changing health care needs.

The need to control rising health care costs and the growth of managed care have intensified the need for health care agencies to operate more efficiently. Hospitals, representing the most costly delivery site, and nurses, the single largest group of health care providers, have been affected most. The nursing profession has struggled to identify its unique contribution to health care. By identifying the competencies nurses bring to the practice setting, the health care workforce can be more efficiently and appropriately deployed.

This research could add to the body of knowledge on differentiated nursing practice and the identification of core competencies for other health care providers. Differentiated nursing practice allows nursing graduates to function in different roles that correspond to their differing educational levels. By analyzing responses from educators in two-year and four-year programs, core competencies for the entry-level nurse could be

formulated. O'Neil (1999) suggested that licensing of the health professional of the future must be tied to demonstration of competence. The challenge is to create a new continuum of practice for the services offered by professional nursing. Within this continuum should be a core of clinical and non-clinical skills that is a part of the competency base. Information obtained in this study may provide a better understanding of the core competencies nursing programs must teach.

Information from this study may be used to assess curriculum fidelity, which in turn may guide curriculum revision. Fidelity was defined as the degree to which program components are implemented as intended by the curriculum designers (Morse & Corcoran-Perry, 1996). By identifying the gaps between the intended curriculum and the delivered curriculum, nurse educators can make more informative decisions about nursing curriculum.

Curriculum revisions may also result from the closer alignment of theory with practice. A Pew Health Professions Commission report (Shugas, O'Neil, & Bader, 1991) suggested that health care education reform should parallel the reform in the health care system. Leaders in schools of nursing must create curricula that are responsive to workforce issues and develop a futuristic view of health care. Nurse educators must identify what students must know and then teach it (Neighbors & Monahan, 1997). By aligning nursing theory with nursing practice, nurse educators will be able to prepare graduates more adequately for the needs of the workplace, preventing reality shock and, hopefully, creating a stable workforce in times threatened by nursing shortages.

Assumptions

1. Nursing competencies are an important aspect of the nursing role. In order for nurses to function in an effective and appropriate manner in practice, they must have a base of knowledge related to nursing competencies.

2. Nursing competencies can be identified and learned. Nursing research and environmental scans to identify health care and nursing trends provide the basis for updating and changing the list of competencies needed by nurses in practice. The nursing literature is also an appropriate source for identification of nursing competencies.

3. Nursing faculty members play important roles in the socialization and education of nursing students for their practice roles. The socialization and educational processes include the transfer of those nursing competencies needed to function safely and effectively in the practice arena.

4. Importance of a competency is related to the frequency with which it is used in practice or presented in a nursing program.

5. Competencies frequently presented in nursing programs are closely aligned with program outcomes.

6. Competencies most frequently used in practice by nurses are needed most by nurses.

7. Identification of needed competencies and expected student outcomes will aid faculty in evaluating and improving curricula.

8. Perceptions of nursing competencies used in practice and effectively presented in a nursing program can be measured by a survey.

9. Faculty know what competencies are used and needed in practice.

10. There have been no dramatic changes in the education of nurses or in the delivery of nursing services in Minnesota since the time of Hyndman's study.

Limitations

The scope of this study was limited in several ways. The schools utilized in this study included only those in Minnesota. Faculty members in the same schools used in Hyndman's (1999) study of nursing graduates were asked to participate in order that a comparison of responses may be done. The instrument used in both studies is a self-report tool in which responses are structured.

The nursing competencies were limited to the 35 competencies listed in the Nursing Skills Survey (Hyndman, 1999). Faculty members could choose to identify additional competencies, but they needed to add such responses in writing.

The reliability of the instrument had not been tested with the population of nursing faculty. The population previously surveyed consisted of nursing graduates.

Definition of Terms

Associate degree (AD) nursing program is a nursing program most typically located in a community college. Graduates of the program are awarded associate degrees and are eligible for the National Council Licensure Examination for Registered Nurses.

Baccalaureate degree (BN) nursing program is a nursing program most typically located in a four-year college or university. Graduates of the program are awarded bachelor degrees and are eligible for the National Council Licensure Examination for Registered Nurses.

Beginning practitioner/entry-level nurse is a registered nurse who has been employed in the nursing field less than one year following graduation from a nursing program.

Competence refers to the level of proficiency that a professional program faculty member expects a graduate to demonstrate or that a graduate of that program expects to demonstrate.

Competencies are the knowledge, skills, abilities, and attitudes a nursing graduate can be expected to demonstrate and are thought to be essential for proficiency in contemporary professional nursing practice.

Educational outcomes are evidence that course or program objectives have been met. The competencies in this study, intellectual, interpersonal, technical, management of care, and community based abilities, are postulated to be the educational outcomes expected of basic nursing programs.

CHAPTER II

REVIEW OF THE LITERATURE

The purpose of this chapter is to provide a summary of information obtained through a review of pertinent literature including an overview of the forces that shape the curriculum and program outcomes in a professional nursing program. The nursing curriculum is the medium through which nursing educators teach the knowledge, skills, and competencies graduates of professional nursing programs should possess upon entry into practice. Nurses must be able to function across varied practice settings and in multiple roles in the evolving health care delivery system. Identification and validation of entry-level competencies will assist nurse educators to design a curriculum that is responsive to the workplace. It is critical to any discussion of educational change to recognize faculty members as architects of the curriculum and to recognize the multiple forces affecting a professional curriculum. Valuable insights can be gained by assessing nursing faculty members' perceptions of competencies needed by their graduates. If nursing education leaders wish to continue the momentum of educational reform and to continue to meet the needs of the health care market, it is important to identify faculty views of market needs and program outcomes.

It is also important to examine the currency and validity of skills and competencies that nursing educators and educational programs teach, especially from the

perspective of those in practice. Assessing graduate outcomes can help faculty members keep programs responsive to changing needs in the profession. Academic programs can be strengthened and modernized by utilizing the information from graduates about their skills that are particularly strong or weak at career entry. Thus, program responsiveness that is based on assessment of graduates' outcomes will broaden and deepen the academic program.

Conceptual Framework

The conceptual framework for this research study is based upon the work of Stark, Lowther, Hagerty, and Orczyk (1986a); Stark, Lowther, Hagerty, and Orczyk (1986b); and Stark and Lattuca (1997). The framework is particularly useful for this study because it is outcome-based and thus fits well in an era of increased educational accountability. The framework can be employed for the purpose of educational planning and program evaluation and is helpful in distinguishing between the expectations a profession has for its new graduates and for long-term practicing professionals. This study seeks to examine the competencies needed by new graduates in the nursing profession.

The framework was developed through a grounded theory approach and expanded upon the Carnegie Foundation for the Advancement of Teaching (1977) list of internal and external influences on the curriculum. It was developed to facilitate understanding of the similarities and differences among professional preparation programs (Stark et al., 1986a). Nursing was 1 of 12 professional programs considered in the development of the framework. Although originally used for professional programs in four-year colleges and universities, the framework was deemed by this researcher to be suitable for use with

associate degree, diploma, and baccalaureate degree nursing programs. All entry levels to the nursing profession provide initial socialization to nursing practice, and four-year programs are one of the multiple entry points.

The framework allows a clear focus on entry-level preparation in order to distinguish it from continuing professional development. The framework's developers recognized that the process of professional competence is incomplete at the time an individual accepts an entry-level position. Yet, for the purposes of educational planning and program evaluation, it is important to distinguish between the expectations the health care field has for its new graduates and those for experienced practitioners.

Designers of this framework for studying professional preparation programs contended that programs are influenced by internal, intraorganizational, and external forces. These forces interact to create a "profession preparation 'environment,' which, in turn, influences the design of educational processes intended to achieve professional preparation outcomes" (Stark et al., 1986a, p. 236). The professional preparation environment serves as a mediating variable between these three forces and the educational processes. The educational processes then determine the professional preparation outcomes for which students are assessed and evaluated. Because of a feedback loop, the extent to which the outcomes are achieved likewise influences the external, intraoganizational, and internal influences.

Although all professional preparation programs are believed to seek generic outcomes, the three sets of forces acting on the professional preparation environment may interact in different ways. Specific outcomes for varying professions may receive varying degrees of emphasis, and the processes intended to achieve the outcomes may differ

substantially. The on-going process of interaction among the internal, external, and intraorganizational forces results in a culture from which behaviors of faculty and students emerge. These behaviors then affect the aims and activities of the professional program.

External Influences

Societal influences and the professional community are the two primary categories of external influence on the curriculum. For each of these, subcategories are further defined. To provide background for this study, the societal influences subcategory of marketplace for graduates and the professional community influences subcategories of knowledge base, practice setting, and market control were examined more closely. Stark and Lattuca (1997) commented that educators have "responded to external influences somewhat more frequently than they have initiated change" (p. 42).

Marketplace for nursing graduates was defined as the availability of jobs for the new professional upon graduation (Stark et al., 1986a). Changing clinical practice sites and staffing patterns by hospitals and other health care delivery sites influence the employment of nurses and their practice setting, as well as the production, roles, and responsibilities of new graduates. Closely tied to marketplace is the concept of market control. Professionals in the nursing community can impact the number of new graduates entering the market and their preparation for entry by affording or not affording entry of students into clinical sites or by supporting or rejecting roles taught in nursing programs. The knowledge base needed by new graduates for successful nursing practice is affected when those in the profession deem competencies or outcomes as necessary or essential for successful practice. Accreditation and the standards set by accrediting agencies also

affect the knowledge base in professional nursing preparation by outlining graduate competencies.

Intraorganizational Influences

Intraorganizational influences are those forces that affect the relationship of the professional program to its university or college. Subcategories of intraorganizational influences include: mission, program centrality, program interrelationships, financial/technological support, and governance patterns. The organizational infrastructure of the university influences a professional program's academic plan by providing or not providing adequate support for the program. Support may consist of tangible elements, such as monetary awards, or may be intangible, such as with prestige or recognition.

Aspects of infrastructure such as college mission, financial stability, and governance arrangements can have a strong influence on a professional program's curriculum (Stark & Lattuca, 1997). The mission of the university in relation to its professional programs is of particular significance. As social institutions, colleges and universities have an ethical responsibility to ensure appropriate and adequate supplies of personnel to the health and other professions. Universities affect supply through their authority to determine the type, character, and size of health professional programs.

Financial stability of a university is an additional intraorganizational variable that can affect a professional program. As educational resources are limited, influences within the university, but external to a particular program, become increasingly powerful forces (Stark et al., 1986a).

Internal Influences

Internal influences are components of the professional program itself. Stark and Lattuca (1997) stated that the college curriculum is shaped in its specifics primarily by internal forces. Identified under internal influences were four subcategories: mission, staffing and program organization, profession program structure, curricular tensions, and continuing professional involvement.

The subcategory of mission, staffing, and program organization is of particular importance to this study. Staffing organization concerns faculty background and faculty mix. The education and experience of a program's faculty members, as well as the mix of practitioners to theorists, have an influence on the professional preparation environment. Faculty mix also varies by the type and location of the nursing preparation program, whether the program is at a two- or four-year college or university or is hospital-based.

The subcategory of curricular tensions also is of significance for this study. Curricular tensions include debates about teaching methodologies and the balance of theory and practice. A major curricular debate in nursing is the issue of basic preparation (associate degree, diploma, or baccalaureate degree) for entry into practice (Schwirian, 1998). A related, tension-provoking issue found in nursing schools stems from the degree of use of part-time faculty drawn from the ranks of practicing professionals (Stark et al., 1986a). The part-time practitioners, while adding currency to the curriculum, may choose to emphasize different values or to apply different instructional processes than do their full-time, academic counterparts. This may lead to specific curricular conflicts within a program.

Stark and Luttuca (1997) wrote that "influences within an academic program most strongly affect the instructional processes selected for courses, while organizational and external influences may be more potent for the instructional choices faculty make at the program level" (p. 212). Accrediting bodies may determine a competency to be essential for graduates from a professional program, but individual faculty members can exert a strong influence in their classrooms on whether that competency is acquired and/or valued by the students. Therefore, it is important to examine faculty perceptions of competencies needed in the workplace and those competencies that are emphasized in the classroom.

Health Care Reform and Nursing

Within the past two decades, the health care delivery system in the United States has undergone significant changes. Those changes have been fueled by multiple factors, including changes in government policies, rising costs, and changing demographics (Heller, Oros, & Durney-Crowley, 2000; Mawn & Reece, 2000). Waves of new knowledge and increased technology, and the resultant related requirements, may overtake earlier practices before they can be assimilated and put into use (Lenburg, 1999). Managed care and mergers of once independent health care institutions have precipitated a significant reorganization of services in attempts to increase efficiency with patterns of care shifting from hospital to non-hospital settings. These changes have created a continual transformation of practice environments and required changes in priority competencies for health care workers.

Changing Health Care Environment

The rapid and diverse changes in the financing and delivery of health services have had and are likely to continue to have effects on the roles, responsibilities, and educational preparation of professional nurses. The nursing profession continues to experience the need for increased accountability to more interest groups and to be responsible for a wider range of outcomes. According to the Pew Health Professions Commission (1995, p. 26), "the competencies, flexibility, commitment and morale of the health professional workforce will become the most important factors contributing to the success or failure of the evolving health care delivery system." The health care system will continue to evolve, resulting in the need for health professionals with different skills, attitudes, and values (O'Neil, 1993).

As a result of these changes, concomitant modifications in policies and position descriptions of essentially all health care personnel, including professional nurses, are being made (Lenburg, 1999). As the public becomes more knowledgeable and increasingly assertive, higher expectations for competence are being established (Kramer, 1996). The consequences of professional incompetence are extraordinarily dire and expensive and often receive heightened media attention. Current expectations of nursing skills represent a different set of competencies and consequences from those of the past, for both the academic and service sectors.

The National League for Nursing Workforce Commission concluded, "We are living with a health care system that is defined by unsustainable trends. High costs, poor outcomes, and maldistribution of resources have characterized U.S. health care for decades" (Lamm, 1998, p. 91). As America's health care system evolves within an ever

more tightly cost-constrained environment, health care providers must reexamine the basic premises and practices of health care delivery. Providing high quality health care while continuing to hold the line on costs has created new challenges for providers. One potential way of meeting those challenges is to restructure and redeploy the health care workforce more efficiently with skills and knowledge congruent to the needs of the health care environment.

Effects on Nursing Education

An appropriate match of skills and competencies acquired by entry level nurses and expected in the marketplace becomes more essential as employers, consumers, insurance companies, and health care conglomerates expect more and different skills than in the past. The current health care market expectations often go far beyond those that the faculty in schools of nursing have previously emphasized, expected, or rewarded. Eichelberger and Hewlett (1999) wrote that leaders in schools of nursing must consider the best ways to prepare graduates for a changing practice as employers seek a workforce that is efficient, productive, cost effective, and capable of providing quality care.

Employers are experiencing a widening gulf between the competencies required for practice and competencies that new graduates learned in their educational programs (Chalmers, Bramadat, & Andrusyszyn, 1998, Eubanks, 1992; Joyce-Nagata, Reeb, & Burch, 1989; Lenburg, 1999). Holzemer (1993) suggested the growth in the number of unlicensed assistive personnel employed in lieu of nurses in the workforce was due, in part, to the lack of fit between nurses' skills and the needs of the health care system. Educational leaders in nursing, on the other hand, have argued that they cannot provide all of the experiences a student needs to satisfy all possible work situations, even while

health care administrators argue that they cannot afford to invest large amounts of money in more education for their nurses (Wilkinson, 1996).

As the delivery of health care continues to evolve to a market-driven practice located more frequently in non-hospital settings, nursing educators may feel unprepared to teach the new skills required or simply may be unwilling to change. Oesterle and O'Callaghan (1996) and Morris (1996) agreed that nursing education must have faculty reform. Morris stated that faculty members teach what they know, and they know a health care system that was hospital-based. Nursing faculty members do not know about consumer-driven, community-based health care systems, either by education, experience, or research. Lindeman (1996b) remarked that nursing educators need to change because "we are experts for the past" (p. 7). However, Neighbors et al. (1992) wrote that there was little agreement among nursing executives, staff nurses, and nurse educators about just what a nurse needs to know to practice.

Health education programs have been criticized for not responding quickly enough to changes in the marketplace. The public outcry driving educational reform has focused on the desire to hold educational institutions accountable for producing graduates who can positively influence the good of society at an affordable public cost and nurse educators are feeling the effect of educational reform (Keith, 1991).

Lamm (1998) contended that there is an urgent need for a curricular shift within nursing programs in order to "make certain they are capable of producing graduates at all levels who are appropriately prepared for new roles in the emerging health care system" (p. 91). Not only do educators have a professional responsibility for preparing students to

cope with changing roles, "but from a practical standpoint, if we don't do it someone else will" (Wilkinson, 1996, p. 72).

Issues in Nursing Education

The complexities of health care delivery systems and changing market forces have compelled nursing educators to confront the issue of determining basic competencies for entry-level nurses. The health care market has valued services furnished by nurses to the extent that the nursing services are needed and contribute to outcomes. Remaining marketable means nurses must adapt and change to the realities of health care. Students have approached institutions of higher education with the assumption they will be taught the requisite knowledge and skills to be competent nurses, while employers of nursing graduates assumed that the nursing degree and licensure certified competent performance (Redman, Lenburg, & Walker, 1999). The goal of professional nursing education is to produce graduates prepared to meet contemporary professional practice needs.

Theory-practice Issues

Theory-practice issues have a long-standing history in nursing education and are a chronic source of controversy for which there is no easy solution. The disparity between practice and education is due in part to external forces beyond the control of educators, such as the proliferation of knowledge and technological advances. On the other hand, factors internal to the profession, such as the bureaucracy of higher education and faculty resistance to change, are believed by some to inhibit responsiveness to changing societal needs.

Some authors have argued that the theory-practice gap need not be viewed negatively as an imbalance between what is taught in the classroom and what is practiced

in the clinical environment. The reality of the work environment in which new nurses are expected to practice is oriented to throughput, numerical targets, and financial constraints (Hewison & Wildman, 1996). Nursing faculty, on the other hand, exhort students to treat patients as individuals, implement nursing theory, and advance their own learning. The tension which exists between academe and practice, however, is essential for change to occur in practice (Rafferty, Allcock, & Lathlean, 1996). Rafferty et al. noted that new graduates entering the workplace can act as catalysts in the application of new knowledge. Students therefore need to gain an appreciation of what counts as nursing knowledge at different points in time and an understanding of the politics that drive the legitimization of nursing theory and practice. By informing their students of theory-practice tensions, educators can assist nursing students in the role transition from student to practitioner. This allows students to make sense of their experiences as they confront the ambiguities and contradictions that make up professional practice. This may reduce "reality shock" and prevent an early departure from the profession.

The potential reasons for the theory-practice gap are many, but the gap cannot be ignored. Employers have reported the need to spend an increasing amount of time and resources to orient and to teach new nurses in regard to the competencies required in today's workplace (Eubanks, 1992; Redman et al., 1999). This becomes an unwelcomed, added expense for employers that ultimately is passed on to the health care consumer. Equally affected are the beginning nurses who may be placed in situations for which they are not prepared to function. Additionally, experienced nurses who work with inadequately prepared graduates may have increased responsibility at a time of decreased support within the health care system.

Hewison and Wildman (1996) suggested that nursing education will need to respond positively to the changing health care environment. Instead of being guided solely by educational values, nurse educators must become aware of the health care market and deliver more of what their students' future employers require. Nursing values will need to take into account various features of the new reality in health care. If students are to have relevant and positive learning experiences, issues of theory and practice must be bridged so they are prepared for the reality of their future work environments.

Clinical Experiences

The nature of clinical experiences for nurses has slowed the responsiveness of nursing education to the health care market and widened the gap in performance expectations. Clinical experiences provide students with the opportunity to consolidate knowledge, develop psychomotor skills, socialize into the professional role, and acquire professional values. Historically, nurses have been prepared to function in the acute care hospital with practice in the community contingent upon a defined number of years of prior hospital experience. Because nursing has been practiced primarily in hospitals since the 1930s, nursing curriculum has been structured to reflect those known practice areas (Kupperschmidt & Burns, 1997).

While the prevailing model for undergraduate nursing programs dictates that clinical experiences occur primarily in acute care facilities, that focus may no longer be appropriate (American Association of Colleges of Nursing [ACCN] & Helene Fuld Health Trust, 2000). Clinical experiences need to include any and all settings where patients seek health care. Registered nurses (RNs) should be flexible and highly skilled,

whether they are employed in hospitals or in non-hospital settings. As the paradigm for the delivery of care shifts from hospitals to non-hospital settings, acquiring hospital experience may no longer be possible or desirable for all students. In response to the rise of managed care and the accompanying shift in health care delivery from hospitals to community-based settings, clinical experiences should provide students with the opportunities to think critically, transfer knowledge, and apply basic concepts and principles in a variety of delivery models and settings.

However, there is a thin line between providing clinical experiences that meet employers' labor needs and inculcating the philosophical beliefs of professional nurses and educators (Wilkinson, 1996). Nursing educators must not completely shift the focus of their endeavors to training students in order to meet organizational and labor needs while ignoring the need to educate students to meet clients' needs. The shift to community-based settings for clinical experiences of students raises other concerns. The realities of health care reform point to an increasing need and responsibility for nurse educators to prepare students for non-hospital roles, despite the fact that, currently, the majority of nurses continue to be employed within hospital settings (Clement, 1995). Faculty are given the challenge of attempting to determine the proper balance between clinical experiences that focus on the care of individuals and families and those that prepare students to provide population-focused care, and between those that prepare students to deliver high-tech, acute care services and those that emphasize health promotion, health maintenance, and prevention of illness.

The gap in expectations between those in higher education and those in the workplace demonstrates the need for shared accountability and collaborative partnerships

between the faculty in nursing education and nurses in service. Instead of each sector independently focusing just on its own needs, desires, and responsibilities, which likely fall short of the collective need, educators and service leaders were urged to work collaboratively to establish core practice competencies and assessment methods (Lenburg,1999). Lenburg wrote that it is essential that nursing leaders from both the education and practice sectors formulate and implement functional and collaborative relationships. By creatively integrating the best each has to offer and by working collaboratively, nursing leaders can identify more effectively the essential competencies needed for practice and create the structures and methods to validate their achievement. The initial and continuing competence of nursing students and graduates depend upon these shared responsibilities for effective and purposeful communication and respectful interactive partnerships.

Nursing educators, then, are not only being challenged to produce graduates with the current competencies required within the redesigned health care system but are being asked to predict educational revisions capable of preparing the next generation of nurses to lead in health care environments for which changes have yet to be identified. Designing curriculum appropriately to prepare competent graduates is crucial to maintaining and expanding nursing's role in health care (Lamm, 1998).

Educational Pathways for Entry into Nursing Practice

Three major pathways for entry into professional nursing currently exist: associate degree, diploma, and baccalaureate programs. The associate degree program is a two-year program usually offered by a community college. The graduate is expected to be more technically oriented and, until recently, expected to be employed primarily in a

hospital-based setting (National League for Nursing Accrediting Commission [NLNAC], 2000). The graduate of an associate degree program now is expected to care for individuals across the health-illness continuum (Mueller, Johnston, & Bopp, 1995). The diploma program is usually three years in length and often offered by a hospital or health care system. The graduate of a diploma program is prepared also to function primarily in an acute care setting. The baccalaureate program is a four-year program, offered by a college or university and designed to prepare the professional nurse who is competent to function in all settings and to care for patients along the health-illness continuum.

According to the NLNAC (2001) there are 1,634 basic registered nursing programs in the United States: 885 are associate degree programs, 88 offer a diploma, and 661 lead to a baccalaureate degree. In recent years, the number of diploma programs has been decreasing steadily. The decline has been attributed to the growth of associate degree and baccalaureate programs and the inability of hospitals to continue financing nursing education programs when service could no longer be the primary basis for instruction, as well as difficulty in attracting qualified faculty (Nichols, 1993).

In the state of Minnesota, two entry levels of professional nursing preparation currently exist for the associate degree (A.D.) nurse and for the baccalaureate degree (B.N.) nurse (Minnesota Board of Nursing [MBON], 2000). Movement of associate degree nurses into baccalaureate degree programs has been encouraged by a state-wide articulation agreement and the development of baccalaureate programs designed solely to educate the diploma or associate degree professional nurse. These programs do not require approval from the MBON, but follow the same accrediting standards as baccalaureate programs that prepare entry level nurses.

The MBON in 2000 listed 24 approved schools of nursing, with some schools offering programs at multiple sites. Of those 24 schools, 15 offered an associate degree and 9 offered baccalaureate degrees. The associate degree programs were based primarily in public institutions of higher education with only one private school offering an associate degree. Baccalaureate education was offered in four public universities and in five private institutions. In addition to those basic preparation programs, four programs were classified as baccalaureate completion programs. As noted above, such programs do not require approval from the MBON and are not designed to prepare nurses for the licensure exam. They are intended, however, to prepare diploma and associate degree RNs for practice at a baccalaureate level.

The National League for Nursing (NLN, 1989, 1992, 1993), the primary accrediting agency for nursing programs, identified expected competencies for each program type. Additionally, the AACN (1998a) identified expected competencies for baccalaureate graduates. All three types of program graduates, associate degree, baccalaureate degree, and diploma, are qualified to take the same national licensure examination to become registered nurses in the United States.

Although the NLN and others within the nursing profession have attempted to differentiate program outcomes according to the type of nursing education program completion, for the most part this is not reflected in practice settings (Wilkinson, 1996). The three entry routes to licensure as an RN, without subsequent differentiation in practice, lead to confusion regarding what RNs can be expected to do. The provision of any level of nursing education is an expensive endeavor and those in the nursing profession have struggled to define what constitutes the product of this education. One

author (While, 1994) referred to "competence" as an outcome but noted that often there is a lack of empirical evidence that competence in program outcomes translates into effectiveness in actual role performance. The debate regarding academic preparation for entry into professional nursing and the differentiation of practice according to basic nursing education preparation impacts the professional preparation environment.

Marketplace Issues

The nursing profession has been very sensitive to effects of the job market, demonstrating vacillating periods of shortage and excess supply (Brewer, 1997). While the demand for nurses balances dynamically over time with the supply of nurses, past experience had indicated that the standard dynamics of supply, demand, and need with regard to nurses have been altered by variations in health delivery systems, government reimbursement policies, and regional and local customs and culture (Tri-council for Nursing, 2001). In 1997, Brewer predicted an overabundance of registered nurses and wrote that, "if new nurses continue to enter this market at the same rate until 2005, our educational system will have produced more than twice as many registered nurses as the Bureau of Labor Statistics predicted we would need" (p. 262). Lamm (1998) concluded, at the end of the NLN's Commission report, that he continued to agree with the Third Report of the Pew Health Professions Commission in that there was clearly an oversupply of nurses in the United States and that oversupply would continue to grow. "I have seen nothing to persuade me that the above was not a valid finding and that it continues to be true today" (Lamm, 1998, p. 21).

In a more recent report, however, the Tri-council for Nursing (2001) issued a policy statement that described a new nursing shortage, a nursing shortage that was

deemed to be very real and very different from any experienced in the past. The policy statement suggested that the "supply of appropriately prepared nurses is inadequate to meet the needs of a diverse population and that this shortfall will grow more serious over the next 20 years" (p. 1).

Current and future employment trends in Minnesota have indicated that the supply of available registered nurses may not meet the current and future demands of employers and consumers. The supply of labor, in the short run, is affected by the decisions individual nurses make to increase or decrease the amount they work, as well as the total number of working nurses. The Office of Rural Health and Primary Care (Minnesota Department of Health [MDH], 2001) created a registered nurse workforce profile to address the need for more information about the supply and demand for nurses in Minnesota. According to the profile in 1998, registered nursing was the largest health care occupation both in the state of Minnesota and nationally. The National Sample Survey of Registered Nurses (NSSRN, 2001) reported that, as of March 2000, the total number of licensed registered nurses in the United States was estimated to be over 2.6 million. That was an increase of 5.4 % since the previous survey but that was lower than the percent of increase reported in previous surveys.

The Minnesota profile went on to report that, on the average, active registered nurses in Minnesota worked 33 hours per week with a higher rate of part-time employment (50%) (MDH, 2001) than was reported nationally (28.4%) (NSSRN, 2001). A potential method proposed to decrease the shortage of nurses in Minnesota was to encourage more part-time workers to engage in full-time practice. However, it was suggested that existing staffing practices in health care facilities may hinder such efforts.

Health care facilities have often maintained a pool of part-time nurses to accommodate fluctuations in patient census. Additionally, less than one percent of the registered nursing license holders who were not employed in nursing were willing to return promptly to the nursing workforce. Minnesota had an estimated 44,500 registered nursing jobs, with a growth rate of 14% predicted between 1996 and 2006. In 2000, there were 2,900 unfilled registered nurse openings in the state (MDH, 2001).

One of the most critical problems facing nursing and the nursing workforce is the aging of nurses and nursing faculty. The average age of the RN population in March 2000 was estimated to be 45.2 years, nearly one year older than in 1996 when the average age was 44.5 years. In 1980, 52.9% of all registered nurses were under the age of 40, compared to 2000 when only 31.7% were under the age of 40 (NSSRN, 2001).

Like the nation's population of nurses, Minnesota's workforce is also aging. The average age of a registered nurse in Minnesota in 2000 was 45.3 years old, and those working in rural areas tended to be older (46.5 years) than those who worked in urban areas (45.0 years) (MDH, 2001). Rural nurses employed in hospital in-patient settings and in long-term care facilities tended to be significantly older than their urban counterparts. As more nurses in those facilities reach retirement first, the impact of the aging workforce was predicted to be felt initially by rural hospitals and nursing homes.

According to the AACN (1998a), the average age of full-time nursing faculty members in the United States was 49 years and 4 months. The average of age of such educators in Minnesota was slightly older, at 49.8 years in urban areas and 49.5 years in rural areas. The aging of nursing educators was seen as coming at a time when the Office

of Rural Health and Primary Care was suggesting that Minnesota nursing schools may not be keeping pace with employers' demand for nurses (MDH, 2001).

Nationally, enrollments and graduations in all basic RN preparation programs have declined (Tri-council for Nursing, 2001). A National Council of State Boards of Nursing (NCSBN, 2001) report indicated that the number of individuals taking the National Council of Licensing Examination for Registered Nursing (NCLEX-RN®) had declined each year since 1995. A pattern of decreasing numbers of newly registered nurses was true also in Minnesota.

Although hospitals continue to be major employers for RNs, job growth in the hospital setting has slowed. From 1988 to 1992, nurse employment grew 6% in the in-hospital setting, but employment grew 68% in hospital outpatient settings and 15% in ambulatory settings (Brewer, 1997). Nationally, 59.1% of RNs worked in hospital settings, while in Minnesota 42% of active registered nurses were employed in hospital in-patient settings (MDH, 2001). Another 11% of the RN workforce in Minnesota was employed in long-term care facilities. Two thirds of all active RNs in Minnesota reported that patient care was their primary professional activity. In Hyndman's 1999 research, 66% of the participants were employed in hospitals with 16% having indicated that their place of employment was long-term care.

Societal Obligations

As changes have occurred in society, especially within the health care financing and delivery systems, those in the nursing profession have been challenged to adapt. Driving the need for adaption are society's social contract with the profession, the marketplace for graduates, health policy makers, and the desire for continued professional

autonomy. Although all health care personnel are affected by these changes, nurses are especially affected because of their numbers, proportion of hospital staff, and usual practice sites.

The goal of professional nursing education is to produce knowledgeable graduates prepared for entry into contemporary practice. Bowen (1984) wrote that there are two basic responsibilities of a professional nursing department. The first is the obligation of a professional school to turn out technically competent practitioners. The second of those responsibilities is a moral obligation to "turn out men and women of broad learning and culture who will join the leadership of the society and will exert a constructive influence in community and civic life" (p. 114). Bowen stated that both ideals, while worthwhile, may not be fully attainable in the real world. The primary means available to attain such ideals include recruitment and selection of students, recruitment and selection of faculty, the curriculum, and the campus environment.

As a profession, nursing acquires recognition, relevance, and even meaning in terms of its relationship to the society of which it is a part. "The authority for the practice of nursing is based on a social contract that acknowledges professional rights and responsibilities as well as mechanisms for public accountability" (American Nurses Association [ANA], 1995, p. 3). According to the ANA, nursing educators have an obligation to ensure that their graduates are prepared to meet present and future societal health care needs, and the nursing profession has a moral obligation to promote the wise use of the public's money. Lamm (1998) put this more bluntly when he wrote that schools of nursing should remain open only if the faculty engage in an intensive self-study to determine their ability to produce graduates with the competencies required

within the redesigned health care system. According to Lindeman (1996a), nurse educators and leaders in schools of nursing who wish to prepare nurses for the redesigned health care system will need to make major curriculum changes to include knowledge and skills related to achieving cost-effective outcomes. Others reported that it will be critical in meeting nursing's social mandate for graduates to be able to articulate that which is within the domain of nursing and that which falls within a more collaborative or interdisciplinary mode (Halstead, Rains, Boland, & May, 1996).

The existing and emerging health care systems require a workforce of RNs whose education has prepared them to function across practice settings, to work independently, and to provide a wide range of nursing services (Halstead et al., 1996). Nursing faculty must prepare students for the "role of the registered nurse," a role that is evolving. For the emerging health care delivery system, nursing graduates must possess a set of competencies that will allow them flexibility in practice settings and roles. Identification and validation of the knowledge, skills, and abilities required for entry level nursing positions will assist nursing faculty to design curricula that are more socially responsive and produce appropriately prepared graduates.

Given all the changes in health care and their potential effects on nursing education and practice, two questions arise. What are the competencies registered nurses will need in order to practice effectively as a new nurse? Is the current educational preparation of nurses adequate to meet society's health care needs now and into the future?

Selected Research on Nursing Education

Redman et al. (1999) reported that new nursing graduates have expressed concerns regarding their lack of preparation for expected entry-level competencies. Employers have also conveyed increased difficulties in helping new graduates make the transition from student to clinician. Kramer (1996) wrote that new graduates must feel they have the basic skills to enter the nursing profession as competent and knowledgeable caregivers or risk legal liability, personal embarrassment, lowered self-esteem, and decreased job satisfaction. Graduates who expressed a sense of unpreparedness for practice will experience some form of anxiety, reality shock, or theory-practice gap upon entry into practice.

In a study that examined perceived competency levels of graduating nurses from a university baccalaureate program, students overwhelmingly expressed the need for more opportunity to practice clinical and technical skills within the nursing program (Mozingo, Thomas, & Brooks, 1995). The students reported that their self-confidence would have been enhanced by the sense that they were more competent in their clinical and technical skills. Students cited the need for increased care management experiences in the clinical setting. Specific care management experiences included increased opportunities for decision-making, increased patient load and responsibility, and the opportunity to integrate their nursing knowledge and skills.

In a retrospective study of practicing nurses' attitudes toward their basic nursing education programs, Schumann (1990) asked a randomly selected sample of 500 nurses to reflect on what they would do to improve their education if they had the power to do so. Nurses related that they would make improvements by increasing clinical

experiences and quality of faculty, and focusing more on the reality of nursing. Individuals in the study expressed concern over the lack of progress nursing is making as a profession and the "increasing number of new graduates who are not prepared to practice nursing on completion of nursing school" (Schumann, 1990, p. 76). The findings in the study also supported the perceived need for nursing instructors to have more clinical experience.

Schumann (1990) expressed concern over the increasing negative attitudes by students in nursing education programs toward their respective programs. Nursing education influences a nurse's attitude toward patient care and the profession and, as such, negative attitudes are a concern. Schumann suggested further study should be pursued to determine if increased clinical experiences will improve attitudes about nursing education preparation and thus make the transition from the ideal world of nursing school to the real world of nursing practice less of a shock to the individual.

Marshall (1999)

Marshall's 1999 study attempted to define core competencies of registered nurse graduates. The study measured and compared perceptions of nurse educators, administrators, and nursing staff regarding the required competencies for newly licensed registered nurses. The study additionally sought to determine whether there were any differences in the competencies required of entry-level nurses across health care settings. Entry-level nurses were not differentiated by their type of basic nursing education program.

Marshall (1999) modified a data collection instrument originally used by the ANA to identify the skills nurses would need in order to remain in acute care or to make a

transition to community-based settings. Modifications made to the instrument were the result of a review of nursing literature, pilot testing, and an evaluation by a panel of nurses. The final survey instrument identified 25 competencies needed in practice by beginning registered nurses. Those competencies were arranged under six constructs and included interpersonal and communication skills, critical thinking and problem solving, management and care coordination skills, direct care and technical skills, psychosocial skills, and self-management skills.

Marshall (1999) found that when perceptions of nurses from acute care, long-term care, and community-based health care settings were compared, no statistically significant differences in competencies were identified by nurses from those settings. When perceptions of nurse educators, administrators, and nursing staff were compared, there was general agreement between nurse administrators and nursing staff regarding the competency constructs. However, nurse educators rated two of the constructs, critical thinking and psychosocial skills, significantly higher than did nursing executives and nursing staff.

Incongruencies between competencies presented in nursing programs and used in practice may lessen as those in the practice setting continue to recognize and value the importance of a broader knowledge base (Marshall, 1999). It would seem that, in a more diverse society and in an increasingly complex health care environment, critical thinking and psychosocial skills would be as essential and valuable to the nurse administrators and staff as the other competency constructs. Mismatch of competencies used in practice and those presented in nursing programs may result from the workplace undervaluing less visible or less measurable skills.

Hyndman (1999)

While Marshall (1999) sought the perceptions of nursing faculty, nursing executives, and nursing staff members regarding competencies needed by the beginning professional nurse, Hyndman's 1999 research involved a survey of recent graduates of nursing programs. Graduates from associate degree and baccalaureate degree programs in Minnesota were asked to report their perceptions of skills used in beginning nursing practice and their perceptions of skills taught in nursing programs. Hyndman asked the newly registered nurses to review each of 35 competencies and to provide two ratings for each competency. The first rating indicated how frequently the nurse perceived the competency to be used in nursing practice, and the second rating asked the nurse how frequently the same competency was presented in the nursing program from which he or she had graduated.

The competencies or skills identified in Hyndman's survey instrument were the result of a review of nursing literature. A summary of the work of 50 authors and the skills they had identified as needed by RNs for practice in a changing health care environment became the basis for the development of Hyndman's survey instrument. A frequency tabulation was made of references to each proposed skill, and those skills that appeared three times or more in the literature were included in the survey instrument. The most frequently mentioned competencies were critical thinking, effective communication, assessment, health promotion and disease prevention, problem solving and decision making, valuing multicultural diversity, and collaboration and interdisciplinary relations. Similar skills were eventually merged, and remaining competencies were organized into themes. Further modifications to the instrument were

made following a pilot study. The final survey instrument listed 35 competencies organized by themes and eventually grouped under five constructs: intellectual skills, interpersonal skills, technical skills, care management skills, and community-based skills. Table 1 contains the 35 skills and the five constructs.

Table 1

Five Constructs and 35 Competencies Used in Hyndman's (1999) Study

Intellectual skills	Care Management skills
Critical thinking	Comprehensive assessment of basic needs
Knowledge-based practice	Provision of age appropriate care
Problem-solving/decision making	Provision of care to individuals
Quantitative skills	Provision of care to families
Ability to deal with change	Management of care
Creativity	Delegating skills
Interpersonal skills	Patient/family teaching
Effective communication	Holistic care
Values multicultural diversity	Documentation
Conflict resolution/negotiation	Evaluation of care
Management skills	Accountability
Team work	Ethical practice
Caring	
Leadership skills	Community-based skills
Interdisciplinary collaboration	Health promotion/disease prevention emphasis
Counseling	Application of knowledge to economic aspects
Patient advocacy	Case finding/case management
Technical skills	Home assessment
Technical/psychomotor	Community assessment
Computer use	

The participants in Hyndman's study had been in practice approximately six months to one year at the time of the survey. A total of 99 associate degree and 125 baccalaureate degree nurses participated in the study. When asked to indicate their

current practice setting, the 224 respondents reported the following areas of practice: hospital (147), long-term care (35), community-based nursing (27), and other (15).

Participants were asked to rate each of the 35 skills on a scale of one to four as to the frequency with which they perceived the skill to be used in practice and as to the frequency with which they perceived the skill to have been presented in their nursing program. A response of one indicated a perception that the skill was never used in practice or never presented in the program, while a score of four represented the perception that a skill was consistently used in practice or consistently presented in the nursing program. In other words, skills with high mean scores were seen by the graduates as more frequently used in practice or more frequently presented in the nursing program.

When perceptions of competencies presented in nursing programs were compared between associate degree and baccalaureate degree graduates, 12 of the 35 competencies showed a significant difference ($p<.05$). Of those 12 competencies, 10 were rated higher by baccalaureate graduates. Hyndman noted that this indicated that baccaureate graduates perceived the 10 skills as more frequently presented in their baccalaureate nursing programs than did the associate degree graduates in considering the presentation of skills in their degree programs. The two skills perceived by the associate degree graduates as more frequently presented in their nursing programs were comprehensive assessment and documentation. Table 2 contains a comparison of the skills as perceived by associate degree and baccalaureate degree graduates.

Table 2

Skills Presented in Nursing Program That Differed Significantly Between Perceptions of Associate and Baccalaureate Graduates

Interpersonal Skills	Technical Skills
Conflict resolution/negotiation Leadership Interdisciplinary collaboration Counseling	Computer Use
Care Management	**Community Based**
Comprehensive assessment * Holistic care Documentation *	Health promotion Case finding/Case management Home assessment Community assessment
Intellectual	

*Mean score higher for associate degree graduates

When mean scores of competencies used in practice were compared between the two groups of respondents in Hyndman's study, results indicated a significant difference in only 2 of the 35 competencies. This was seen as supporting the premise that, in most health care institutions, associate degree and baccalaureate degree nurses were used interchangeably, without regard to educational preparation. Hyndman noted that a major problem associated with the educational preparation and expected competencies of nurses is the fact that graduates of both programs were expected to write the same licensure examination and were both credentialed as RNs. In Minnesota, there was no legal difference between associate degree and baccalaureate degree nurses, either in licensure or in scope of nursing practice. When hired, the graduates were expected to function similarly, and there generally was no differentiation in roles and responsibilities in

practice based upon educational preparation. Thus, differentiation in practice based upon educational preparation was seen as more theoretical than actual. Hyndman concluded that any differentiation that did occur in practice was more likely to be based on performance rather than on education.

The two skills used in practice that did differ significantly between the two groups of graduates were accountability and ethical practice. Both items were under the construct of care management. Both of those items were rated higher by associate degree nurses, and thus perceived to be more frequently used in practice. Traditionally, both of those skill areas tended to have received a greater emphasis in a baccalaureate nursing curriculum than in an associate degree curriculum. In response to this finding, Hyndman proposed that the associate degree nurses may have perceived themselves as inadequately prepared to deal with issues of accountability and ethical practice, and thus reported a heightened awareness when asked to consider those skills.

When graduates' perceptions of skills presented in their nursing programs were then compared to their perceptions of skills used in practice, a significant difference was found for 32 of the 35 competencies in the survey (Hyndman, 1999). Of those 32 skills, participants rated 30 of the skills as used more frequently in practice than as presented in their nursing programs. Only home assessment and community assessment were rated as having been presented more frequently in the nursing program than used in practice. The three skills which did not show a significant difference were holistic care, documentation, and case finding/case management.

As a result of these findings, Hyndman suggested that nursing graduates, at least in Minnesota, perceived a lack of congruency between the skills presented in nursing programs and the skills used in practice. A possible explanation was that, despite the level or quality of educational preparation, newly graduated nurses may simply feel that they are inadequately prepared for practice. Hyndman also noted that frequency of use in practice may not equate to the importance of the skill either in practice or in the educational program.

It may be of interest to note the similarities between the survey instruments used in Marshall's 1999 study and Hyndman's 1999 study. Although the instruments were developed separately, but at a similar time, the constructs under which the skills were organized and several of the individual item skills were quite similar (See Table 3).

Table 3

Comparison of Competencies Between Marshall (1999) and Hyndman (1999)

Hyndman	Marshall
Intellectual Skills	Critical Thinking/Problem Solving
Interpersonal Skills	Interpersonal Communication
Technical Skills	Direct Care/Technical
Care Management Skills	Management and Care Coordination
Community-based Skills	Psychosocial
	Self-Management

Summary

All of higher education is undergoing increasing scrutiny regarding accountability for meeting various needs of society. Those who lead institutions of higher education have been encouraged to examine their missions and to balance social relevancy and responsiveness while maintaining academic autonomy. Nurse educators will need to devise specific alliances with consumers of nursing graduates and consumers of health care in order to address issues of accountability to their constituencies. In addition, those who are leaders in nursing education will need greater involvement with public policy makers.

The nursing curriculum is in a continuous state of flux. Educators delete, integrate, and expand content based on what they hold to be meaningful in relation to the practice setting. A multitude of external, internal, and intraorganizational factors affect curriculum decisions, and curriculum decisions affect professional preparation outcomes. Identification and validation of program outcomes and competencies may become more critical as the health care systems experience more cost constraints, as nursing shortages grow, and as entry into practice issues continue to be debated. Generally, it was found that the competencies valued by faculty tend to be emphasized in the curricula. Therefore, it is important to assess faculty members' perceptions of graduate competencies and program outcomes.

Yet, despite many faculty efforts with regard to provision of excellent classroom and clinical experiences, new graduates often continue to express a lack of self-confidence in their abilities. Development of competency in the professional nurse role begins with the acquisition of knowledge and skills during basic nursing education;

therefore, it is important that the nursing curriculum be reflective of expectations of competencies required in practice.

CHAPTER III

RESEARCH METHODOLOGY

The purpose of this research was to identify the knowledge, skills, and competencies needed by beginning professional nurses. Faculty teaching in programs of nursing that prepare beginning nurses play an important role in the socialization and education of nursing students into their practice roles. The assessment of faculty perceptions of competencies used and needed in practice can provide valuable knowledge in the formation of nursing curriculum. The following research questions were used to guide the study.

1. What are professional nursing faculty members' perceptions of competencies used in practice by beginning registered nurses and the competencies presented in nursing programs that educate beginning registered nurses?
2. Is there a significant difference in the mean perception scores between intellectual, interpersonal, technical, care management, and community-based competencies?
3. Are demographic variables of professional nursing faculty members related to their perceptions of the competencies used in practice or presented in nursing programs?

4. Is there a relationship between professional nursing faculty members' perceptions of competencies used in practice and competencies presented in nursing programs?

5. Are there differences in perceptions of competencies used in practice and competencies presented in nursing programs between professional nursing faculty members and beginning registered nurses as reported by Hyndman (1999)?

The purpose of this chapter is to describe the research method for this study. The chapter is organized into the following sections: population and sample, instrument, data collection, and data analysis.

Population

The population of interest in this study is composed of faculty members who teach in professional nursing programs in the state of Minnesota. The population was chosen in order that comparisons could be made between the findings of this study and those of Hyndman's 1999 study of graduates from Minnesota nursing programs.

The Minnesota Board of Nursing listed 24 approved professional nursing programs in the state in 2000. Of those 24 educational programs, 15 programs conferred associate degrees and 9 programs offered baccalaureate degrees. Six of 15 associate degree programs were identified as mobility programs because only licensed practical nurses were admitted. The remainder of the associate degree programs were identified as generic. Of the nine baccalaureate programs, six programs were offered in private institutions. In addition to those nine baccalaureate programs, four institutions offered baccalaureate degrees in nursing but did not prepare nurses for initial licensure. Leaders of 23 of the 24 nursing programs agreed to participate in the study. The 23 nursing

programs employed 409 faculty members and directors of nursing at the beginning of the 2000-01 academic year. Those faculty members comprised the sample for this study.

Instrument

The instrument used in this study was developed by Hyndman (1999) for her survey of newly graduated registered nurses. The instrument identifies 35 competencies cited in Hyndman's literature review as needed by beginning registered nurses. The 35 competencies are categorized into five domains according to common themes or constructs: intellectual competencies, interpersonal competencies, technical competencies, care management competencies, and community-based competencies. The instrument was used previously to survey beginning registered nurses who were graduates of Minnesota associate degree and baccalaureate nursing programs. For this study, nursing faculty members in Minnesota were asked to complete the instrument.

The instrument was modified from its original form only in the following ways. The term "skills" was changed to "competencies" on the survey instrument in order to reflect an outcome-based learning environment. In addition, space was provided for, and faculty members were invited to identify, competencies not listed in the instrument and/or to provide comments regarding the survey. Slight formatting changes were made as well (see Appendix A).

As with Hyndman's graduate survey, faculty members were asked to respond to each of the 35 competencies with two scores. The first rating represented how frequently the faculty member perceived the competency to be used in practice by beginning registered nurses (practice competency). The second rating represented how frequently

the faculty member perceived the competency to be presented in the nursing curriculum (program competency).

Data Collection

The names of professional nursing program directors, chairs, or deans of two-year and four-year professional nursing programs in Minnesota were obtained through the Minnesota Board of Nursing. Each director, chair, or dean of the respective nursing program was contacted in person or by telephone or e-mail. A brief explanation of the study was given and a request was made for a current listing of the undergraduate program nursing faculty members. A list of faculty members was obtained from all but one school of nursing in Minnesota.

A letter was mailed directly to faculty members at their respective campuses inviting their participation (see Appendix B). A demographic form was included with the letter and a copy of the survey instrument. The data form was used to gather information from the subjects including age, length of time as a faculty member, length of time and type of experience in a practice setting, teaching assignment, and level of education (see Appendix C).

Each subject was provided also with a pre-addressed, stamped envelope in which to return the survey. Each survey instrument was given a three-digit code corresponding to the faculty member's name and educational institution. The code was used to enable a follow-up contact with non-respondents and those who returned incomplete surveys. The code was used also to identify the type of nursing program among four categories:

generic baccalaureate, generic associate degree, associate degree mobility, and baccalaureate completion.

Data Analysis

Each faculty member who responded to the survey provided 35 practice competency ratings and 35 program competency ratings. Using the statistical software package SPSS/PC, two composite scores were calculated for each of the five constructs by averaging the individual item competency scores for practice and the individual item competency scores for program. For example, in the construct of intellectual competencies, the six competency scores for practice and the six competency scores for program were averaged separately, and two composite scores were obtained. This was repeated for each of the other four constructs. As a result, 10 composite scores were calculated for each faculty member.

Composite scores from all faculty members were then averaged. The average composite scores represented faculty ratings of the competencies in each of the five constructs as used in practice and as presented in nursing programs.

In order to address the first research question, composite and item competency means and standard deviations were calculated. Composite and item competencies were then ranked according to means for both used in practice and presented in program.

For the second research question, a repeated measures analysis was used to establish the presence of a relationship between the faculty members' perceptions of competencies needed in practice and competencies taught in the nursing program. A post- hoc analysis was then conducted to determine where the differences occurred.

To assess for relationships between faculty demographic variables and competency scores, linear regressions, t-tests, and one-way ANOVAs were performed. If significant differences were found, post-hoc tests were performed. When the demographic variable, type of nursing program, was used composite means and standard deviations were recalculated for each of the types of nursing programs.

Correlation and paired t-tests were used to answer research question four. A Pearson Correlation was used to determine if a relationship existed between faculty perceptions of competencies used in practice and those presented in nursing programs. A paired t-test was then performed to identify any significant differences between the scores in each construct for used in practice and presented in nursing program.

Research question five was designed to compare the item means for each of the competencies as used in practice and as presented in program between faculty perceptions and the new registered nurses' perceptions as determined in Hyndman's study. Means were ranked and comparisons made between the two samples. An independent t-test was then used to identify significant differences between perceptions.

A content analysis of written responses on the survey instrument was performed. The analysis identified common themes and was used for comparison with the quantitative portion of the analysis.

CHAPTER IV

FINDINGS

The findings of the data analysis for this study are presented in this chapter. A profile of the respondents, including response rates, is given first. Then, findings are presented in relation to each of the research questions. The study was designed to assess nursing faculty members' perceptions of competencies used by the beginning registered nurse in practice and their perceptions of the degree to which those same nursing competencies were presented in the nursing curriculum. Faculty members' perceptions were compared also to the results of a previous study which included a survey of newly graduated nurses to identify their perceptions of such competencies.

The reader is reminded that, for the purpose of this study, it was assumed that competencies cited as used in practice are correlated with competencies needed in practice. It was also assumed that there is an acquisition of knowledge by the students commensurate with the degree to which competencies are presented in nursing programs. Likewise, increased use of competencies in practice and/or increased presentation in the nursing programs was assumed to correlate with increased value or importance in practice and/or within the curriculum.

Profile of Respondents

A total of 409 surveys were mailed directly to faculty members and directors of 23 of the 24 professional nursing programs approved by the Minnesota Board of Nursing. Of the 409 surveys mailed, 221 were returned. Five surveys were returned uncompleted. Notations on the five returned surveys indicated that the faculty members either had no pertinent knowledge of the competency areas or taught only in a graduate nursing program. The five surveys were not included in the analysis presented in this chapter. The overall response rate was 54%. The response rate by program type is listed in Table 4.

Table 4

Faculty Members' Response Rate by Program Type

Program Type	Surveys		Response
	Sent	Returned	Rate
Baccalaureate - Generic 4 year	198	101	51%
Baccalaureate - RN to BS	26	14	54%
Associate - Generic 2 year	153	83	54%
Associate - LPN to RN	27	18	67%
Totals	404	216	54%

In addition to the survey instrument, faculty members were requested to complete a one-page demographic sheet. Participants were asked, among other things, to report their employment status within their educational program. They were to choose one of three responses, employed full-time, less than full-time and more than half-time, or half-time or less. The majority of faculty members classified themselves as full-time faculty

members (76%) with less than one fourth reporting a part-time employment status in education (see Table 5).

Table 5

Respondents' Teaching Status

Teaching Status	Respondents	
	Number	Percentage
Full-time	165	76.4%
Less than full time	51	23.6%

In order to assess the extent of the faculty members' current exposure to a clinical practice outside of education, the respondents were asked to choose one of three statements which best described their current positions. Respondents could choose to identify themselves as nursing faculty members only, as nursing faculty members with 10% or less time spent in clinical practice outside of education, or as nursing faculty members with 11% or more time spent clinical practice outside of education. Over half (58%) of the respondents indicated that they did not maintain an outside clinical practice (see Table 6).

Table 6

Respondents' Faculty and Clinical Practice

Faculty Practice	Respondents	
	Number	Percentage
Faculty member only	125	57.9%
Faculty member with 10% or less time in clinical practice	47	21.8%
Faculty member with 11% or more time in clinical practice	44	20.4%

Analysis of information from responses on the demographic sheets provided an estimate of the number and percent of faculty members who had the opportunity to work in a clinical practice with new graduates. Respondents identified themselves in one of three ways, as practicing in a setting that allowed them to work with new graduates, as practicing in a setting that did not regularly hire new graduates, or not employed in a practice setting outside of education. Of the 214 respondents to this question, 121 (57%) identified themselves as not maintaining a practice outside of education. For those 93 members who did maintain an outside practice, 51 members (55%) indicated that they practiced in settings that did not regularly hire new graduates. Of the total respondents, 42 faculty members (20%) recorded responses indicating that they practiced in settings that did allow them to work with new graduates (see Table 7).

Table 7

Respondents' Practice Outside of Education and Exposure to New Graduates

Nursing Practice Outside of Education	Respondents	
	Number	Percentage
Outside practice setting employs new graduates	42	19.6%
Outside practice setting does not employ new graduates	51	23.8%
No outside practice	121	56.5%

Note: Two subjects did not respond

A wide range of experience was reported for both years of practice prior to becoming a faculty member and years as a faculty member. For all faculty members, the average number of years spent in nursing practice prior to becoming a faculty member

was 11.76 years with a SD of 8.41. The average number of years as a faculty member was 13.19 years with a SD of 9.84.

Similar to national reports (NSSRN, 2001), data gathered from the respondents in this study indicate an aging faculty. More than 40% of the responding faculty members reported themselves to be 50 years or older (see Table 8).

Table 8

Respondents by Age

Age Categories	Respondents	
	Number	Percentage
39 years of less	22	10.2%
40 - 49 years	100	46.5%
50 - 59 years	75	34.9%
60 years or older	18	8.4%

Note: One subject did not respond

Although more males have entered nursing, they remain a small portion of the RN population. The NSSRN (2001) reported that the percentage of males increased from 4.9% to 5.4% between 1996 and 2000. The percentage of male faculty members in this study (3.2 %) was less than the percentage of males reported in nursing as a whole.

Over 90% of faculty members in this study reported that they had earned masters or doctoral degrees (see Table 9). As would be expected of faculty, this is considerably higher than the general population of registered nurses. Nationally, 10.2% of all registered nurses were reported as having a master's or doctoral degrees (NSSRN, 2001).

Table 9

Number and Percentage of Respondents by Highest Degree Achieved

Highest Degree Obtained	Respondents	
	Number	Percentage
Associate or Baccalaureate	18	8.3%
Masters	152	70.4%
Doctorate	46	21.3%

Professional nursing journals are expected to reflect current discussions within the field of professional nursing practice and preparation. In order to ascertain faculty members' exposure to such discussions, subjects were asked to provide an estimate of the number of nursing journals they read on a monthly average. Respondents identified themselves as reading one or fewer nursing journals, two to four nursing journals, or more than four nursing journals per month. The majority of respondents (57%) chose the middle category of two to four journals per month. A typical written comment added in this section by respondents indicated that the faculty member also read non-nursing journals or read only portions of the journals and not the entire journal. Results are reported in Table 10.

Table 10

Number and Percentage of Respondents by Number of Journals Read

Nursing Journals Read	Respondents	
	Number	Percentage
One or fewer journals/month	48	23.1%
Two to four journals/month	124	59.6%
More than four journals/month	36	17.3%

Note: Eight subjects did not respond

Survey participants were asked to designate the percentage of time spent in various teaching and non-teaching roles over the past two years. Participants were asked to allocate a percent of the average amount of time spent in each of seven categories. Those categories included teaching in the classroom at the undergraduate level, classroom teaching at the graduate level, supervising students in clinical settings, supervising students in college lab settings, working in nursing outside of education, working in a non-nursing setting outside of education, and "other."

Because participants were asked to reflect on the time spent in various nursing roles over a two-year time period, subjects were able to provide information about recent roles not captured in previous questions. Respondents who had recent work experience in clinical practice settings outside of education, but who were not currently employed in the settings, assigned a high percentage of their time spent to this area. This question also allowed faculty members to provide information about their practice roles outside of education during non-academic portions of the year. Results indicated that over half the faculty members' time was spent in the combination of clinical supervision of students

(32%) and in the classroom teaching of undergraduates (29%). The most frequently cited examples for the "other" category were administration and research. Results are described in Table 11.

Table 11

Percent of Respondents' Time Spent in Various Teaching and Non-teaching Roles

Faculty Role	Percentage of Faculty Time
Classroom teaching (undergraduate level)	29.5%
Classroom teaching (graduate level)	4.2%
Supervising students in clinical setting	32.4%
Supervising students in college lab	6.9%
Employed outside of education in nursing field	11.4%
Employed outside of education in non-nursing field	0.1%
Other (e.g., research, administration, joint appointment)	15.5%

Research Question One

The first research question sought to describe professional nursing faculty members' perceptions of competencies used in practice by beginning registered nurses and their perceptions of the degree to which those same competencies were presented in the nursing curriculum. Completed survey instruments were the source of data for the answering the question. Faculty members were asked to review each of the 35 competencies and to provide two ratings for each competency. The first rating indicated how frequently the faculty member perceived the competency to be used in nursing practice, and the second rating asked the faculty member how frequently the same competency was presented in the nursing program in which he or she taught. A rating of

one indicated the competency was never used in practice or never presented in nursing programs. A rating of four indicated the competency was consistently used in practice or consistently presented in the nursing program. Each faculty member provided 35 practice competency scores and 35 program competency scores. The 35 practice and program competencies were organized under five constructs: intellectual, interpersonal, technical, care management, and community-based competencies. Ten composite scores were calculated for each faculty member. Five composite scores represented the faculty member's perceptions of the competency constructs as used in practice, and five scores presented the faculty member's perceptions of the competency constructs as presented in the nursing program.

The reliability alphas for the 10 construct competencies are listed in Table 12. Because of the small number of individual or item competencies under the construct "Technical," only the alpha for the combined as used in practice and as presented in program composite scores was calculated. With a coefficient alpha at .80, the survey instrument demonstrated internal consistency for three of the five competency constructs as used in practice, three of the five competency constructs as presented in nursing programs, and three of the five competency constructs when practice and program were combined.

Table 12

Reliability Analysis for Construct Competencies

Competency Construct	Number of Individual Competencies	Alpha for Practice Competency	Alpha for Program Competency	Alpha for Combined Practice & Program
Intellectual	6	.7042	.7117	.7445
Interpersonal	10	.8548	.8769	.8668
Technical	2			.4577
Care Management	12	.8767	.8512	.8710
Community-based	5	.8818	.8893	.8798

Individual composite scores were then averaged. The average composite scores represented faculty members' ratings of the competencies in each of the five constructs as used in practice and as presented in nursing programs. The resulting 10 means and standard deviations are listed in Table 13. The competency construct of care management received the highest mean score for both used in practice and presented in nursing programs, while community-based competencies received the lowest mean score for both used in practice and presented in nursing programs. Mean scores for competencies as used in practice ranged from a low of 2.79 for community-based competencies to a high of 3.65 for care management competencies. Mean scores of competencies presented in nursing programs ranged from a low of 2.85 for community-based competencies to a high of 3.57 for care management competencies. The standard deviations for community-based competencies were considerably higher than other standard deviations indicating a greater variability in responses.

Table 13

Means and Standard Deviations of Composite Scores for Competency Constructs as Used in Practice and as Presented in Nursing Programs

Competency Construct	Practice competency			Program competency		
	N	*M*	*SD*	*N*	*M*	*SD*
Intellectual	212	3.57	.35	213	3.43	.40
Interpersonal	214	3.46	.41	215	3.28	.49
Technical	214	3.58	.41	216	3.39	.55
Care management	213	3.65	.37	213	3.57	.36
Community-based	209	2.79	.65	213	2.85	.71

Means and standard deviations for each of the 70 item competencies were calculated. A complete listing is provided in Appendix D. When mean scores of item competencies as used in practice were ranked from greatest to least, three of the five highest ranked competencies came under the construct of care management. The two highest ranked competencies, provision of care to individuals and documentation, also were under the construct of care management (see Table 14).

Table 14

Competencies Perceived to Be Used Most Frequently in Practice

Competency Construct	Item Competency	Mean
Care management	Provision of care to individuals	3.88
Care management	Documentation	3.87
Interpersonal	Caring	3.85
Intellectual	Problem-solving/decision making	3.85
Care management	Comprehensive assessment of basic needs	3.84

When means for item competencies as presented in nursing programs were ranked by means, the two highest ranked competencies, provision of care to individuals and comprehensive assessment, came under the construct of care management. No other item competencies under the construct care management were identified in the top ranked five competencies (see Table 15).

Table 15

Competencies Perceived to Be Presented Most Frequently in Nursing Programs

Competency Construct	Item Competency	Mean
Care management	Provision of care to individuals	3.86
Care management	Comprehensive assessment of basic needs	3.84
Intellectual	Knowledge-based practice	3.82
Interpersonal	Effective communication	3.80
Interpersonal	Caring	3.80

When the means of item competencies as used in practice were again compared, four of the five lowest rated competencies came under the construct of community-based competencies. Four of the five competencies each had a mean of less than 3.0 and indicated the competencies were rarely to occasionally used in practice. Results of the ranking are provided in Table 16.

Table 16

Competencies Perceived to Be Used Least Frequently in Practice

Competency Construct	Item Competency	Mean
Community-based	Community assessment	2.57
Community-based	Home assessment	2.66
Community-based	Case finding/case management	2.75
Community-based	Application of knowledge to economic aspects	2.85
Interpersonal	Counseling	3.10

The means of item competencies as presented in nursing programs were ranked and compared to determine which competencies were perceived to be presented least frequently in nursing programs. Four of the five lowest ranked item competencies came under the construct of community-based competencies. The fifth item competency was associated with the construct of interpersonal competencies. Table 17 presents the five item competencies perceived to be presented least frequently in nursing programs and the construct competency associated with each such competency.

Table 17

Competencies Perceived to Be Presented Least Frequently in Nursing Programs

Competency Construct	Item Competency	Mean
Community-based	Case find/case management	2.62
Community-based	Application of knowledge to economic aspects	2.67
Community-based	Home assessment	2.73
Community-based	Community assessment	2.82
Interpersonal	Conflict resolution/negotiation	2.88

Research Question Two

The second research question asked if a significant difference existed between the faculty perceptions of intellectual, interpersonal, technical, care management, and community-based competencies. Mean composite scores for each of the competency constructs as used in practice and as presented in nursing programs were compared to answer this question. The 10 composite scores were previously provided in Table 13.

To reduce the role of variability due to individual differences among faculty members, a repeated-measures analysis was chosen to address this research question. The variables in the first comparison were the five average composite scores for competencies as used in practice. A significant difference was found ($p<0.05$) between the competencies (see Table 18).

Table 18

Repeated Measures Analysis for Competencies as Used in Practice

Source	*SS*	*df*	*MS*	*F*	*p*
Between people	118.0188	206	.5729		
Within people	195.9122	828	.2366		
Between measures	105.1113	4	26.2778	238.4657	<.001
Residual	90.8010	824	.1102		
Total	313.9310	1034	.3036		

A second comparison was made using the five average composite scores for competencies as presented in the nursing programs. Again, a significant difference ($p<0.05$) was found among the five competency constructs (see Table 19).

Table 19

Repeated Measures Analysis for Competencies as Presented in Programs

Source	*SS*	*df*	*MS*	*F*	*p*
Between people	162.2754	209	0.7764		
Within people	182.3178	840	.2170		
Between measures	63.8923	4	15.9731	112.7587	<.001
Residual	118.4254	836	.1417		
Total	344.5931	1049	.3285		

Post hoc analyses were then conducted to determine where the "between competencies" composite score differences actually occurred. Bonferroni was chosen as the post hoc test. The competencies of care management, technical, and intellectual were rated significantly higher than interpersonal and community-based competencies ($p<.001$). Those competencies were perceived by faculty members to be used the most frequently in practice. Community-based competencies were ranked significantly lower than care management, technical, intellectual, and interpersonal competencies ($p<.001$). Community-based competencies were perceived to be used the least frequently in practice than any of the other competencies (see Table 20).

Table 20

Multiple Comparisons for Competencies as Used in Practice

Level	Competency	*M*	*p*
Level I	Care Management	3.65	.165
	Technical	3.58	1.00
	Intellectual	3.57	<.001
Level II	Interpersonal	3.46	<.001
Level III	Community-based	2.79	

The post-hoc test Bonferroni was again chosen to determine where the differences occurred between the perceptions of the competencies as presented in the nursing programs. The competency of care management was rated significantly higher than any other competency ($p<.001$). Again community-based competencies were rated significantly lower than any other competency ($p<.001$). Faculty members perceived care management competencies to be the most frequently presented competency in nursing programs, and the community-based competency to be the least frequently presented (see Table 21).

Table 21

Multiple Comparisons for Competencies as Presented in Programs

Level	Competency	*M*	*p*
Level I	Care Management	3.57	<.001
Level II	Intellectual	3.43	1.00
	Technical	3.39	.114
	Interpersonal	3.28	<.001
Level III	Community-based	2.85	

Research Question Three

The third research question sought to determine if selected demographic variables of faculty members affected their perceptions of the competencies as needed in practice and as presented in nursing programs. The source of the demographic information for this research question was the demographic form completed by the participants and the program coding on the returned envelopes. Several demographic variables of faculty members were reviewed for their relationships with the mean composite scores of the competencies as used in practice and as presented in nursing programs. Simple linear regressions were used to compare 10 composite scores with the following independent demographic variables: years in practice prior to entering education, years in education, percentage of time spent in the classroom with undergraduates, percentage of time spent in the clinical setting with students, and percentage of time spent in nursing practice outside of teaching. An alpha level of .05 was used for each of the regressions.

The demographic variables of years in practice prior to entering nursing education, percentage of time in the classroom with undergraduates, and percentage of

time in the clinical setting with students were not found to be significant predictors for any of the 10 composite scores. These independent demographic variables did not impact the faculty members' perceptions of competencies used in practice or presented in the nursing programs.

With an alpha level of .05, the variable of years in nursing education was found to be a significant positive predictor for the mean composite score of the construct intellectual competency as presented in the nursing programs (R^2=.028, F=5.830, p=.017). Years in nursing education, however, was not found to be statistically significant for the same construct as used in the nursing practice (see Table 22). The longer a nursing faculty member was employed in nursing education, the more frequently he or she perceived intellectual competencies to be presented in the nursing programs, but not necessarily used in practice.

Table 22

Linear Regression for Independent Variable of Years in Nursing Education

Variables						
Independent	Dependent	Slope	Intercept	β	*t*	*p*
Years in nursing education	Intellectual used	.0008	3.558	.023	.325	.746
	Intellectual presented	.0067	3.339	.167	2.415	.017

Method: Entry

A linear regression was used also to determine the relationship between time spent employed in nursing, but outside of education, and any of the 10 mean composite scores. The variable of time spent employed in nursing outside of education was found to

be a significant positive predictor for the competency construct of care management as presented in nursing programs (R^2=.042, F=9.346, p=.003). The effect of time spent employed in nursing outside of education was not found to be significantly related to with the same construct as used in practice. The greater percentage of the faculty members' total time spent within the last two years in nursing practice outside of education, the more frequently they perceived the competency of care management to be presented in the nursing programs. See Table 23 for results.

Table 23

Linear Regression for Independent Variable Percentage of Time Spent in Practice Outside of Education

Variables						
Independent	Dependent	Slope	Intercept	β	*t*	*p*
Time outside of nursing education in practice	Care management used	.0002	3.652	.015	.213	.831
	Care management presented	.0034	3.611	-.206	-3.057	.003

Method: Entry

An independent t-test was performed to determine if employment status in education, full-time or part-time, was related to perceptions of competencies as used in practice or as presented in the nursing programs. No significant differences in the 10 mean composite scores between full-time and part-time employment status were found (p>.05). Full or part-time employment in nursing education did not significantly affect faculty members' perceptions of the competencies.

To determine if the categorical variables of journals read and nursing faculty position within education and practice were related to the ratings of competencies, one-way ANOVAs were performed. No significant differences were found in the 10 mean composite scores between the three variables (one or fewer journals, two to four journals, and more than four journals) describing the number the nursing journals regularly read per month ($p>.05$). No significant differences in the 10 mean composite scores, as well, were found between the categories of faculty position (faculty member only, faculty member with 10% or less time in clinical practice outside education, or faculty member with 11% or more time in clinical practice outside of education) with an alpha level of .05.

Faculty members had been asked to choose one of three statements that best described their opportunities to work with nursing graduates. Faculty members could choose to identify themselves as practicing in a setting that allowed them to work with new graduates, practicing in a setting that did not allow them to work with new graduates, or not maintaining a practice outside of education. A one-way ANOVA did not demonstrate any significant differences in the 10 mean composite scores between any of these three categorical variables of nursing practice with graduates ($p>.05$). Practice outside of nursing education, whether the faculty members interacted with new graduates or not, did not affect the perceptions of competencies as used in practice or as presented in the nursing program.

Finally, a one-way ANOVA was used to determine if the type of nursing program in which faculty members were employed was related to their perceptions of competencies as used in practice or as presented in the nursing program. Each faculty

member was placed in one of four types of nursing programs: a generic baccalaureate nursing program, a baccalaureate completion program, a generic associate degree nursing program, or a associate degree mobility program. Means and standard deviations were calculated using the individual composite mean by program type. Each competency construct now had a total of eight mean composite scores. The following section refers to the composite means as calculated by program type.

Significant differences were found in the mean composite scores for the five construct competencies as presented in the nursing program between the four types of nursing programs ($p<.05$). No significant differences, however, were found in the mean composite scores as used in practice between the four types of nursing programs ($p>.05$). See Appendix E for results.

To determine where these differences occurred, the Scheffe post-hoc multi-comparison test was used. When the post-hoc test was performed, the differences in the means for the construct of intellectual competencies no longer were found to be significant.

Faculty members in generic baccalaureate programs perceived the competency construct of interpersonal, care management, and community-based to be presented in their nursing programs more frequently than generic associate degree faculty members perceived those same competencies to be presented in their programs. Significant differences in the mean composite scores for community-based competencies between program types were also found. Faculty members from generic baccalaureate programs perceived community-based competencies to be presented more frequently than did faculty members from either generic associate degree or mobility associate degree

programs. Similarly, faculty members from baccalaureate completion programs perceived community-based competencies to be presented significantly more often in their programs than did faculty members from either generic associate degree or mobility associate degree programs. The greatest difference in mean composite scores was found between baccalaureate completion and generic associate degree faculty perceptions for the construct of community-based competencies (.9855). The mean composite scores that varied significantly between program types are listed in Table 24. A complete list is provided in Appendix F.

Table 24

Significant Differences in Mean Competency Scores as Presented in Nursing Programs Between Types of Nursing Programs

Construct Competency	Type of Program	Type of Program	Mean diff	*SE*	*p*
Interpersonal	Generic Baccalaureate	Generic Associate	.2767	.071	.002
Technical	Generic Baccalaureate	Baccalaureate completion	.7907	.147	.000
	Generic Associate	Baccalaureate completion	.7074	.149	.000
Care Management	Generic Baccalaureate	Generic Associate	.1603	.053	.031
Community-based	Generic Baccalaureate	Generic Associate	.7692	.089	.000
		Mobility Associate	.5726	.152	.003
	Baccalaureate completion	Generic Associate	.9855	.171	.000
		Mobility Associate	.7889	.211	.004

Research Question Four

The fourth research question asked if there was a relationship between nursing faculty members' perceptions of competencies as used in practice and competencies as presented in nursing programs. A Pearson Correlation was performed to assess for the linear relationship between faculty perceptions. The average composite scores for each of the five competency constructs were used. For each of the five competencies, significant positive correlations ($p<.001$) were found between the average composite score as used in practice and the average composite score as presented in the nursing program. Correlation findings are reported in Table 25.

Table 25

Pearson Correlation of Competencies as Used in Practice and as Presented in Nursing Programs

Construct Competency	Number of Respondents	*r*	*p*
Intellectual	211	0.289	<.001
Interpersonal	213	0.243	<.001
Technical	214	0.373	<.001
Care Management	212	0.255	<.001
Community Based	209	0.399	<.001

A paired t-test was then used to determine if there were significant differences between the means for each of the five pairs of constructs as needed in practice and as presented in the nursing programs. For the competencies of intellectual, interpersonal, technical, and care management, significant differences ($p<.05$) were found between pairs. In each instance, the mean composite score for the competency as used in practice

was higher than the mean composite score as presented in program. The opposite was true for the construct of community-based competencies, with the lower mean found in the use of the competency in practice. However, the difference in means for that construct was not statistically significant. Faculty, in general, perceived the competencies to be more frequently used in practice than presented in their nursing programs. Results are provided in Table 26.

Table 26

Paired t-test for Competencies as Used in Practice and as Presented in Nursing Programs

Construct Competency	*N*	*M*	*SD*	*t*	*p*
Intellectual-Used	211	3.5695	.3476	4.594	<.001
Intellectual-Presented	211	3.4281	.3990		
Interpersonal-Used	213	3.4643	.4097	4.606	<.001
Interpersonal-Presented	213	3.2883	.4909		
Technical-Used	214	3.5771	.4052	4.808	<.001
Technical-Presented	214	3.3972	.5492		
Care Management-Used	212	3.6549	.3663	2.707	<.001
Care Management-Presented	212	3.5719	.3645		
Community-based-Used	209	2.7885	.6545	-1.187	.237
Community-based-Presented	209	2.8498	.7037		

Research Question Five

The final research question sought to compare the perceptions of competencies as used in practice and the perceptions of competencies as presented in nursing programs between nursing faculty members and beginning registered nurses. Perceptions of

beginning registered nurses were obtained from Hyndman's 1999 study. Because composite scores for the construct competencies were not calculated in Hyndman's study, only item competency scores could be compared. In addition, Hyndman's sample included only students from generic associate degree and generic baccalaureate degree programs, and, as such, only perceptions reported by faculty members in those two program types were used.

An independent t-test was used to compare the means for each of the 35 competencies as used in practice and for each of the 35 competencies scores as presented in the nursing program between nursing graduates of generic associate degree programs and nursing faculty who taught in generic associate degree programs. No significant differences were found in the mean scores between the two groups for the item competencies as used in practice ($p>.05$). In addition, no significant differences were found in the mean scores of item competencies as presented in nursing programs ($p>.05$). Faculty members and graduates from associate degree programs perceived competencies as used in practice in a similar manner, as well as competencies as presented in the nursing programs.

The perceptions of faculty members from generic baccalaureate programs and of graduates from generic baccalaureate programs were then compared. Using an independent t-test, the faculty members' mean scores for the 35 item competencies as used in practice were compared to the graduates' mean scores for the 35 item competencies as used in practice. No significant differences were found in the scores ($p>.05$). When mean competency scores as presented in nursing programs were compared between faculty and graduates of baccalaureate programs, no significant

differences were found ($p>.05$). Baccalaureate faculty members and baccalaureate graduates perceived competencies as used in practice and as presented in nursing programs in a similar manner.

Four comparisons were made between faculty members' and graduates' perceptions of competencies by ranking the means of the item competencies. For these comparisons, scores were not separated by type of nursing program for either the graduates or the faculty members. Mean scores for each of the two sets of 35 competencies were calculated for both faculty members and graduates.

The mean scores of the item competencies were ranked. One ranking represented the graduates' perceptions of competencies as needed in practice, and a second ranking represented the faculty members' perceptions of competencies as needed in practice. The 10 competencies with the highest ranking and the 10 competencies with the lowest ranking for each were then compared. When the highest ranked competencies were compared, 9 of the 10 competencies were identical between the groups. The two competencies not shared between the groups were technical/psychomotor and ethical practice. The competency of ethical practice was included in graduates' ranking, while the competency of technical/psychomotor was included in the faculty members' ranking (see Table 27).

Table 27

Faculty Members' and Graduates' Perceptions of Competencies Used Most Frequently in Practice

Faculty Perceptions of Competencies	*M*	Student Perceptions of Competencies	*M*
Provision of care to individuals	3.88	Documentation	3.97
Documentation	3.87	Effective communication	3.93
Caring	3.85	Caring	3.92
Problem-solving/decision making	3.85	Critical thinking	3.90
Comprehensive assessment	3.84	Problem-solving/decision making	3.89
Critical thinking	3.82	Provision of care to individuals	3.89
Effective communication	3.81	Accountability	3.87
Technical/psychomotor skills	3.80	Comprehensive assessment	3.85
Accountability	3.77	Ethical practice	3.83
Knowledge-based practice	3.75	Knowledge-based practice	3.80

The lowest mean scores of competencies as used in practice were then compared between the groups. When the 10 lowest ranked competencies in each group were examined, it was found that 8 of the 10 competencies were identical between the groups. The four lowest ranked competencies, community assessment, home assessment, case finding/case management, and application of knowledge to economic aspects in nursing, were ranked lowest by both the groups. Two competencies, quantitative and management skills, were included in the faculty members' ranked list and not in the graduates' ranked

list. The competencies of provision of care to families and computer use were included in the graduates' list but not in the faculty members' list (see Table 28).

Table 28

Faculty Members' and Graduates' Perceptions of Competencies Used Least Frequently in Practice

Faculty Members' Perceptions of Competencies	*M*	Graduates' Perceptions of Competencies	*M*
Community assessment	2.57	Community assessment	2.05
Home assessment	2.66	Home assessment	2.13
Case finding/case management	2.75	Case finding/case management	2.52
Application of knowledge to economic aspects of nursing	2.85	Application of knowledge to economic aspects of nursing	2.83
Counseling	3.10	Computer use	2.98
Creativity	3.12	Counseling	3.08
Management skills	3.12	Health promotion/disease prevention emphasis in practice	3.33
Health promotion/disease prevention emphasis in practice	3.12	Conflict resolution/negotiation	3.33
Quantitative skills	3.23	Creativity	3.33
Conflict resolution/negotiation	3.25	Provision of care to families	3.34

Means of graduate and faculty members' perceptions of competencies as presented in nursing programs were ranked. When the 10 competencies with highest means for each group were compared, 9 of the 10 competencies were identical between groups. Two competencies, problem-solving/decision making and evaluation of care, were not shared by the groups. Problem-solving/decision making was included in the

group of competencies by nursing faculty members, while evaluation of care was included in the group of competencies by nursing graduates (see Table 29).

Table 29

Faculty Members' and Graduates' Perceptions of Competencies as Presented Most Frequently in Nursing Programs

Faculty Members' Perceptions of Competencies	*M*	Graduates' Perceptions of Competencies	*M*
Provision of care to individuals	3.86	Comprehensive assessment	3.73
Comprehensive assessment	3.84	Provision of care to individuals	3.71
Knowledge-based practice	3.82	Effective communication	3.69
Effective communication	3.80	Knowledge-based practice	3.66
Caring	3.80	Critical thinking	3.65
Critical thinking	3.76	Caring	3.63
Ethical practice	3.74	Ethical practice	3.63
Problem-solving/decision making	3.72	Accountability	3.62
Accountability	3.72	Provision of age appropriate care	3.55
Provision of age appropriate care	3.66	Evaluation of care	3.50

A final comparison was made between perceptions of faculty members and of nursing graduates. For this comparison, the competencies perceived to be presented with the least frequency in nursing programs were considered. When the 10 competencies with lowest means for each group were compared, it was found that 9 of the 10 competencies were identified by both groups. The two competencies not shared by the groups were management skills and computer use. The competency of computer use was included in the graduates' list of competencies perceived to presented least frequently,

while the competency of management skills was included in the faculty members' list of competencies perceived to be presented least frequently (see Table 30).

Table 30

Faculty Members' and Graduates' Perceptions of Competencies as Presented Least Frequently in Nursing Programs

Faculty Members' Perceptions of Competencies	*M*	Graduates' Perceptions of Competencies	*M*
Case finding/case management	2.62	Computer use	2.25
Application of knowledge to economic aspects	2.67	Home assessment	2.60
Home assessment	2.73	Creativity	2.64
Community assessment	2.82	Community assessment	2.65
Conflict resolution/negotiation	2.88	Case finding/case management	2.65
Counseling	2.88	Application of knowledge to economic aspects	2.66
Creativity	2.90	Counseling	2.71
Delegating skills	2.94	Conflict resolution/negotiation	2.83
Management skills	2.96	Interdisciplinary collaboration	2.88
Interdisciplinary collaboration	3.04	Delegating skills	2.94

Comments by Nursing Faculty Members

At the end of the survey, participants were invited to write comments and/or identify other competencies needed in practice and/or presented in nursing programs that were not listed on the survey. A total 44 respondents provided comments or identified additional competencies.

One of the more prevalent themes found in the comments was the faculty members' judgment that use of competencies in practice would increase over time.

Faculty members had been asked to indicate how frequently the competency was used in "beginning practice" by registered nurses. Although, the concept of "beginning practice" was not defined, faculty members seemed to view registered nurses in beginning practice as novices with the potential to grow in their roles. One faculty member commented, "it sometimes takes 3 - 6 months for beginning practitioners to use all of the presented competencies in their practice." Another faculty member responded, "after some experience I would expect these scores [used in practice] to improve." One educator listed specific competencies she or he suspected not to be used by beginning nurses, but by "more experienced nurses."

A second theme in the comment section focused on the differences in practice settings used by nurses. Some faculty members acknowledged that the frequency of use for specific competencies was dependent on the practice settings. A suggestion was made to place the competency in the context of a practice setting and then ask participants to judge the level of frequency to which the competency was used. Pertinent written comments included the following "the setting really makes a difference here ... the new RN at a hospital functions differently from the new RN at a school nurse job" and "computer use is obviously very dependent on employer and setting."

Faculty members reported having struggled with their ratings of competencies as presented in nursing programs. They alluded to discrepancies between the intended curriculum and the delivered curriculum. One faculty member wrote, "there is a great disparity between what education programs and faculty state they are teaching, and the actual teaching of the stated content." A second comment of a similar nature was "in words or in reality? Reality of education vs words used by the educator."

Some educators expressed concerns regarding the ratings of competencies as used in practice. One respondent seemed to express frustration when she wrote that she "was not sure what you meant by used. In some cases it should have been used, but was not." A second comment conveyed a similar thought when the educator wrote, "I wish I could circle all 4's for what I would like to see in beginning practice. I circled what I observe beginners doing and some that I wish they could do."

Several educators made suggestions for competencies not identified on the survey. A total of 17 competencies were proposed by faculty members: referrals; assertiveness; neonatal health concerns; mentorship; integration of complementary/alternative therapies; confidentiality; safety, personal and client; prioritization; legal aspects and standards of care; time management; holism; writing skills, formal and scholarly; presentation skills; qualitative skills; change agent; nurse-scholar role; and care of dying/end of life.

Summary of the Findings

The competency construct of care management was perceived by faculty members as the most frequently used construct in practice and as the most frequently presented construct in nursing programs. Several item competencies under the construct of care management were rated also as frequently used in practice and as presented frequently in the nursing programs.

Few demographic variables of faculty members were found to be related significantly to competency constructs. Length of time in education and percentage of time spent in nursing practice outside of education were found to be significant positive predictors for two of the construct competencies. The longer faculty members had been in education, the more frequently they perceived the intellectual competencies to be

presented in nursing programs. The greater the percentage of time faculty members spent in nursing practice in non-educational settings, the more frequently they perceived care management competencies to be presented in nursing programs. Neither independent variable was a significant predictor for the corresponding construct as perceived to be used in practice.

The type of nursing program in which faculty members were employed was a significant predictor for four of the five competency constructs as presented in nursing programs: interpersonal, technical, care management, and community-based. The type of nursing program, however, did not relate to the faculty members' perceptions of any of the construct competencies as used in practice. The perception of community-based competencies varied most by program type.

When item competencies were ranked by mean scores, considerable similarities were found between the perceptions of faculty members and of recent graduates. Those findings were supported also by the use of independent t-tests between group means. The tests demonstrated no significant differences in the mean item competency scores between nursing graduates and faculty members.

Written comments suggested that faculty members expect beginning registered nurses to demonstrate increased use of competencies in practice over time, while comments seem to have expressed frustration that beginning nurses should be, but were not using the competencies. Several new competencies were also proposed by faculty members. Finally, some faculty members expressed concern regarding the discrepancies between the intended curriculum and the presented curriculum in nursing programs.

CHAPTER V

SUMMARY, CONCLUSIONS, RECOMMENDATIONS, AND COMMENTARY

This chapter contains four sections that provide an overview of the study. The first section contains a summary of the purpose for the study, the research problem and questions, limitations, theoretical base, population, instrument, data collection and analysis, and principal findings. Following the summary are the conclusions and the recommendations supported by the findings. The concluding portion of the chapter contains the researcher's commentary.

Summary

One of the most important roles of a leader in nursing education is to provide guidance for curriculum development and revision. Because nursing is a discipline that is grounded in contemporary practice, as well as education, it is important that the curriculum resonate with the needs of the practice setting. Changes within the health system have caused nurses in their practice setting to modify, expand, and adapt their practices in order to meet their patients' new health care needs. The provision of nursing care and nursing education have been impacted by changes in patient demographics, technological advances, the movement of care to non-hospital settings, rising health care costs, greater consumer expectations, and an aging nursing workforce.

Those who lead programs of nursing and those who teach in programs of nursing are expected to produce knowledgeable and competent graduates who are capable of entering the current workforce with minimal interruption. Employers of nursing graduates expect those in schools of nursing to not only provide beginning practitioners who possess the basic knowledge and skills of the profession but to provide nurses who can demonstrate the capacity for growth and the capability to adapt. Students in nursing programs desire a seamless transition from education to practice and expect to be armed with the prerequisite skills and learning in order to enter the profession with confidence. Beginning professional nurses want to be prepared for the realities of practice.

In order to produce nursing graduates capable of meeting the needs of the health care market, nursing leaders must define the competencies needed in practice by the beginning registered nurse. Previous research has examined the perceptions of new nursing graduates regarding competencies as needed in practice and as presented in nursing programs (Hyndman, 1999). The purpose of this study was to describe the perceptions of faculty members in regard to the needed competencies and therefore to identify any perceived theory-practice gaps in the preparation of graduates. The following research questions were used to guide the study.

1. What are professional nursing faculty members' perceptions of competencies used in practice by beginning registered nurses and the competencies presented in nursing programs that educate beginning registered nurses?

2. Is there a significant difference in the mean perception scores between intellectual, interpersonal, technical, care management, and community-based competencies?
3. Are demographic variables of professional nursing faculty members related to their perceptions of the competencies used in practice or presented in nursing programs?
4. Is there a relationship between professional nursing faculty members' perceptions of competencies used in practice and competencies presented in nursing programs?
5. Are there differences in perceptions of competencies used in practice and competencies presented in nursing programs between professional nursing faculty members and beginning registered nurses as reported by Hyndman (1999)?

The study was limited to nursing schools in Minnesota, and nursing competencies were restricted to the 35 competencies previously identified in Hyndman's 1999 study of nursing graduates. The instrument used was that developed by Hyndman. The instrument identified 35 competencies as needed by beginning nurses.

The survey instrument and a form used to gather demographic information were mailed directly to professional nursing faculty members in Minnesota schools that prepared associate degree and baccalaureate degree nurses. A total of 216 of 404 surveys were returned for a response rate of 54%. Of the respondents, the majority (76%) were full-time faculty members and a majority (58%) did not maintain a nursing practice

outside of education. Nearly one third of faculty members' time was spent in the supervision of nursing students in the clinical setting (32%) or in the classroom teaching of undergraduates (30%). Respondents had been employed in nursing practice prior to entering nursing education for an average of 12 years, and respondents had spent an average of 13 years in nursing education. Nearly all (92%) of faculty members reported having masters or doctoral degrees.

Data gathered from the instrument were analyzed using appropriate statistical methods. Results from Hyndman's 1999 survey were used to make comparisons between the perceptions of nursing graduates and the perceptions of nursing faculty. Qualitative information was obtained from comments made on the survey instrument and was reviewed for common themes.

Conclusions

1. The competency construct of care management is the most important facet of nursing practice. When means of the five competency constructs (intellectual, interpersonal, care management, technical, and community-based) were ranked, care management was considered by nursing faculty members as the most frequently used construct both, in practice and as presented in nursing programs. Nursing faculty members who spent a greater percentage of their time in clinical practice attached a greater importance to that construct in the nursing curriculum than did faculty members who spent a lesser percentage of their time in clinical practice. Nursing graduates attached a relatively high degree of importance to several item competencies under the

construct of care management. Those competencies were documentation, provision of care to individuals, accountability, comprehensive assessment, and ethical practice.

2. Economic aspects of health care are seen by nursing faculty and nursing graduates to be of lesser importance than other competencies. When ranked by means from greatest to least, faculty placed the competency 33rd out of 35 as used in practice and 34th out of 35 as presented in the nursing program. Graduates in Hyndman's 1999 study also viewed the competency as infrequently used or taught. When means were ranked for graduates' perceptions, economic aspects of health care placed 32nd of 35 as used in practice and 30th of 35 as presented in nursing programs. This conclusion seems to contradict the emphasis in the literature on economics of health care and the delivery of nursing care. Current news reports regarding health care and health care systems also tend to be centered on the business aspects or economics of health care institutions.

3. A misalignment of the competency of documentation exists between practice and education. Documentation was seen to be the most or second most frequently used skill in practice, according to the perceptions of both recent graduates and faculty members. Graduates and faculty members, however, did not see this competency as being presented in the education program to a similar degree. Comparison of the means placed documentation 14th of the 35 competencies as perceived by the graduates and 15th of the 35 competencies as perceived by the faculty members.

4. Nursing faculty members are in general agreement on the competencies needed by beginning registered nurses. Faculty members from the four types of nursing

programs in Minnesota did not differ significantly in their perceptions of competencies used in practice by beginning nurses. The expectations of performance may differ as the novice nurse becomes more skilled, but initial expectations of their graduates are similar.

5. Nursing graduates and nursing faculty members are in general agreement about the competencies needed by beginning registered nurses. No significant differences were found between the perceptions of the recent graduates and the perceptions of the faculty members for competencies either as used in practice or as presented in the nursing program. When competencies were ranked by means, a general pattern of agreement was noted between the perceptions of faculty members surveyed for this study and the perceptions of recent graduates surveyed by Hyndman (1999).

Recommendations

Recommendations for Further Study

1. A similar study should be conducted using a larger and random sample of nursing faculty members. Health care, nursing practices, and expectations of beginning nurses in different parts of the country may be impacted by local cultures and consumer expectations. By studying the perceptions of faculty members from a broader geographical area, the results of that study could be generalized appropriately to a greater population.

2. A similar study should be conducted using registered nurses with longer and more varied experience. Faculty members' comments on the survey instrument indicated expectations that their graduates would begin to use competencies more frequently as

their careers progressed. As nurses gain greater experience, the importance and priority of various competencies may change. Faculty members' comments also indicated that the context in which the nurses practice may impact their perceived importance of a competency. By selecting nurses from various practice settings, a more accurate description of "core" competencies (competencies essential to all practice areas) could be obtained. A study involving more experienced nurses would lend insight as to the importance of competencies over time. The literature may not be an accurate reflection of competencies needed in the workplace and may be either ahead of or behind workplace expectations.

3. A survey could be conducted of nurses in practice settings who direct or are responsible for the hiring of beginning nurses. By obtaining the perceptions of such nursing leaders in practice, a different perspective on the merit of the various competencies would be obtained. A comparison of perceptions from nursing leaders in practice settings and nursing leaders in higher education could identify and possibly explain any mismatches between education and practice.

4. A qualitative study could be conducted utilizing participant interviews and/or focus groups rather than a written survey. By using a qualitative approach, the researcher would be able to provide greater clarification as to the meaning of specific competencies and the meaning of the research in general. Participants could more easily convey their concerns regarding the contexts in which the competencies would be used.

5. A survey should be conducted in which participants are asked to rate separately the importance of a competency and the frequency of its use in practice or as presented in nursing programs. Although written responses seemed to indicate some alignment between frequency and importance, that may not hold true for all competencies. While documentation was reported to be used frequently in practice by educators and graduates, it would be difficult to drawn the conclusion that it is the most important competency a beginning nurse should possess.

Recommendations for Policy and Practice

1. Nursing educators must continue to assure that the curriculum within basic nursing programs remains centered on care management competencies. The literature is replete with recommendations, suggestions, and even threats for nursing educators to incorporate more community-based concepts into their program outcomes. While this seems like sound advice when considering recent trends in health care, it must not overshadow or dilute the core of competencies perceived to be needed most by those entering the nursing profession. A majority of active registered nurses reported that patient care was their primary professional responsibility (MDH, 2001). Nurses are delivering health care to new consumers in new locations using new technologies. The health care environment continues to be volatile, and those who educate future nurses must continue to assess the relevancy of their curriculum to the practice setting.

2. Employers of nursing graduates should assess beginning nurses' knowledge and ability to provide accurate documentation of patient care upon entry to the workplace.

This study found a misalignment between theory and practice for the competency of documentation. Although the skill was perceived to be required frequently in practice, it was perceived to be included less frequently in nursing programs. The results of the study may suggest that beginning nurses lack the appropriate level of proficiency needed in the workplace for this competency, or the results may imply simply that use of the competency in practice consumes a relatively greater portion of the nurses' time than other competencies but educators need not commit a proportionally equal amount of the curriculum to teach the competency. It is possible that the competency is mastered easily in a nursing program, thus requiring little time, or that educators may choose not to devote a great deal of time to the competency in anticipation that employers will provide context-specific instruction in that skill.

3. Educators and practitioners must support and encourage continued dialogue between nurses who teach in education settings and nurses in practice. Conversations between the groups will assist in a clearer identification of competencies needed in practice and competencies that can be taught within the various types of nursing programs. Similar to the realities of health care facilities and clinical nurses, educational institutions and nursing faculty members have finite resources. It is important therefore that each group understands and recognizes what the other has to offer, and needs to offer, in order to avoid gaps and duplication. If the focus remains on the common goal of providing quality patient care, much can be accomplished.

4. Nursing administrators in practice settings must recognize that decisions by their nurses may not be guided frequently by the economics of the health care system. Despite the emphasis in the literature, nurses in both education and practice settings do not appear to be overly concerned with the issue of costs attached to the delivery of patient care. For the most part, they allow others to worry about fiscal policies, reimbursement patterns, and long-range financial planning. Nurses expect adequate resources to be available in order to provide quality patient care. Only when patient needs cannot be met do nurses take notice. From the nurse's perspective, patient care decisions are not business decisions.

5. Nursing leaders in education and in practice should consider issues related to differentiated nursing practice. Differentiated nursing practice may allow nursing graduates to function in different roles that correspond to their level of education or preparation. Differentiated practice could allow nursing to celebrate its diversity. Capacity to learn is not limited by the entry-level educational credentials of the nurse. All nurses, therefore, should be encouraged to continue to learn, whether that implies an advanced degree or further speciality training.

Commentary

This study used the curriculum model developed by Stark et al. (1986a) to examine the forces that shape the curriculum and program outcomes in professional nursing programs. Several major influences on the preparation environment for professional nurses were reviewed. This commentary is focused on the real or potential

impact of those influences as they affect the identification of competencies used in this study.

The current nursing shortage has impacted the use of beginning professional nurses. Ideally, nurses' educational backgrounds and experiences are matched appropriately with the right job description. Nursing administrators in health care facilities experiencing nursing shortages may have limited options in appropriately matching the needs of the setting with the competencies of nurses entering the profession. In addition, employers of nurses may not be aware of the different competencies brought by beginning nurses. The competencies brought to the practice setting may vary by educational preparation (associate or baccalaureate degree), by type of program (generic associate or baccalaureate degree, mobility, or completion), or by program location (urban versus rural). It would seem important that core competencies expected of all beginning professional nurses should be defined and communicated between those who hire beginning nurses and those who teach in schools of nursing. Faculty from all types of nursing programs must be prepared to assure that their students are able to demonstrate those core competencies. The identification and definition of those competencies requires input from nurses in educational settings and nurses from practice settings, and frequent review in order to assure their currency in the workplace. The acquisition of the core competencies becomes the foundation for all beginning professional nurses. This may mean that faculty members in nursing programs need to refocus their instruction on the competencies that are required frequently in many health care practice settings (care

management competencies). Time, resources, and the professional culture will then dictate which additional competencies realistically can be taught and acquired by the students in a particular program.

Faculty members from different types of nursing programs currently teach students different competencies. Some competencies (technical, community-based skills) are distinctly different among the program types, and others are not as clearly differentiated (intellectual). Multiple entry points to professional nursing can be seen as a strength, allowing for a greater diversity of individuals to enter the profession as well as a weakness, causing confusion about expectations of graduates. By establishing a group of core competencies, nursing faculty can assist nurses to better articulate between levels of nursing education.

Once core competencies for beginning nurses have been defined, it is important for nursing leaders in clinical practice to know what additional competencies beginning nurses bring to the practice setting. This will assist in the hiring of the right nurse for the right job. When this is not possible, it will assist leaders in clinical practice to design orientation programs, and/or inservice or educational plans to fill in gaps in preparation. Student portfolios may be one method by which to provide employers with an assessment of student competencies. The use of portfolios would allow beginning nurses to share with their potential employers additional competencies learned in their educational programs or additional competencies they have acquired through individual efforts. The portfolios could reveal strengths and weaknesses of beginning nurses and provide more

realistic pictures of graduates' capabilities. The use of student portfolios could also provide documentation as to the level of proficiency in competencies not required as frequently in practice. Nursing staff, educators, and beginning nurses all can become frustrated when expectations in practice setting do not match the beginning nurses' competencies. The gap in expectations may be defined more clearly by the use of portfolios. This could have the potential to save health care institutions both time and money and reduce feelings of frustration for both the beginning nurses and their employers.

The findings in this study suggest that graduates' perceptions of competencies used in practice are aligned closely with faculty members' perceptions of competencies used in practice. The competencies chosen for review were found in nursing literature, and many articles in professional publications are written by nursing faculty members. It should not be a surprise, then, that a congruency in perceptions exists between nursing faculty members and nursing graduates. Nurses who have been in practice less than a year more than likely continue to show the influence of nursing educators. If nursing educators have written that a competency is essential in the workplace, have expressed this view to students, and have presented the competency frequently in nursing programs, it may be natural that entering professional nurses echo those same perceptions. Without the input of those nurses in practice, nurse educators cannot be assured, however, that the competency is valid. Terms used to label the competencies used in this study, likewise, seemed to reflect the language of educators (knowledge-based practice, critical thinking)

and without clear definitions of competencies, it may be difficult to know if nurses in practice and education are truly in agreement. Agreement between nursing faculty and nursing graduates in regard to the competencies needed in practice does not imply necessarily that nurses in practice for longer periods of time will perceive the competencies in a similar manner. Nurses experienced in practice may choose additional competencies or place different emphasis on these competencies. Gathering their input is essential to the identification of needed competencies.

Hyndman's 1999 study asked nursing graduates to evaluate their own use of nursing competencies. This study asked faculty members to evaluate the use of the competencies in practice. Neither study sought the perceptions of experienced nurses. Faculty members and beginning nurses may perceive the frequent use of a given competency, while experienced nurses may disagree.

A recent discussion with employers of nurses revealed a sense of frustration on the part of the employers. They saw nursing graduates as being unable to transfer skills from educational settings to practice settings. Employers of nursing graduates do not want nurses with the ability to only use "ivory tower" competencies, but instead want graduates who possess "relevant" competencies. In particular, they noted that critical thinking was an important competency for nurses. However, they did not see beginning nurses using the competency of critical thinking in a relevant manner to the practice setting. This contradicts the perceptions of the beginning registered nurses in Hyndman's (1999) study and the faculty members' perceptions in this study. Beginning nurses and

faculty members saw graduates as using critical thinking frequently in practice. The difference may lie in the conflicting definitions of the competency. If nursing educators and nurses in practice do not possess a shared definition of the competency, differences in expectations of the beginning registered nurse can exist.

It is interesting to note that none of the competencies identified on the survey instrument used in this study or added by faculty members addressed the competencies needed by nurses to deliver health care as a business enterprise. With increased competition among health care providers, customer satisfaction has become a major focus for leaders in health care. Nurses' frequent interaction with patients and families of patients make them key representatives of their institutions' commitment to customer satisfaction. Beginning nurses who have not viewed patients or patients' families as customers may be surprised and disenchanted by expectations to do so in the practice setting. Nursing educators have tended not to view the health care environment as a business enterprise with consideration of customers and economic issues. This reluctance may impede the transition of nursing graduates to the workplace.

The results of this study indicated that the competency of creativity was perceived by faculty members and beginning registered nurses as a competency that is infrequently used in nursing practice and infrequently presented in nursing programs. This finding may reflect the environment in which nursing students are educated and the practice environment in which nurses work after graduation. Nursing educators in the classroom and nursing supervisors in the clinical setting often do not capitalize on or reward creative

thinking. Likewise, the highly regulated practice environment typically does not reward innovative thinking and is even less tolerant if the creative thinking is practiced by beginning nurses. The competency of creativity may not be demonstrated by the beginning nurse or be supported in the organizational climate of the health care system. If nurses are truly to be flexible and adaptable workers in a changing health care environment, nursing leaders must encourage and reward creative efforts and help create environments that support the application of creative and critical thinking.

This study found that beginning nurses perceived the competency of documentation to be used more frequently in practice than the competencies of effective communication, caring, or provision of care to individuals. This seems to be a disheartening finding. While documentation is an extremely important activity performed by nurses, it should not detract from their time spent providing care to patients and their families. Individuals typically enter the profession of nursing because of their desire to work with and care for people. Nurses may become frustrated by if they find a disproportionate amount of their time is spent performing an activity that separates them from working directly with patients. Dissatisfaction may prompt them to leave the profession adding to the increasing nursing shortage.

The movement of health care services to non-hospital settings has caused faculty members in programs of nursing to likewise develop student clinical experiences in those same settings. If the educational foundation expected of every professional nursing graduate becomes the acquisition of core competencies, those non-hospital experiences

must be evaluated in terms of their contribution to the acquisition of the core competencies. If such experiences do not contribute to the achievement of core competencies, educators must decide if there are sufficient other opportunities in the curriculum for those competencies to be acquired.

Faculty members must also decide if learning experiences in non-hospital settings are fundamentally different from the experiences in hospital-based settings. If the experiences are fundamentally different, faculty members may not be prepared to provide appropriate student supervision in those settings. This may require that faculty attend post-graduate courses to increase their expertise in new settings. More realistically, it may require educators to develop partnerships with the supervising nurses in those settings. Faculty members would provide the expertise in the teaching and learning process, while practicing nurses would provide the expertise for clinical application of competencies in the practice setting. Preceptorships or mentorships may be a means to utilize the expertise of both faculty members and nursing staff in order to provide the best preparation for the nurse of the future.

Because the majority of nurses in Minnesota continue to be employed in hospital in-patient and out-patient settings and in nursing homes and because a majority of nurses report patient care as their primary professional activity, it would seem essential that hospitals should continue to be a primary site in which nursing educators provide clinical experiences for their students. In attempts to prepare nursing graduates for all health care

settings, educators may be diluting the core of competencies needed by most of the nursing graduates.

The movement of nursing programs from practice settings to academic settings has allowed nursing educators to exercise greater control over nursing curricula and program outcomes and has allowed for the development of a scientific base for practice. The movement also has weakened the ties of service and education, and with the increasing rate of change in health care, this weakness has become more pronounced. The discipline of nursing and the profession of nursing can better meet the needs of patients by reuniting those in practice and those in education. This begins by clearly defining the competencies needed in the work environment and clearly defining what educators can do to develop those competencies in their students. The process of preparing professional nurses for practice requires that educators and practitioners combine their efforts and make a joint commitment to the process.

The health care arena in which professional nurses provide nursing care has become increasingly chaotic, unpredictable, and complicated. Because of changes in that environment, nursing roles and the competencies that define those roles are being reshaped. The education and socialization of nurses for these new roles begins in institutions of higher education and continues into the workplace. Given the market forces directed at providing health care in the most appropriate settings by the least costly skill mix of competent practitioners, it is imperative that nurses and nursing leaders clearly articulate the expected competencies of entry level registered nurses. By

identifying the competencies needed in practice, nursing leaders in practice can design health care delivery systems that incorporate appropriately prepared nurses and accurate job descriptions. By identifying the competencies taught in nursing programs, nursing leaders in education can create meaningful articulation plans and more uniform educational outcomes. Mutual discussions between nurses in practice and nurses in education will continue to bring a greater degree of alignment between practice and education.

APPENDICES

APPENDIX A

SURVEY INSTRUMENT

NURSING COMPETENCIES SURVEY

The following competencies have been identified from the nursing literature as being important for nursing practice in a changing health care environment. Please review each competency listed and score each item **twice**. In the first column indicate how frequently the competency is used in beginning practice by registered nurses. In the far right column indicate how frequently your nursing program presents the competency.

Used in Practice
4 = Consistently
3 = Occasionally
2 = Rarely
1 = Never

Presented in Nursing Program
4 = Consistently
3 = Occasionally
2 = Rarely
1 = Never

COMPETENCY	USED IN PRACTICE	PRESENTED IN PROGRAM
1. ***INTELLECTUAL***		
a. Critical thinking	4 . 3 . 2 . 1	4 . 3 . 2 . 1
b. Knowledge-based practice	4 . 3 . 2 . 1	4 . 3 . 2 . 1
c. Problem-solving/decision making	4 . 3 . 2 . 1	4 . 3 . 2 . 1
d. Quantitative skills	4 . 3 . 2 . 1	4 . 3 . 2 . 1
e. Ability to deal with change	4 . 3 . 2 . 1	4 . 3 . 2 . 1
f. Creativity	4 . 3 . 2 . 1	4 . 3 . 2 . 1
2. ***INTERPERSONAL***		
a. Effective communication	4 . 3 . 2 . 1	4 . 3 . 2 . 1
b. Values multicultural diversity	4 . 3 . 2 . 1	4 . 3 . 2 . 1
c. Conflict resolution/negotiation	4 . 3 . 2 . 1	4 . 3 . 2 . 1
d. Management skills	4 . 3 . 2 . 1	4 . 3 . 2 . 1
e. Team work	4 . 3 . 2 . 1	4 . 3 . 2 . 1
f. Caring	4 . 3 . 2 . 1	4 . 3 . 2 . 1
g. Leadership skills	4 . 3 . 2 . 1	4 . 3 . 2 . 1
h. Interdisciplinary collaboration	4 . 3 . 2 . 1	4 . 3 . 2 . 1
i. Counseling	4 . 3 . 2 . 1	4 . 3 . 2 . 1
j. Patient advocacy	4 . 3 . 2 . 1	4 . 3 . 2 . 1

COMPETENCY	USED IN PRACTICE	PRESENTED IN PROGRAM

3. *TECHNICAL*
   a. Technical/psychomotor skills ..... 4 . 3 . 2 . 1 ..... 4 . 3 . 2 . 1
   b. Computer use ..... 4 . 3 . 2 . 1 ..... 4 . 3 . 2 . 1

4. *CARE MANAGEMENT*
   a. Comprehensive assessment of basic needs ..... 4 . 3 . 2 . 1 ..... 4 . 3 . 2 . 1
   b. Provision of age appropriate care .... 4 . 3 . 2 . 1 ..... 4 . 3 . 2 . 1
   c. Provision of care to individuals ..... 4 . 3 . 2 . 1 ..... 4 . 3 . 2 . 1
   d. Provision of care to families ..... 4 . 3 . 2 . 1 ..... 4 . 3 . 2 . 1
   e. Management of care ..... 4 . 3 . 2 . 1 ..... 4 . 3 . 2 . 1
   f. Delegating skills ..... 4 . 3 . 2 . 1 ..... 4 . 3 . 2 . 1
   g. Patient/family teaching ..... 4 . 3 . 2 . 1 ..... 4 . 3 . 2 . 1
   h. Holistic care ..... 4 . 3 . 2 . 1 ..... 4 . 3 . 2 . 1
   i. Documentation ..... 4 . 3 . 2 . 1 ..... 4 . 3 . 2 . 1
   j. Evaluation of care ..... 4 . 3 . 2 . 1 ..... 4 . 3 . 2 . 1
   k. Accountability ..... 4 . 3 . 2 . 1 ..... 4 . 3 . 2 . 1
   l. Ethical practice ..... 4 . 3 . 2 . 1 ..... 4 . 3 . 2 . 1

5. *COMMUNITY-BASED SKILLS*
   a. Health promotion/disease prevention emphasis in practice ..... 4 . 3 . 2 . 1 ..... 4 . 3 . 2 . 1
   b. Application of knowledge to economic aspects of nursing & health care in practice . 4 . 3 . 2 . 1 ..... 4 . 3 . 2 . 1
   c. Case finding/case management ..... 4 . 3 . 2 . 1 ..... 4 . 3 . 2 . 1
   d. Home assessment ..... 4 . 3 . 2 . 1 ..... 4 . 3 . 2 . 1
   e. Community assessment ..... 4 . 3 . 2 . 1 ..... 4 . 3 . 2 . 1

6. **COMMENTS/OTHER COMPETENCIES NOT LISTED**

_____

_____

_____

APPENDIX B

COVER LETTER

Deb Filer
Rural Route 2 Box 158
Thief River Falls, MN 56701
(218)449-4715

dfiler@nctc.mnscu.edu

December 6, 2000

Dear Nursing Faculty Member:

I am a doctoral student pursing a Ph.D. in Higher Education Administration in the Department of Educational Leadership at the University of North Dakota. I am conducting dissertation research on nursing faculty members' perceptions of competencies needed by beginning registered nurses. Nursing faculty in Minnesota colleges and universities that prepare beginning professional nurses are being asked to participate in this research study.

Enclosed you will find a 35 item nursing competency survey and demographic data sheet. The survey and demographic form should require 5 - 10 minutes to complete. I would appreciate your assistance with the completion of the enclosed survey materials by December 22 if possible. It is my intent to complete the student before the end of the current academic year and prepare the results for possible publication soon thereafter.

In order to preserve confidentiality, the data will be compiled and reported in aggregate form without identifying any individual responses. You will note that the return envelope has a code number which will be used only for determining the identity of nonrespondents; the envelopes and response documents will be separated immediately upon receipt and opening so that no responses can be identified with individual subjects. I am assuming that your return of the completed documents gives me your consent to use your responses as indicated above.

In you have any questions, please do not hesitate to contact me or my advisor, Dr. Jerry Bass. He can be reached at (701) 777-3577 or via e-mail at gerald_bass@und.nodak.edu.

Thank you in advance for your contribution to this study!

Sincerely,

Deb Filer
Enclosure

APPENDIX C

DEMOGRAPHIC FORM

Please tell me about yourself

1. **Gender**
   O Male OFemale

2. **Age**
   O 29 or under
   O30 - 39
   O40 - 49
   O50 - 59
   O60+

3. **Please check all levels of education that you have completed**
   O Practical nurse
   O Associate degree in nursing
   O Diploma in nursing
   O Baccalaureate in nursing
   O Baccalaureate in other field
   O Masters in nursing
   O Master in other field
   O EdD
   O DNSc
   O PhD in nursing
   O ND

4. **Length of time in nursing practice (full or part-time) prior to entering teaching**
   _____(round to nearest whole year)

5. **Length of time in nursing education (full or part-time)**
   _____ (round to nearest whole year)

6. **Indicate the number of nursing journals you regularly read**
   O 1 or fewer journals/per month
   O 2 to 4 journals/month
   O More than 4 journals/month

7. **Primary place of employment as a nursing faculty member (Choose one)**
   Baccalaureate program
   O Generic 4 year
   O LPN to RN
   O RN to BS
   Associate degree program
   O Generic 2 year
   O LPN to RN

8. **Nursing faculty employment status**
   OEmployed as a 3/4 time to full time nursing faculty member
   OEmployed less than 3/4 time and more than ½ time as a nursing faculty member
   OEmployed less than ½ time as a nursing faculty member

9. **Which category best explains your position right now? (Choose one)**
   OCollege/university nursing faculty member only
   OCollege/university nursing faculty member with 10% or less time spent in clinical practice outside of education
   OCollege/university nursing faculty member with 11% or more time spent in clinical practice outside of education

10. **Over the past two years allocate a percent of the average amount of time you have spent in each of the following categories (must add to 100%)**
    _____Classroom teaching (undergraduate level)
    _____Classroom teaching (graduate level)
    _____Supervising students in clinical setting
    _____Supervising students in college lab setting
    _____Employed outside education in the nursing field
    _____Employed outside education in some other field
    _____Other(e.g. research, administration, joint appointment)_____
    100%=TOTAL

11. **Which of the following statements best describes your nursing practice outside of teaching? (Choose one)**
    OI practice in a setting that allows me to work with newly graduated nurses on a regular basis.
    OI practice in a setting that does not regularly hire new graduate nurses.
    OI do not maintain a regular practice outside my teaching assignment

APPENDIX D

MEANS AND STANDARD DEVIATIONS FOR COMPETENCIES AS USED IN PRACTICE AND COMPETENCIES AS PRESENTED IN NURSING PROGRAMS AS PERCEIVED BY NURSING FACULTY MEMBERS

Competency	Practice competency			Program competency		
	n	*M*	*SD*	*n*	*M*	*SD*
Critical thinking	212	3.57	.35	213	3.43	.40
Knowledge-based practice	213	3.82	.41	215	3.76	.45
Problem-solving/decision making	213	3.85	.38	215	3.72	.47
Quantitative skills	213	3.23	.64	214	3.20	.69
Ability to deal with change	213	3.67	.56	214	3.14	.79
Creativity	213	3.12	.73	214	2.90	.79
Effective communication	214	3.81	.42	215	3.80	.47
Values multicultural diversity	214	3.35	.66	216	3.48	.70
Conflict resolution/negotiation	214	3.25	.71	215	2.88	.78
Management skills	214	3.12	.75	215	2.96	.79
Team work	214	3.74	.49	215	3.40	.72
Caring	214	3.85	.40	215	3.80	.47
Leadership skills	214	3.32	.67	215	3.16	.71
Interdisciplinary collaboration	214	3.50	.67	215	3.04	.83
Counseling	214	3.10	.74	215	2.88	.84
Patient advocacy	214	3.58	.59	215	3.45	.71
Technical/psychomotor skills	214	3.80	.45	216	3.63	.65
Computer use	214	3.36	.63	216	3.15	.82
Comprehensive assessment of basic needs	214	3.84	.41	215	3.84	.39
Provision of age appropriate care	214	3.72	.48	216	3.66	.53
Provision of care to individuals	214	3.88	.34	216	3.86	.38
Provision of care to families	214	3.38	.75	216	3.41	.71
Management of care	213	3.54	.61	213	3.31	.68
Delegating skills	214	3.48	.68	215	2.94	.76

Patient/family teaching	214	3.68	.60	215	3.65	.59
Holistic care	214	3.43	.72	216	3.59	.66
Documentation	214	3.87	.35	215	3.55	.63
Evaluation of care	214	3.55	.65	215	3.58	.62
Accountability	214	3.77	.46	215	3.72	.52
Ethical practice	214	3.74	.48	215	3.74	.50
Health promotion/disease prevention emphasis in practice	212	3.12	.74	214	3.40	.73
Application of knowledge to economic aspects of nursing & health care in practice	212	2.85	.78	213	2.67	.78
Case finding/case management	209	2.75	.79	213	2.62	.85
Home assessment	212	2.66	.83	214	2.73	.92
Community assessment	212	2.57	.84	214	2.82	.93

APPENDIX E

ANALYSIS OF VARIANCE IN COMPETENCY SCORES BETWEEN TYPE OF NURSING PROGRAM

Competency	Groups	*SS*	*df*	*MS*	*F*	Sig.
Intellectual-Used	Between	.0921	3	.031	.252	.860
	Within	25.347	208	.122		
	Total	25.438	211			
Intellectual-Presented	Between	1.669	3	.556	3.645	.014
	Within	31.894	209	.153		
	Total	33.563	212			
Interpersonal-Used	Between	.589	3	.196	1.170	.322
	Within	35.215	210	.168		
	Total	35.803	213			
Interpersonal-Presented	Between	3.893	3	1.298	5.745	.001
	Within	47.660	211	.226		
	Total	51.553	214			
Technical -Used	Between	.726	3	.242	1.48	.220
	Within	34.252	210	.163		
	Total	34.978	213			
Technical - Presented	Between	8.705	3	2.902	10.92	.000
	Within	56.346	212	.266		
	Total	65.051	215			
Care Management - Used	Between	.0848	3	.028	.209	.890
	Within	28.233	209	.135		
	Total	28.318	212			

Care Management - Presented	Between	1.205	3	.402	3.124	.027
	Within	26.862	209	.129		
	Total	28.067	212			
Community Based - Used	Between	2.196	3	.732	1.727	.163
	Within	86.896	205	.424		
	Total	105.512	212			
Community Based - Presented	Between	31.918	3	10.639	30.215	.000
	Within	73.594	209	.352		
	Total	105.512	212			

APPENDIX F

MEANS AND STANDARD DEVIATIONS FOR COMPETENCIES AS USED IN PRACTICE AND AS PRESENTED IN NURSING PROGRAMS BY TYPE OF NURSING PROGRAM

Competency	Type of Program	*n*	*M*	*SD*
Intellectual competencies as used in practice	Generic Baccalaureate	99	3.57	.31
	RN to Baccalaureate	13	3.51	.38
	Generic Associate	82	3.58	.38
	Mobility Associate	18	3.62	.36
	Totals	212	3.57	.35
Intellectual competencies as presented in program	Generic Baccalaureate	99	3.48	.35
	RN to Baccalaureate	14	3.60	.24
	Generic Associate	82	3.32	.46
	Mobility Associate	18	3.47	.37
	Totals	213	3.43	.40
Interpersonal competencies as used in practice	Generic Baccalaureate	100	3.51	.40
	RN to Baccalaureate	13	3.32	.41
	Generic Associate	83	3.43	.43
	Mobility Associate	18	3.42	.37
	Totals	214	3.46	.41
Interpersonal competencies as presented in program	Generic Baccalaureate	100	3.40	.43
	RN to Baccalaureate	14	3.45	.38
	Generic Associate	83	3.12	.54
	Mobility Associate	18	3.29	.45
	Totals	215	3.29	.49
Technical competencies as used in practice	Generic Baccalaureate	100	3.55	.42
	RN to Baccalaureate	13	3.42	.34
	Generic Associate	83	3.64	.39
	Mobility Associate	18	3.58	.43
	Totals	214	3.58	.41

Technical competencies as presented in program	Generic Baccalaureate	101	3.51	.49
	RN to Baccalaureate	14	2.71	.43
	Generic Associate	83	3.42	.57
	Mobility Associate	18	3.17	.45
	Totals	216	3.39	.55
Care Management competencies as used in practice	Generic Baccalaureate	100	3.66	.37
	RN to Baccalaureate	13	3.59	.36
	Generic Associate	82	3.67	.36
	Mobility Associate	18	3.63	.42
	Totals	213	3.65	.37
Care Management competencies as presented in program	Generic Baccalaureate	100	3.64	.32
	RN to Baccalaureate	13	3.63	.33
	Generic Associate	82	3.48	.41
	Mobility Associate	18	3.58	.33
	Totals	213	3.57	.36
Community-based competencies as used in practice	Generic Baccalaureate	96	2.90	.65
	RN to Baccalaureate	13	2.60	.68
	Generic Associate	82	2.70	.65
	Mobility Associate	18	2.73	.64
	Totals	209	2.79	.65
Community-based competencies as presented in program	Generic Baccalaureate	98	3.18	.57
	RN to Baccalaureate	14	3.40	.42
	Generic Associate	83	2.41	.64
	Mobility Associate	18	2.61	.63
	Totals	213	2.85	.71

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