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Honors Research in Nursing: Integration of Theory and Evidence-Based Practice using Multiple Modalities of Thinking

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Clinical judgment in nursing requires integration of a broad set of concepts from patho-physiological processes and situation-specific assessments to human caring and interpersonal communication. Nursing students consistently report difficulty in understanding and applying the complexities and ambiguities of care. They often perceive mixed messages and competing perspectives that cannot be resolved; their increasing frustration can produce anxiety about the conceptual tasks of scholarship. Honors research in nursing addresses this problem directly. Students have the opportunity to develop project ideas through all phases of the research process. They select a clinical question, relate it to nursing theory and current literature, design a project plan and implement the plan. In this process they experience first-hand how a single mode of thinking can be tracked through conceptualization to practice. Data-based research supports the student's transition to valuing evidence-based practice. As different students have considered different clinical questions, a variety of modes of thinking have been observed. Deductive, inductive and intuitive ways of understanding have been chosen for varied Honors research projects. This analysis looks at the process of Honors research in the discipline of nursing and how Honors students can use the process to provide an advanced foundation for practice in the discipline.

REVIEW OF LITERATURE

Different modes of thinking can pose difficulties for nursing students as they attempt to integrate performance approaches to care for a given client/patient or group of clients/patients. Competing approaches produce ambiguities, even for the most mature student or seasoned practitioner. Numerous authors have recognized the inherent complexity of nurses' ways of knowing. Berragan (1998) states that different models and ways of knowing are used for different fields of nursing and different nursing situations. Lauri and Salantera (1998) recommend that we explore the

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relationship between the nurse's structure of knowledge and how nurses use knowledge for decision-making in difficult situations. Other authors have recognized the role of intuition in nursing practice (Benner & Tanner, 1987; Rose & Parker, 1994; Berragan, 1998; McCutcheon & Pincombe 2001; Truman, 2003). Intuition is a manifestation of transpersonal caring and includes understandings of self-awareness through reflection (Leners, 1992).

Tanner (1998), a major national leader in nursing today, states that clinical judgment should be grounded in evidence-based practice. Diers (1995), another nationally recognized spokesperson for nursing, broadens that focus to include clinical scholarship as an alternative, though not a substitute, form of intellectual activity that may be comparable to research as a means of supporting nursing practice. These authors and others have sought to describe the importance of deliberate cognitive processes in nurses' actions.

In the 1990's there was a concerted effort in nursing education to improve students' critical thinking skills. That emphasis, however, has been criticized as developing only negative views of practice components, with the result of increasing frustration among clinicians. Some authors have taken issue with the call to increase critical thinking in nurses as the most important task of nursing education. Greenwood (2000) states that nursing education's emphasis on critical thinking skills fails to take into account the complexity of human cognition and clinical nursing practice. She states that human cognition includes both unconscious and tacit processes and requires interpretation of competing clinical and non-clinical cues and goals. Cody (2002) advocates a broader knowledge base in nursing. She states that using critical thinking as the cornerstone of nursing education leaves the profession with a starkly delimited base. The use of theories and frameworks enriches critical thinking and facilitates processes that are creative, constructive and relational. These authors support an integrated view of the intellectual processes underlying the discipline. It is this breadth of base that provides the foundation for Honors research and scholarship in nursing.

UAB HONORS IN NURSING PROGRAM

The Honors in Nursing Program at the University of Alabama at Birmingham began in 2000. Students participate in three Honors courses, usually arranged sequentially. Students are required to develop an Honors project as the outcome of their Honors work. Two curriculum tracks are possible—clinical and research—but both emphasize the use of data-based findings in clinical practice. Thus, students in both tracks engage in some form of Honors research. Based on a desire to develop students' skills that will enrich the profession for the future, objectives for Honors student experiences include the following:

1. To engage outstanding students in an experience of clinical scholarship in a practice area of their choosing
2. To encourage students to apply evidence-based practice concepts and nursing theories to clinical questions

3. To allow students the opportunity to develop their project using their own intellectual processes to determine the approach to the problem
4. To provide opportunities for interdisciplinary collegial interaction and dialog between nursing and other professions in scientific circles

Students in the clinical track begin with an Honors section of an introductory course in Nursing and Health Care. They identify an area of interest with the Honors advisor, explore clinical mentorships, and write their course paper integrating content from their interest area with the perspective of a nursing theory. In the research track students take an Honors section of the introductory Nursing Research course and engage in a mentorship experience with a nurse researcher in an ongoing funded research study. They develop their critiques and related research bibliography in the area of their research mentor's work. Students in both tracks then participate in Honors Seminar I, which focuses on the student's own project, developing the clinical or research questions, choosing methods and initiating approvals needed to implement the project. In the third course, both groups of students participate in Honors Seminar II, in which the project is implemented and results are written and discussed in a seminar setting. On completion of the Honors sequence, students may disseminate their findings through several mechanisms described below. They graduate with the designation of "With Honors in Nursing."

THEORETICAL FORMULATIONS

In the initial portion of their work, Honors nursing students explore theoretical formulations of nursing and select a nursing theory or model to guide their study of a content area of interest. This step is particularly important as students enter the Honors sequence at the same time as admission to the upper division of the baccalaureate nursing curriculum. The theoretical perspective thus allows them to relate their content interest to concepts underlying the profession. Students who are novices to nursing use the theories and models of nursing to begin viewing content from the perspective of a nurse. Numerous theoretical perspectives are available for their use. These include Florence Nightingale's philosophy of nursing and environment, Sister Callista Roy's Adaptation Model, Betty Newman's Systems Model of bio-physiological processes, Jean Watson's philosophy of caring and science, Imogene King's Interacting Systems Framework and Theory of Goal Attainment, and others (Chitty, 2001).

EVIDENCE-BASED PRACTICE

In the second phase of Honors coursework, students focus on their particular content area of interest and explore evidence-based studies that consider the phenomena of interest. Students use databases such as the Cumulative Index of Nursing and Allied Health Literature (CINAHL) to explore what is known about their topical area of clinical practice. Some students work with nurse-scientists who have well-developed programs of funded research. They observe their mentor in research phases of problem identification, instrumentation, data collection and/or data analysis.

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They develop their Honors project in relation to primary research either as a secondary analysis or a parallel study. Other students work with a clinical mentor to identify the components of the clinical setting, client/patient care needs and nursing interventions. They develop their descriptive study or intervention innovation with applicability to clinical nursing. Projects are submitted and approved by the Institutional Review Board of the university and often undergo additional reviews at the agencies where they will be implemented. For both groups, concepts of evidence-based practice provide common ground for the integration of theory, research and applications to nursing practice.

DEDUCTIVE, INDUCTIVE AND INTUITIVE APPROACHES

As students explore the literature, they invariably begin to see themselves as more quantitative or more qualitative in their preferred ways of approaching subject matter. Students who are highly quantitative typically begin developing their ideas through deductive processes. They seek valid, reliable, and often published tools that can quantify their phenomenon of interest. They subsequently collect data from a large number of participants using surveys or observation checklists, and they formulate deductive conclusions. Application of basic descriptive and inferential statistics—t-tests, correlation, Analysis of Variance (ANOVA) and multiple regression—allows deductive conclusions to be drawn and identifies those conclusions as statistically significant or not.

Students who are more interested in investigating experiences of clients/patients typically choose qualitative methods. These students choose methods requiring interviews, using open-ended questions and involving few participants. Case study analysis is one such type of study. The lack of quantitative rigor is balanced by the ability to investigate new phenomena in depth without preconceptions and directional hypotheses. This type of study is particularly important in areas of nursing where there is little published research. Students frequently develop their own instruments and establish initial content validity through peer review. These are usually descriptive studies in which themes emerge from the data and conclusions develop inductively. Themes emerge empirically and converge to form the general abstraction or major theme.

A third approach defies classical logical categorization but has special applicability for nursing. Its focus is predominantly intuitive. Students have applied this approach to situations in which they had first-hand experience and in which a novel approach “made sense” based solely on that experience. Based on their intuitive appreciation of the value of an intervention strategy or recognition of a patient-care need, these students have designed studies to obtain data on these phenomena that would have relevance for practice. Theoretically-based study designs may also fall within this category. Examples of these three types of studies are described below.

DEDUCTIVE STUDIES

Examples from the first three years of the UAB Honors in Nursing Program demonstrate students' use of different ways of thinking to approach clinical questions. Deductive thinking is reasoning which follows from premises, moves from general to specific, and often includes quantitative methods and hypotheses. Conclusions are based on comparison of the findings to the expectations of the original hypothesis. One such Honors research study investigated critical care nurses' attitudes about and knowledge of organ donation (Ingram, Rayburn and Buckner, 2002). The study investigated the hypothesis that nurses' attitudes about organ donation would affect their actions. Findings from two hospitals showed nurses' attitudes were highly positive although their willingness to take individual action (as an indicated donor on their driver's license) was low. The study closely replicated research done ten years earlier and was later published in the same journal. In another study, parental views of the social environment of an outpatient bone marrow transplant unit were measured using an investigator-designed survey. The investigator's hypothesis was that parents would express concerns about lack of privacy in an open waiting room of a bone marrow transplant clinic. Parents reported, however, that the positive aspects of social support overcame any other concerns of privacy or anxiety (Pritchett, 2003).

INDUCTIVE STUDIES

Inductive thinking is the converse of deductive thinking and moves from specific to general. General principles or themes are derived from empirical facts and data. Data are often obtained through qualitative methods. Examples of inductive studies include one on positive characteristics of unmedicated birth experiences. Women were interviewed who had completed an unmedicated birth, some of whom were attended by a nurse midwife (Hardin, 2003). In individual interviews with the Honors student, women shared their birth experiences and characteristics that made those experiences positive. An important theme was the centrality of movement in their experiences. Women interpreted as highly positive the ability to walk in early labor and to assume a wide variety of positions for birth. This theme had been previously unreported in the literature as integral to positive perception of the birth experience.

A second inductive study was a case-study method that investigated the effects on a family when their hearing-impaired child received a cochlear implant (Allegratti, 2002). Through longitudinal interviews of each family member before, during, and after surgery and after programming of the implant, the student tracked the changes they identified in their concerns and feelings, decision-making and family functioning. These intensive interviews used qualitative methods and found themes detailing the processes of change within the family as a whole. This student's work was the first description of this process in the literature and provided a groundbreaking look at an area important to nurses working with families during cochlear implant surgery.

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INTUITIVE STUDIES

Intuition is a sense of knowing based not on the use of rational processes but on insight, including the application of models and theories to gain insight into a practice phenomenon. It may include participant observation as a methodological strategy. Examples of intuitive studies include several that students chose because they recognized the clinical significance of the study's central focus. A hospice nurse, returning for his BSN, sought to understand how hospice patients cope with fear of dying (Bothe, 2002). Another student assessed the need for parent-to-parent support in parents with a newborn in a neonatal intensive care unit (NICU) (Li, 2001). A student with interests in mental health nursing made observations on the psychosocial effects of pet therapy visits to hospitalized children (Weddington, 2003), and a student who does marathon running asked women who continue running during pregnancy about the types of support (and non-support) they received (McAfee, 2002). These studies had neither hypotheses nor emerging themes but validate the clinical significance of their respective topics.

Another intuitive approach is to base a study on a theoretical model. A study of burn survivors' adaptation was based on concepts in the Roy Adaptation Model (Roy and Andrews, 1999) and was done through a national website support group for burn survivors (Foster, 2002). The student asked participants to describe adaptive strategies and related findings to nursing practice using the Roy Model. Her work won a national award from the Roy Adaptation Association for its relevance and accuracy in effectively applying the model to pediatric nursing practice. Findings from intuitive or inductive studies may identify emerging clinical trends and provide the basis for future studies with particular hypotheses or larger studies worthy of graduate theses and dissertations.

DISSEMINATION

Honors research in nursing reaches its culmination through dissemination to various disciplinary and interdisciplinary forums. Students present their work as posters and verbal presentations. A local forum for presentations consists of a joint meeting between two local baccalaureate nursing schools; two nursing honor society chapters sponsor an undergraduate research day. A state level meeting allows nursing studies to be presented in an interdisciplinary session dedicated to health science. At the national level students participate in a National Collegiate Honors Council (NCHC) national conference or NCUR: The National Conference on Undergraduate Research, a meeting of over 2000 undergraduate students; both conferences provide an opportunity to present their work to students from all majors and disciplines. Additionally, opportunities for publication and recognition within the discipline and within broader academic circles arise. Case studies, columns and feature articles may be published in national peer-reviewed journals. Honors students' work may also be listed on web publications, and students are eligible to win local, state and national awards, bringing recognition to the institution and profession.

CONCLUSION

Honors research in nursing gives outstanding students the opportunity to create a scholarly work in the discipline and through that process to recognize the functions of multiple modes of reasoning used in nursing practice. The application of research processes to clinical questions facilitates students' development of an evidence-based practice. Numerous skills are used in the research including problem or question delineation and concept description, linkage with current research, application of appropriate methodology, collaboration on implementation, data analysis and interpretation. The ability to persevere in the face of common obstacles is also a hallmark of the Honors experience. Students complete the process through dissemination of findings at local, state and national levels. Thus, the requirement for Honors research is the catalyst for students' development in numerous cognitive processes and skills appropriate to development of a professional practitioner. Through the development of an Honors research project within the discipline, students acquire first-hand the fundamentals of evidence-based practice and theoretically-based intervention that are essential to the future growth of the profession.

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