THE NATURE OF LEARNING FROM THE CLINICAL EXPERIENCE OF

NURSING STUDENTS

By

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ABSTRACT

This research project began with a discussion of the centrality of the clinical learning experience in nursing education. It went on to discuss the literature that identified the need for a better understanding of learning from this experience. This research project was designed to address that need. It attempted to describe conceptions of learning from clinical experience. The questions posed by this research project were: What are nursing students' conceptions of learning from clinical experience, and what is the relationship between the different conceptions of learning?

The subjects were 13 nursing students in the fifth semester of a two year nursing program in a large urban centre. A qualitative methodology called phenomenography was used to systematically examine conceptions of learning from clinical experience. The data base were transcriptions of taped interviews of students' descriptions of learning. The analysis of data proceeded inductively through the reduction of unimportant differences in expressions in the interviews to the identification of a core of elements that represented the process and content of learning. These elements were then grouped according to similarities and delimited according to differences.

The findings were the identification and description of three qualitatively different conceptions of learning. These conceptions of learning from clinical experience were:

Conception A - Learning as reproducing facts and procedures, Conception B - Learning as an interpretive process, and Conception C - Learning as the discovery of relativism. The main difference between these conceptions was between Conception A where learning was seen as reproducing facts and procedures and between Conception B and C, where understanding was achieved. In Conception A learning is characterized by a quantitative view of knowledge, dualistic thinking, attention to parts rather than wholes, and repetition. In Conception B, learning is described as qualitative, analytical and concerned with a way of knowing. Learners use a physiological framework in understanding and seeing relationships. In Conception C, learning is focused on interpreting the person-in-situation as a basis for decision-making. Thinking in this conception is relativistic and contextual. The difference between conception B and C results in a difference in the quality of interpretation achieved.

Conceptions of learning are tools that can be used when planning learning and teaching activities, when communicating with students about learning, and when evaluating the success of teaching. The findings of this research project suggest the benefits of modification of the clinical learning environment. This research project suggests the need for further studies of conceptions of learning from clinical experience including longitudinal studies and studies in which nursing students from different types of programs are used as subjects.

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DEVELOPMENT OF THE RESEARCH QUESTION

This chapter introduces the topic of this research project and puts the research question in context by describing the history of clinical experience in nursing education and the problematic nature of this experience as expressed by several authors. It concludes with a statement of the research question and an explanation of the importance of this investigation to nursing education.

Description of Clinical Experience in Nursing Education

The topic of this investigation was the clinical learning experience of nursing students. This experience is an integral part of the total educational experience of these students. It has been described as "the most important part" of a nursing program (Infante, 1985, p. v), the "heart" of nursing programs (McCabe, 1985, p. 255) and as "the core of nursing education" (Jones, 1985, p. 349). Pugh (1983) notes that "the major portion of a nursing student's learning experience, comprising 12 to 20 or more clock hours each week, is spent in the clinical setting" (p. 62).

The value of clinical experience in the education of professionals is widely appreciated and has been described by several authors (Burnard, 1987; Infante, 1985; Pugh, 1983; Wong & Wong, 1987). It provides the environment in which students master the process of applying previously acquired knowledge by being placed in

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actual situations that require the service of the professional. In recent decades the focus of this application process has shifted from an emphasis on performance to a concern with understanding and the application of abstract as well as concrete concepts. Students may go beyond this application process, however, testing alternatives and gradually gaining new insights into their practise. As well as knowledge application, the acquisition of professional attitudes and values has been identified as a major purpose of this experience.

History of Clinical Experience in Nursing Education

The history of nursing education has been well described (Infante, 1985; de Tornyay & Thompson, 1987; Wong & Wong, 1987; Baumgart & Larsen, 1988; Kerr, 1991). In Canada, nursing education began late in the 19th century. Its history reflects assumptions and beliefs about the function of education and the nature of nursing and, since most nurses are women, has also been heavily influenced by cultural attitudes toward women.

Nursing programs in Canada began in 1874, as on-the-job training experiences where students learned in the clinical environment under the supervision of practising nurses or more advanced students. Learning took place chiefly by trial and error through "hands on" experience. These programs have been described as apprenticeship programs without a master craftsman. Instruction was incidental or took place for one or two hours a week.

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Hospital training programs flourished as hospitals came to depend on nursing students for service. The programs, however, were found to be haphazard, poorly organized, and concerned primarily with the development of manual skills and the strict adherence to rules and regulations. Nursing students were taught to obey orders and were discouraged from much independent thinking. Baumgart and Larson (1988) observed that "standards varied from school to school and the training often involved long, arduous hours of work in trying conditions" (p. 316).

By the 1920s awareness of the limitations of such programs resulted in the Canadian Medical Association and the Canadian Nurses Association (CNA) appointing Dr. George Weir, Head of the Department of Education at the University of British Columbia, to conduct a survey to address these matters and to make recommendations for change. In 1932, the Weir Report was published which documented the problems which existed and called for fundamental reform. It emphasized that learning experiences should be shaped by educational objectives rather than the service needs of hospitals. It also recommended that schools of nursing should become part of the general educational system of the provinces and should be financed on the same principle. Finally, it recommended that modern nurses required a liberal as well as a technical education and that universities should establish programs and award degrees in nursing.

Although the Weir Report was only the first of several reports which made these recommendations, even as late as the 1960s, 95% of nurses received their initial education in hospital training programs. In 1959, Dr. Helen Mussallem, Executive Director of the CNA headed a project aimed at measuring whether the quality of instruction in Schools of Nursing enabled them to meet criteria for accreditation. Dr. Mussallem found that only 16% of Schools of Nursing in Canada met accreditation criteria and recommended a school improvement program that would lead to accreditation in the future. This emphasis by the CNA on standards of education brought rapid change within hospital schools of nursing during the 1960s. As well, Dr. Mussallem continued to press for the move of Schools of Nursing to post-secondary institutions. By the 1970s the majority of Canadian schools of nursing were included under the umbrella of educational institutions.

Despite the move to educational institutions and other major philosophical changes, such as the development of nursing theory and a change in emphasis from procedures to patient-centred practise, the centrality of the clinical experience in nursing programs has persisted. The focus of clinical experience, however, is one of learning rather than service. Not unlike the education of other professionals, the primary purpose of the clinical experience in nursing education is "to provide students with opportunities to have contact with actual clients in various situations and to use those theories, processes and skills learned in other courses and settings. The clinical setting is where validation of previously learned principles and concepts is to

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occur and where the use of skills learned in simulated environments takes place (de Tornyay & Thompson, 1987; Lillard, 1982). It also allows students to acquire the characteristics of professional roles and values. Infante (1985) goes even further and suggests that "it is the place for students to go beyond what has been learned, to change and adapt approaches to care, and to search for a higher quality of care" (p.15).

Clinical teaching represents approximately 50% of the instructional activity of many nursing faculty (Wong & Wong, 1987). It goes beyond supervising students on the ward to include teaching the essentials of nursing practise as well as supporting students in their learning of nursing in the clinical setting (McCabe, 1985; Wong & Wong, 1987). Nurse educators are to encourage students "to explore, question, doubt and criticize their own perceptions and to draw out their own meanings from these experiences" (Burnard, 1987, p. 193) and to strive to produce "independent, creative, decisive, assertive thinkers" (Infante, 1985, p. 21).

The journey toward this emphasis has been a slow and tumultuous one which has tried the relationships between nursing education and nursing practise and has necessitated compromising values on both sides. In fact, Rovers and Bajnok (1988) suggest that half a century later many of the basic issues and controversies that are referred to in the Weir Report remain unresolved (p.224).

This research project occurred at a pivotal time in the history of health care, nursing, and nursing education. Nurses are a vital part of the re-examination of health care that is occurring throughout Canada and North America related to the sky-rocketing cost of health care, the shift in focus from acute hospital care to prevention and home care, and technical advances such as life-support systems, organ transplantation, and crisis management.

The changes that will be required have forced nurse educators to ask themselves what the implications are for nursing education. One response has been a movement for change in nursing education that began in the United States in 1986 and which is referred to as the "Curriculum Revolution" (de Tornyay, 1990; Tanner, 1990; Bevis & Murray, 1990; Bevis & Watson, 1989). Tanner (1990) has identified five themes of this movement: (i) social responsibility that is centred at the present time on the need for transformation of the health-care system, (ii) the centrality of caring, since caring is what allows the nurse or the teacher to understand and to act on the concerns and issues of their clientele, (iii) an interpretive stance or the intent to unveil, understand and criticize beliefs and assumptions that guide practice, but which may be covered over by formal theories, rules or procedures, (iv) theoretical pluralism or emancipation from singular or narrow views of what constitutes education such as an over-emphasis on the rational-technical or Tylerian model, and, (v) the primacy of the teacher-student relationship which includes an egalitarian, shared responsibility for learning, a focus on the processes of learning, and individualized learning.

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The changes that will be required in this revised health care system have also brought with them widespread acknowledgment of the need for additional educational preparation for nurses. In 1982 the Canadian Nurses Association adopted the position that by the year 2000, the minimal educational requirement for entry into the practise of nursing should be successful completion of a baccalaureate degree in nursing (Entry, 1986, p.i). It is in this climate of change that curricula are being developed for these new programs. Educators are being asked how clinical experience should be provided and used. "There seem to be more questions than answers"; "the content of the clinical experience is controversial"; "there needs to be greater flexibility in designing clinical experience" are comments that have come out of one nursing education conference (Duncan, 1988, p.11).

The research project presented in this thesis attempts to provide direction for and insight into some aspects of these concerns about how clinical experience should be designed and used. These have been called "...heady times for nursing education in Canada" (Banning, 1988, p. 3). The former president of the Registered Nurses Association of British Columbia told nurse educators at a forum on Excellence in Clinical Teaching that "the decade is yours" (S. Rothwell, personal communication, February 21, 1989). The time seems ripe for a re-examination of the clinical learning experience.

Toward a Research Problem

Despite the importance and centrality of the clinical learning experience in nursing programs, the literature review raises several concerns about it. The majority of authors raise concerns about various elements of the learning environment. Others, however, raise general concerns about the clinical learning experience in nursing education.

Concerns about Various Elements of the Clinical Learning Environment

Infante (1985), Wood (1987), and Heims and Boyd (1990) express concern about the "total care concept" in the clinical experience of nursing students. This refers to the common practise of having nursing students implement total patient care to the level of their preparation even in initial clinical experiences. It is this aspect of the clinical education of nursing students that is unique in comparison with the clinical experiences of other professionals. It may be overwhelming to many students. Infante suggests that students may deal with this by organizing the experience in such a way that it is manageable for them. This may mean paring down their focus to those tasks for which they are directly accountable to hospital staff. As Infante points out, caring for patients is believed to be synonymous with learning but the complexity of this approach has undesirable outcomes in terms of the overall goals of the experience. "Curiously enough," Infante notes, "although beliefs about what the professional ought to be have changed dramatically, the educational strategies used in the clinical laboratory remain amazingly constant, except for the efforts of a few" (p. 20). Heims

and Boyd identify advantages and disadvantages of the traditional patient assignment, that is, the practise of assigning students to the total care of patients, in the clinical setting. Advantages include: contact with actual clients as a confrontation with reality, observation of the staff, which is useful for learning nursing actions and for socialization, and opportunities for the application of knowledge to practice. Disadvantages include: it is dependent on an unstable patient population, students are often too busy carrying out the prescribed patient care to think of alternatives, much of the time the focus is on the worker role and performing safely and accurately, there is limited discussion of variety among clients when the student takes care of only one or two patients, and, there is often too little focus on the process of learning about nursing care, a skill that would help the student solve new patient care problems in the future (p. 249). Of concern also is the level of performance that must be achieved. Creighton (1981, as cited in Wood, 1987) states that, legally, the nursing student's performance must be equal to that of a registered nurse, and is judged by the same standard.

Several authors have expressed concern about the level of anxiety related to clinical experience among nursing students and its effect on learning (Kushnir, 1986; Wong & Wong, 1987; Williams, 1988; Meisenhelder, 1987; Infante, 1985; Blainey, 1980). Nursing students often report anxiety related to accidentally harming patients by some action or by overlooking a change in the patient's condition. With the increase in the cost of hospital care and the availability of home-care and out-patient

services, patients hospitalized in acute care settings are more seriously ill and exhibit less stable conditions. It is thus becoming increasingly difficult for instructors to assign students to uncomplicated patients. It can be expected, therefore, that the anxiety that students experience may be intensified. Blainey maintains that nurse educators are inclined to send double messages to students in the clinical setting encouraging them to be independent, risk-taking and self-directed but warning that there is little room for error in this experience. Infante complains that the idea that the student is not a nurse but is learning to become a nurse may not be recognized. Wong and Wong (1987) relate the high level of anxiety to the frequency of students participating in unplanned activities as well as the inclination of nursing professionals to be intolerant of mistakes, demanding near-perfect performance of themselves and their colleagues.

A study by Infante (1975), using 184 clinical nursing instructors, reported a striking contrast between what faculty said they believed in and what they practised. Although they expressed belief in fourteen elements of the clinical learning experience, which essentially defined the student as a learner rather than as a responsible care giver, fewer than 50% gave evidence of acting on these beliefs in practise. Two authors (Pugh, 1980 and Meleca, Schimpfhauser, Witteman and Sachs, 1981) replicated Infante's research and obtained similar results.

Several authors (Windsor, 1987; Jones, 1985; Wong & Wong, 1987; Karuhije, 1986, Quinn, 1980) have compared clinical teaching to classroom teaching and have pointed out the complicated, ambiguous context that it presents. Characteristics of clinical teaching that are not present in the classroom can be summarized as follows: (a) there is a lack of control over environmental conditions including kinds of patients available for learning opportunities, the quality of care given by hospital staff and even in some cases the educational process; some instructors have complained of feeling like a guest on the ward, (b) patient safety must be maintained while patients are cared for by a novice, (c) faculty must monitor patient needs as well as student needs, (d) students must combine the use of cognitive, psychomotor and affective skills to respond to individual client needs, (e) clinical teachers are faced with two different demands, competence in nursing and competence in teaching. Reynolds and Cormack (1981) feel that a major difficulty faced by nurse instructors is that it is often difficult for them to spend any significant period of time with learners and patients. They, therefore, have limited knowledge of individual patients and have little responsibility for making nursing decisions. They may make a conscious choice to emphasize teaching motor skills as they are relatively easy to teach, have results which are easily assessed and may be harmful to patients if badly performed.

Lindeman (1989) states that very little is known about effective use of the clinical environment and goes on to identify four paradoxes of clinical teaching in nursing education:

1. Although it is considered essential in nursing education, it is becoming increasingly difficult to find appropriate clinical placements for entry level programs. This is largely due to the increased acuity of hospitalized patients.

2. Although it is considered essential to function in a real environment, currently the health care system is under attack by the public, legislators and many health professionals. Nursing instructors have had difficulty finding positive examples of behaviours students are learning. As well, clinical experience exposes students to the chronic problems of the profession, which she identifies as low salaries, poor working conditions, having limited authority, being overworked and lacking in professional stature. Lindeman's concern is that students schooled in these negative aspects of the clinical environment will become desensitized and accepting of these conditions.

3. Student access to the clinical environment requires evidence of instructors' and students' ability to perform according to professional standards. The paradigm that is commonly used is that an instructor is responsible for the actions of 8 to 10 students. This means that instructors are accountable for the care being provided to some 16 to 20 acutely ill patients, a patient assignment that is heavier than that of the regular staff, as well as for the learning needs of their students. Lindeman states that, logically, evaluation rather than learning is given priority and that the instructor's stress may be passed on to students. Lindeman also reflects on the need for students to perform according to existing standards. She says that when this situation exists, to practice, means to demonstrate one's ability to apply existing knowledge, and little

learning from experience will take place. Learning of the latter type, she says, is likely to be more important for the rapidly changing world of health care.

4. The problem-solving approach used in the clinical setting emphasizes the application of scientifically derived knowledge to the individual situation, and thereby minimizes the knowledge generated by the situation. Schon (1987, as cited in Lindemann, 1989) states:

> professional schools still embody the idea that practical competence becomes professional when its instrumental problem solving is grounded in systematic, preferably scientific knowledge. So its...curriculum presents first the relevant basic science, then the relevant applied science, and finally, a practicum in which students are presumed to learn to apply research-based knowledge to the problems of everyday practice (p. 62).

Lindemann questions whether this approach prepares students for the real world of practise. She believes that a new conception of practise competence and professional knowledge must be proposed that starts with the notion of artistry. Schon describes artistry as "an exercise of intelligence, a kind of knowing that is different from our standard model of professional knowledge that can be learned about by carefully studying the performance of unusually competent performers" (p. 63). She states that professional practise requires applied science bounded on all sides by artistry. There exists, she says, "an art of problem framing, an art of implementation, and an art of improvisation..."(p. 63). She calls for a "reflective practicum", that is, a practicum aimed at helping students acquire the kinds of artistry essential for professional practise.

General Concerns about the Clinical Learning Experience

Concern about learning from clinical experience in general has been expressed by several authors (Tanner and Lindeman, 1987; Pugh, 1983; Infante, 1985; deTornyay, 1983; Windsor, 1987; McCabe, 1985). All of these authors commented on the dearth of reported studies related to clinical experience. Windsor (1987) referred to the lack of research-based planning and implementation of the clinical learning experience as a disturbing deficit in the nursing profession and called for research to identify what constitutes quality clinical education and to help develop optimum learning opportunities. Following an examination of reviews of research on clinical education, Tanner and Lindeman concluded that little is known about the effectiveness of approaches to clinical teaching in terms of student learning. Infante called for an analysis of the process of clinical teaching using appropriate theory to guide this effort. De Tornyay (1983) reviewed empirical research on the teaching-learning process in nursing education. She observes that most of the studies dealt with classroom learning. She calls for more research on nursing education and identifies studies related to clinical experience as one specific need. She states that it is clear from studies of teaching methods and materials that "no clear cut evidence exists for the superiority of one approach over the other" (p. 206). She calls for the postponement of research on isolated teaching methods and a focus on studies that "promote understanding of optimal conditions of learning" (p. 206).

Statement of the Research Problem

The overall purpose of this research project was to add to the limited existing information on learning from clinical experience and to establish a basis for examining the learning environment in terms of students' interpretations of that environment. Specifically, the research problem was to identify and describe nursing students' qualitatively different conceptions of learning from clinical experience and to describe the relationships between these conceptions.

Conceptions of learning have been described as "the core of education" (Ramsden, 1988, p. vii). Stalker (1989) has described conceptions as "the different ways in which people experience or understand or think about phenomena in their worlds", and "as the filters through which the experience is viewed" (Stalker, 1989, p. 41). Larsson (1984, as cited in Stalker, 1989) has described them as constituting "both the background or rationalizations for actions and the forward-looking intentions of actions" (p. 42). As such, they are the basis for and a limitation upon students' learning activities. Perry (1988) refers to "the assumptions and expectations that individuals have that place knowledge, learning, hope, initiative, responsibility and their teachers in certain relations" (p. 150) and to "the different constellations through which students make sense of their worlds" (p. 150). Marton and Saljo (1984) point out that students' conceptions of a learning experience "reflect their past experiences of similar situations, and so mirror differences in their preconceived ideas of what it takes to learn" (p. 52). Conceptions are also influenced by students' interpretation of the

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context of learning or the learning environment which includes teaching, assessment and course content and structure (Gibbs, Morgan & Taylor, 1984).

Conceptions of learning, in this study, will be identified and described by examining data obtained from interviews of students who described their lived experiences of learning from clinical experience.

The questions which guided this research project were:

1. What are nursing students' conceptions of learning from clinical experience?

2. What is the relationship between different conceptions of learning?

Importance of this Research Project

Lars Dahlgren (personal communication, May, 1987) said it should be the dream of educators to see the learning situation as the student sees it because then they would know exactly how to teach. This statement reflects the overall goal of this research project. By identifying and describing the different ways students understand learning from clinical experience, teachers are provided with insight into the process of learning. These descriptions become tools that "teachers can use when planning teaching..., when communicating with students as a framework for understanding what is being understood or misunderstood, and when evaluating the success of teaching" (Saljo, 1988, p. 44).

Summary

This chapter has introduced the research topic, described the problematic nature of the clinical learning experience, posed the research questions, and defined the relevance of the proposed research project. Chapter Two is a discussion of the conceptual framework on which this research is based. Chapter Three is a review of previous research on clinical experience in nursing education with some reference to research on clinical experience in related disciplines. In Chapter Four the methodology and data analysis are discussed in detail. Chapter Five is a description of the findings that are a product of that analysis. And finally, Chapter Six is a discussion of the findings and implications of this research for nursing education and for further research on this topic.

CHAPTER II

A PERSPECTIVE ON LEARNING

This chapter presents a new perspective on learning. It describes a network of concepts that provide a broad picture of student learning (Marton, Hounsell and Entwistle, 1984). The purpose in doing this is to set the stage for this research project. The chapter begins by providing an overview of the original research that led to this perspective on learning. The chapter goes on to describe conceptions of learning, a core concept in this view of learning. Conceptions of learning are discussed generally and then in relation to a specific learning experience. Two related concepts, approach to learning and outcome space are then discussed. Following that, implications of this view of learning for teaching are described. Lastly, the focus of this research project in relation to this view of learning is discussed.

The Original Learning Experiment

The perspective on learning used in this study is the work of cognitive psychologists in the field of higher education (Marton, F. et al., 1984). It is the result of studies that began in Sweden at the University of Gothenberg in the early 1970s. These studies involved students' descriptions of their own personal experiences of learning. In the original experiment, what university students learned from reading an academic article about reform in higher education was studied. The researchers carefully analyzed what students said when they were asked to describe what they

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had been reading. They found evidence of qualitative differences in the outcome of students' reading. The differences were not about how much the students could remember, but about their understanding of what the author had tried to convey. Some students fully understood the argument being advanced and could relate it to the evidence used to support it; others partly understood the author's message; others could only mention some of the remembered details. This experiment produced three important results. The first was the development of a rigorous qualitative methodology called phenomenography which allows students' experiences of learning to be studied systematically. This methodology is described in Chapter Four. The second and probably the most influential finding pointed to an "astonishingly simple picture" (p. 39) that was overlooked by previous researchers. That finding was that "students who did not get the point of what they were learning failed to do so simply because they were not looking for it" (p. 39). Students intention to learn and their learning activities were governed by their understanding of what it meant to learn, or their conception of learning. Third, this study identified qualitative differences in the outcome of student learning. These differences reflected differences in understanding rather than differences in how much the student could remember. These findings were the impetus for further research which resulted in the identification of a network of related concepts (see Figure 1), that provided a description of student learning.
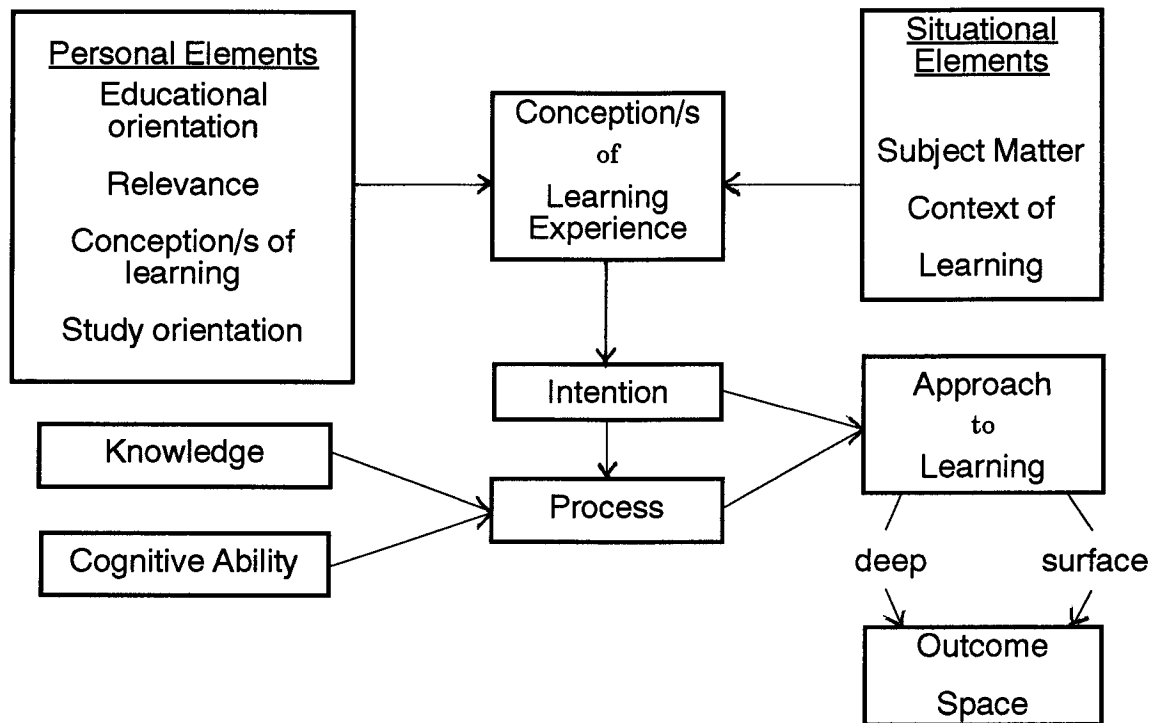
Figure 1: A perspective on learning, adapted from Marton (1984).

Description of Conceptions of Learning

In this view of learning, conceptions of learning are seen as the core of education (Ramsden, 1988, p.vii). Stalker (1989) has described conceptions as the different ways in which people experience or understand or think about phenomena (in this case, learning) in their worlds, and as the filters through which experience is viewed. Larsson (1984, as cited in Stalker, 1989) has described them as "constituting both the background or rationalizations for actions and the forward-looking intentions of actions" (p. 42). As such they are the premise for and place a limitation upon learning activities. In this regard, Entwistle and Marton (1984) refer to the inevitable connection between the way that students conceived the learning situation and the procedures used in learning. Perry (1988) refers to "the assumptions and

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expectations that individuals have that place knowledge, learning, hope, initiative, responsibility and their teachers in certain relations", and to "the different constellations through which students make sense of their worlds" (p. 150).

Conceptions of learning are described as quantitative, where the emphasis is on a quantitative increase in knowledge, or qualitative, where the emphasis is on understanding. Dahlgren (1984) points out that conceptions of learning form a very important component of the cultural basis of society. He points out that societally there may be an emphasis on factual knowledge and thus a quantitative conception of learning may be reinforced. It has also been pointed out that experts' conceptions of phenomena have varied between historical periods and that these historic conceptions can become commonplace and tenaciously held among the general public (Ramsden, 1988).

Conceptions of a Learning Experience

Conceptions of learning are not inside a student but are between the student and a particular learning situation. Conceptions of learning from a particular learning experience have both "personal and situational elements" (Ramsden, 1988, p. 20). As such, they describe relations between the student and the learning situation. Far from being solely individual characteristics, conceptions of learning are affected by the learning environment or context of learning including the subject matter. Conceptions

of learning are the student's personal interpretation of content and context. As such they are not static but variable.

Personal Elements of Conceptions of Learning

Concepts that relate to personal elements include: general or previous conception of learning, study orientation, experience of relevance, or interest in the learning situation, and educational orientation (Gibbs, Morgan & Taylor, 1984). These refer to characteristics of the learners themselves that relate to the ways in which learning is interpreted.

Entwistle and Marton (1984) point out that students have habitual or customary ways of approaching a learning experience that reflect their previous experiences of learning (p. 221). Marton and Saljo (1984) point out that students' conceptions of a learning experience "reflect their past experiences of similar situations, and so mirror differences in their preconceived ideas of what it takes to learn" (p. 52). It was also found that those individuals who held quantitative conceptions of learning remained wedded to those conceptions since their conception of learning did not include the possibility of extracting meaning. Those with more sophisticated conceptions accepted learning as taking different forms according to different circumstances or task requirements (Entwistle & Marton, 1984). This previously formed conception of learning or understanding of learning generally, is thus a personal characteristic that affects students' conceptions of learning in a given situation.

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Study orientation refers to the ways in which students customarily approached the tasks of everyday studying. A meaning orientation, which has been related to intrinsic motivation, has been found to be associated with qualitative conceptions of learning while a reproducing orientation which has been related to extrinsic motivation or fear of failure has been associated with a quantitative conception of learning (Entwistle & Marton, 1984, p. 221).

Students' experience of relevance or interest in the learning situation was described as intrinsic when there was an interest in the content of what was being learned or extrinsic when the concern was with completing formal requirements. As might be predicted, intrinsic experience of relevance was associated with a qualitative conception of learning while extrinsic experience of relevance was associated with a quantitative conception of learning. However, a third dimension of relevance, that of vicarious relevance, was also demonstrated. This refers to "the teachers own conviction of relevance, enthusiasm or use of striking illustrative examples" (Entwistle & Marton, 1984, p. 217). It was shown that vicarious relevance can bridge the gap between extrinsic and intrinsic experience of relevance.

Educational orientation refers to the student's aims, values and purposes for studying. It is not an invariable characteristic but can change and develop over time. The four orientations identified - personal, social, academic or vocational - reflected what the students wanted to get from their academic experience and their courses.

Studying was directed towards these personal goals, leading students to either qualitative or quantitative conceptions of learning.

Situational Elements of Conceptions of Learning

Context of learning refers to all aspects of the learning environment. It includes "the teaching, assessment, and course content and structure within the natural setting of academic departments" (Ramsden, 1984, p. 144). The students' perception of context and their interpretation of the demands that it makes was found to have a strong influence on conceptions of learning. It was found that the students' perceptions of assessment requirements were especially significant in leading students to adopt either quantitative or qualitative conceptions of learning.

In discussing the importance of the context of learning Entwistle (1984) makes some important observations. He points out that "there may be only a tenuous connection between teaching objectives (what teachers say they want to do) and teaching activities (what they actually do)" (p.4). Entwistle differentiates between the formal curriculum as defined by faculty, and the "hidden curriculum", the message received implicitly but strongly by students which often depended on teaching methods and especially on assessment procedures. Laurillard's (1984) study on learning from problem solving supports Entwistle's perspective. She found that "...the (learning) task may itself make minimal demands. For many such tasks, there is a standard procedure which students are wise to adopt, but which need not engage them in

thinking about the subject at a deeper level" (p. 142). Ramsden (1984) points out that an overwhelming amount of curricular material pushes students into rote methods of dealing with the material and results in incomplete understanding of the subject matter. Ramsden also points out that adverse anxiety and a feeling of threat was also likely to encourage a mechanical, rote learning approach to learning tasks. In Ramsen's discussion on context of learning he points out that "the single most important message to emerge from this research is that intense effort must be made in course planning to avoid presenting a learning context which is perceived by students to require or reward surface approaches" (p. 163). He further states that "only by studying the internal relationships of how students perceive course demands and how they approach studying can the complexity, and apparent paradoxes in student learning be understood" (p. 163).

Another important feature of context of learning in relation to conceptions of learning became apparent in a study in which learning in two contrasting disciplines, Psychology and Engineering, was examined. The psychology students described their way of studying in terms which could be readily classified as reflecting quantitative or qualitative conceptions of learning. But the experience of engineering students was very different. At first there seemed to be no evidence of qualitative conceptions at all. However, further analysis indicated that in a tightly controlled environment and in an applied science, qualitative conceptions took a rather different form. Ramsden (1984) found that "it was essential, in these cases, to pay much more

attention to factual and procedural detail, particularly in the early stages of mastering a topic" (p. 218). Emphasis on either understanding or reproducing remained the identifying feature of the conception of learning, however. Conceptions of learning can be defined in terms of these two consistent features but particular indicators will vary from context to context. Conceptions of learning are thus discipline-related.

Description of Related Concepts

The concept approach to learning refers to the ways in which learners act on their interpretation of the learning situation or their conception of learning. It encompasses the notions of intention to learn or, what the learner is looking for, and process of learning. Process refers to the learning activities and includes the enactment of the student's intention to learn but also depends on previous knowledge and cognitive ability.

Approaches to learning were described as surface where the emphasis was on reproducing knowledge, or deep where the emphasis was on understanding. A surface approach is characterized by memorization and an unreflective interaction with subject matter. A deep approach implies a vigorous interaction with the subject matter and the ability to see relationships. Ramsden (1988) points out that deep approaches exemplify the type of learning that employers and teachers expect students to demonstrate. Only through using these approaches can students gain mastery of concepts and a firm hold on factual detail in a given subject area. In contrast, surface

approaches epitomize low-quality learning, are geared to short-term requirements and focus on the need to faithfully reproduce fragments of information presented in the learning experience. Surface approaches lead to misunderstanding of principles and concepts.

A quantitative conception of learning has been associated with a surface approach to learning while a qualitative conception of learning has been associated with a deep approach to learning. However, this is not sufficient in itself. A deep approach depends as well on previous knowledge and cognitive ability.

Outcome space is a term used to describe the qualitatively different levels of understanding that represent responses to a particular learning situation (Dahlgren, 1984, p. 26). As such, they can be thought of as representing different conceptions of phenomena or subject matter. Dahlgren goes on to point out that "from this same perspective, we can go further and define learning itself as a change in conception" (p.31). In other words, he explains, there is a shift from one conception to another which is qualitatively distinct when learning has occurred.

A close relationship has also been demonstrated between approach to learning and outcome space. A surface approach rules out the possibility of a deep outcome since it carries with it an implicit decision to ignore meaning.

Entwistle and Marton (1984) point out that it is now possible to trace a chain of functional relationships from conception of learning to approach to learning, to outcome of learning with something akin to logical inevitability. They emphasize, however, that each link depends on a personal interpretation of content and context. This means that the "reaction of each student will, to some extent, be different but the findings suggest that there are general effects" (p. 223).

Implications for Teaching

The view of student learning described points to the importance of students' conceptions of learning in the learning process. It demonstrates the role that conceptions of learning in a given situation play in governing and directing the experience and in affecting the outcome of learning. Their central role in learning underlines their importance to teaching. From this perspective, improving learning requires a sensitive grasp of the differences between the learner's understanding and the expert's understanding and taking steps to change the learner's understanding. This approach focuses the teacher on "the pathways along which understanding is pursued" (Hounsell, 1984, p. 197). A consideration of conceptions addresses the misconceptions underlying errors rather than simply the achievement of right answers. The findings of these studies revealed that students did not just misunderstand but they misunderstood in different ways suggesting that interventions need to be individualized. Guidelines for general teaching activities have been suggested and are

outlined below (Marton & Ramsden, 1988; Ramsden, 1988; Bowden, 1988; Hounsell, 1984; Entwistle & Marton, 1984):

1. Teachers must learn about students' conceptions of learning and apply what they learn to improve teaching. Doing this will provide teachers with information about how they can help students develop different ways of thinking about learning in a particular situation. It was suggested that it may be more useful to know about an inappropriate model that a student has assembled rather than knowing about missing knowledge. Information about conceptions should be used to devise ways in which changes toward desired conceptions can occur.

2. Learners' conceptions should be made explicit to them. Changing conceptions involves more than simply telling students what the correct conception should be although this is recommended. As well, it means making them aware of their own and other conceptions. It must be stressed that this is only a beginning since change involves an active working upon and interaction between the old way of thinking and the new.

3. Inconsistencies within and the consequences of learners' conceptions should be made evident to them. The teachers' role is in arranging situations that challenge the boundaries of students' thinking so that they are confronted with discrepancies that will require new ways of thinking and seeing and that have personal value for them. Ramsden (1988) states that this type of change takes time. "Time," he says, "for contemplation, reflection, working things out, and discussion with others learning the same subject matter is thus not a luxury, but a necessity" (p. 22).

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4. Learners should be presented with new ways of seeing. Teachers need to provide structures that enable students to understand how parts relate to each other and to avoid focusing on discrete details. To do so is "to anchor knowledge in a framework of meaning" (Hounsell, 1984, p. 195).

5. Teachers should test understanding and use the results for diagnostic assessment and curriculum design. Teachers should test students' understanding rather than their knowledge of concepts. This should be done informally as well as in formal assessments. To do so is to make assessment a window to misunderstanding that serves as a guide to changing or modifying thinking.

6. Teachers should use reflective teaching strategies. This means taking measures to gather feedback from students on their perceptions of learning task requirements in order to ensure that tasks are indeed encouraging changes in conceptions.

Focus of this Research Project

This research project focused on conceptions of learning, a central concept in this view of learning. It attempted to identify and describe the range of nursing students' conceptions of learning from clinical experience. The conceptions identified account for the various ways in which students understand learning from clinical experience. In the phenomenographic tradition that informs this research project, no attempt was made to explain or account for the conceptions of learning described in terms of personal or situational elements. It was not the purpose of this research project to

explain cause and effect but only to describe the conceptions as they were presented by the students interviewed. The value in describing conceptions of learning is related to the potential they hold for illuminating the process of learning from the particular learning experience. As well, they are a tool that can be used in planning teaching and learning activities, in discussing learning and learning difficulties with students and in evaluating teaching.

Summary

This chapter summarized the perspective on learning that is the basis for this research project. The discussion focused on conceptions of learning, a central concept in this view of learning. The role of conceptions of learning in directing the process of learning was emphasized. Concepts related to conceptions of learning and the implications of this view of learning for teaching were also discussed. This research project focused on one aspect of this perspective on learning, conceptions of learning. Conceptions of learning from the clinical experience of nursing students were identified and described. These conceptions of learning were described without investigating cause and effect relationships. The chapter concluded with a discussion of the role that such findings play in improving learning.

CHAPTER III

LITERATURE REVIEW

The literature review of this investigation is an examination of previous research that relates to this topic. The purpose of this literature review is to confirm the importance of the topic and focus of this research study, to demonstrate the work that has already been done on this topic, and to provide a backdrop for interpreting the results of this research study. The grouping chosen to organize the selected studies is meant to facilitate this purpose. The first section identifies important research topics and validates the research topic chosen, the emphasis of this research topic and the methodology. The second section contains studies that use students' lived experiences of clinical experience as the data base as was the case in this research project. The last two sections reflect the perspective on learning used in this research project. The four sections are: (a) research priorities in nursing education, (b) studies based on students' perceptions of clinical experience, (c) studies that examine an aspect of personal context, and (d) studies that examine an aspect of the context of clinical learning.

Literature Search

Methods used to locate studies were: (a) computer searches, two using the ERIC Tape Data Base and approximately five using the Medline Data Base (Descriptors were used that did not narrow studies to the field of nursing but included studies about

clinical experience in all fields), (b) a manual search of the Cumulative Index to Nursing and Allied Health Literature, the American Journal of Nursing International Nursing Index and the Dissertations Abstracts International from 1985 to the present, (c) a manual search of the indexes of issues of the Journal of Nursing Education, Nursing Research, Nursing Papers, Nurse Educator and the Western Journal of Nursing Research for the years 1987 to the present since these periodicals publish the bulk of nursing education research, (d) a manual search of the indexes of the Annual Review of Nursing Research for the years 1985 through 1991, (e) a search of theses and dissertations produced at the University of British Columbia in Adult Education and Nursing since 1985, and (f) a search of the bibliographies of relevant literature.

This review of the literature does not include research on isolated teaching strategies or general learning outcomes, for example, studies that compare performance levels of graduates from different types of programs. These research studies, while relating indirectly to the topic, have been omitted in an attempt to limit the search to a manageable size and to focus on those studies that have the most potential for illuminating the thinking on the issues being discussed.

Research Priorities in Nursing Education

This section includes one study. The purposes of this study (Tanner & Lindeman, 1987) were to identify assumptions about the nature of research in nursing education,

and to generate and rank order critical research questions regarding nursing education. A Delphi survey technique was used which consisted of three survey rounds. The three rounds were described as: Round 1 - Identification of assumptions about the nature of research in nursing education and the identification of critical questions regarding the educational process in nursing. Round 2 - Response to a two-part questionnaire indicating degree of agreement or disagreement to critical assumptions about the nature of research in nursing education and the appropriateness and priority for nursing educational research for each specific question listed.   Round 3 - Responses to the same questionnaire but with questionnaire showing statistical summary of Round 2 responses. The statistical summary provided in Round 3 included (a) the individual panel member's response, (b) the median for the total panel, (c) the response range, and (d) the interquartile range (the range in which at least 50% of the responses fell). Panellists were asked to write a rationale for responses outside the interquartile range. These responses were compiled into a minority report. One hundred and twenty-one members of the Society for Research in Nursing Education responded to three survey rounds. Of these respondents, the majority (61%) were faculty, 18% were administrators, 3% were students and 15% were in other positions or did not respond. Sixty-nine percent held a doctoral degree, 23% held a master's degree, 2% held a bachelor's degree, and 4% did not provide information to this question. They represented 47 states, five Canadian provinces and seven foreign countries.

The assumptions that the panel identified that pertain to this research project include the following statements: (a) research in nursing education should emphasize the clinical nature of nursing, (b) research in nursing education must involve both testing the application of research in general education to nursing and research unique to nursing, (c) a variety of methods, both qualitative and quantitative, are appropriate for the conduct of research in nursing education, (d) most research within nursing education should be either theory generating or theory testing, and (e) the phenomena of research in nursing education are complex and do not readily lend themselves to direct observation; sound measurement is possible but extremely difficult. Of the fifteen highest ranked research questions, two-thirds focused on the clinical learning experience. The top research priorities identified were: integration of research findings into curricula, development of problem-solving skills, approaches to clinical teaching, and level of practise of graduates of different basic preparations.

The authors also examined reviews on the top five research priorities. In summarizing their review of effective approaches to clinical teaching, they stated, "there is little known about the effectiveness of approaches to clinical teaching in terms of student learning" (p. 58).

Tanner and Lindeman's study validated the appropriateness of the research project presented in this thesis in terms of topic and methodology, in its identification of effective approaches to clinical teaching as a top research priority, in its the

emphasis on the clinical learning experience in the fifteen top research questions and in the assumptions identified.

Studies Based on Students' Perceptions of Clinical Experience

Three studies describe the clinical experience from the nursing student's perspective. Windsor's (1987) study is most representative of the spirit of this research project. She used nine volunteer subjects in her phenomenological study which aimed to "better understand the clinical learning experience from the students' point of view" (p. l50). Several of Windsor's interview questions focused on student-instructor relationships or context of learning but one dealt with students' intentions to learn and another dealt with students' perceptions of gains from the experience. In answer to the question, "What do nursing students say they do in their clinical experience?", Windsor's categorical findings were: practice nursing skills (defined as assessment, therapeutic communication and psychomotor skills), organize content, time management and professional socialization. Responses to the question, "What do nursing students say they are learning in the clinical setting?", included: knowledge and skill acquisition, time management and professional development. Windsor's data also revealed three stages of professional development. The first stage was marked by anxiety and focused on doing psychomotor skills. During the second stage the students "became less focused on psychomotor skills and began to explore other aspects of the nursing profession" (p. 152). During the final stage they became more confident, independent and comfortable and "studied less" (p. 152). Windsor

concludes her study by calling for more research based on her findings including an identification of what constitutes quality clinical education.

Byrne's presentation (1987) at the Annual Conference on Research in Nursing Education recounted an attempt to describe professional socialization of nursing students, that is, the acquisition of knowledge, skills and a sense of professional identity. The subjects were five senior and five sophomore baccalaureate students. The data base consisted of paradigm cases, that is clinical experiences which stand out in students' minds. Heidigger hermeneutics was used to analyze the data. Clinical experiences were found to be socializing experiences, helping the student to understand the experiences of patients and nurses within the context of the nursing culture. In her conclusion, the author calls for similar research on other aspects of the clinical experience since understanding the student's perspective, she found, can be useful in restructuring clinical learning experiences in order to enhance learning.

Byrne (1988) used various ethnographic methodologies in exploring "the human experience of learning to practise nursing" (p.2123-B). Byrne found that all students felt pressured by time; focused on activities, especially those related to assignments; valued being included in the social interactions of the clinical unit; experienced a gamut of strong emotions; and perceived the clinical setting as unpredictable. Students emphasized observing and listening as essential initial stages in learning.

"Completing the course and doing something worthwhile for the patient" (p.2123-B) were the essential concerns of the students.

Studies that Examine an Aspect of Personal Context

Three studies were identified that dealt with personal context. Two examined cognitive style using Kolb's experiential learning theory. Kolb suggested that each individual chooses a combination of ways of learning that he referred to as learning style. He defined these as "acquired consistent patterns of learner environment interaction" (1984 as cited in Highfield, 1988). Highfield (1988) set out to identify primary learning styles of baccalaureate nursing students within their first and last years of clinical studies and to examine the relationship between age and previous nursing education, and learning styles. The subjects were 29 junior and 25 senior students between the ages of 20 and 42 years. Each student filled out the Learning Styles Inventory. Highfield found that the predominant learning style among the subjects was "assimilation, a combination of reflective observation (watching) and abstract conceptualization (thinking)" (p. 31), with abilities to use 'inductive reasoning and create theoretical models' (Kolb, 1984, as cited in Highfield). This finding conflicted with previous findings about learning styles among nursing students. Highfield also found that age and progression through nursing education did not affect the learning style of these students supporting Kolb's contention that individual learning style remains fairly stable. The author concluded that nursing faculty should become familiar with the concept of learning style so that matching of learning

experience and learning style can take place, so that faculty could provide appropriate learning assistance when students encountered learning tasks that required learning styles other than their primary one and to assist in the development of curricula that was balanced in terms of learning experiences that required a variety of learning styles. She also suggested that faculty should maximize current student learning and enhance future learning by assisting students to develop new learning styles.

Laschinger's (1986) study examined the learning styles of 68 third year baccalaureate nursing students and their perceptions of environmental press (demand) differences in surgical and psychiatric clinical settings. Learning styles were found to be predominantly "concrete" as was the perceived environmental press in both areas, providing support for Kolb's contention that individuals self-select congruent learning disciplines. The author stresses the importance of the development of all learning competencies and suggests that opportunity for this development must be arranged in disciplines that have a balanced environmental press as this study suggests nursing does.

The last of these studies (Williams, 1988) examined three related elements: cognitive style, tolerance of ambiguity, and stress. The construct of cognitive style that the author uses is field independence versus field dependence. This construct describes "figure-ground relationships" and relates to "whether people perceive, and thus assimilate information in a global (FD) or in an analytical fashion (FI)" (p. 449).

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FI subjects were described as tending to be more successful in the natural sciences and are described as preferring solitary activities, being individualistic, and being cold and distancing in their relationships with people. FD subjects preferred the social sciences and the humanities and were described as sociable, gregarious and interested in people. Past research has shown that FI individuals are "more tolerant of ambiguity except when they are experiencing high levels of stress" (p. 450). Williams observes that students on entry to nursing programs have a background in the natural sciences probably suggesting that they are FI. They are then immediately thrust into the clinical area where they must perform both global and analytical skills and where the level of ambiguity is high. This he suggests may have an effect on performance and the perception that nursing education is stressful. William's study involved 66 sophomore students enrolled in the first clinical nursing courses of a baccalaureate degree nursing program. These students were randomly drawn from a group of volunteers. Each subject performed validated tests that measured cognitive style, tolerance of ambiguity and stress. Williams' findings suggest that his subjects were indeed FI, but that they were significantly more intolerant of ambiguity and had significantly higher stress responses than the norm group, which was a similar group of college students, in contrast to what was predicted. In his conclusion, Williams suggests that admission requirements to nursing programs should include more social sciences and humanities courses and that students should be helped to learn ways of altering their cognitive style. The observed intolerance of ambiguity suggests further research into whether or not this changes over time in the program.

Williams expresses concern that the reported high levels of stress may interfere with learning and suggests that simply acknowledging the stressful nature of nursing education may help to alleviate it. The study showed no relationship between FI-FD orientation, tolerance of ambiguity and stress. The value of this study is in its attempt to relate personal ways of information processing to the clinical learning situation which is characterized by a high level of ambiguity and then relating this to stress. Although the author was not particularly successful in dealing with the interrelationship of the variables, the approach is significant. It is an attempt to identify specific factors that influence learning which could serve as a guide to specific teaching strategy.

These studies on cognitive style are attempts to understand the relationship between personal attributes of learners and aspects of the learning context. From the point of view of this conceptual framework, the cognitive theories used are limited by their view of cognitive style as a relatively fixed characteristic of individuals as opposed to a view of approach to learning as variable and related to personal and contextual interpretation.

Studies that Examine Aspects of the Clinical Learning Environment

Three reviews of research and three separate studies examined various aspects of the clinical learning environment.

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Pugh's review (1983) entitled "Research on Clinical Teaching" found that most of the studies on clinical teaching "have focused almost exclusively on the perception of students, and have been undertaken primarily in an effort to identify important teaching behaviours which could then be used for the evaluation of faculty" (p. 62). Besides these studies, however, she reviewed the five studies that examined faculty as well as student perceptions of desirable and undesirable instructor traits. In her synthesis of these studies she says that despite "methodological and measurement problems, there is some consensus of opinion about three categories of desirable teacher behaviour with undergraduate students in the clinical setting: (a) teacher-student relationships, (b) use of feedback, and (c) enactment of both teacher and nurse roles by nurse faculty" (p. 71). There was a call for faculty to demonstrate positive regard for the student and to demonstrate interest in and acceptance of the student as a person. It was found to be desirable that feedback was objective and fair and should be constructive. Regarding the nurse-teacher role Pugh stated that "it seems reasonable that faculty who teach students in a practise profession must be concerned not only with the role modelling they do as nurses, but also with their role as a teacher who manipulates the clinical environment to provide learning experiences for students" (p. 72).

Pugh (1983) also reviewed investigations "analyzing the process of clinical teaching" (p.62). The first is a study by Infante (1975, as cited in Pugh, 1983). Infante believes that emphasis in the clinical laboratory (Infante uses this term to

describe the clinical setting) should be on the application of theory rather than on giving total care to patients. Infante identified fourteen elements of the clinical learning experience which essentially defined the student as learner rather than responsible care giver, that served as the basis for the development of a questionnaire designed to assess beliefs and practices of 184 faculty in baccalaureate programs in New England. Infante reported a striking contrast between what the faculty stated they believed in and what they practised. Although faculty expressed a belief in her laboratory concept, few gave evidence of acting on these beliefs. In discussing these findings Infante recommended replication of her study in which direct observation as well as questionnaires would serve as the data base.

Pugh (1983) attempted to confirm Infante's findings and to discover the reasons for the discrepancy between beliefs and practise. In this study of fifty faculty, Pugh used a three part questionnaire to identify faculty beliefs and then used investigator and student observation of faculty to measure congruence between beliefs and practise. Pugh's findings were in agreement with Infante's. Reasons for her findings were related to the occurrence of a combination of factors rather than a single factor. Faculty role identification (i.e. as nurse, teacher, or nurse-teacher) "did not in itself predict the observed behaviour of faculty. However, when role identification was combined with role preparation and value placed on teaching or clinical practise congruence between the three variables predicted observed behaviour" (p. 69).

Pugh also reviewed a study by Mannion (1968, as cited in Pugh, 1983) on the process of clinical teaching in which the investigator developed a taxonomy of 1,560 instructional behaviours. These behaviours were classified as (a) information-gathering about students and the clinical setting..., (b) assessment and interpretation, which involved a direct encounter between the instructor and the student in the clinical setting, and (c) instrumental, which implied active intervention on the part of the instructor in the clinical instructional process.

The findings in Pugh's review about desirable instructor traits are valuable but incomplete since they make no specific reference to the ways in which the instructor contributes to learning in the clinical experience. Infante and Pugh's identification of incongruence between faculty beliefs and practise is important. It has been suggested in chapter one that the clinical environment designed as it is for the acute care of patients rather than as an educational environment may present difficulties for faculty in their attempts to provide an appropriate learning environment.

McCabe's review (1985) provided a "summary of existing information on instructional behaviours which are reported to make a difference in student learning" (p. 225). She noted the paucity of research in this area and suggested that this may be due to the fact that the concept of clinical instruction has been so poorly defined in nursing. Faculty, she says, cannot agree on their purpose and function in the clinical setting. She stated that currently clinical instruction is viewed as a primary

responsibility of the nursing faculty and that student nurses are viewed as learners rather than service providers. "The emphasis of the clinical laboratory is on knowing and understanding" (p. 256). McCabe reviewed nine studies on clinical instruction in medicine and dentistry as well as in nursing. The first study was Infante's (1975) which was described in Pugh's review. Research by Meleca, Schimpfhauser, Witteman & Sachs (1981, as cited in McCabe, 1985) replicated Infante's finding of a discrepancy between what faculty did and what they considered ideal. A study by Bazuin and Yonke (1978, as cited in McCabe, 1985) which addressed problems in the clinical instruction of medical students arrived at a similar conclusion. The six remaining studies dealt with teacher behaviours that positively influenced student learning. These studies, which used dentistry and medical students as well as nursing students as subjects resulted in surprisingly uniform findings which were similar to findings previously identified in Pugh (1983). Some additional findings were suggested. The medical students felt that active student participation and emphasis on references and research were important. Nursing students added working with staff in a manner which created an atmosphere conducive to learning, providing an opportunity to carry out self-directed activities in the clinical setting and guiding students to develop the ability to evaluate personal capabilities and limitations, to their list of positive instructor attributes. Wong's study (1978, as cited in McCabe, 1985) revealed that students in first year were particularly sensitive to how faculty made them feel whereas students in the second year appeared to be more concerned with the apparent competency level of faculty. Two studies (Brown, 1981; Coles, Dobbyn,

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and Print, 1981; both cited in McCabe, 1985) indicated that baccalaureate nursing students regarded the instructor's relationships as more important than professional competence. McCabe suggested that this may be due to "the degree of personal threat the students perceive in the clinical area" (p. 257). The lesser degree of importance placed on professional nursing competence may also suggest that while "faculty may meet the students' expectations in this area, they fall short on creating an atmosphere conducive to learning in the clinical area" (p. 257). In her conclusion McCabe calls for clinical educators to develop more effective interpersonal skills and to expand their knowledge base in the area of teaching strategies.

Zimmerman and Waltman's (1986) review of effective clinical behaviours of faculty was done for the purpose of organizing the behaviours in a framework that could be used to develop an instrument that would measure effective clinical instruction. Ten studies were reviewed. The authors found that all characteristics identified could be categorized under the headings identified by Jacobson (1966, as cited by Zimmerman & Waltman, 1986). They included: availability to students, professional competence, interpersonal relations, teaching practises, personal characteristics and evaluation practises. One of the studies (Craig and Page, 1981, as cited in Zimmerman & Waltman, 1986) concentrated on the questioning skills of the nursing instructor. Questions asked by faculty were classified according to the cognitive activity they measured using Bloom's Taxonomy of Educational Objectives. The authors found faculty lacked skill in using high-level cognitive questions and "uncovered the problem

of nursing instructors who use low-level questions while expecting students to develop the high-level cognitive skills of analyzing, synthesizing, and evaluating, which are critical to nursing practice" (p. 33).

Monahan (1991) focused on the fact that although clinical experience is seen as essential to nursing education, there is little reported research examining the contribution of this component. She studied two reported outcomes of clinical experience: the ability to make sound clinical judgments and the development of professional identity. A group of eight students formed the control group and completed the usual clinical course which consisted of 60 hours of clinical experience in which the student provided nursing care to an assigned patient under the supervision of an instructor. This was the third of seven clinical experiences in the curriculum. A group of eight students formed the experimental group and received no clinical experience. At the completion of the clinical course validated simulation tools were used to measure clinical decision making and the development of professional identity. Results showed no significant difference in results between the two groups. The author recognized limitations in the sample size and called for further study to identify educational outcomes of clinical experience. This study is important in view of the time and expense involved in clinical education. It points to a concern also with the measurement tools used and the possibility that quantitative tools are inappropriate in measuring outcomes of this kind or at least that measurement could

be assisted by qualitative methods. It also points to a concern with the context of learning in that it may be structured inappropriately for learning to take place.

Concern about the conditions of learning in the clinical course was the impetus behind the work of Heims and Boyd (1990). They designed an innovative clinical teaching approach called Concept-Based Learning Activity (CBLA). The CBLA maintains the advantages of the present clinical experience, that is, contact with actual clients as a confrontation with reality, observation of the staff which is useful for learning nursing actions and for socialization, and opportunities for the application of knowledge to practice. As well it adds to these positive aspects of clinical experience. In the CBLA the student studies the client but does not do all the treatments and procedures. Instead they focus on learning selected concepts related to the client's nursing management. The role allows students time to observe, pose multiple answers to patient problems, and verbally test specific ideas about nursing practise without endangering the client. As well as client study and care, other learning activities were associated with this activity such as group discussion which included nursing staff as well as other students, and guided reading. Questioning and encouraging the asking of questions was considered an important way of teaching students how to learn. This approach was used with 16 junior students in a Baccalaureate program. Informal evaluation data was collected from teachers regarding student learning and from student's regarding perceptions of their learning and their satisfaction with the new approach. Informal and formal evaluation data

were collected from staff. Teachers found students learned to select and to apply their knowledge more visibly and were better able to present their ideas verbally and clearly, organize data collected from the client and integrate it with their readings. The students were more widely read than traditional students and used all phases of nursing process equally rather than focusing on assessment. Students' evaluations were consistently positive regarding learning process and outcomes. They felt that they learned more and that the focus was on learning as opposed to doing. Staff nurses' reactions were mixed. They were sceptical of an approach that did not involve total care. Over time some nurses grew more comfortable with the new relationships, especially in regard to the relief of having to supervise students' care of patients. This study is important in its attempt to find alternatives to the existing context of clinical experience. It is unfortunate that more rigorous forms of measurement of change were not used.

Infante, Forbes, Houldin and Naylor (1989) studied the effectiveness of an alternative mode of clinical teaching on the quality of student learning. It involved the use of the Infante model of clinical teaching. The main components of this model are: (i) use of the college laboratory to insure the systematic practice of technical skills using audio-visual and simulated methods before performance in the clinical laboratory, (ii) integration of nursing theory within clinical practice; students give segments of care rather than total care to clients, (iii) flexible use of the clinical setting in terms of quality, quantity and breadth in order to maintain a learning orientation, (iv)

student participation in determining their clinical activities resulting in students meeting objectives in different ways, (v) carefully designed use of agency personnel to allow them to be resource people for students and to allow independent action on the part of the student rather than close supervision aimed at compliance, (vi) higher student-faculty ratio, possible because of increased flexibility and independence on the part of the student, (vii) intensified faculty-student interaction, since faculty are assigned to the same group of students over the entire semester or over the academic year to enable the development of strong working relationships. This longitudinal study was carried out on 173 undergraduate baccalaureate nursing students in their junior year. The students were randomly selected to either the control or the experimental group. At the end of the experiment there were 86 students in the control group and 75 students in the experimental group since 12 students chose to move from the atraditional to the traditional group. Throughout the study data were collected on both groups using the Mosby Assesstest, the college laboratory practicum performance test and grade point average. During the last quarter of the students' senior year, students were evaluated for critical thinking ability, clinical decision making, skill performance and creativity. National Council Licensure Examination scores were also analyzed. The results of this study support the hypothesis in part. The data support the premise that the atraditional approach led to more effective academic performance and performance of technical skills. There was no significant difference between the groups in tests that were designed to reflect decision-making, creativity, and critical thinking skills. The significant results were attributed to the congruence between

college and clinical content and on the partnership of the student and the educator. The nonsignificant findings were attributed to the low numbers of students who volunteered to do the tests that resulted in these findings; only 9 traditional and 13 atraditional students participated. No validity data are provided for the tests of critical thinking, decision-making and creativity. Students' anecdotal notes written throughout the experimental period reflected favourably on the design as did the response of faculty who participated. This research is important in its attempt to scientifically explore the relationship of teaching and learning in clinical experience. In doing so, it challenges time honoured traditions in nursing education in an effective way. It does, however, focus on the outcomes of teaching strategies rather than on the effect of these strategies on the process of learning.

Conclusion

The literature review of research on clinical experience in nursing education underlines the need for further research on this topic. It reveals a demand for descriptions of learning from clinical experience, for a description of quality clinical education and a search of ways of optimizing learning. As well it reveals a concern about the conditions of learning in clinical courses. A recognition of the importance of the students' perceptions was indicated by the number of studies which used these as a data base. A predominance of these were used in the studies on desirable instructor traits. They were also used in broad ethnographic studies that were attempts to provide understanding of the experience in order to give direction to

further research and for use in determining effective teaching. The studies of Infante et al. and Heims and Boyd are concerned with identifying alternative teaching modes. They emphasize conceptual learning and acquisition of knowledge from clinical experience, rather than simply application of knowledge to clinical experience.

This research project addressed the main concerns expressed in the literature review about the clinical learning experience. The goal was to better understand learning from clinical experience as a base for planning teaching activities. It recognized students' perspectives as an important source of this understanding. It shares a concern with improving learning by designing an appropriate learning environment. It differs from existing research in its emphasis on the process of learning as well as learning outcomes and in its concern with variation in learning.

CHAPTER IV

RESEARCH DESIGN AND IMPLEMENTATION

The purpose of this chapter is to provide an understanding, both conceptual and procedural, of the design of this research and of its implementation. This part of the thesis describes phenomenography, the research methodology, that was used. As well, it explains the appropriateness of the methodology to the topic, the selection of subjects, the interview process, the data analysis and discusses reliability and validity issues.

Phenomenography

The research methodology that was used in this study is phenomenography. Phenomenography is a type of qualitative research methodology that permits the systematic study of learning. It emphasizes the learners' perspective on what they are trying to accomplish. This, Marton (1981) refers to as a second-order perspective. It is concerned with how the world is construed by the actors. This is in contrast to a first-order perspective in which facts, which can be dealt with from the outside, are the object of research. The importance of the second-order perspective is that people act on their interpretations of situations. For this reason access to the learner's perspective is essential to a complete understanding of learning.

Process of Phenomenography

The data base in phenomenography is students' descriptions of learning. In most phenomenographic studies, these have been obtained through the use of semi-structured interviews which are tape-recorded. Dahlgren (personal communication, May 1987) said that the Gothenberg researchers tried different methods to get at the information they wanted and found the in-depth interview the most beneficial method. The goal in interviewing is to obtain "as faithful and complete a description of what was lived through by the interviewee as possible" (Wertz, 1985, p. 161). Identical introductory questions are asked followed by questions aimed at eliciting answers in more depth. Depending on the structure and comprehensiveness of an initial answer the interviewer may have to ask for clarification, elaboration or examples. The interviewer must, however, avoid giving any clues about the desired direction in which the process should lead. The tape recordings are then typed and the typed transcripts become the data base.

The aim of analysis is to yield descriptive categories of the qualitative variation found in the empirical data. Descriptive categories are the abstract tools that are used by researchers to characterize the different conceptions found in the research data (Beaty, Dall'Alba & Marton, 1990). The process involves "the reduction of unimportant dissimilarities eg. terminology or other superficial characteristics, and the integration and generalization of important similarities, that is, a specification of core elements which make up the content and structure of a given category" (Dahlgren, 1984, p. 24).

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In describing the procedure used to do this, Marton and Saljo (1984) state that they do not believe that there is any uniform technique which would allow other researchers to go from the data to the conceptions present. It is, they state, "a discovery procedure which can be justified in terms of results, but not in terms of method" (p.39). Specific details of the process used in this investigation are described in the section on data analysis.

Outcome of Phenomenography

The outcome of phenomenographic research is the identification and description of conceptions of learning. The term, outcome space, describes the range of conceptions of learning identified (Dahlgren, 1984, p. 26).

As research findings, conceptions are the researchers' attempt to identify and describe all conceptions of learning that are present in the research data. Stalker (1989) notes that "multiple and contradictory conceptions may be held within and between individuals" (p. 42). In this perspective, the researcher's focus is not the conceptions held by individuals but the conceptions present in the data.

It has been found that conceptions can be expressed in a large number of linguistic forms without necessarily changing the basic way in which the phenomenon is understood. Ramsden (1988) points out that "the variation in forms of talking about phenomena is reduced to a limited set of categories, usually between three and five,

that depict differences in ways of construing phenomena" (p.42). The outcome of phenomenographic research then provides a kind of map of territory that represents the different ways that learning is conceived by a large number of people. Most conceptions of learning that have been identified have a hierarchical relationship. This means that there is a sense in which one conception emerges out of the previous one. This relationship then demonstrates a learning pathway.

Lybeck, Marton, Stromdahl and Tullberg (1988, p. 83) point out two features of phenomenography that are important in considering descriptions of conceptions of learning:

1. A view of conceptions of phenomena as relational (i.e. as describing relations between the conceptualizing individual and the conceptualized phenomena). In this perspective there has always been great emphasis put on studying learning in relation to the content of what is learned. Ramsden (1988) points out that if learning is a change in conception or understanding of subject matter, then it makes little sense to separate learning and subject matter. Conceptions of learning, then, describe not only what it means to learn but what it means to learn specific subject matter.

2. A concern with the "how" and the "what" of learning (i.e. the act of conceptualizing and the meaning of the phenomenon as conceptualized). From this perspective, the "what" or the content of learning, the "how" or the process of learning, and the meaning of learning are all parts of the same whole. Conceptions of learning then include these interrelated aspects of learning.

Framework for Analyzing and Describing Conceptions of Learning

Beaty, Dall'Alba and Marton (1990) developed a framework useful in analyzing and describing conceptions of learning. It was this framework which served as the basis for the analysis of data in this research project. This framework consists of what these authors refer to as "the general aspects of conceptions" (p. 7). The general aspects of conceptions referred to include: a "what aspect" and a "how aspect" of learning, the two main component parts of this framework, each having a "referential aspect" and a "structural aspect". The structural aspect includes an "internal horizon" and an "external horizon". These terms are defined in Appendix D. As well, the authors describe the temporal extension of learning and the importance of identifying commonalities among conceptions of learning.

The what aspect is described as the ways in which students interpret and comprehend what they encounter in learning. It has two interrelated parts, an expression of the understanding of the content and an expression of what learning means. As has been pointed out, learning must be understood in terms of content.

The how aspect refers to the ways in which students interpret or comprehend how learning takes place. It refers to the acts of learning or the process of learning. It includes overt and covert behaviour, for example, students study strategies and their attempts to relate what they hear or read to what they already know.

The referential aspect is defined as "the global meaning of the phenomenon" (p. 1). It can also be thought of as the student's way of seeing or understanding the phenomenon, here, learning from the clinical experience. As expressed by these authors, there is a way of seeing what is learned and a way of seeing how learning takes place or a referential aspect of what is learned and a referential aspect of how learning takes place.

The structural aspect is described as "the way in which the phenomenon in question...is delimited from and related to its context and to the way in which the component parts of the phenomenon and the relations between them are discerned" (p. 1). The external horizon of the phenomenon is identified as "the way in which the phenomenon is delimited from and related to its context" (p. 2). The internal horizon of the phenomenon is "the way in which the component parts of the phenomenon are discerned and are related to each other" (p. 2). Three broadly defined component parts of academic learning have been identified. They are "the learner, the world that he or she is to understand better and the studies by means of which this is to happen" (p. 38). Beaty et al. describe a structural aspect of what is learned and a structural aspect of how learning takes place.

The authors also distinguish between the acquisition phase and the application phase of learning. Learning, they point out, means becoming or being able, implying a temporal extension. This means that "when people think of learning, people think

of an occasion that is the acquisition phase and another (or other occasions) which is the application phase" (p. 8). These points in time form the temporal axis of learning. Conceptions may reflect both poles or only one pole of this axis.

Examining commonalities among conceptions may result in a general characterization of learning that applies to all of the conceptions. It points to "what the conceptions have in common that justifies seeing them as conceptions of the same thing (i.e. of learning)" (p. 7). This common characterization of learning is useful in identifying different conceptions since differences become more visible against the background of a common characterization of learning. Indicators of conceptions are the characteristics of a conception that distinguish it from the general or common characterization of learning.

Uses of Conceptions of Learning as Research Findings

Saljo (1988) describes the uses of conceptions. He states that they can be used as the basis for planning learning activities. By examining the difference between the phenomenon as construed by learners and the conception of the phenomenon as construed by the discipline involved, the implications for teaching and learning activities can be logically arrived at. Some guidelines have been presented in Chapter Two. Saljo suggests that conceptions can be used as a kind of metalanguage usable in the context of understanding the process of learning and in terms of which difficulties in understanding can be made explicit and reflected upon. The hierarchical

relationship is useful in this regard. This relationship allows teachers to challenge students in incremental steps. For students who misunderstand, it allows teachers to trace the pathway of misunderstanding. Conceptions can also be used to evaluate the success of teaching. By observing students' interpretations of the learning environment, teachers can judge the effectiveness of the teaching-learning interaction.

Compatibility of Methodology and Topic

In considering the appropriateness of the clinical learning experience to this form of analysis, two characteristics of the experience needed to be considered: (a) the level of generality at which the clinical learning experience was to be studied, and (b) whether or not an understanding level is the object of the learning experience.

Level of Generality of Clinical Experience

A clinical learning course can be considered collectively as a single learning experience or as a collection of individual learning experiences of several different types. I have chosen to view it as a single learning experience for the purposes of this investigation since my concern is with the nature of learning from the experience as a whole--i.e. students' conceptions of learning from clinical experience and the relationship between these. Support for examining other than specific learning tasks comes from Entwistle (1984) in his reference to the studies using this perspective on learning that have been done in natural settings in which he states that "students have been asked questions about their everyday experiences in general or about particular

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pieces of academic work..." (p. 17) and in Marton and Saljo's (1984) discussion of the application of the findings from naturalistic studies to everyday studying: "In everyday learning situations "text" takes on a metaphoric sense. The studies as a whole can be seen as the "text" on which attention is focused..."(p. 45). Further support is found in Ramsden's study (1984) of the effect differing department contexts have on approaches to studying. In this study he examined the general studying habits of students in Psychology and Engineering departments. He points out that "we can best try to understand the effects of the context of learning by examining the relationship between students' approaches and their perceptions of learning tasks at a number of separate but interconnected levels" (p. 147).

Understanding as the goal of the Clinical Learning Experience

Saljo (1984) cautioned "that the distinction between a deep and surface approach is not meaningful in all contexts." He says that in order to be appropriate the "text" should "present arguments, scientific principles and constructs, and/or is intended to provide a coherent way of explaining or analyzing a phenomenon" (p. 86). The clinical learning experience is designed as an opportunity to apply the content of courses taught in the classroom setting to the real situation. The student is expected to draw on previous and concurrent classroom theory in designing and implementing appropriate care for selected patients. The context is not unlike that which Whelan (1988) describes in his study on medical students' clinical problem-solving (p. 199). Opportunities exist for students to choose to approach patient care (the learning task)

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in different ways, for example, using a common-sense rather than a scientific (Lybeck et al., 1988, p.83) or studied approach or by focusing on procedure rather than on principles, or by choosing to become actively and reflectively rather than passively and mechanistically engaged in the experience. It can be effectively argued that there are some procedural aspects to this experience. In terms of interpreting approaches to learning these will become important. It is the teacher's intention that these will have minor significance in the experience. If they adopt more significance in the student's mind this will be significant since procedure will be the figure rather than the ground (expressed in Gestalt terms) rather than the reverse as intended by the teacher.

Data Collection

Selection of Subjects

The subjects used in this investigation were thirteen students in the fifth semester of a six semester (two year) diploma nursing program at Douglas College in New Westminster, B.C.

Students were approached at the beginning of their fifth semester and were asked to volunteer to participate in the study following a brief description of the purpose and process of the investigation. Confidentiality of the taped interviews was emphasized. Students were aware that the interviewer was a classroom and clinical instructor in their program. While the problems associated with the researcher's previous role vis-a-vis the students is recognized, the advantages outweigh the potential disadvantages.

As a faculty member with experience in the R.N. program the researcher brought to the interview and data interpretation a thorough understanding, albeit from one perspective, of the structure and administration of the learning experience. She had not, however, taught any of the students in this class and was able to reassure the students that the researcher would not be teaching them subsequent to the interview. This added an element of neutrality that would not be present if the sample represented previous or impending students.

Twenty-two students volunteered for the research project. Of those, 16 students were randomly selected, 3 for pilot interviews and 13 for the research project. In a meeting separate from the interview appointment, students were informed of the use that would be made of the data, of their rights as participants in the research project and were asked to sign a consent form (see Appendix A). Questions were answered and students were given a copy of the consent form.

The Ethics Review Committees at the University of British Columbia and at Douglas College and the Director of Health Sciences at Douglas College all approved the research protocol.

Description of Subjects

The sample consisted of 12 female students and one male student who ranged in age from 22 years to 50 years. The average age was 34.5 years. The sample included only those students who had started the program at the first semester level excluding those who had entered the program at a later semester because of their experience as practical nurses. The clinical experience that the students were involved in was the ninth of ten clinical placements in their program. Their previous clinical courses had taken place in acute care settings in the following areas: three each in medical and surgical areas, one each in obstetrics, pediatrics and psychiatry. During this clinical course students had approximately 17 hours of clinical experience per week over seven weeks in either a medical or a surgical unit in an acute care hospital (see Appendix B for the course outline). As well as their clinical course, students were concurrently taking courses in advanced medical-surgical nursing care of adult patients and professional nursing interactions.

Interview Process

Data were collected through the use of semi-structured probing interviews. Originally, each student was to be interviewed twice. They were, however, only interviewed once. In most phenomenographic studies reported one in-depth interview is the norm. However, at the beginning of this study it was thought that there would be an advantage to interviewing twice because each subject could then verify the importance of the meaning units identified by the researcher and fill any gaps in the

interviews. As the research got under way, however, it became clear that there was going to be a large quantity of data available to the researcher on the basis of the single interview on which to develop the conceptions and therefore carry out the research without doing the second interview. Secondly, there was the practical problem of the timing of the data collection in that the subjects were no longer immediately available to the researcher because they had completed the program.

The interviews took place during the last two weeks of the clinical course. They lasted approximately one hour each. They were carried out in a private room at a time that was mutually convenient for the subject and the researcher. Three pilot interviews were done to ensure that the questions "got at" appropriate data and to provide experience in the interview process.

Completed interviews were tape recorded, and then transcribed at a later time. The students' names were not included in the interview transcripts. The resulting transcripts made up the data base that was used for analysis.

At the commencement of the interview, each student was asked if there were any questions that had been left unanswered. If there were any, these were addressed. The interview was then introduced in the following way: "During this interview I would like to find out how you learn from clinical experience, or, what your personal experience of learning from clinical experience has been. Some of the questions I ask

may seem difficult to answer. You may need some time to think about them before you can answer them. Please feel free to do that. Please don't feel rushed or pressured. I am interested in an accurate and detailed expression of your experience. Also, there are many ways that people learn. So, there are no right or wrong answers to these questions. Before we begin, do you have any questions?"

"I will now turn on the tape recorder and test it to make sure it is working. Many people feel uncomfortable at the beginning of a taped interview. After a while most forget that it is even there."

The interview then began. Identical open-ended questions were asked followed by questions aimed at eliciting answers in more depth. The researcher may have asked for clarification or examples but avoided giving any clues about the desired direction in which the process should lead. The questions that were asked were designed to collect information about different aspects of students' conceptions of learning. The questions asked of each student were:

1. To begin, could you tell me how you came to enrol in nursing?

2. I would first like to talk about learning in general. When you think about learning is there a word or a phrase that symbolizes or characterizes learning for you?

3. Can you give me an example of a learning experience that you've had that incorporates (the above)?

4. When you hear that word learning what does it mean to you?

5. I'd now like to start talking about learning from clinical experience. I would like it if you could take me back to your first clinical experience. The questions that I am going to ask now, apply to that clinical experience. When you think back to that experience, can you tell me what was memorable about it?

6. During that clinical experience what struck you as important?

7. Was there anything that struck you as interesting about that experience?

8. What were you trying to accomplish in that experience?

9. What do you feel you gained from that experience?

10. Can you describe a time or an event during that first clinical experience when you felt you really learned or that stands out because you learned?

11. Can you tell me how you went about learning from clinical experience then?

12. When you hear that phrase, learning from clinical experience, what does it mean to you?

13. I'd now like to move ahead to the present clinical experience. The questions I'm going to ask you now are almost identical to the ones I asked you about the first clinical experience. What do you think will be memorable about this experience?

14. Now, what strikes you as important in learning from clinical experience?

15. In the present experience what strikes you as interesting?

16. What are you trying to accomplish in this clinical experience?

17. What do you feel you are gaining in this clinical experience?

18. Can you describe a recent time or event when you felt you really learned or that stands out because you learned?

19. How do you go about learning in clinical now?

20. Now, when you hear that phrase, learning from clinical experience, what does it mean to you?

21. We've talked about the first and last clinical experience. In other clinical experiences that you've had, can you describe any other time or event that stands out because you feel you learned?

22. Over your several clinical experiences, do you recall a breakthrough in your learning?

23. In coming to this interview, was there something you had in mind to tell me about learning from clinical experience?

24. Do you feel that your experience of learning from clinical is usual or different from others that you know? Can you explain? Do you know of anyone who goes about learning from clinical experience in a different way? If so, who?

The interview concluded with a request for the following information: (a) age, (b) educational background, (c) previous work experience, and (d) the following question, Can you describe a previous learning experience in which you were asked to apply theory to a real-life situation?

Data Analysis

The aim of analysis was two-fold: (i) to identify and describe qualitatively different conceptions of learning from clinical experience and (ii) to describe relationships between these conceptions of learning.

The interviews were designed to provide data on three conceptions of learning. The first conception that the subjects described was general conception of learning. The last two were conceptions of learning from clinical experience. The first of these focused on the subjects' first clinical experience. The second, focused on their fifth semester clinical experience. Current conceptions stood out against the background of the others. A change in what learning was learned and how it was learned pointed to learning since learning is defined as a change in conceptions.

The method used was similar to the four phases described by Marton and Saljo (1984, p.38-9, 55) except that a new step, discrimination of the general aspects of the conceptions, was added:

1. Sense of the whole. The researcher read the text of the transcript as often as necessary to get a good grasp of the whole. Any recurring similarities and points of departure in the interviews were noted. The aim of noting similarities was to facilitate a general characterization of learning from clinical experience. Against this background the differences in conceptions were more apparent. The reading and rereading continued until a criterion of relevance emerged from the data, that is until

the researcher could clearly differentiate significant quotes from other quotes. In particular, any quote that expressed what was learned, how it was learned, what learning meant, or a change in these was given close attention.

2. Discrimination of meaning units. The researcher once again read through the transcript with the specific aim of discriminating meaning units. Meaning units -- comments or quotes which seemed in any way relevant to the enquiry -- were identified and marked. Care was taken to ensure that the context of the words was not lost. The parts of the interviews that contained meaning units were then photocopied. The meaning units were thus separated from the interviews. Boundaries between individuals were thus abandoned. Attention then turned from the interviews to the pool of meaning units.

3. Discrimination of the general aspects of the conception. The meaning units were then systematically examined for "general aspects of conceptions" using the framework described by Beaty, Dall'Alba, and Marton (1990).

4. Categorization of meaning units and identification of the meaning embedded in the quotes. Quotes were then brought together into groups on the basis of similarity and the groups were delimited from each other on the basis of differences. Because the quotes were physically separate from the interviews they could be moved into different and new groups and groups could be eliminated as the researcher tried to distinguish features that defined the different groups. In this way categories and their meanings were developed and modified. This process represents the iterative procedure described by Marton and Saljo (1984). The process continued until the

groups stabilized and were as homogenous as possible. The outcome was a structure of categories chiefly related to each other in terms of similarities and differences. A title was given to each category that signified its most distinguishing characteristic. Indicators were identified and descriptions written that distinguished each conception from the general or conception of learning.

5. Decision made about the specific level at which the quotes should be seen in relation to each other. The categories were then examined to identify whether or not they were hierarchical in nature as has been the case in many of the studies.

The steps described did not take place in a strictly sequential manner. The expected overlap of steps as the iterative process progressed took place.

Reliability And Validity

It is important to point out that it is not possible to prove that the conceptions identified and described are necessarily the only possible ones. The categories are the construction of the researcher and there is always the possibility that another researcher would have arrived at a different categorization. There are, however, different modes of dealing with the problems of reliability and validity.

The process of interjudge agreement is used to assess the communicability of the meaning of the conceptions identified and described and to measure to what extent other researchers would put interview extracts into the same categories. Entwistle

and Marton (1984) stated that most studies resulted in interjudge agreement of 75% or more, with a more typical value being above 80%. Saljo (1988) stated that in most cases interjudge agreement is between 80% and 90%. In this study two co-judges were used. Both were familiar with the phenomenographical process. One was a professor who had conducted phenomenographical research. The other judge had conducted related research and was familiar with clinical experience. The judges were presented with the chapter of this research project which describes the findings, a list of 20 quotes from the interview data each of which was seen by the researcher to reflect one of the three conceptions identified, and a list of judgement instructions. The quotes given to the judges were not used in the descriptions of conceptions in the findings chapter. The judgement instructions directed the judges to read the findings of the research project and then each quote and to indicate which conception the quote reflected. In both cases interjudge agreement of 90% was achieved. In one case, some brief discussion took place before the final judgement was made. All parties decided that one quote provided insufficient data to make a judgement on (see Appendix C for details of co-judging).

Validity is based on the degree to which the study presents a "recognizable reality" to those who read it, or is consistent with the judgement of others. Validity is also based on the rediscovery of the main constructs by independent researchers in differing contexts (Entwistle & Marton, 1984, p.226). Saljo (1988) agrees that cross-study comparison can be used to "scrutinize the applicability of categories across

investigations adopting a similar perspective" (p. 46). Saljo feels that appropriateness of a set of categories can also be verified by the presence of internal logic of the categories defined: "There may be an internal structure to a category system in the sense that what separates them is what is assumed to be in need of being explained" (p. 46). A further aspect of the internal structure of categories that depict different conceptions of a phenomenon is that "learning can be described as the change from one conception within this structure to a different one" (p. 46).

Since internal validity can be threatened by inexperience on the part of the researcher (Goetz and LeCompte, 1984, p. 228) the researcher piloted the interview and analysis process using three subjects and had these assessed by an experienced phenomenographer to establish the effectiveness of the questions and interview techniques in getting at the desired information and the accuracy of the analysis techniques.

<u>Summary</u>

This chapter described phenomenography which was the methodology chosen which guided the data collection and analysis process of the study. It then discussed the appropriateness of this research question to the methodology. It also described the data collection and data analysis processes used in this study, and reliability and validity issues.

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CHAPTER V

OUTCOME OF ANALYSIS

This chapter presents the results of the data analysis or the findings. It begins by describing aspects common to all the interviews. It then identifies three conceptions of learning from clinical experience of fifth semester nursing students, and presents descriptions of each. In describing the conceptions, the present tense of verbs is used reflecting the fact that the conceptions are the researchers' construction of conceptions of learning that were represented in the data rather than characteristics of individuals. The chapter ends with a description of the relationship between the conceptions. A list of definitions of terms used in describing the conceptions of learning is provided in Appendix D.

Aspects Common to All Conceptions

The outcome of analysis was three descriptions of qualitatively different conceptions of learning from clinical experience that were hierarchically related to each other. These conceptions were held by fifth semester nursing students. In all the interviews, learning from clinical experience meant applying theory to nursing practice. It was the students' understanding of this phrase that was the main point of departure in this research. It was this assumption about learning from clinical experience that was at basis of each conception.

This common assumption implies that a conception of nursing practise was a part of each conception of learning from clinical experience. This was, in fact, an important part of sense-making for the students interviewed. The conception of nursing practise was prior to, and directed what was learned and how learning took place. The questions the students asked themselves seemed to be: what is nursing practise and then, what is required to be able to do that. Two students directly questioned the phrase, learning from clinical experience:

> Interviewer: "...when you heard that phrase, learning from clinical experience, what did it mean to you?
> Student: "...I don't think I've really heard learning from clinical experience before, until you." (Int 6)

> Interviewer: "...when you heard that phrase, learning from clinical experience, what did it mean to you?"
> Student: "How can you learn from a clinical experience was the first question, I guess probably I didn't put much merit in that statement...it was learning but not all that much
> Interviewer: "...you're saying (you) didn't really see it as a learning experience, it was then an experience of...."
> Student: "Getting back into the work world, well, its learning to work if you want..." (Int 4)

Other students indirectly suggested that they saw the experience secondarily as a learning experience. Each conception of learning from clinical experience, then, subsumes a conception of nursing practise. The conceptions are intertwined. The borders between each are thus blurred and are at times indistinguishable.

Other common features of the interviews that were significant in terms of analysis were:

1. Although many of the students expressed strong positive feelings about this learning experience, each of the students expressed some strong negative emotion as well. The students expressed feelings of being uncomfortable, scared, awkward, stressed, anxious, nervous, timid, sad, depressed, reluctant, and/or guilty. Students said that these feelings reflected fear related to evaluation, the possibility of causing accidental injury to someone, not knowing what patients they were going to be assigned to and the possibility of unexpected deterioration in the patient's condition. But at times they reflected uncertainty about their ability. In these cases, they would often express diminishment of these emotions or emotions such as being calm or unrushed or having confidence as an indication that they had learned.

2. Similarly students often said some aspect of clinical experience had become second nature to them or they didn't have to think about it anymore. This too was an indication that the student had learned.

3. Clinical experience is a general learning experience that had different components. The components commonly mentioned were assessments, skills (for example, changing dressings, giving injections, taking blood pressures), interventions, organization and independence. The ways in which the students understood these terms in relation to the whole clinical experience were important aspects of the conceptions of learning.

4. Most students mentioned learning from mistakes that they made. The nature of these mistakes was often important in terms of understanding what the focus of learning was for the student.

5. Many students used the phrases, "having it all come together" or "bringing it all together." The different ways that the students understood these phrases was significant.

Conception A: Learning As Reproducing Facts and Procedures

In this conception both poles of learning, which have been identified as the acquisition pole and the application pole, are present although the emphasis is clearly on the application pole. Applying theory to practise in this case means reproducing and recalling what was learned prior to coming to the clinical experience. This is the distinguishing feature of this conception of learning.

> "I use the information I already have...and simply do what needs to be done...as efficiently as we can" (Int 2)

> "it's the same as if I would learn, for example, using a machine at home...say maybe a new stove, or whatever... people explain it to you then you do it and then maybe you push a few buttons a few times before you know exactly what you're supposed to do..." (Int 4)

> "there may be 7 or 8 ways of doing this but we would like you to do it this way...it was going back to that rote learning thing...I learned that the system was to follow the path...you were just doing what you had learned previously and with the theory stuff as well" (Int 2).

In this conception, the external horizon is formed, in part, by the learners conception of nursing practise. Nursing practise is viewed by these learners as involving primarily three activities: implementing procedures, carrying out assessments, and organizing. The other part of the external horizon is a test situation

which involves the learner being able to answer the instructors' questions and gaining their approval for procedures performed.

The referential aspect of what is learned reflects the learners' conception of nursing practise. Implementing procedures, largely in the form of skills such as changing dressings or giving injections, involves performing the steps memorized and practised prior to coming to clinical.

"...(I did) a lot of skills and I was doing a lot...it was just running around doing things all the time and I had a lot of good skill experience" (int 8)

"...if it's a skill...just taking it step by step and going through all the steps..." (Int 1)

"by doing it, by looking up the procedure...actually I prefer to go to an instructor and say could you talk me through it..and then you try to apply it...learning by doing rather than reading and then trying to remember and not remembering at all...and then just reinforcing by reading and going through it in your mind..." (int 3)

The task is to remember all the steps of the procedure, although one student said that there is a need to adapt the procedure. To learn is to perfect the procedure. Assessing involves recalling or retrieving from memory indicators of a particular health problem or it's complications and then observing for these things in the patient. The procedure is thus a matching one.

"I guess when we looked at a disease process there were certain things that you had to look for and so when you went into your patient, you had to make sure that you looked for those things." (Int 7)

The volume of knowledge required to do this is of concern to the learner. They feel that they shouldn't miss any aspect of assessment.

"...you're not supposed to miss things anymore, like in your assessments...
(Int 7)

Learners also feel that this knowledge is endless, that they'll never know it all.

"there's always stuff to learn, that you can never learn it all...you just keep on going..." (int 4)

In this conception, organization involves knowing what needs to be done for the patient, sequencing the tasks and getting it all done in the allotted time frame. Learners felt that knowing what needs to be done is largely determined by collecting information about the patient but is also loosely related to the theory base, as is the sequencing process.

"...this is what I've got in front of me and this is what I have to do first...you have to have some knowledge of what's going on, who is the sickest..." (int 8)

"there are things that above everything else are priorities ...if they're not life-threatening then you make the decision according to the next step..." (int 8)

"I see the reality of it now...I realize that you can't go and do it just exactly the same way in some situations because you just won't get it done...just knowing what is OK...sort of short-cutting..." (Int 8)

These three facets of clinical experience, implementing procedures, carrying out assessments, and organizing are described in the interviews as separate and distinct entities. Any relationship between them is tenuous. In this conception of learning, learners lacked a sense of the whole in contrast to both the subsequent conceptions.

"I still feel like we haven't learned enough, like we haven't had a full day on the ward to know how it really works...how the whole thing works..." (int 8)

"...I go and do...patient teaching or whatever but it's sort of little bits here and there..." (int 3)

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This conception of learning from clinical experience reflects a dualistic view of knowledge, that is knowledge is seen as factual and is thought of in absolute terms. It reflects a view of learning that can by described as quantitative and mechanistic, that is concerned with amounts of knowledge, repeating facts and procedures in an unreflective way. Learning means memorizing factual and procedural information and being able to apply it at appropriate times. Instructors and other authorities are the holders of knowledge. Instructors evaluate the students' knowledge. In this view of learning, relationships and decision-making do not play a role. There is little to suggest that knowledge was affected in any way by the learner or by experience.

The internal horizon of what is learned can be characterized as: the learner with stored knowledge at a certain point in time, the learner at another point in time capable of reproducing and recalling in a real-life situation, knowing what needs to be done and getting it done within a certain time-frame, and the transition between these.

The how aspect of this conception refers to how the transition described above takes place. Learning to perform tasks takes place by practising and through repetition. By practising or repeating procedures and assessments the learner perfects them.

"just practising...skills and assessments...the variety of patients you see, you'll get more skilled at assessing their particular health problem..." (int 3)

"by having to keep doing it, just by practising" (int 8)

"...learning from clinical experience means that I can do the things repeatedly..." (int 4)

"you look back...sort of try to put, fit the steps in...you can't memorize everything and sequence it out...by just watching...it comes to me when I'm doing it...you have a bit of a knowledge base..." (int 8)

Learners use a device to assist them in remembering what to assess and their assessment findings. In this case, this is the human needs framework.

"...I would go through the nine needs and it came together for me instead of...forgetting half the stuff that I was doing...I could go to the chart, I could remember, I would think resp(iration) and circ(ulation), oh yeah, dyspnea, right..." (Int 10)

Instructors, to a large extent, direct the experience. They observe the learner's performance and point out strengths and weaknesses of the performance.

"...if I miss something it has to be brought to my attention only once and the next time I'm fine...I take what the instructor's told me...and realize she's right, I should have seen it" (int 3)

"...the way I went about it...a lot has to do with the instructor" (int 3)

"...the instructor expecting you to know a lot of pathophysiology behind different diseases...you really studied up on what these disease processes were or surgical procedures..." (int 3)

"...the instructor would put out questions and you'd have to answer them...like medications...why you're giving it, its actions..." (int 4)

"...did what was required of me in order to get through the experience..." (int 4)

The external horizon of this aspect is the same as for the previous aspect of this conception. The internal horizon consists of the learner with stored knowledge repeating procedures, assessments and organization.

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There is also an acquisition phase to this conception that is less clearly described. Knowledge related to the three facets of learning identified above is acquired from clinical experience by "keeping an open mind", by "taking it all in" and by "watching and copying."

Indicators of this conception are: reproducing what was learned previously, dualistic thinking, quantitative view of knowledge, pieces vs wholes, repetition, remembering, copying, keeping an open mind, watching the system.

There is an important dividing line between conceptions A, and B and C. In the first conception knowledge is something that is picked up, stored and retrieved as necessary. The learner does little to affect what the knowledge looks like. In the subsequent conceptions learners see themselves as problem solvers. They see themselves as agents in using relationships to build interpretations that will be the basis for decision-making. As such, they are independent thinkers who are agents in their own learning. The main distinction between conception A, and conception B and C is the achievement of understanding.

> "it's sort of a two-way street, you learn from doing...and you can do things
> because you learn them...you have to take a certain amount with you before you
> go...it doesn't solidify, I mean you can have it in your head, you can read it...you
> can do it in the lab. a million times but there's always someone there, when you
> finally have to work it through yourself and problem solve it through
> yourself...then you finally learn it...in the lab. there's always somebody there
> saying now don't do this, don't do that...and in the book it's ...very clean and
> sterile...you don't learn it until you actually have to do it on your own" (int 6)

In subsequent conceptions learners express a sense of being in control or in charge, a sense that was not present in the first conception.

Conception B: Learning As An Interpretive Process

This conception has an acquisition and an application pole with a clear emphasis on the application pole of learning. In both poles the distinguishing feature is understanding.

The learning task is to design and implement nursing care for a patient or group of patients. The process involved in doing this is: the learner comes to the clinical experience with a theory base, the learner then collects information about this particular patient that relates to the patients' health status, such as multiple or pre-existing health problems and the patient's treatment plan. The learner then considers how all of the variables interrelate. Based on the learners' interpretation of the situation, the learner decides on the nursing care, that is, the assessments and interventions, that the patient requires. The learner then implements the plan.

Learners aim to become self-reliant in carrying out this process. This interpretation of the task reflects the learners' conception of nursing and forms the external horizon of what is learned.

In the interviews the students emphasize the designing of nursing care. In this conception, skills or procedures are only one aspect of interventions, as opposed to conception A where they were the clear focus. What is learned is a way of seeing how the patient's health problem/s affect the whole body. The learner sees the body as a set of systems that are interrelated. Visual metaphors such as being able to see the whole versus bits and pieces, having a clear image, and being able to see how it all fits together, are used. Prerequisite to this way of seeing is a knowledge of anatomy and physiology. The learners' knowledge of health problems involves knowing how normal anatomy and physiology is affected by the health problems.

> "you have to understand what's going on with your patients and, like looking at ...signs and symptoms...you have to know the internal things that are going on so if you don't know your anatomy and physiology and what makes what work then you're not going to be able to pull it all together ...you need a good theory base to put your nursing care into practise" (int 12)

> "I like to have the whole picture because I like to be able to think it through...and kind of problem-solve for myself...try to second guess what I think might happen...(we) went into a lot more depth and a lot more physiology and I sort of feel it all starts there, that you need to really understand that, so that you're not doing things just by rote so that you're doing things because you understand what you're doing" (int 11)

> "everything started to come together, the biology that you learn and the skills you had learned and the theory and you could look at lab. values and you could see what was going on with the patient whether it was metabolic acidosis or what, you could see, and with the patient with renal failure you could look at the lab. values and know that the potassium should be doing this...being able to understand that, how it works and fits together" (int 9)

This clear picture of what is going on with the patient provides the basis for decisions regarding nursing care. Appropriate nursing care is a logical outcome of the learners' understanding of how the structure and function of body systems are altered by the

health problem/s.   Having a rationale for action is stressed.   Having this clear understanding of the patient's situation gives learners a sense of control and of being "in charge" of their task.   Learners are actively involved in synthesizing this understanding and in drawing on other aspects of their theory base in decision-making. Learners are thus actively involved in the learning situation and are using knowledge in new ways.

> "...like this one lady I had she had about 5 different health problems and two of them worked against the other three so it was really a challenge to...do her care...you had to really compromise and kind of balance out what you were going to do..." (int 1)

> "...you really do have to have a good understanding of what's going on with your patient...I'm much more comfortable and adept in evaluating lab. results and looking back at patients' medications and interpreting what meds. they were on with their lab. results...and the doctor's treatment plan, why he would order such and such a medication as opposed to another one, those kinds of things, it sort of becomes a bigger picture instead of just working with little, little bits...being able to go into report, get all the information on your patients and then going out, assessing your patients and then continuing to give care based on your report and...just keeping generally on top of things...and make those decisions, prioritizing your patients...you decide because you're the nurse and they're your patients..." (int 12)

The learners' interpretations also provide them with an expectation of what they will see when they assess the patient and enables them to interpret their findings in judging the patient's status. It also has the effect of making any characteristic that is not part of the students' expectation, stand out. This will require learners to make sense of that finding and further add to their understanding of the situation. In this conception the learners' search is for a correct interpretation. Learners compare their interpretation with that held by authority, in this case, the instructor and other nurses and reflect on the correctness of their logic.

"...I'll look it up, research it and then after that I'll validate it with somebody just to make sure I've got the right picture" (int 11)

"...I was doing all the checks and everything and I noticed a slight change but me not knowing everything that needed to be known, I didn't realize that he was getting worse and I talked to the nurses later...once they told me look at this, look at that, you realize...not knowing enough I didn't know how to put it together...I needed to assess him further...I should have been able to put the data I did have together..."(int 9)

This way of thinking is the solution to the problem expressed in conception A regarding the volume of material to be learned.

"...I could use my knowledge base better like I understood better...their behaviours...before I could see it on paper...whatever they were supposed to have, all these different symptoms...I could memorize it but all of a   sudden...I understood...I could relate it to any other kind of disease or diagnosis and I think that's one thing that a lot of people don't do is they...learn from books but they memorize things but ...they don't understand how the body fits together and if they can understand that then they can...relate it to all kinds of things...this is great, I don't even have to look at my book cause I understand how this works..and in my mind I wasn't seeing my book with   words written on it I was seeing their body and how things worked...different picture" (int 9)

The internal horizon is composed of the following interrelated components: the learner with knowledge rooted in an understanding of anatomy and physiology constituting meaning in a problem-solving situation and then making decisions to act based on that understanding resulting in improved understanding, new knowledge and improved ability in interpretation.

The how aspect of this conception refers to how learning takes place. Learning takes place by practising this particular way of seeing patients in relation to their

health problem and then making decisions to act in a particular way based on logic and then carrying out these actions. The learner comes:

"...armed with knowledge that you want to learn to see" (int 6)

"...I had to really think the situation through for myself to make sure that I was doing it correctly and so by doing that it just reinforced what I learned, I had to use what I'd learned, not just have somebody telling me which was just sort of another go over all the material again. When I had to really...dredge it up and make sure I knew what I was doing and make sure I would be confident that I was doing it correctly" (int 11)

"if you can do, even if it's just helping somebody do or teaching someone to do it then you really solidify what you learn or read...there's all the parts of doing it, the decisions and the problem-solving...just to be right there involved in it you can read it all you want but you won't know it until you've...experienced it" (int 6)

"...having these patients that you'd learned about, knowing what to expect and see...it makes it stick in your mind and helps you retain that information so that the next time you see it or the next time somebody talks about it you know exactly what they're talking about" (int 9)

Practising this problem solving process forms the referential aspect of how learning occurs, in this conception. Practising makes learners able to interpret and problem-solve more readily.

"...I have a lot more learning to do...I'd like to have that information more readily at hand, now I have to stop and think, oh yeah, such and such, now how does that go again...it takes me awhile sometimes to ...work through the whole situation..."(int 11)

Experience tells learners if they are capable of this interpretative and problem solving process. The instructor encourages understanding by asking why and by correcting the learners' interpretations.

The external horizon of how learning takes place is the same as the external horizon of what is learned. The internal horizon is characterized by the following component parts: learners with the required knowledge, the application situation, learners seeing the patient in a particular way, deciding how to act based on that understanding, carrying out that intention, and then reflecting on the effectiveness of their reasoning, resulting in further understanding, and improved ability in interpretation.

Although the application phase of this conception is emphasized there is a less clearly described acquisition phase as well. A clearer understanding of the knowledge base is what is acquired. Clinical experience reinforces and clarifies understanding and is therefore an important part of the learners' quest to see clearly and to interpret correctly. How this is acquired includes:

> "...I do a lot of watching, I asked a lot of questions, I ask if I can do things...if it's something odd or out of the ordinary or something that I haven't come across before then I start asking...why" (int. 12)

> "...I had a couple of coma patients, I had to do neurological assessments on them and that was something that I learned to do on the person in the actual situation...when you did it in school you can't replicate their condition...I learned a lot of incidental things and had a lot of things reinforced" (int 11)

> "...we were able to go down to the OR and follow our patient through ...I started really thinking a lot more, say the doctor prescribed medication every 3, 4 hours, I was always the first one to say...I'll let my patient ride a little...that really changed my attitude about that ...now ...I don't hold off...as long as you're doing deep breathing and coughing and leg exercises and ambulating them and hydrating them then it's not going to be that bad, like you're doing all these other things that are good for them..."(int 5)

Clinical experience also exposes learners to different points of view. The learner then

decides whether to accept that point of view or not.

> "it was a tremendous rotation from the point of view of staff relations...if it's a
> positive environment...you're much more open to considering what they have to
> say and deciding whether you're going to accept that or not" (int 11).

Indicators of this conception are: independent thought, use of a physiological

framework for understanding, seeing relationships, seeing the whole, reasoning based

on logic, building an interpretation, ability to make judgements, decision-making.

This conception of learning from clinical experience can be described as

qualitative, analytical, and concerned with a way of knowing. As such it represents

a significant departure from conception A. In this conception learners use a particular

structure, a physiological framework, in understanding and seeing relationships.

Learners use this structure and logic in arriving at correct interpretations. Their

interpretation is the basis for decision-making. As such, learners have an effect on

knowledge. Teachers facilitate understanding and correct learners' logic. Learners

consider other points of view to see if they represent a more accurate interpretation.

The procedures that formed the focus of conception A represent only one aspect of

intervention in this conception.

Conception C: Learning as the Discovery of Relativism

As in the previous conceptions the application pole is emphasized in this conception of learning although an acquisition pole clearly exists. The distinguishing feature of this conception is a view of knowledge as relative. Key to this development is the shift in emphasis away from the health problem, as in conception B, to seeing the person in different ways.

As in the previous conceptions, what is learned reflects the learner's conception of nursing. As in conception B, the nurse's task is seen as the design and implementation of nursing care. However, the learner's conception of nursing is different from the previous conception in two important ways. First, in this conception the basis for the design and implementation of nursing care is a more complex understanding of individuals and all the variables that affect them rather than focusing exclusively on their health problem/s. The health problem is seen as one of the variables that affects the individual albeit a significant one. Nursing care is directed toward the total well-being of the person including psychosocial and spiritual aspects as well as physical. Second, nursing is seen as an interaction between two individuals, the nurse and the patient, each having an effect on the other. This conception of nursing forms the external horizon of what is learned.

> "I never looked at all the different areas that a person has inside them and that they need to be fulfilled. I'd always thought of well if a person's sick they're sick and then once that's better then you don't have to deal with anything else, that's the only thing you have to deal with...but there's a whole ...realm of problems that you have to deal with before they leave...I really learned not   to just deal with that one problem but to deal with the whole person and all their health problems

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and really research...and know what you're dealing with before you go in and care for them" (int 1)

As in the previous conception, the key to the application process is the design of nursing care. Critical to this step is a way of seeing a person. This is what is learned and forms the referential aspect. Learners' again sought to see the whole but in this case, the whole person and all the significant variables. They used a structure that allowed them to consider different aspects of the person, but never lost sight of the composite whole from which the parts were taken. Indeed, the parts were understood in relation to the whole rather than as separate from it. Learning in this conception then is the ability to individualize care for a particular person. In this conception the learner considers the person who comes to the experience of illness as well as the effect that illness has on the whole person.

> "...this time I started really looking at the person as a whole...I always met psychosocial concerns but I didn't know that I'd really met them before, and now I understood how, why I was meeting those needs...I really began to look at my patient as somebody with all kinds of needs...I would do my (physical) assessment, I would also be assessing psychosocial and spiritual needs at the same time...and then put this person together and when you can really draw that person together and try and meet all those needs...it's really different how you look at people in general like even your own family members and anybody you meet...now I look at people differently because I always think about certain things...their accomplishments...or history, a little bit about the person, what makes them tick...it's interesting how I've changed my concept of people in general" (int 5)

> "...being able to think about your patient and then take the knowledge you have and use it to care for them...not everybody is a textbook case, you have to be able to look at your patient and say well I'm doing this and being able to say why you're doing it and...then be able to do it...that's where a lot of people have a lot of problem 'cause they have all the knowledge but it's really hard for them to apply it, to individualize it...'cause you find out...that there's always a hitch that comes in here and there..." (int 6)

"learning to look at people's whole and knowing how each problem affects their whole body and to be able to interrelate all that is really important...to be able to look at the whole complexity of it" (int 6)

"...now I try and look at people more in depth and try and really think about what I'm seeing because a lot of times you look at things and you kind of pass them off...it's putting more and more things together" (int 6)

"...the clinical resource nurse went in to talk to this lady...she went through her assessment and she talked to the patient and asked how she felt about it and exactly what the stages where and what type of teaching she was given...she sort of dealt with all her psychosocial needs and then all the physical needs and any knowledge deficit she might have but she did it in such an organized way...you sort of think that well some day you'll be able to go into a patient and be able to cover all aspects of what they're going through and do it in such a nice way for the patient as well as covering all areas" (int 3)

This way of seeing a person was applied to the learners themselves allowing the learners to consider their participation in the nurse-patient relationship. Personal interpretation is a theme that recurs throughout this conception.

"...I had a patient die...I think I learned basically ...that it wasn't my fault that he died, I'd done everything for him that we could do and I just had to kind of deal with my feelings for somebody when they die... the mourning process...I think a lot of times you deal with families...their grieving but then I think that the nurse or the doctor or whoever it is, they go through the grieving too and I think you have to learn to deal with that yourself...I never really knew about the process...but we learned about it in 3rd semester, in class and so then once I learned that, then I could...use situations in my life that had happened to me...and I just kind of realized that I was going through it too and that every time that I had a patient who went through it that I would probably actually go through the same thing maybe not quite as deep..."(int 1)

Based on this perspective of individuals and the variables affecting them, the learner then decides on the care that was required. In this case, the learner's search is not for right versus wrong answers. Right answers are conditional. They depend on the context that is presented by the patient and the environment and on personal interpretation. Learners accept variation in individual practise.

"...being able to take what you learn and use it...to make accurate decisions or proper decisions ...to be able to make fast decisions, great decisions" (int 6)

"...how you care for a patient...it's a very personal thing who you pick to get most of your care and most of your time...you need to be able to look at all of the variables...it's all how you look at things and what you know, it comes from experience too, I mean instructors pick different things because they have twenty or fifteen years experience and you have one." (int 6)

The learners evaluate their decisions and actions based on individual responses. In this conception learners have come to realize that complete knowledge is an unattainable goal and that decisions can be made in a climate of some degree of uncertainty. They are willing to make decisions based on the knowledge they have. They sense that they know enough to make the decisions.

"...being able to trust what you've learned, by this point you should be able to trust that you hold a certain amount of knowledge" (int 6)

"...realizing that I had all this knowledge in me from the last two years and we could use it and then I started putting everything together...I thought this is all the stuff I've learned in the last couple of years and this is what the College has said you have to learn, sort of, and now you can just take it and use it" (int 1)

As in conception B, the internal horizon is cyclic in nature. In this case, the components are: the learner with knowledge, the application situation, the learner able to see the person-in-situation and on that basis deciding on the nursing care that is required, the learner with a better understanding of subject matter, individuality, and the conditional nature of knowledge, than was previously held.

Learning takes place by practising the structure that enables learners them to see the person-in-situation. Once a clear sense of the person is obtained, learners reflect

on their understanding in designing appropriate actions, and then carry out those actions.

> "...standing back and looking over someone else's shoulder and seeing what wasn't working and trying to put yourself in the patient's shoes...take a bird's eye view" (int 12)

The learners evaluate the appropriateness of their knowledge and actions based on what they perceive to be the consequences of those actions. These learners are not looking for absolute answers. Experience is seen as a source of knowledge enabling them to make appropriate decisions versus correct ones. In this conception the instructor is a "sounding board".

> "...we had a lot of freedom and (the instructor) did watch, I know she did...but she did give us a lot of freedom to make our own decisions and to do our own thing and it really came together..." (int 6)

> "...by trying to draw back on previous experience now too" (int 6)

The external horizon here reflects the conception of nursing as previously described. The test situation isn't mentioned.

The internal horizon consists of the following components: the learner with knowledge, the learner seeing the patient-in-situation, the learner exposed to situations that enable them to see different individual responses, different points of view, the learner deciding on a plan of action and carrying out that plan, the learner more skilled in contextual thinking.

As in the previous conceptions an acquisition phase is present although less clearly described. Clinical experience exposes learners to experiences that enable them to see different perspectives.

"...sharing your concerns with other nurses and physio and respiratory and talking to the pharmacist if you're...unhappy about the patient's medication" (int 12)

"...the more different ways that you can learn something, like from practical experience, hands on or something visual, something you read, something you're told...every time you discuss something...everybody's got a different view point...that would be one more...rung on the ladder...it was all interrelated...you increased your knowledge by each part" (int 5)

It also presents opportunities for new learning that enables the learner to understand a variety of individual responses within different circumstances.

"...I went to the OR...you understood why patient's have pain...when I saw patients that had different surgeries I could really relate to what was done...you understand the enormity of what they had done...you can really relate to patients being frightened going in and how they feel in the PAR when they come out..." (int 6)

The new knowledge can then be generalized to other situations.

"...I had a patient...and he was in a lot of pain...I found that the nursing staff were...really pushing this man really hard and he just physically was not fit to be pushed like that and when I was looking after him ...I allowed him to make choices...I guess I learned...to acknowledge how patients are feeling ...like your mind is on your task and you're not sort of cluing in to what the patient is saying to you and what their non-verbals are...I'm pretty astute at picking up on subtle cues now and before I was not..." (int 12)

The indicators of this conception are: seeing the person-in-situation, understanding different perspectives, relativistic thinking, individualizing, contextual decision-making.

This conception of learning can be described as qualitative, relativistic, analytical and contextual. As such it represents the most comprehensive conception of learning from clinical experience. It describes a way of seeing a greater complexity than conception B. The health problem/s and altered physiology are only one variable that is considered in this way of seeing. Learners use the physiological framework described in conception B but the focus is on a way of seeing a person and on an interpretation of the person-in-situation as the basis for decision-making. The use of both frameworks resulted in a difference in the quality of interpretation achieved. The consideration of what was referred to as the greater complexity pushed learners toward contextual, relativistic thinking. It forced students away from standards and absolute answers, and an exact theory base. Looking at situations from different angles became more important. Differing perspectives came to have more value. Decision-making in this conception involved personal and contextual interpretation encouraging learners to examine their assumptions about the nature of knowledge.

Relationship between Conceptions

The three conceptions described are hierarchically related. There is a logical order in which each new conception comprehends the former and represents an ability to see and consider a greater relativity.

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Summary

This chapter detailed the findings that resulted from the analysis of data. It sets the stage for the final chapter which integrates these findings into implications for teaching and for further research.

CHAPTER VI

INTEGRATION OF FINDINGS AND SUMMARY

The goal of this research project was the identification and description of conceptions of learning from clinical experience.

This study began with a discussion about the centrality of the clinical learning experience in nursing education. It went on to describe the concerns several authors have about the lack of significant research on learning from clinical experience generally and about the dearth of research that has examined the process of learning. It also examined different aspects of the context of learning from clinical experience that have been of concern to various authors. This research project was an attempt to address some of those concerns.

This investigation was linked to a perspective on learning that presents a view of learning that emphasizes the importance of students' conceptions in the learning process. Students' conceptions of learning direct students' learning activities and affect the quality of learning achieved. Students' conceptions of subject matter represent the learning outcome. Learning is thus seen as a change in conceptions.

Phenomenography was the methodology used in this investigation. It is a qualitative methodology that was developed to systematically investigate learning. The

data used to analyze learning were students' own descriptions of their experiences of learning. A rigorous qualitative analysis is used in identifying conceptions of learning. Conceptions represent the variation in assumptions and meanings that students hold about this learning experience and that account for their actions in the clinical area. They make apparent how students respond to teaching, tackle the demands of learning and what kinds of difficulties they encounter, revealing a process that is usually the private domain of the learner. The conceptions of learning that were identified are representative instances of the ways in which a wide variety of nursing students learn from clinical experience. Conceptions of learning can be used in planning teaching and learning activities and in evaluating the success of teaching.

The findings of this research project were three qualitatively different conceptions of learning from clinical experience that were present in fifth semester nursing students in a two-year College based nursing program. These conceptions were: conception A - Learning as reproducing facts and procedures, conception B - Learning as an interpretive process, and conception C - Learning as the discovery of relativism. These conceptions represent the variation in personal and contextual interpretation that resulted from this learning experience. As such they are descriptions of learning.

The common assumption that guided the three conceptions of learning was that learning from clinical experience meant to apply knowledge to nursing practise. Each conception of learning therefore incorporated a conception of nursing. The conception

of nursing directed the conception of learning in an important way. The students saw the learning experience as a matter of learning to practise nursing.

The main distinction between the conceptions identified was between conception A where learning was viewed as reproduction, and between B and C, where understanding was achieved. The basis for understanding was a framework that permitted a way of seeing. The distinction between conceptions B and C was attributed to a difference in a view of learning as either interpretative or contextual and in a figure-ground difference. In conception B the health problem was the figure and the individual was the ground whereas in conception C, the individual was in focus. The difference in conception B and C resulted in a difference in the quality of interpretation. The conceptions were hierarchically related in that each conception was subsumed or comprehended by the conception above it. Conception C represented most closely the conception espoused by the nursing program that these students participated in.

Limitations

This study was limited in terms of generalizability by several factors. Of prime concern is the size of the sample (13), although it was appropriate in terms of the nature of the methodology in respect to the depth of analysis required. Generalizability was also limited by the sample. The subjects were all nursing students in the fifth semester of a six-semester two-year nursing program at a

community college in a large urban center. Their clinical experiences all took place in acute care settings. The students volunteered for the study, although since an excess of students volunteered for the study, students who participated were randomly selected from the group that volunteered. The study may have been limited finally by the inexperience of the researcher. However, inexperience may play a part in the quality of findings of any research project.

Relationship to Existing Research

This study has been able to respond to several authors' concerns about the clinical learning experience in nursing education. These concerns have centered around the need for an understanding of learning from clinical experience, the identification of what constitutes an optimum learning environment, and planning of teaching and learning activities based on an understanding of learning. The findings of this research project have addressed these needs. It is, as well, an expansion of the phenomenological descriptions of learning from clinical experience that were reported. This study has gone beyond the identification of learning per se, and has identified the different ways that people learn from clinical experience. It has, as well, provided detailed descriptions of each. These findings represent the ways that nursing students learn from clinical experience and as such can be used for planning and evaluating learning and teaching activities.

Discussion

In the phenomenographic tradition that informs this research project, it is understood that the conceptions of learning that are the outcome of the research project provide educators with tools that can be used in planning and modifying teaching and learning activities. Prior to suggesting modifications, however, I would like to step away from the phenomenographic process and suggest elements of the context that were suggested as promoting conception C and maintaining conception A and B, as I feel that doing so will clarify the suggestions for change.

Of the three conceptions identified, it is conception C which is espoused by the nursing program these students were enrolled in. The findings point to personal and contextual elements of the clinical experience that contributed to the development of this conception.

1. An appropriate framework was an important part of sense-making for three reasons. First it provided a way of seeing part-whole relationships and interrelationships between parts. Secondly, it pointed toward the espoused conception, in this case one of greater complexity, rather than allowing the student to stop short of the bigger picture. Thirdly, it was an important part of allowing students to become independent, in charge of their own learning and their nursing practise. Finally, the framework that was used directed students to consider the individuality of each person. This was shown to encourage relativistic thinking.

2.   Clinical experience exposed students to a world teeming with the complexity and intricacy of the human condition that is representative of the world of nursing practise. As such it provided a wealth of variation in perspectives and responses that fuelled challenges to existing conceptions. It also provided opportunities for learners to become participants in problem-solving and decision-making and provided first hand opportunities to experiment with different approaches and then to consider the effectiveness of these approaches.   It thus directed students to find ways of sense-making and to make investments in appropriate decision-making.

3.   Clinical experience confronted learners in a powerful way with the interactional nature of the discipline. They found themselves emotionally moved. Clinical experience made them aware of the personal involvement that would be required in terms of costs and rewards and they were thus forced to find ways of giving meaning to that aspect of their learning experience. This also proved to be an important part of the development of relativistic thinking.

4.   Clinical experience provided learners with opportunities to make decisions based on their interpretations of situations and to find that they were able to make appropriate decisions in an uncertain world where absolutes were often temporary and complete knowledge was an unattainable goal. The students felt that making decisions teaches you that you have enough knowledge to make decisions.

5.   In clinical experience, teachers who promoted conception C were teachers who role-modeled this conception of learning and who allowed learners the

freedom to problem-solve and who acted as a sounding board for students in their attempts at sense-making.

6.   Clinical experience exposed students to a variety of practitioners, nursing and non-nursing. Being able to discuss different issues with these practitioners made students aware of differing perspectives.

7.   A developmental perspective is suggested in the interviews. For example students said that once they had learned the skills they didn't seem as important. Also, it seemed that once conception B was used as a sense-making model, the limitations in it became apparent.

8.   In the interviews students frequently mentioned an aspect of classroom content and teaching methodology that promoted their ability to function effectively in the clinical setting. In the particular semester that these students were in, only a few health problems were dealt with. Students compared this with previous semesters in which many, often unrelated health problems were discussed and in which students felt forced to memorize for the purposes of exams and didn't have time to gain understanding. In conjunction with the classroom content, simulations of particular cases were constructed and students were asked to enact their role in these situations. Students felt that this way of teaching provided them with a way of dealing with the clinical situation that they were able to generalize to other situations.

9.   When asked about how their learning differed from others that they knew, students were able to suggest attributes such as previous experience, life's experience and age as contributors to differing conceptions of learning.

Despite these several factors that directed learners to the espoused conception, two other conceptions persisted. This study suggested several factors that contributed to the persistence of these conceptions.

1.   The intention to practise nursing rather than the intention to learn which was expressed in the conceptions as a focus on the application pole at the expense of the acquisition pole of learning, was a factor in maintaining conception A.   It focused the students' on seeing learning as taking place in the classroom and seeing clinical as a place to prove whether or not learning had taken place rather than seeing the experience as an invitation to attend to a different perspective or to modify or add to understanding of the theory base. This emphasis hindered a questioning attitude and experimentation in favour of acceptance of the status quo and a focus on performing at the RN level including working toward the same workload that RN's contend with, at the expense of time for reflection.

2.   This study suggested that the structure of classroom content placed a certain emphasis that was influential in affecting learners assumptions about knowledge in this discipline. Classroom content emphasized psychomotor skills and health problems. The volume of classroom content was stressed necessitating rote learning as the most efficient way of making the grade. Some students came to see this as the nature of knowledge in this discipline.

3.   Two characteristics of teachers proved influential in encouraging learners to maintain their hold on less mature conceptions. First, was the questions that instructors asked. Several of these students referred to questions that required factual

answers. These questions served as prototypes of the questions that learners asked of themselves as they gained independence. Secondly, how the instructor spent her time was important. Some of these students saw teachers as emphasizing the supervision of skills. This reinforced the importance of this activity as part of their practise.

4. As Marton has observed (Ramsden, 1988, p. 20) experts' conceptions have varied between historical periods in the development of disciplines and these historic conceptions can become commonplace and tenaciously-held among the general public. The three conceptions identified in this investigation reflect stereotypical or lay conceptions of nursing and conceptions of nursing presently held by nursing experts. Related to this and equally important in upholding or challenging conceptions was the conceptions of nursing enacted by the staff nurses.

5. Clinical areas in acute care settings are structured for medical treatment of patients. This emphasis was not lost on many of these learners and dictated an emphasis on understanding and on health problems and altered physiology rather than on the recognition of individuality.

6. High anxiety, over-whelming emotion, and fear was a theme that presented itself over and over again in the interviews. Ramsden (1984) suggested that high anxiety and feelings of threat interferes with learning and can push learners to rote methods of learning.

Implications

The value of this research lies in the direction the findings provide for planning and evaluating learning and teaching activities. As is apparent from the discussion above, the findings suggest strengths as well as areas of improvement. The value of this research also lies in the direction it gives for further research.

Implications for Nursing Education

In considering the implications for curriculum, content, teaching and assessment changes that are suggested by the findings presented by this research, three themes emerged:

1.   The value of conceptions of learning in directing learning and as a reflection of learning needs to be recognized. Marton and Ramsden (1984) suggest that the study of "subject didactics - the analysis and mapping of the different ways learners experience and conceptualize various content domains" (p. 283) should be a part of instructor education and should be used in their practise. The findings of this research project support that view.

Conceptions of learning can be the basis of discussions with students about learning from clinical experience. They can be used to inform students about the process and content of learning from this experience. It is recommended that learners should have their own and different conceptions made explicit to them and have the differences pointed out. This would make students aware of the possibility of different

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conceptions, the importance of ways of thinking about learning and to consider the intent of the learning experience.

Conceptions of learning can be used to guide the selection of experiences in the clinical area. Teachers, first, need to know how to identify students' conceptions. One recommended way (Entwistle & Marton, 1984, p.227) of doing this is by asking students to describe their understanding of concepts, subject matter or situations. Teachers should then use situations that present themselves in the clinical experience to challenge or confirm existing conceptions. This approach enables teachers to adopt a diagnostic stance that would enable them to trace pathways of misunderstanding and to individualize learning experiences. Teachers can also use conceptions of learning to evaluate the effectiveness of learning experiences by assessing students for changes in conceptions.

In recent decades staff nurses have been somewhat shadowy participants in the education of nursing students. In the interviews, however, students often mentioned the importance of staff nurses in the formation of their conception of nursing. These practitioners represented a reality as role models of nursing that instructors were unable to fulfil. As such, their importance should be reflected in designing the clinical learning experience. Master practitioners should be identified that reflect the conception of nursing espoused by the experts and they should be affiliated with educational programs to serve as role models. Staff nurses should be aware of their

importance in the educational process of nursing students. Relations between education and practise should be improved and strengthened.

The findings of this investigation point to the value of the problem-solving experiences presented by clinical experience. These problem-solving experiences point to limitations in a particular way of thinking and encouraged learners to consider different ways of sense-making. As well they provide opportunities for students to use their ideas about subject matter in new ways. As such these experiences should be maintained.

2.   The acquisition potential of the experience needs to be developed. This research pointed to the underdevelopment of the clinical learning experience as a source of knowledge and understanding. This potential was overlooked by the overemphasis on the application of learning that had taken place in the classroom and by studying prior to coming to the clinical experience. For decades the clinical experience has been seen as solely a learning experience by nurse educators. The students in this investigation, however, indicated that that notion was secondary to the notion of practising nursing. It may be that a contributing factor to this perception is the lack of clarity about learning from this experience among nurse educators, as was reported in the literature. The findings of this research project and others like it may assist in developing a body of knowledge about learning from this experience and thus assist in the solving of this issue. This distortion may also have been promoted by

a traditional aspect of nursing education that has been a concern to a core of nurse educators, that is, the practise of having nursing students, often in even initial experiences, giving total care to patients. This practise has been a source of considerable anxiety for learners and has played an important role in directing the activities of instructors to that of a supervisory role in which the safety of the patient rather than the learning activities of the student has been paramount. This study suggests that consideration needs to be given to selecting experiences for students, for having students participate with staff nurses and of gradually taking on more responsibility and of implementing this practise at a much later point in a program.

Another aspect of clinical experience that interfered with conceptual change learning was the pressure to increase the student's assignment close to the RN level. This had the effect of focusing the learner on maintaining the status quo and eliminated any opportunity for taking "a bird's eye view", for reflection, or for trying out different ways of handling a situation. The learning potential of this experience could be emphasized by selecting only certain aspects of patient care for students to perform, by having students work with staff nurses and by decreasing the emphasis on volume. Time should be built in for discussion and for reflection and for a consideration of alternative perspectives.

This study pointed to the value of student contact with patients and health related practitioners of all kinds as suppliers of perspectives.

An emphasis on the learning potential of this experience would encourage a separation of learning and evaluation which is promoted by the overemphasis on application and is a source of anxiety that may well interfere with learning.

3.   Greater emphasis needs to be placed on the whole rather than the parts.

The findings of this research study suggest that conceptions A and B were subordinate aspects of conception C and may have been encouraged by tenaciously-held lay conceptions of nursing, by an emphasis in classroom content and in assessment, on learning of psychomotor skills and on disease processes and medical management, and by the focus of health care in acute care settings. These contextual elements may have encouraged a distortion of figure-ground relationships and may have led learners to stop short of the espoused conception of nursing. The inclusion of the history of nursing in the curriculum would help learners to understand current and past and present perspectives of nursing. Careful consideration needs to given to how classroom content is presented so that a balance is achieved and so that the overall picture is not lost. Classroom content should also reflect the nature of knowledge as qualitative, relativistic and conceptual as well as factual.

In all learning environments an appropriate framework should be used that directs the student to the espoused conception.

The focus on acute care settings in hospitals as the sole environment for clinical experience, as was the case in this program, should be modified. This may include moving some experiential components out of acute care settings and into the community so that individuals can be seen in their usual environment. The issue of individuality can be addressed in the clinical area by providing experiences that emphasize the limitations of stopping short of this consideration.

Reflecting what was said above about classroom content, the teachers' role in the clinical area should reflect an emphasis on the larger picture rather than on the component parts. This should be reflected in the types of questions that are asked of learners and on how and where teachers' time is spent. Teachers need to role model an appropriate conception of nursing. As has been pointed out in Chapter One, the complex nature of clinical teaching may force teachers into a supervisory role where they are not able to spend any significant time with patients and have little responsibility for decision-making and may focus on procedural aspects of learning. The solution to this dilemma is not an easy one but should be considered in discussions about modification of context. Discussions involving a sharing of perspectives among students and teacher and facilitating exposure to differing perspectives and the interactive nature of the discipline are valuable activities for teachers to engage in.

Implications for Further Research

This research was conducted on a small sample of students in only one educational institution. It needs to be replicated using different groups of similar students as well as students in different types of programs including baccalaureate programs in order for findings to become generalizable.

As well as students' conceptions of learning, teachers conceptions of learning and teaching should be examined. Marton and Ramsden (1984) have pointed out that teachers' conceptions of teaching usually parallel their conceptions of learning. Related to this, ways of changing conceptions not only in nursing students but in nurse educators will need to be systematically investigated.

The interviews conducted during this research project suggested a possible developmental aspect in the conceptions. This should be examined through a longitudinal study. Such a study would confirm the existence of a developmental progression in conceptions held by individuals and would add to an understanding of the learning process in order to improve the teaching learning process.

Any body of findings about clinical education would be incomplete without an examination of the context in which it occurs. In particular, an examination of the conceptions of learning and nursing that practitioners hold would be appropriate since

practitioners are the role-models that inform the students conceptions of nursing that formed such an important part of their conception of learning from clinical experience.

This study looked at clinical education at the most general level. An examination of more specific components of clinical education would prove enlightening. In particular, an investigation of students' and teachers conceptions of clinical decision-making would be important.

This study has used the phenomenographic approach in isolation. Currently a combination of quantitative and qualitative methodologies are being recommended as the findings of one methodology serves to illuminate and inform the other (Stalker, 1989, p. 43). The findings of this study, for example could be applied to individuals and the findings related to quantitative measurement of performance.

Summary

This thesis began by describing the centrality of clinical experience in the education of nurses. It went on to describe the concern expressed by various nurse educators about the lack of research that has focused on this experience, about the lack of research that has effectively studied teaching methods in relation to their effect on learning, and about various aspects of this complex but powerful context. This study has addressed these concerns by using a perspective on learning and a methodology that differs from those that dominate the literature in the field. It has

studied students' lived experiences of learning from clinical experience in arriving at descriptive categories of variations in conceptions of learning from clinical experience and has suggested the importance of these as a basis for framing quality clinical education. By using conceptions as a starting point in thinking about the teaching learning process educators are guided to focus on teaching for understanding, teaching students how to learn and on creating an appropriate context of learning.

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Appendix A

CONSENT FORM

I,.....................................in return for the opportunity of participating as a subject in a scientific research investigation hereby consent to participate in the research project called "The Nature of Learning from the Clinical Experience of Nursing Students", the purpose of which is to identify different ways in which students interpret the demands of this learning experience and how that affects the ways in which students go about learning from the experience. I agree to participate in two taped interviews about my experiences of learning from clinical experience, the first lasting approximately one hour and the second lasting approximately one half hour.

This consent I give voluntarily as the nature and purpose of the experimental procedure have been fully explained to me by Norma Goldie, the investigator of this research project, who can be contacted at 527-5082 or 943-9689 to answer any questions concerning the procedures involved, either before or after the interview has taken place. I understand that there are no known risks associated with my involvement in this research project. I understand the potential benefits of the investigation to be the alteration in teaching methods to facilitate learning from clinical experience.

I understand that, as a participant, my rights will not be jeopardized, that my privacy will be maintained and that the data obtained in this study will be used in a manner to maintain confidentiality and personal rights. No proper names will be used in the transcriptions of taped interviews. Only the researcher and her advisors will have access to the taped interviews. The tapes will be destroyed one year after the thesis has been completed.

I am aware that I may withdraw my consent and discontinue participation at any time without penalty to myself.

Any concerns I have about this research project can be addressed to Mia Gordon, Director of Student Services at Douglas College at 527-5321 or the Research Supervisor at U.B.C., Dr. Tom Sork at 228-5702.

I have received a copy of this consent form.

Dated:................. Signature:..

Dated:..................Researcher's signature:...

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Appendix B

DOUGLAS COLLEGE

A. Division: _____APPLIED PROGRAMS_____   Date: _____March 7, 1990_____

B. Department: _____HEALTH SCIENCES_____   New Course: |_|

                                                   Revision of Course |X|

                                                   Dated: _____February 1, 1989_____

C. _____GNUR 510_____   D. ___ADVANCED CLINICAL NURSING:ADULT___   E. ___3___
        Subject & Course No.   Descriptive Title   Semester/Credits

F. Calendar Description:	Summary of Revisions:
	(Enter date and Section Revised)
During this seven week pre-practicum course, students will integrate and apply previous and complex concurrent theory and skills in the application of the nursing process. GNUR 510 includes: advanced psychomotor skill demonstration and practice; participation in simulated patient care situations; and provision of comprehensive nursing care, in an acute care setting, to adult patients with multiple need non-fulfillment, complex need interrelationships and various medical and surgical interventions. With the consultation and supervision of the instructor, the student gains competence as a member of the health care team.	e.g. 1982-08-25 Section C,E,F, and R.
	1987-03 Sections C,I,L,N,Q,R
	1988-02 Sections B,C,D,F,G,H,I, J,N,P,Q,R

G. Type of Instruction: Hrs. Per Week/ H. Course Prerequisites:

		H. Course Prerequisites: All Semester IV General Nursing courses.	1989-02 Sections B, F
Lecture	_____ Hrs.		
Laboratory	3 Hrs.		
Seminar	_____ Hrs.	I. Course Corequisites: GNUR 500 may be completed concurrently or before GNUR 510.	1990-03 Sections F, G, K, N, O, P, Q, R
Clinical Experience	15 Hrs.		
Field Experience	_____ Hrs.		
Practicum	_____ Hrs.	J. Courses for which this Course is a Pre-requisite:	
Shop	_____ Hrs.		
Studio	_____ Hrs.		
Student Directed Learning	_____ Hrs.	GNUR 620	
Other (Specify)	_____ Hrs.		
		K. Maximum Class Size:	
Total (7 week course)	18 Hrs.	Lab Demo 1:24; Lab Practice 1:12 Lab Simulation 1:3; Clinical 1:8	

L. College Credit Transfer |X| M. Transfer Credit: Requested |_|
    (PART OF BLOCK TRANSFER)
    College Credit Non-Transfer |_| Granted |X|

                                          (Specify Course Equivalents or
                                          Unassigned Credit as Appropriate)
                                          U.B.C.
                                          S.F.U.   Part of Block Transfer to
                                          U. Vic. BScN. U.B.C. and U. of Vic.
    Non-Credit |_| Other

_____   _____
     Course Designer(s)   Divisional Dean

_____   _____
    Director/Chairperson   Registrar
(Rev. Aug./82)

N.   Textbooks and Materials to be Purchased by Students (Use Bibliographic
      Form):

      1.   Carpenito, L.D. (1987). Handbook of Nursing Diagnosis. 2nd ed.,
            Philadelphia:J.B. Lippincott. ($17.00 in 1987)
      2.   Kozier, B. & Erb, G. (1987). Techniques in Clinical Nursing: A
            Nursing Process Approach. Menlo Park, CA: Addison-Wesley
            Publishing Co. (Approximately $45.00 in 1987; also used in GNUR
            100, 110, 210, 310, 412, 510, 620)
      3.   Lewis, S. & Collier, I. (1987). Medical-Surgical Nursing. New
            York: McGraw-Hill Co. (Approximately $75.00 in 1987; also
            used in GNUR 200, 210, 400, 410, 412, 500, 510, 620)
      4.   Douglas College General Nursing Student Learning Packets: GNUR
            112, GNUR 212 and GNUR 412 - Nursing Psychomotor Skills I, II and
            III, First Edition. (Approximately $3.00 each in 1987)
      5.   Douglas College General Nursing Student Learning Packets: GNUR 500
            Advanced - Nursing Theory:Adult; Professional Nursing Issues; GNUR
            510 - Nursing Psychomotor Skills

Complete Form with Entries Under the Following Headings: O. Course
Objectives; P. Course Content; Q. Method of Instruction;   R. Course
Evaluation

O.   COURSE OBJECTIVES

Context of Practice:

In the nursing laboratory and under the supervision of the instructor, students
will participate in three patient care simulations in the roles of nurse,
patient or observer. In either a medical or surgical ward of an acute care
hospital, students will provide comprehensive nursing care to 3-4 adult
patients of varying developmental levels with multiple patient problems/nursing
diagnoses associated with complex need interrelationships and a changing health
care status.

The student will

NURSING CARE

1.   apply knowledge of nursing and biopsychosocial sciences as a basis for
      nursing practice

      1.1   describe anticipated patterns of behavior and environmental factors
            associated with a variety of commonly-occurring health problems
            affecting adults

      1.2   describe anticipated patterns of behavior and environmental factors
            associated with the potential complications of health problems and
            treatment plans relevant to assigned patients

      1.3   make appropriate inferences, with minimal assistance, about need
            interrelationships for assigned patients with selected health
            problems

      1.4   analyze, with minimal direction, the outcomes of alternative
            nursing approaches

    1.5   state the rationale for own nursing actions and decisions verbally and in written assignments

    1.6   use a variety of resources in the clinical setting

2.   apply communication theory and skills effectively with patients and their significant others in stressful and non-stressful situations

    2.1   establish, maintain and terminate helping relationships

    2.2   use helping skills, with minimal direction, to assist patients to problem solve concerning health

    2.3   direct and focus interactions to ensure optimal use of time

    2.4   adapt interactions to consider individual differences

3.   organize patient care assignments to provide safe, effective and efficient nursing care

    3.1   sequence selected nursing care and other ward activities considering the priority needs of 3-4 assigned patients, usual routines of the unit and planned patient activities

    3.2   revise time lines, after validation with the instructor, to accommodate changes and unanticipated events related to assigned patient care and assigned responsibilities for ward activities

    3.3   implement nursing care to conserve energy of both patient and self as well as the use of hospital resources

    3.4   complete nursing care activities within an appropriate time span

4.   perform a variety of psychomotor skills competently

    4.1   perform selected psychomotor skills in the nursing laboratory

    4.2   perform a variety of psychomotor skills in the clinical area

5.   demonstrate respect for the rights and dignity of assigned patients when providing care

    5.1   maintain safe care consistently

    5.2   maintain confidentiality

    5.3   recognize the patient's right to be informed by applying the principles of teaching and the principles of learning

        5.3.1 anticipate usual learning needs of adult patients related to health problems, associated treatments and discharge plans
        5.3.2 identify actual learning needs of patients and their significant others
        5.3.3 recognize own limitations regarding providing information to patients and their significant others

      5.3.4 use appropriate teaching methods based on identified learning
           needs
           5.3.4.1   use available patient teaching resources
                    appropriately
      5.3.5 refer patients' and their significant others' learning needs
           to the appropriate member of the health care team as required
      5.3.6 evaluate the effectiveness of teaching with the patient,
           significant others and other members of the nursing team

  5.4   demonstrate respect for the worth of individual patients and their
       significant others

6.   use the nursing model when applying the nursing process in the provision
    of care

   6.1   consult appropriately with the patient and/or significant others at
       each step in the nursing process

   6.2   assess patients' needs

      6.2.1 anticipate appropriate data to collect based on major need(s)
           affected by the patient's health problems, the treatment plan
           and potential complications
      6.2.2 collect accurate, relevant data related to major needs using
           appropriate sources and methods
      6.2.3 collect comprehensive data systematically by using specified
           data collection tools
      6.2.4 interpret data, with minimal assistance, to determine need
           fulfillment/nonfulfillment, need interrelationships and
           associated environmental factors
      6.2.5 validate sufficiency and interpretation of data with
           instructor
      6.2.6 recognize changes in the overall health status of patients
      6.2.7 identify actual and/or potential patient problems/nursing
           diagnoses statements based on collected data

   6.3   plan nursing care

      6.3.1 prioritize patient problems/nursing diagnoses
      6.3.2 formulate realistic short term goals independently and
           validate long term goal statements for priority patient
           problems/nursing diagnoses
      6.3.3 relate environmental factors and patterns of behavior to the
           selection of appropriate nursing actions
      6.3.4 adapt standardized nursing care plans, with minimal
           assistance, to meet the individual needs of patients
      6.3.5 validate plan with appropriate members of the health care
           team

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6.4   provide comprehensive nursing care

       6.4.1   implement interventions relevant to stated short term goals
       6.4.2   implement interventions relevant to state long term goals and
                to the promotion of optimal health, with minimal direction
       6.4.3   provide nursing care according to the treatment plan
                established in the Kardex

6.5   evaluate effectiveness of own nursing care by assessing identified
       patient responses and validate with instructor/R.N.

       6.5.1   judge progress toward goal attainment

6.6   evaluate the effectiveness of nursing care provided on other shifts
       and validate with instructor/R.N.

6.7   revise the nursing care plan after consulting with the
       instructor/R.N.

THE NURSE WITHIN THE HEALTH TEAM

7.   provide patient care within the context of the nursing team

      7.1   seek assistance appropriately within the nursing team

      7.2   cooperate with other nursing team members in the provision of care

      7.3   coordinate own nursing activities with those of other nurses
             responsible for assigned patients

      7.4   use the nursing team as a resource by validating own observations
             and decisions as necessary with the instructor/R.N.

8.   consult and communicate effectively with peers and members of the nursing
      and health care team

      8.1   apply appropriate communication skills in one-to-one interactions

      8.2   apply communication skills to facilitate effective group processes

      8.3   use appropriate lines of communication within the nursing team

      8.4   consult with appropriate members of the nursing and health care team
             about patient care

      8.5   give a verbal/taped report of relevant information regarding patient
             care to appropriate members of the nursing and health care team

      8.6   record appropriate information according to charting guidelines and
             hospital policy

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PROFESSIONAL RESPONSIBILITIES

9.   act as an advocate for the patient within the health care system

    9.1   acknowledge, with minimal assistance, the rights of patients to
          self-determination regarding health and health care

    9.2   initiate contact with other members of the health care team, with
          assistance, on behalf of the patient and/or their significant others

    9.3   encourage patients and their significant others to participate
          actively in any plans affecting health

    9.4   facilitate involvement of patient and significant others in
          discharge planning, with minimal direction

10. demonstrate accountability for quality of own performance and development
     as a student nurse

    10.1   follow consistently the program policies as they apply to clinical
           experience

    10.2   follow consistently policies and guidelines of the clinical area

    10.3   identify personal responses to stresses related to the student nurse
           role

    10.4   participate constructively in the evaluation process on an ongoing
           basis

    10.5   demonstrate initiative in meeting own learning needs

    10.6   demonstrate consistency and dependability in quality of clinical
           performance

    10.7   demonstrate professionalism in the student nurse role

           10.7.1 seek supervision and assistance appropriately
           10.7.2 recognize and promptly report own errors/mistakes to
                  instructor and appropriate nursing team members

11. apply knowledge of ethical and professional standards of nursing, after
     validating with instructor

    11.1   perform within the specified legal guidelines which affect nursing
           practice

    11.2   comply with the code of ethics of the profession

    11.3   describe how hospital policies determine the practice of nursing in
           given institutions

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     11.4   report unsafe practices to appropriate persons, after consulting
           with the instructor

     11.5   exercise judgment in carrying out medically-prescribed regimes, in
           consultation with the instructor/R.N.

P.   CONTENT

Given the previously described context of practice, the student will apply
knowledge to clinical experiences from all prerequisite and corequisite courses
within the program.

ESSENTIAL LEARNING ACTIVITIES

The student will

1.   interact primarily with the members of the nursing team rather than the
     instructor regarding own responsibilities for patient care, on both day
     and evening shifts

2.   provide selected nursing care to large groups of patients as a member of
     the nursing team: e.g. giving medications to many patients, doing
     dressings, providing p.m. care

3.   participate as a nursing team member in multidisciplinary ward activities
     concerning patient care

4.   assume responsibility for selected ward tasks as a member of the nursing
     team

5.   develop and revise a Kardex care plan in consultation with a R.N.

6.   ..participate in three patient care simulations in the nursing laboratory to
     demonstrate integration of theory and skills and application of the
     nursing process to the care of patients with chronic renal failure,
     cirrhosis and diabetes complicated by a femoral popliteal by-pass graft.

7.   perform the following skills in the nursing laboratory:
     -     administering intravenous-push medications
     -     participating in cardiac arrest procedure
     -     monitoring central venous catheters
     -     performing tracheostomy care

8.   practise psychomotor skill performance in the clinical area to increase
     speed and proficiency

9.   consult with a physician regarding patient care

10.   summarize and tape (where possible) an end-of-shift report for a group of
      patients

11.   review hospital policies which determine nursing practices within that
      institution

12.   participate in patient referral to a community agency

Q.   METHOD OF INSTRUCTION

     1.   Student performance of specified nursing care for selected patients
          within the context of a nursing team

          - patient selection based on course objectives and identified
             student learning needs whenever possible
          - oral and written feedback from instructor after observing and/or
             supervising student performance
          - student relates to the hospital nursing staff as a member of the
             nursing team

     2.   Interaction with instructor will include:

          - discussion and questioning with individual students related to
             application of theory and use of nursing process in individual
             patient care assignments and in laboratory simulations
          - planned student group discussions after clinical experience

     3.   Individualized learning plans

          - developed jointly with the student at midterm and whenever
             indicated based on instructor's assessment and student self-
             evaluation of learning needs

     4.   Written assignments

          - related to course objectives.

R.   COURSE EVALUATION

     This is a MASTERY course. Evaluation of the course will be based on the
     course objectives and consistent with college policies on course
     evaluation.

     Students will receive detailed outlines of performance expectations at the
     beginning of the course.

     Evaluation of mastery will include the following components:

     i.   completion of written assignments requiring application of the
           nursing process
     ii.   demonstration of critical components of selected psychomotor skills
           in the clinical area
     iii. participation in assigned patient, nurse, observer roles in three
           simulated patient care situations
     iv.   student participation in evaluation of own clinical performance
     v.   satisfactory performance of objectives as assessed by the clinical
           instructor.

     Selected objectives related to ensuring patient safety and being
     accountable for own learning must be demonstrated by mid-term of the
     rotation in order to continue in the course.

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Results of Interjudge·Reliability Test

Quote	Desired Response	Co-judge 1	Co-judge 2
1. "you see progress...I was able to relate patient behaviours and I was able to understand why they were on certain IV fluids and certain medications..."	B	B	B
2. (a learning experience) "Obstetrics ...seeing, watching the mother go through labor and being there when the baby's born...taking care of the baby after... you experienced a whole lot of emotions ...that was a real learning experience for me because we did a lot...you could feel the contractions and you could see what they were doing...there was a lot of interesting stuff to read um lots of different points of view, lots of people willing...to teach you...talk to you and show and let you do...I saw C-sections..."	C	A	C
3. "...in this semester when I was able to start putting things together like with the lab. results and the medications and the doctor's orders and how they all tied in...like the instructor would say well, why is this patient's blood count at whatever and you'd be looking back to see well what kind of medications they're on, then you would look to see well this was what they were on this date, well what's her white blood count at this time ...with antibiotics and all kinds of stuff, sort of get a picture of what was going on...you actually take the time to say OK this goes here and what were they on the week before that or what were they	B	B	B

on two days before that and what are they now"

4. (a learning experience) "Um fourth semester I had a patient who was a diabetic, she had gone for an amputation, she came back, uh her blood sugars were very high and you could tell just by looking at the wound that it was going to be infected or was infected or whatever, her temp(erature) started going up and her blood sugar, the insulins kept getting higher and higher ...one day I had her she went into pulmonary edema and uh there was quite a commotion in the room and uh I had a chance to talk to the uh respiratory tech(nician) and he had taken her arterial blood gases and everything that was going on, it was a real learning experience to see how everybody comes together, they had somebody come up from x-ray uh the respiratory tech. came in, half the nurses on the ward were in there, they catheterized her, they started an IV, they did everything you could imagine and it was very interesting to see how they come together and to know that, just to know what was going on and why they were doing what they were doing and to be able to understand it..."

        B   B B

5. "...and just that I was a kind of multi-skilled person...like able to do different...skills, catheters or um giving meds., or IM's or trach. care, just a whole different variety of skills..."

        A   A A

6. "...I had this one liver failure guy and I had to stop and really think about what...I had learned in class and what he was presenting with and once I did and I noticed...what his lab. values were and I

        B   B B

did his assessment and he had bruising
and he had petechiae all over, I, it
really came together...I didn't think so
deeply about things before as I did when
I finally got to this and I saw this
problem and then I thought back to what
I had done and it just came together and
it was like a bomb hit me and I kind of
went wow..."

7. "...we were finally looking after   C   C   B
everything that had to do with that
patient, diet changes, calling the
dietician, getting some psychiatric
help in for one patient, you were in
charge of the whole patient...being
able to do it all and be in charge of
what you're doing...make our own
decisions..."

8. " always being open um always be   C   C   C
willing and make the time to learn
something, always be ready for a new
experience and don't ever let it go by
...even though you know a certain skill
I think every time you go and do something
the situation is a little different so
maybe you don't learn anything more about
that particular skill but maybe you might
learn something else...some other thing
(about) this patient that's maybe a little
different from somebody else...

9. "branching out and doing things   A   A   A
independently uh once you're mastered in
doing things you could go ahead and that
was really nice to be able to just pick up
the stuff and go and do your dressing
change without having an instructor there...

10. "prioritizing your patients (means)   A   A   A
I guess looking at the problems they had
or the surgery, which room you should go
into first to check on and then looking

at all the things that had to be done and
putting them in order"

11. (learning experience) "I had a lot of really good learning experiences in post-conferences, a lot of instructors give really good post-conferences when they actually, they bring people in and they teach you new things, machinery, IVAC's, things like that..."	A	A	A

12. (learning experience) " I think it
was probably when I finally got to look
after this ....lady who was bedridden,
aphasic, she'd had a CVA, she was totally
contractured up, she was the most total
care patient I had ... looked after ...
it finally made it all click into place,
that I was a caring person and that I did
know how to care for someone like her and
that I could do a good job of it, looking
after her you sort of solidified
everything..."   C   C   C

13. (interesting) "you may (only) have   B   B   B
had abdominal surgery but that affects
everything from your toes to the top of
your head and being able to interrelate
all that is really important..."

14. (important) "...you had big   C   C   C
decisions to make... they're everyday
decisions for an RN but we were just
learning... once you've made a decision
a few times then you learn that you have
the knowledge to make them again and
again..."

15. "...I learn best from doing things   A   A   B
and um doing them in the lab. just isn't
the same as doing them in clinical I
guess because it's just really hard to
make-believe that the dolls are real and
to treat them as if they are real...

16. "...now that I know about all this,
the liver and all the problems and I
really looked at someone who had liver
failure it really had solidified it,
made my thinking more deep. I think I'm
trying, putting more and more things
together that I didn't really put
together before...I think it's just kind
of a process..."

          B   B   B

17. (learning experience) "...I had
trouble with the sub-q. injections with
diabetics, she (instructor) didn't like
how I'd done them and I didn't really
either...I read on the techniques on how
to do it properly...it's just the
refining part of it she was quite
particular about and I thought if that's
what you want lady you're going to get it
...I took a couple of times cause like I
said she was a perfectionist, it had to
be perfect for her."

          A   A   A

18. (memorable) "the clinical instructor
... it was a case of a relationship with
her...I didn't know quite where she was
coming from... she was a perfectionist
...it made me be careful and make sure I
didn't do anything wrong..."

          A   A   A

19. (trying to accomplish) "...getting
through it...do the work that was required
of me...applying the theory to clinical
experience...answering, the instructor
would put out questions, then you would
have to answer them, like for medications
for instance, um before you gave a
medication you've got to research it to
the point that you know why you're giving
it and it's actions... "

          A   A   A

20. "...with very few exceptions most of
the things I'm doing now I've done before
or I've learned before or I've been

          A   A   A

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exposed to before so there's not a lot
that I'm doing now that's new in the sense
that its new learning ...in clinical my
only interest is in doing what I have to
do and to get it done and to do it right"

APPENDIX D

Definition of Terms Used in Describing Conceptions of Learning*

Acquisition phase/pole of learning: The occasion/s when learning occurs as compared to the occasion/s for using what is learned.

Application phase/pole of learning: The occasion/s when what is learned is used as compared to the occasion/s when learning occurs.

External horizon: A part of the structural aspect of conceptions that refers to the way in which learning is delimited from and related to its context.

How aspect of learning: The ways in which students interpret and comprehend how learning takes place. It refers to the acts or process of learning.

Indicators of conceptions: The characteristics of a conception that distinguish it from the general characterization of learning that is common to all the conceptions in the interview data.

Internal horizon: A part of the structural aspect of conceptions that refers to the way in which the component parts of learning are discerned and are related to each other.

Referential aspect: The global meaning of learning or the way of seeing learning in a particular conception.

Structural aspect: The way in which learning, as described in a conception of learning, is delimited from and related to its context and to the way in which the component parts of learning and the relations between them are discerned.

What aspect of learning: The ways in which students interpret and comprehend what they encounter in learning. It has two interrelated parts, an expression of the understanding of the content and an expression of what learning means.

* Taken from: Beaty, E., Dall'Alba, G. & Marton, F. (1990). Conceptions of learning. Manuscript submitted for publication.