Ways of Knowing in Nursing: An Evolutionary Analysis
Antecedents: Learning Styles and Knowledge

Knowing connotes that one has a solid base on which to structure an action or way of being. That base is knowledge, but in order to gain knowledge one has to employ a process known as learning. Each individual has special means by which he or she learns; these are known as learning styles. Because both concepts are the foundation of all knowing, they need to be discussed prior to looking at the attributes of the ways of knowing in nursing.

Learning styles. Learning styles have been defined by Dunn, Denig, and Lovelace (2001), Dunn and Dunn (1993), Dunn and Griggs (1998), Gregorc, (1979), Silver, Strong, and Perini (1997), and Van Zwanenberg, Wilkinson, and Anderson (2000) as the way in which each person begins to gather, concentrate on, process, internalize, and remember new and difficult academic content. Several types of learning styles have been proposed. The most widely recognized is the Learning Styles Model of Dunn and Dunn (1993), whose model addressed 21 unique learning elements that were classified into five broad categories. The model was based on the cognitive style and brain lateralization theories of learning (Morse et al., 1998; Van Wyten, 1997, 1998, Zenhausen, 1980). They want to know what learning is required and why (Morse et al.). Analytic or left brain learners (Morse et al.; Van Wyten; Zenhausen) use a sequential, step-by-step, building block style of learning; they require the details before they can understand the information being presented.

Learning style theory conceives of the brain as a unit that processes information in one of two ways, globally or analytically. Global or right brain learners are holistic learners who need to understand the overall concept before they can focus on the details (Morse et al., 1998; Van Wyten, 1997, 1998, Zenhausen; 1980). They want to know what learning is required and why (Morse et al.). Analytic or left brain learners (Morse et al.; Van Wyten; Zenhausen) use a sequential, step-by-step, building block style of learning; they require the details before they can understand the information being presented.

Ways of Knowing in Nursing: The Historical Evolution of a Concept

In 1978, Carper wrote that nursing sought to develop a holistic, individualistic, and therapeutic model of practice that took the profession away from the autocratic, reductionist, and behaviorist characteristics of the medical model. This futuristic evolution of nursing took the profession away from the ontological and epistemological assumptions associated with "old school" nursing and nursing education toward a more flexible paradigm. In order to be able to make this dramatic shift, Carper proposed that four ways or patterns of knowing be utilized to structure nursing education and evaluate nursing practice. These patterns or ways of knowing were empirics, ethics, esthetics, and personal. Since the publication of Carper's seminal work, many authors have focused on the four patterns collectively and individually in order to further define and describe them; there have been others (e.g., Benner, 1982, 1983; Munhall, 1993; Rew, 1986; White, 1995; Young, 1987) who have proposed additional ways of knowing. These multiple viewpoints will be presented in an analysis of what has come to be known as the epistemological and ontological foundation of nursing.

Using the evolutionary model of concept analysis (Rodgers, 2000), ways of knowing in nursing will be explored through their antecedents, attributes, and consequences; exemplars will be provided to illustrate the various ways of knowing in nursing practice. The evolutionary model was chosen because it perceives concepts to be dynamic entities whose attributes are not stable but are in continuous flux and in need of "purposeful redefinition to maintain a useful, applicable, and effective concept" (Rodgers, p. 81). Nursing is a dynamic profession and therefore needs continual exploration of the various concepts linked to its educational and evaluative processes.

Key words: Nursing, Historical Evolution of Concept, Ways of Knowing
Knowledge. Knowledge as an antecedent to the concept “ways of knowing in nursing”; it is the general knowledge an individual possesses prior to entering a discipline such as nursing. Knowledge has been defined as “understanding of or information about a subject which has been obtained by experience or study, and which is in either a person's mind or possessed by people generally” (Cambridge Dictionaries, 2003); as “the fact or condition of knowing something with familiarity gained through experience or association, acquaintance with or understanding of a science, art, or technique” (Merriam-Webster, 2003); or “awareness, familiarity”, or a “person's range of information, understanding (of a subject)”, “information”, or a sum of what is known” (Ask-Oxford, 2003). Chinn and Kramer (1999) defined knowledge as “knowing that is in a form that can be shared and communicated with others” (p.1), and describe knowledge as the accurate representation of the perceived world of a discipline's members. The development of knowledge through knowing is considered the epistemologic concern of a discipline (Chinn & Kramer).

Epistemology, theory of knowledge, derives from two Greek words: episteme, meaning “knowledge” and logos, meaning, “study of” or “theory of”; in English epistemology and theory of knowledge are used interchangeably (Earle, 1992, p. 21). Yorks and Sharoff (2001) described epistemology as “the relationship between the person as a seeker of knowledge and the knowledge itself” (p. 22).

Two types of knowledge are inherent in nurses’ ways of knowing, explicit and tacit. Polanyi (1962) described explicit knowledge as the formal information gained from written words, maps, or symbols and tacit knowledge as the knowledge gained from experience, interaction, and the acquisition and combination of skills, “knowing that” (Earle, 1992). As one gains experience, tacit knowledge increases and there is less reliance on fact and rules (Halter, 2001) and more discernment of patterns and forms in the sense of the whole picture rather than of puzzle pieces that need to be organized. French (1992) identified tacit knowledge as knowledge that is known by the experts in a discipline but that is not found in the discipline's literature. Through repeated experiences and reflections on those experiences the knower comes to rely less on facts and rules or the particulars in a situation and more on the whole of the situation.

Traditionally, it was alleged that knowledge came about through sensory collection of information and processing of that information by the learning centers of the brain. Currently, it is recognized that there is much more involved in knowledge acquisition and knowing.

Attributes: Ways of Knowing

Knowing has been defined as being “highly educated, having extensive information or understanding”, being “alert and fully informed” (OneLook, 2003), “having or reflecting knowledge, information, or intelligence”, and “indicating possession of exclusive inside knowledge or information” (Merriam-Webster, 2003). Polanyi (1964) defined knowing as “an active comprehension of things known, an action that requires skill” (p. xiii, p. xiv). Chinn and Kramer (1999) described knowing as “an ontologic, dynamic, changing process” that is associated with how the self and world are perceived and understood (p. 1). Slike and Williams (1995) bring knowing to the present consideration with their statement, “Knowing is vitally involved in every discipline, though not always explicitly” (p. 65).

Carper's (1975) original definitions and descriptions of the four patterns (ways) of knowing in nursing, considered by many to be the epistemology of nursing, will frame a discussion of the attributes of the concept, while other authors' work will be utilized to enhance Carper's original ideas. Other ways of knowing have been proposed and these will be discussed in an attempt to provide further understanding of this complex concept.
participation of the knower” (Carper, 1992, p. 77). Jenks (1993), Jenny and Logan (1992), Moch (1990) and Paterson and Zderad (1976) indicated that personal knowing could only be achieved through complex interpersonal relationships. Personal knowing is knowing how to be authentic with others, knowing one’s own way of “being with” another person; it focuses on how nurses come to know how to be authentic in relationships with patients (Fawcett et al., 2001). Personal knowing involves planned or spontaneous respectful interaction focusing on a shift or change in a relationship that fosters a new connectedness or transcendence (Moch; Sarosi, 1968). Moch likened this to an “aha” or “satori” experience (p. 159).

**Other Ways of Knowing in Nursing**

There are several other ways of knowing that have relevance to the practice of professional nursing. These are experience, intuition (the incommunicable form of knowing or tacit knowing), unknowing, and sociopolitical knowing.

**Experience.** Benner (1982, 1983, 2001), Benner and Wrubel (1982), and Burnard (1987) explored the experiential way of knowing in nursing practice. Benner and Benner and Wrubel defined experience as knowing through repeated exposure to situations leading to refinement of earlier ideas and thoughts. This type of knowledge is “knowing how” or knowledge-as-ability (Earle, 1992). Burnard described experiential knowing in the context of an interpersonal relationship saying it was the subjective and the emotional aspect of the relationship leading to knowledge and that experiential knowing is personal, distinctive, and difficult to put into words. Benner (2001) believed “knowing that” was the focus of Carper’s work and not “knowing how” gained from experience. Experiential knowing is said to lead to intuition, the incommunicable or tacit way of knowing.

**Intuition.** Young (1987) initially defined intuition as “a process whereby the nurse knows something about a patient that cannot be verbalized, that is verbalized with difficulty, or for which the source cannot be determined” (p. 52). Intuition is perceived by many to be the opposite of empirical knowledge in that it is subjective and unverifiable. Traditionally intuitive processes were not considered valuable because they cannot be rationally explained (Rew, 1986, 1989; Miller & Rew, 1989). Young offered the viewpoint that while intuition is difficult to describe there are still objective and predictive thought processes present. Again (1987) defined intuitive knowing as a “non-rational process based on feeling or sensing” and as an awareness that may come from the subconscious data” (p. 66). Sensing is not the only contributor to intuition according to Cosier and Aplin (1982) and Gerrity (1987). There may be a “sixth sense” or insight, or innate skill in unifying various complex bits of data (Cosier & Aplin; Gerrity; Miller & Rew, 1989; Rew, 1986, 1989). Likened to right-brained learning by Cosier and Aplin. Benner (1982) characterized the expert nurse as intuitive based upon vast amounts of experience that leads to “knowing how” that cannot be logically explained (Benner, 1983).

**Unknowing.** In 1993, Munhall proposed that another way of knowing in nursing was “unknowing”, a position of openness in contrast to knowing that is a position of closure (p. 125). This position of openness is necessary in order to understand the complex realities of people and their world-view. Munhall states for a nurse “to be authentically present to a patient is to situate knowledge in one’s own life and interact with full unknowingness about the other’s life” (p. 125); this leads to the openness that allows the nurse to be truly empathetic and understand the essence of the situation for the patient.

**Sociopolitical.** White (1995) proposed that there needed to be a fifth way of knowing in nursing, the sociopolitical. In this proposition, White stated that the other ways of knowing were concerned with the “who”, “how”, and “what” of nursing practice and the sociopolitical would deal with the “wherein” (p. 83). This aspect of knowing would encompass the contexts not only of the nurse-patient relationship, but also of nursing as a practice profession. There would be an understanding of nursing by society and an understanding of society and its politics by the nurse. White believed the implications of people as products of a culture formed the context for the sociopolitical way of knowing. When putting these “other ways of knowing” into perspective they may be understood as further elucidations of Carper’s (1978) personal knowing.

**Consequences: Reexamination, Implications and Critique**

Chinn and Kramer (1999) linked knowing and knowledge, but in a somewhat different manner. They defined knowing as “ways of perceiving and understanding the self and the world” and they describe knowing as “an ontologic, dynamic changing process” (Chinn & Kramer, p. 1). Knowledge was conceptualized as knowing that can be communicated and accurately verified. They proposed that ways of knowing lead to nursing knowledge, rather than knowledge being the basis for knowing in nursing. Jacobs-Kramer and Chinn (1997) referred to Carper’s patterns of knowing as knowledge forms to be implemented in nursing.

**Knowing re-examined.** Chinn and Kramer (1999) developed a model that expanded Carper’s work by looking at how knowledge is generated, transmitted, and evaluated. Their model has three dimensions: The creative, the expressive, and the assessment. The creative dimension is concerned with the generation, extension, and modification of knowledge. Empirical knowledge is created through the familiar quantitative research methodologies; ethical knowledge involves valuing, clarifying, and advocating; personal knowledge involves encountering, focusing on, and realizing self and others, and aesthetic knowledge is involved with engaging, interpreting, and envisioning (Jacobs-Kramer & Chinn, 1997, p. 327). The expressive dimension provides the means by which the knowledge pattern is exhibited and displayed. Empirical knowledge is expressed in facts, theories, models, or descriptions used to convey understanding; ethical knowledge is expressed through codes, standards, theories, and descriptions of ethical decision making; personal knowledge is expressed as being an authentic and disclosed self; and aesthetic knowledge is expressed through the artful nursing act (Jacobs-Kramer & Chinn, 1997, p. 329). The third dimension of the model, assessment, was conceived of as the means by which the four ways of knowing are examined for adequacy of the knowledge pattern by identifying a process context specific to the knowledge generation in each pattern, and establishing a pattern-credibility index. Empirical knowledge answers representation questions through a process of replication; credibility is established through validity. The ethical pattern of knowing answers questions related to moral rightness through a process of dialogue; credibility is established through justness of an action. Personal knowledge answers questions about knowing and doing through the process of response and reflection; credibility is established through congruity of answers. Esthetics answers the question “What does this mean?” through the process of criticism; credibility is established through consensual meaning between the nurse and the other(s) in the situation. This model operationalized Carper’s work.

**Ontological implications.** Retsas (1994) posited that the nursing profession was in a crisis because the ontological dimensions of Carper’s (1978) ways of knowing had not been given adequate attention. Silva, Sorrell, and Sorrell (1995) credited Carper with taking nursing epistemology from an almost purely scientific perspective to one that was very diverse and complex encompassing creativity and sensitivity but believed the work had some limitations. Silva et al believed the four ways of knowing were mutually exclusive, instead of interrelated, as Carper conceptualized them. These authors argued that Carper’s ways of knowing were exhaustive, rather than subject to revision. Although Carper alluded to evolving concepts for nursing knowledge development, the idea of a process was negated by her conceptual descriptions which read like ends in themselves, not a means to an end. In answer to these stated limitations of Carper's
epistemology of nursing, and with regard to Retsas concern, Silva et al (1995) proposed on ontology of being, "what it means to be a nurse and to experience the practice of nursing" (Chinn, 2001, p. 292), and coined two terms to frame that ontology: "the in-between" and "the beyond". "The in-between" was conceived of as "what exists or reveals itself through nonlinear, meditative thinking that moves in all directions and depths while "the beyond" was "those aspects of reality, meaning, and being that persons only come to know with difficulty or they cannot articulate or ever know (p. 3). These conceptualizations were alleged to work in concert with Carper's ways of knowing to provide the balanced philosophical perspective that nursing was missing. The epistemological questions associated with the patterns of knowing became reality-focused questions for the ontological foundation of nursing. Silva et al. used Carper's ways of knowing to create nursing's ontology, thereby adding a vital aspect to understanding the practice of professional nursing.

Major criticisms. There have been criticisms of Carper's (1978) work primarily focusing on what was believed to be Carper's failure to develop the aesthetic pattern or way of knowing (Boykin, Parker, & Schoenhofer, 1994; Wainwright, 2000) even though Carper (1978) had indicated that the descriptors for the ways of knowing were not complete. Several authors (Bournaki & Germain, 1993; Chinn & Kramar, 1999; Chinn, Mavee, & Bostick, 1997; Chinn & Watson, 1994; Eisner, 1985; Smith, 1992; Sorrell, 1994), as well as Boykin et al., took up the challenge and explored the aesthetic pattern. The other major criticism by Boykin et al. (1994) was that Carper did not make a distinction between knowing and knowledge when she called three of the patterns ways of knowing and then referred to the fourth pattern as personal "knowledge". The authors believed that this would lead to confusion and the possibility of devaluing the epistemology of nursing by implying that the ways of knowing would lead to specific types of knowledge. Fawcett et al. (2001) refuted this when they stated, "The diverse patterns of knowing constitute the ontological and epistemological foundations of the discipline of nursing. Inasmuch as both patterns of knowing and theories represent knowledge, and are generated and tested by means of congruent, yet diverse processes of inquiry, we maintain that each pattern of knowing may be regarded as a type of theory" (p. 117).

Exemplars
An example of using Carper's (1978, 1992) ways of knowing in nursing occurred when the author was working in the Marshall Islands with a group of nursing students from the U.S. A Marshallese man from one of the outer islands had been brought to the hospital for an emergency below the knee amputation of his right leg. He was septic and for the first few days existed on intravenous (IV) fluids. After his condition improved from very critical to critical, he demanded that the IV be removed. The patient's doctor ordered Gatorade to replace the fluids and electrolytes formerly provided by the IV. The patient refused to drink it. Upon informing the author of their patient's refusal to drink the Gatorade, the students were instructed to ask the man's wife to give him some water from the coconuts she had in the room (esthetic). The students were shocked and asked for rationale for this direction. During a prior experience in the Marshall Islands the author had been told about coconut water being used during the Second World War when no IV fluids were available (emperic). After this episode, a special relationship or bond developed between the Marshallese man, who wanted to be in charge of his situation, and the author, who he allowed to take charge when necessary (personal).

Another poignant example was provided by a nurse from Cameroon. Shortly after graduation, the nurse was assigned to the pediatric ward of the provincial hospital. One of the nurse's assignments involved care of a two year old girl with cleft lip and palate. The girl's mother remained with her at the hospital while the father went to find money for the girl's surgery, which was to be done by a visiting maxillofacial surgeon. After about two weeks the nurse noticed that neither the mother nor the girl had enough food to eat. In Cameroon food is purchased by the family for the patient; it is not provided as part of hospitalization. When the nurse mentioned this to the mother, she indicated that the little money the father was able to leave with her was gone. The nurse, recognizing the need for the girl to be healthy for her upcoming surgery and having some extra money, gave it to the mother (ethics). Several weeks after surgery, on the day of the girl's discharge, the mother approached the nurse saying she had nothing to give to the nurse but her heartfelt thanks, not for the money, but for not avoiding her daughter and for treating her as the child she was, not some disfigured creature to be avoided (personal).

Other examples of the ways of knowing in nursing may be found in publications such as the Art of Nursing: Expressions of the Creative Art in Nursing (Wendler, 2002) and Chicken Soup for the Nurse's Soul: 101 Stories to Celebrate, Honor, and Inspire the Nursing Profession (Canfield, Hanson, Mitchell-Auto, & Thieman, 2001).

CONCLUSION
The ways of knowing in nursing appear straightforward when first encountered, but when critically examined, they are as complex as the discipline of nursing itself. The authors cited have added great depth and breadth to the understanding of the concept of the ways of knowing in nursing, yet Carper's explication continues to delineate the epistemology of the profession of nursing. Some aspects of nursing care are tacit and not easily communicated, but nurses incorporate Carper's four ways of knowing as they provide care helping people of all ages attain, maintain, or regain health.

REFERENCES


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