

# The Theory of Technological Competency as Caring in Nursing : Guiding Nursing and Health Care

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## SUMMARY

The purpose of this paper is to describe nursing practice as guided by the theory of *Technological Competency as Caring in Nursing* (TCCN). In the past, nurses practiced nursing based on medical knowledge and skillful techniques. Today, derived from nursing science, professional nursing is founded on nursing knowledge and its practice ought to be based on theories of nursing. Within the TCCN theory, nursing is a *dynamic engagement* between the nurse and the patient, occurring in a technological encounter within the *universal technological domain*. The process of knowing persons as nursing practice is illustrated as *technological knowing, mutual designing and participative engaging*. Through the theory of TCCN, nursing is designed as caring in which both the nurse and patient actively participate in his/her care rather than the nurse consigning the patient simply as objects or recipients of care. The theory clearly explains and illuminates the interface between science, technology, nursing practice, and human caring. Nursing as a practice based on theory is useful in enhancing the quality of life of persons.

Key words : Nursing, dynamic engagement, knowing persons, co-created moment, technological encounter and universal technological domain

## Introduction

Historically, nursing practice was the admirable demonstration of technical skills performed by professional nurses following a standardized plan of care derived from nursing processes. These nursing processes were based on the medical practice model of assessment, planning, intervention, and evaluation. Examples of anticipated excellent technical skills include sterile techniques, dressing of wounds, and/or bathing patients, making beds, and taking vital signs. Nursing skills reflective of

excellent nursing were often taught by nurses who were initially taught by physicians-because there were no nurse educators. As such, nursing practice skills were what physicians thought non-physicians ought to do, such as custodial and housekeeping skills, including feeding patients, doing range-of-motion exercises, etc.

The emphasis on procedures and its masterful execution was the main criterion for excellent nursing. Executions of routine work were marked as excellent nursing behaviors.

## Definitions of Nursing

The International Council of Nurses defines Nursing as encompassing autonomous and collaborative care of individuals of all ages, families, groups and communities, sick or well and in all settings. Nursing includes the promotion of health, prevention of illness, and the care of ill, disabled and dying people. Advocacy, promotion of a safe environment, research, participation in shaping health policy and in patient and health systems management, and education are also key nursing roles<sup>1)</sup>. Moreover, the American Nursing Association defines Nursing as “the protection, promotion, and optimization of health and abilities, prevention of illness and injury, alleviation of suffering through the diagnosis and treatment of human response, and advocacy in the care of individuals, families, communities, and populations”<sup>2)</sup>.

However the Japanese Nurses Association describes the nurse in Japan as “a person who engages in providing care to persons with injuries and/or illnesses or postpartum women, or to assist medical treatment under the license of the Minister of Health, Labor and Welfare”<sup>3)</sup>. The similarities in these descriptions of nursing and of their practice by nurses are integral aspects of the definitions of nursing.

While these definitions of nursing are organizationally dictated, it is important to know what do contemporary professional and practicing nurses believe is nursing? Oftentimes, when asked the question, most professional nurses would position their answers towards describing nursing practice as the *performance of skills* that influence patient care outcomes. Such performance only makes nursing practice the skillful demonstration of techniques. This image that other persons notice and eventually regard, may be essentially termed as traditional nursing. Such imagery seems to show that nursing has not evolved nor developed since the time of Florence Nightingale. Is this what nursing and its practice is all about today?

## Nursing Practice Centered on Caring for Patients

Nursing practice is a process of events unfolding un-

redictably as *dynamic engagements* of knowing persons. It is not only the performance of exact or precise actions known as nursing interventions. As such, nursing practice is the continuous and ever-changing activities occurring between the nurse and the person being nursed. As technological advancements dominate global health care, rendering nursing as an independent practice of human health care, it is understood and illuminated as *dynamic engagements* of human caring. These engagements are co-created moments of relationships between the nurse and the person being nursed coordinated for the purpose of mutually knowing each person as caring. Within these engagements occurs the *technological encounter*,<sup>4)</sup> one that Holopainen, et al.<sup>5)</sup> called the caring encounter, the ‘space of togetherness’.

With the competent use of advanced technologies for knowing persons as caring, and the complexity and dynamic state of being human and of human caring, domains of nursing are launched serving to discover the meaning of a person’s own life. As such the value of nursing practice is realized as integral to quality human health and well-being.

The traditional nursing process focus on the person as whole that is comprised of organ systems and human parts, thereby practicing nursing using this view focus on the procedure of Assessment, Planning, Intervention, and Evaluation process (APIE). In using this practice process, the patient is ‘boxed’, and labelled with a nursing diagnosis from which the nurse can design interventions that can produce predictable outcomes of care sourced out from the list of the North Atlantic Nursing Diagnosis Association (NANDA). Clearly, using nursing diagnoses reduces persons/patients as organs and systems, and objectified as simply recipients of nursing care.

Within Locsin’s<sup>6)</sup> theory of TCCN, knowing persons as process of nursing, persons/patients are appreciated and understood as whole, more than and different from the sum of their human parts. The process of nursing enhances the recognition of persons/patients as participants in their care rather than objects of care.

The key concepts pertaining to nursing and its practice is guided by the middle-range theory of *Techno-*

*logical Competency as Caring in Nursing*,<sup>6)</sup> are defined as follows :

Dynamic engagement refers to the unpredictable and on-going knowing of persons within the interactive relationships of the nurse and person being nursed.

Knowing persons is a process of nursing, a dynamic engagement comprised of three simultaneously occurring events, namely, *technological knowing*, *mutual designing*, and *participative engaging*. These events are co-created moments between the nurse and person being nursed.

Technological encounter is the dynamic engagement of knowing persons as caring using technologies of care in the process of knowing persons.

The Universal Technological Domain (UTD)<sup>7,8)</sup> is the all-encompassing unity of space-technology, in which the technological encounter transpires - the dynamic engagement of knowing persons.

Altogether these concepts comprise the dimensions of nursing as theory-based practiced grounded in the theory of TCCN. Understanding the practice of nursing grounded in the theory is crucial to affirming contemporary and future nursing engagements.

### Caring in Nursing

Caring in Nursing involves human relationships between persons focused on knowing each other's uniqueness as human persons, who share individual experiences with one another with the hope of affirming each other's humanness in this world. The very nature of caring as the substantive focus of the discipline<sup>9)</sup> sanctions the scientific basis of caring in nursing. Various philosophical perspectives lend ways of viewing caring in nursing, and various sciences, together, underpin the substantive focus of caring in nursing.

The word 'caring' can be used in many ways: as an action, e.g. "I am caring for a wound," as an adjective, e.g. a "caring person, a caring nurse, a caring mother." However, in the study of nursing, caring is the focus of the discipline<sup>9)</sup>, constituting the knowledge and practice of nursing. Nevertheless, even with this explanation,

there exists constant opposition to this definition of caring, in that caring is an innate characteristic of being human, therefore it does not need to be studied, learned, or be practiced, especially in nursing.

However, caring is likewise understood as an expression of being human, and to be caring is to be human<sup>9)</sup>. With this view, Mayeroff<sup>10)</sup> identified eight Ingredients of Caring providing the germinal conception of caring in nursing. Consequently, the ultimate question that others can certainly ask is "What is a caring person or nurse?" A caring person or nurse exhibits or practices based on the ingredients of caring, namely, knowing, alternating rhythm, trust, hope, patience, humility, honesty, and courage.

*Knowing*. It is knowing many things about the other-who he or she is, how to respond to his or her needs and know one's own limitations to facilitate the other's growth.

*Alternating rhythm*. Occasions in which the persons may not need to take a stand, being passive, and/or simply not doing-anything, or be cognitively aware of the consequences of non-action and subsequently change their behavior.

*Trust*. Believing the other to grow in his or her own time, and in his or own way. Accepting the consequence of one's actions, while Patience is exercising watchful waiting in which situations and conditions occur dependent upon the acceptability of the unfolding condition.

*Humility* is accepting the condition that my caring is not in any way privileged, and that what is ultimately significant is not whether or not my caring is more important than your caring, and *Honesty* can best be realized in situations wherein to care for the other, the person must see the other as he/she is and not as I would like him/her to be or feel him/her must be. I must be genuine in caring for the other. "There must not be a significant gap between how I act and what I really feel"<sup>10</sup>, p. 26.

*Courage* on the other hand is standing by the other under insecure circumstances. Courage is an ingredient of devotion or loyalty. Courage is also present in going into the unknown.

*Hope* is expressed as faith that the other will grow through my caring. It is not 'wishful thinking or unfo-

unded expectations’.

Each of these ingredients of caring<sup>10)</sup> correspond to how human beings demonstrate and can be known as caring, illuminating the being of a caring person.

In 1984, Sr. Simone Roach<sup>11)</sup>, a Canadian nurse and scholar of Nursing provided a clarification of the expressions of caring that engender nurses particularly of their practice. These attributes of caring are described and explained as: Compassion, competence, commitment, confidence, conscience, and comportment.

Therefore, to be a caring person means to “live the meaning of one’s own life,”<sup>9)</sup> experiencing what it is like to belong, living the similarities between beliefs and behavior with others, and expressing a clarity of values that enables living a simplified caring life. To Mayeroff, caring is helping the other grow in his own time, and in his own way.<sup>10)</sup>

Moreover, as a goal of Nursing, within caring is the enhancement of personhood, implying that in the ability to live who one is as person, being able to live a life according to the meaning of his or her own life, and demonstrate similarities between beliefs and behavior - is caring in nursing. The coexistence of caring and technological competency in nursing practice fosters this proposition. The development of a theory that vest technology, caring, and nursing form the middle-range theory of *Technological Competency as Caring in Nursing*.

#### Assumptions of the theory :

These assumptions provide the essential elements of the theory guiding the nurse in practice towards “knowing persons as caring,” and engendering the proficient use of technologies for human care. The following five assumptions provide structure to the theory :

*Persons are caring by virtue of their humanness*<sup>9)</sup>.

In nursing, caring is understood as the substantive focus of the discipline. It is not simply the act or emotion one may portray toward another person but also the substance of the domain that directs the integral nature of nursing as a discipline of knowledge. In the assumption, “persons are caring” is studied as fundamental

to the practice of nursing.

*The ideal of wholeness is a perspective of unity*<sup>6)</sup>.

It is derived from the ideal that persons are known as wholes in ways shaped by philosophical truths and realities. The conceptualization of wholeness allows for the recognition of human beings as complete in their being without reference to composition of parts. This ideal allows the nurse to focus on nursing as a shared lived experience between the nurse and the person being nursed<sup>9)</sup>, rather than focusing on fixing the person or completing the person’s lack or missing “parts.”

*Knowing persons is a multidimensional process*<sup>6)</sup>.

The nurse and nursed focus on appreciating, celebrating, supporting, and affirming each other while allowing for mutual recognition as dynamic participants in human caring.

*Technologies of health and nursing are elements for caring*<sup>6)</sup>, through which nurses in practice are able to know human beings more fully as persons who are active contributors in their care, rather than simply as objects of care.

*Nursing as a discipline and a professional practice*<sup>9)</sup> provides the essential opportunity for engagement in the scholarship of practice grounded in caring within the universal technological domain.

#### Technological Encounter

Technological encounter<sup>4)</sup> (Fig. 1) is the occasion of an interaction, a co-created moment in which the dynamic nursing process<sup>6)</sup> of *technological knowing, mutual designing, and participative engaging* occur within the universal technological domain. As a dynamic engagement, technologies of care are used to know persons as caring. In the technological encounter, the occasion becomes an opportunistic and interactive relationship in which the nurse and the person being nursed can know each other more fully as caring persons. Together they communicate in a reciprocal manner as intentional and sharing beings who experience themselves as caring persons.

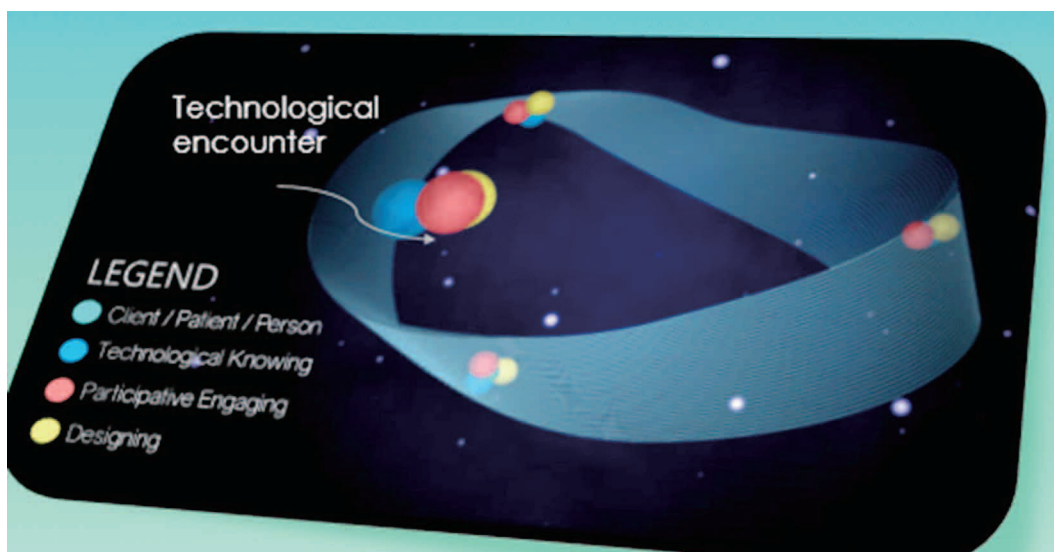


Figure 1. Technological Encounter within the Universal Technological Domain

The Universal Technological Domain (UTD)<sup>7,8)</sup>

The (UTD) is a theoretical space of togetherness<sup>5)</sup>, metaphorically illustrated as a Möbius-an imagined surface with only one side and only one boundary, in which the beginning and end exist continuously (Fig. 2). Within the space (UTD) the occurring process of knowing person as the dynamic engagement within the technological encounter can be realized and understood. As a conceptualization of the multidimensional nature of the theoretical space, the *Universal Technological Domain* can be best described as the boundary-less, space-time

dimension, coextensive with the patterning of the nurse and person being nursed. This domain is where all technological skills and techniques are explicated and used for the purpose of knowing persons as caring. This is where the co-created moment is illuminated in the technological encounter. It is here that all nursing occurs.

How is nursing practiced?

Since Carper's<sup>12)</sup> germinal research was published, nurse scholars have critiqued, extended, and sought to



Figure 2. The Universal Technological Domain (UTD)

reconcile with practice the fundamental patterns of knowing that she and later scholars articulated. However, the range and dimensions of these patterns were insufficient to embrace other ways of knowing<sup>13)</sup>, especially the knowing of persons in intimate relationship with highly technological environments. Technologies that nurses use in proficient human caring provide opportunities for furthering the knowing of persons.

### The Dynamic Process of Nursing, How Nurses Nurse

Knowing persons as a practice process of nursing<sup>6)</sup> is revealed in the knowledgeable demonstration of intentional, deliberate, and authentic encounters of knowing persons in technologically demanding nursing practice settings, particularly those in environments requiring specialized and substantial technological expertise. From the perspective of the theory, three dynamic nursing processes serve to guide the practice (Fig. 3). These processes may occur altogether, and not necessarily as sequential events informing each occurrence as aspects of a whole. These dynamic nursing process events of knowing persons as caring are described *as technological*

*knowing, mutual designing, and participative engaging.*

#### Technological Knowing.

Technological knowing<sup>4)</sup> is a way of understanding persons through the use of technologies of health and human care and provides nurses an “other way of knowing persons”. Technological knowing is the shaping of deliberate understanding of persons guided by the revelations of the competent use of technologies. In this process, the understanding of the person is magnified through the realities of the data obtained from the technology. In comprehending these realities, the nurse enters the world of the other, knowing them as participants in their care rather than as impersonal objects of care. Although the person’s status may change from moment to moment, the person is realized by the nurse as a dynamic and unpredictable human being<sup>4)</sup>.

#### Mutual Designing :

Mutual designing is a multidimensional process of knowing persons in which both the nurse and the one nursed co-create a mutually fulfilling nursing care process derived from both the nurse’s design and

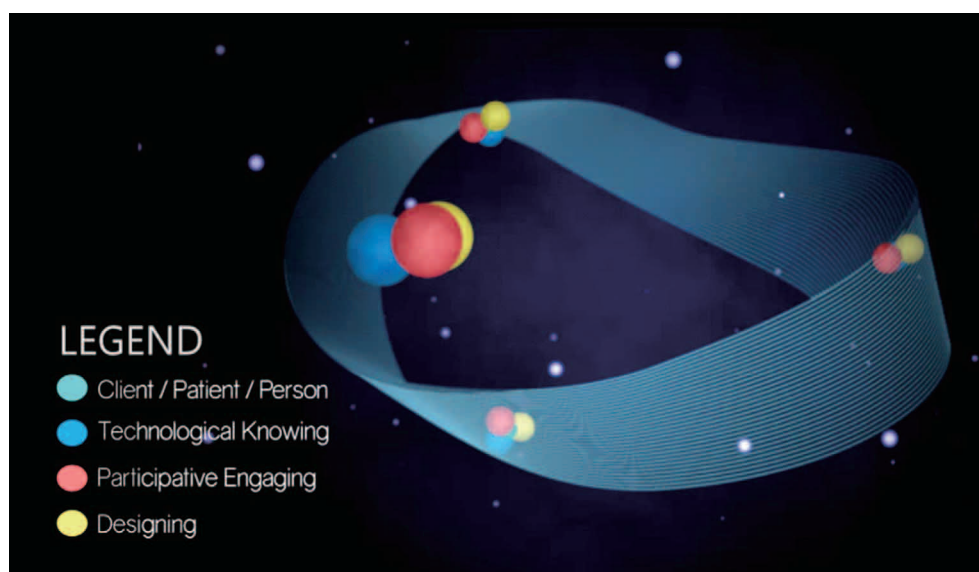


Figure 3. The Dynamic Nursing Process Event in Nursing

those of the person being nursed, and together conjointly practiced as nursing<sup>4)</sup>.

#### Participative Engaging :

Participative engaging promotes the opportunity for simultaneous practice of shared activities which are crucial to knowing persons. In this engagement, the alternating rhythm of implementation and evaluation occurs during which the nurse enters the world of the other and the engagement results in continuous knowing<sup>4)</sup>.

#### Implications for Theory-Based Nursing Practice

The theory of *Technological Competency as Caring in Nursing* provides a contemporary and futuristic perspective about persons/patients, human caring, and the value of nursing as a practice discipline and profession. With nursing practice based on knowledge derived from nursing science, theory-based practice is critical to the attainment and/or maintenance of human health and well-being.

It is important to effectively use this theory-based process of knowing persons as nursing in order to meet the challenges of providing quality human care now and in the future. Nursing practice founded on the theory of *Technological Competency as Caring in Nursing* acknowledges the co-existence of the integral nature of technology, caring, and nursing towards persons' quality of life.

#### Conclusion :

An opportunity to showcase and illustrate nursing as the process of knowing persons<sup>6)</sup>, the co-created moment between the nurse and person being nursed can be exemplified as stories of human caring illuminating the technological encounter, thereby communicating the nursing to others. When nurses practice nursing as merely the completion of tasks, patients/persons are often viewed as passive participants who are waiting for the nurse to do something to them. However, when persons are recognized as active participants in their care, the process of nursing as knowing persons occurs in which the commitment to know who is the person being nursed is paramount.

Therefore, instead of *doing for* the patient, the nurse is now able *to be with the patient* in mutual knowing. Nursing transpires as the mindful sharing of the experience of living the meaning of a person's life. Furthermore, nursing is a uniquely human service for human beings who are served by, not controlled by, human technological creations. Maintaining the influence of technological competency as caring in nursing within the complex world of nursing is critical to sustaining a mutually rewarding engagement within caring and the human health experience.

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