Curricular and Pedagogical Implications for the Carnegie Study, Educating Nurses: A Call for Radical Transformation

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It is an exciting time in nursing practice and education, globally, and particularly in Korea as nursing education moves into 4-year college programs. I will present findings from the Carnegie National Study of Nursing Education in the United States and hope that some of the gaps in nursing education identified in that study can be compared to what you know about educational programs in Korea.

Three key findings from the Carnegie Study [1] are the following:

(a) U.S. nursing programs are very effective in forming professional identity and ethical comportment. We found that nursing education is very strong in the pedagogies—situated coaching and experiential learning—which help students develop a deep sense of professional identity, and everyday ethical comportment. However this done primarily in clinical practices assignments and simulations with actual performance and excellent debriefing in clinical simulation labs.

(b) Clinical practice assignments provide powerful learning experiences, especially in those programs where educators integrate clinical and classroom teaching. This means effective integration of knowing that, and about, with knowing how, and when in actual practice situations.

(c) U.S. nursing programs are not generally effective in teaching nursing science, natural sciences or social sciences. There is not enough emphasis teaching the level of science for today's health care practice, not enough prioritizing of what areas of science are most relevant for nursing clinical practice, and very little teaching of science as it is situated and used in practice.

The Carnegie Research Team [1] conducted nine intensive site visits, sampling schools by program type and geographical location. Schools were also selected based upon excellent educational outcomes and reputations. The site visits included students, faculty, and classroom observations in all site visits. In addition to the site visits three national surveys were completed in conjunction with the American Association of Colleges of Nursing, the National League of Nursing, and the National Student Nurses’ Association.

Both faculties and students were surveyed about educational effectiveness, pedagogies, challenges and rewards of nursing education, and school to work transition. Here, I will focus on the curricular and pedagogical implications of the results of the Carnegie National Nursing Education Study.

Over the last decade the Carnegie Foundation has undertaken studies on the preparation of professionals in five fields: medicine, clergy, engineering, law, and nursing. Each of the Carnegie studies draws on three high-level apprenticeships required for all professional practice.

All practice professions must address the following three professional apprenticeships:

(a) The cognitive apprenticeship: intellectual training that provides: (i) the academic and theoretical knowledge base required for practice in the discipline; (ii) the capacity to think in ways important to the profession.

(b) The practice apprenticeship: clinical reasoning and clinical practice skilled know-how that teaches students how to think and solve problems in actual clinical situations. Learning how to reason across time through changes in the patient and/or changes in the clinician’s understanding of the patient’s condition and concerns.

(c) Formation and ethical comportment apprenticeship: an apprenticeship to the ethical standards, social roles, and responsibilities of the profession, through which the novice is introduced to the meaning of an integrated practice of all dimensions of the profession, grounded in the profession’s fundamental purposes.

The word "apprenticeship" is being used metaphorically here to describe embodied skilled know-how that must be integrated, and usually modeled or demonstrated by a practitioner—teacher. In other words, reading about signs and symptoms is not the same as being able to actually recognize when these are present in patients. Specifically, we do not mean “on the job training”. These three apprenticeships, held in common by all professional education should be integrated in all teaching and learning settings, while being developed for nursing domain-specific teaching and learning.

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For example, these professional apprenticeships are taught differently for physicians, lawyers, engineers, and so on, depending upon the nature of the practice, and relevant knowledge to be used in practical or clinical situations. The nursing domain-specific characteristics of teaching/learning in these three apprenticeships include first-person experiential learning, the demand for clinical reasoning, integrated knowledge acquisition and use in clinical situations. In addition, students need to draw upon psychosocial and humanities knowledge and skills, and a highly developed understanding and scientific knowledge use in health promotion, illness prevention, caring practices, and acute illness and injury. These three apprenticeships work best when they are taught together in a situated way. Integrating practice-based apprenticeships is broader and more discipline specific than Bloom’s notion of incorporating the cognitive, affective and sensorimotor aspects to specific microlessons. Bloom’s focus is on addressing cognitive, affective and sensorimotor aspects of learning in teaching any lesson [9].

**Five shifts in the way we think about pedagogies in nursing education**

The findings of the Carnegie National Nursing Education Study in the United States identifies the following major shifts in curriculum development and ways of teaching students (pedagogies) implications of the Carnegie Study for Curriculum Development and Pedagogical Changes. I present five shifts in the way we think about pedagogies in nursing education.

First, we need to shift from superficial descriptive knowledge to teaching our students how and when that knowledge is relevant.

Deep learning rather than superficial learning of a lot of descriptive facts about many topics were often found in “survey courses”. Students learn a lot of information about science, discoveries but little about contextualization of that knowledge or how and when to use the knowledge in actual clinical situations. Superficial approaches such as classification of nursing diagnosis, or medical diagnosis, do not teach students how those classifications might or might not be useful in actual clinical practice.

**Integrating knowledge acquisition and knowledge use**

Second, we need new ways of thinking about professional practices such as nursing, medicine, social work, teaching and so on. Academia typically focuses on formal decision making and problem solving processes, explicit theories, and abstract formal concept with little emphasis on how to use these formal theories in actual practice. In a practice discipline, “how” to use knowledge is equally important as the knowledge presented in formal decontextualized forms.

**From emphasis on critical thinking to multiple ways of thinking**

This brings us to the third major shift in our thinking. From a focus on critical thinking alone, to emphasizing multiple ways of thinking particularly in nursing to an emphasis on clinical reasoning across time about particular changes in the patient and/ or the clinician’s understanding of the patient. Nurses, in particular, need to be taught to use multiple frames of reference in working with a particular patient. For example, all nurses must be well educated on using medical and scientific knowledge about disease and injuries. But the nurse also needs to understand and attend to the nature of the patient’s illness experience, the patient/family plight, what concerns about the illness and recovery the patient has. In caring for children and families, nurses need to understand child development, family dynamics and more. No single formal theory or frame of reference can cover all the complexity of the patient’s disease, lifeworld concerns, coping and recovery. Critical thinking is often emphasized over other types of reasoning such as practical reasoning, the perfect analogue to clinical reasoning over time through changes.

**Socialization and formation with a focus on an active student participation in formation**

The fourth major shift is from mere socialization and role taking, to the student’s role as a participant-member in a profession, becoming what they need to be in order to be a good nurse. Formation requires that students embody new habits of thought and action. The notion of “formation”, as opposed to socialization, adds an agent-centered role of the professional in forming the habits, skills and practices necessary for good practice. The embodied metaphor for formation that we have in mind, is that of dance, where situated understanding of the dance, the music, and the partners are required [2]. Formation allows for innovation and is based upon the agent’s taking up the skills, habits of thought and action, notions of good practice of nursing in ways that are comparable to learning to be a good dancer or clinician:

Formation refers to the method by which a person is prepared for a particular task or is made capable of functioning in a particular role. One forms, as well as educates, priests, soldiers, nurses, and doctors in a process that moves beyond the knowledge content of those crafts to the moral content of the practices—the obligations entailed, the demands imposed—and thus to the moral formation of the practitioners. Moreover, it is generally the case that one is formed toward something, some telos, some ideal shape or condition… A better metaphor [for being true to form] is dance: having and displaying integrity is more a matter of being able to move in ways that are consistent with the originating and developing themes of our lives. Teachers, guides, and practice make us better dancers because they help us listen more carefully and follow the music we hear more confidently. We learn which movements fit the rhythms and which do not [2].

Formation fits in with the notion of deep learning where students actually learn new ways of thinking, acting and being.

**Using knowledge requires situated thinking that is productive**

The fifth shift is a shift from teaching abstract formal theories and expecting students to “apply” those theories in practice to an emphasis on inductive, contextualized use of knowledge in practice. The model of merely “applying” fits within a narrow rational—technical framework. For example when I teach a student the procedure and mechanics of taking a blood pressure reading for a patient, I am teaching the application of knowledge. There is a 1:1 correlation between the teaching and performance of the skill. However, when the student must interpret, contextualize and use the blood pressure measurement to understand a particular patient's condition. Using knowledge is a contextualized, productive way of thinking that requires engaging in dialogue with the situation. This situated-thinking allows the student to develop a sense of salience about what the most and least important is in a particular clinical situation.

All five of these shifts involve a better understanding of what is required to teach a practice such as nursing:

- Teaching a practice requires experiential teaching and learning.
- Students have to both acquire and use knowledge in particular

- Because students must learn to act in specific clinical situations that are ambiguous, open ended and relatively unstructured, learning requires being coached by clinical teachers in specific clinical situations in order to address what the most salient and the most important is in the immediate situation.

- Clinicians learn best when they focus on particular cases and situations rather than generalized conditions, multiple patients at once. The goal of the clinical educator is to help the student develop a rich clinical imagination. They need to imagine how they would take up a particular practice situation.

- Finally students must develop the habits of mind and practice to perceive and respond to particular clinical situations as an exemplary or good nurse. This requires formation of the clinician’s identity, character, skilled know-hows and sense of salience.

The development of ethical comportment and clinical imagination occurs in practices and in dispositions and actions, not just in beliefs and decisions. Excellent nursing practice in particular clinical situations requires experiential learning. “Situated coaching” of the student in particular clinical situations is a signature pedagogy in nursing and occurs when the teacher describes for the novice student his or her understanding of the situation, and what they think is the most relevant, and the most salient. In contrast to general education classes such as history, or even anatomy and physiology, students love getting to translate their understandings into particular clinical situations. Situated coaching addresses the research-based finding that “situated thinking” is different from abstract reasoning.

Another signature pedagogy in nursing is designing experiential learning. In the US, 80% of the nursing schools have nursing students prepare on the day before they go to the clinical practicum to take care of the patient. They must look up all about the diagnosis, signs and symptoms, interventions, and every medication that they might give to the patient. They develop a care plan for the patient. The pedagogical idea behind this is that experiential learning occurs best when the student's mind is well prepared in what to pay attention to and in understanding the patient's clinical condition and situation. At least 80% of nursing schools in the US also have some clinical debriefing seminars after a clinical practice situation. These clinical seminars become the occasion for developing a learning community. Students come together and share with each other what they have learned from their patient care that day. They also discuss how they will improve their practice the next day. Students offer examples of what they have each learned, and even talk about any errors, or problems that they have encountered in their clinical practice. This strengthens the learning of all the students.

Most clinical nursing practice requires a flexible and nuanced ability to interpret a not-yet-defined practice situation and students learn what is salient, what in the situation should call forth an appropriate practitioner response. Once a clinical situation is understood or grasped by the student, the teacher then guides the student further toward recognizing the relevant research, possible interventions, and other inherent possibilities available in the particular situation. The teacher must help the student nurse see both the medical and nursing implications of a situation, since the nursing implications always require an understanding of the pathophysiological and diagnostic aspects of the patient's clinical presentation and disease, as well as an understanding of how best to strengthen the patient's own physical, social and spiritual recovery resources.

Teaching can be at odds with what is needed for practice:

Classes are not taught in dynamic way. They seem to be taught in an old fashion science curriculum sort of way, when a different approach may be more suited. Some classes were organized around presenting diagnostic categories, signs and symptoms with elaborate descriptions and distinctions between the categories. (A student)

Teaching catalogues and taxonomies do not necessarily help students to learn patient care. Tensions exist between teaching “everything” a student needs for the transition to practice and teaching for a lifetime of practice, or the focal practices of nursing. “Less is more,” and deeper learning is better than presenting a lot of materials superficially. Catalogues and taxonomies teach descriptive information that points to knowledge about the topography of practice. They are useful for organizing information and retrieving it. They do not contain within them any problem solving, or situated understanding powers. The impact of using taxonomies, particularly as a way to scaffold a class is that students are given descriptions of classifications of diseases without strategies for approach, access to patient care, or clinical imagination except through categories. Since the student has little background understanding of nursing practice because of their lack of clinical experience, they have no way of imagining what it would mean to “use” a diagnosis or classification term in actual practice. Taxonomies and classifications leave out access to practical reasoning.

Knud Logstrup notes [4] that “Subsuming things under categories is not the same as productive thinking.”

Students feel overwhelmed when faculty tries to “teach everything in a short period of time”. As one student stated:

So much to learn in such a short time. The most challenging thing is all of the mountains of information that just has to be completely committed to long-term memory. Remembering normal lab values and drug dosages is very hard for me. (A student)

The second apprenticeship, a skill-based apprenticeship of practice requires learning the habits of mind required for competent practice in the profession.

This is the apprenticeship of knowing how to function in clinical practice, think like a nurse, and engage in clinical reasoning and clinical imagination. In the US, nurse educators do a better job with this apprenticeship than with the first apprenticeship, the cognitive apprenticeship. However, our research shows that U.S. educators need to bring the two apprenticeships together so that we help students both acquire and use knowledge in an integrated way. Students often do not recognize when a body of research or concepts are salient in their actual practice.

The final apprenticeship is that of formation and ethical comportment—an apprenticeship to the ethical standards, social roles, and responsibilities of the profession, through which the novice is introduced to the meaning of an integrated practice of all dimensions of the profession, grounded in the profession’s fundamental purposes. When students talk about their key clinical learning experiences as senior students they emphasize their ethical concerns in practice: meeting the patient as a person, preserving dignity and personhood of patient, responding to standard practice, advocating for patients, engaging fully in learning to do “good” nursing practice.

One way to teach for a clinical imagination is to use unfolding case studies in the classroom. This integrates classroom and clinical teaching. Excellent teachers integrate their classroom and clinical
teaching. For example a teacher may use unfolding cases to rehearse reactions, plans, and goals in practice. The best teachers have a deep understanding of the practice of nursing and draw on her own experience in an emotionally nuanced way from which students can find a moral compass in his or her responses to actual clinical situations and gain a moral vision of ethical comportment.

Nurse educators must find solutions to the important pedagogical riddle of how students can be ushered into the practice in a way that enables them reliably to see salient clinical situations that call for effective, appropriate responses from the nurse. This requires attunement to the patient’s concerns in their ordinary life. Patients’ concerns vary depending upon cultural background, their family, community and work demands. Recovery requires that the patient be able to cope with the illness and treatment, and return to their everyday life. Most clinical nursing practice requires a flexible and nuanced ability to interpret a not-yet-defined practice situation as an instance of something salient that should call forth an appropriate practitioner response. Once a clinical situation is understood or grasped by the student, the teacher then guides the student further toward recognizing the relevant research, possible interventions, and other inherent possibilities available in the particular situation. The teacher must help the student nurse see the medical, nursing and human implications of a patient’s situation, since the nursing implications always require an understanding of the pathophysiological and diagnostic aspects of the patient’s clinical presentation and disease, and also an understanding of how best to respond to the patient’s concerns and strengthen their own physical, social and spiritual recovery resources.

Freshmen nursing students need to learn simpler aspects of situations before moving on to understand the whole complex, unfolding clinical situation. However, they must move on through situated coaching, reflection, and experiential learning to recognize the nature of whole clinical situations. This is why situated coaching is essential for the novice, because the novice simply does not have the deep background experiential knowledge yet to recognize the whole clinical situation, nor make qualitative distinctions within a clinical situation. For example, “Is this a situation of blood volume depletion or heart pump failure?” Or, “Is this patient obtunded and drowsy because they are tired or has their intracranial pressure increased?” Recognizing the nature of the clinical situation is at the heart of good clinical reasoning and interventions in acute and critical care: a thinking in action approach [7], we identified the following domains of practice and two common habits involved with clinical reasoning, clinical forethought and clinical grasp (Table 1).

The domains of practice overlap and occur simultaneously. Taken together, these domains demonstrate how being situated in a particular clinical situation in ways that guide clinical judgment, thinking, and action. As Bourdieu [8] points out, recognition of the nature of the situation is central to the logic of practice. In all the domains of practice, reasoning-in-transition and engaged thinking-in-action are the hallmarks of clinical judgment in practice. A loss of understanding or sense of disquietude, puzzlement, or even confusion prompts problem search and reasoning-in-transition, characteristic of ethical and clinical reasoning in actual practice. The anticipation of likely events structures the nurse’s preparedness and shapes thinking-in-action. If the patient is at risk for hemorrhage, the nurse will make sure that the patient is already typed and cross-matched and that the blood product is available in the lab. Clinical forethought improves over time as students learn from prior patients with similar conditions, and from their scientific knowledge of pathophysiology, therapeutic interventions, likely complications or untoward responses to therapies. Clinical forethought requires clinical imagination.

### Nature of engaged ethical and clinical reasoning

Engaged reasoning requires skillful involvement by the clinician in the situation. In order to grasp the nature of particular clinical situations, inexperienced nurses experimentally learn to pay attention to what the most and the least salient is in open-ended clinical situations. In our studies of skill acquisition, we found that nurses who were disengaged, or just saw their work as a list of tasks to complete, did not go on to become experts. Engagement in particular situations and having outcomes matter, are essential to experiential learning.

Early in the Freshman year of nursing school where students are novices, teachers must coach students so that they develop the ability to recognize the nature of the whole situation and what the most important and the least important is in actual situations [1]. Thinking-in-action meant the nurses’ engagement in actively discerning and problem solving the patient’s and their family’s immediate needs.

### Clinical imagination and clinical forethought

Nursing practice is fast paced, because patients’ responses to medications or to their illness may occur quickly. Without clinical forethought nurses would not be about to marshal (draw on, solicit, gather) the appropriate resources for patients whose conditions might change rapidly. If result of the patient’s clinical manifestations in the moment require thinking-in-action, anticipation is required for preparedness for quick responses.

Clinical forethought both shapes and is shaped by the practitioner’s clinical grasp, the clinician’s recognition or more aptly, their recognition of the whole clinical situation. Unlike novices, the expert nurse because of deep background experiential learning can recognize family resemblances between current clinical situations and experiences they have learned in the past. Clinicians imagine what the likely trends and trajectories of their patients are, and prepare for plausible or likely eventualities. Both clinical grasp and clinical forethought are two essential habits of nursing practice that guide thinking-in-action. Because clinical forethought is always embedded in particular situations, over time, it becomes such a habit of thought and patterned way of approaching clinical situations through an experientially learned set of salient contrasts.

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**Table 1: Habits of Thought and Action and Domains of Practice**

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<tr>
<th>Habits of thought and action</th>
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<tbody>
<tr>
<td>Clinical grasp and clinical inquiry: problem identification and clinical problem solving</td>
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<td>Clinical forethought: anticipating and preventing potential problems</td>
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<tr>
<th>Domains of practice</th>
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<tr>
<td>Diagnosing and managing life-sustaining physiologic functions in acutely ill and unstable patients</td>
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<tr>
<td>The skilled know-how of managing a crisis</td>
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<td>Providing comfort measures for the critically and acutely ill</td>
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<td>Caring for patients’ families</td>
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<td>Preventing hazards in a technological environment</td>
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<tr>
<td>Facing death: end of life care and decision-making</td>
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<tr>
<td>Making a case: communicating clinical assessments and improving teamwork</td>
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<tr>
<td>Patient safety: monitoring quality, preventing and managing breakdown</td>
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<tr>
<td>The skilled know-how of clinical and moral leadership and the coaching and mentoring of others</td>
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Normal and pathophysiology must be integrated for the nurse’s iterative situated use of both

Nurses are so centrally concerned with assessing shifts from normal to alterations from normal in their practice, that they indeed, might be considered “practicing physiologists”; especially in today’s highly physiologically monitored patient care, characterized by response-based therapies that require alteration, based upon the patient’s responses. The nurse needs an integrated knowledge use knowledge of both normal and pathophysiological normal and pathophysiological responses of patients. The student nurse needs deep learning about normal and pathological physiology as it is manifested and used in practice, whether that practice is in the acute care/trauma settings, community, long term care, home care or psychiatric health settings.

Pedagogies in all settings, but particularly in the classroom, should create an active learning climate that engages students’ interest in the learning goals at hand. Situated learning exercises within the class can be used to help the student use knowledge as it is being presented.

The pedagogies of contextualizing and situating knowledge use are particularly relevant and engaging for students. For example, students readily engage in the presentation of patients or family members describing their lived experience with an illness. Also “experience-first-person” narratives of nurses at different levels of practice are particularly evocative for student engagement and learning. Simulation, even within a large group setting of the classroom, can make the classroom come alive with relevance—creating active engagement and learning of students involved in a classroom simulation, either online, or in person.

Pedagogies for creating clinical imagination and patient-focused care

Literature of patient’s experiences, for example, pathographies, nurse generated literature, medical and nursing literature on their practice, historical accounts of health care and clinical experience can be used to expand the student’s clinical imagination for practice. For example, typically it requires the expansion of the student’s clinical imagination to realize that recognition practices for the patient as a person and evidence that the patient has been heard and understood, is usually therapeutic, and trust-building between the patient and the nurse. Also, how the nurse listens, attends, notices and articulates accurately the patient/family concerns creates the possibility of more openness, disclosure and possibility in the clinical situation.

Creating collaborative learning communities

In each learning setting some form of a collaborative learning community is possible. In large class groups, it might be good to formally organize learning communities of 6–8 members so that they can be assigned a focus of learning, and then teach and share with the rest of the class. For example, each learning community could be designated and the expert consultants on respiratory care, cardiac assessment and support, or septic shock. The goal is for the whole class to learn these areas, for example in an acute medical-surgical class. But the resident experts provide additional exercises, even in-service classes available in local health care settings, engage with respiratory and physical therapists, and recommend additional readings. Classroom presentations, power point presentation, clinical learning centers and other assignments could be developed within the “expert consulting groups”. Students assigned to the same clinical rotations almost always forge a learning community in preclinical preparations, and postclinical debriefings. One strong learning experience told by one student can become a vicarious learning experience for the whole clinical group.

Consciousness-raising: creating dialogues with the student’s life-world experience, assumptions, beliefs, coping approaches to illness, rehabilitation, birth, death, and suffering

Each student needs to reflect on the family coping styles deeply ingrained in their own familial and cultural habits that will or will not serve them well as a professional nurse. For example, extreme discomfort with anger, conflict, helplessness, and suffering will frequently occur in patients who are under duress due to injury or illness. But if the student feels embarrassed, or helpless, or even victimized by anger, they will not be able to be helpful in clinical situations where patients or families are angry. The learning goal for the student is to expand their understanding of the coping resources of anger, and their own repertoire of responses, and communication patterns. Pedagogies of consciousness-raising are required for students to encounter their own background impediments to effective professional caregiving. Narrative pedagogies in the form of journals can be extremely useful for this, especially having the student uncover and reveal their areas of negative bias and inhibitions with being with patients who are disfigured, suffering, angry, and so on. An open, trusting and affirming emotional learning climate is essential for consciousness raising.

Integrating in-hospital care and follow-through learning about discharge planning and home care help students bridge gaps between acute care, clinic care, and home care

Selected follow-through cases each semester could create more depth and breadth in the student’s learning. Follow-up phone calls on patients who transition to other care units, health care institutions, or home with home visits from home-care agency nurses to find out about the patient’s illness and recovery trajectory could bridge the gaps that occur in understanding usual patient changes in the recovery process.

Teaching for a sense of salience and grasp of the most relevant aspects of the patient’s care, now and in the immediate future

In the first year of nursing school, clinical educators will need to frame and augment the student’s grasp of the most salient aspects of the patient’s care. As the student progresses, and has more experience with particular patient populations, they should be asked, guided, and coached to form the best grasp of the current clinical situation. Situated clinical questioning is an essential pedagogy for the ongoing development of a sense of salience in under-determined clinical situations for student nurses. Developing a sense of salience becomes taken for granted: background meanings and understandings of what the most and the least important is in immediate clinical situations. For example, different clinical aspects are salient in caring for a patient with an acute head trauma, a postoperative open-heart patient, and a new postpartum mother.

Clinical evaluation for patient safety

With each patient care assignment, students should be taught and expected to evaluate all medications for the patient for drug dosages, patient allergies, interactions, purpose and correct dosage, correct route, patient, and intravenous administration compatibilities and contraindications of all medications. Increasingly, such
Teaching for action and implementation steps

In most practice disciplines, and in nursing particularly, it is essential that the student learn how to follow through in all their clinical knowledge to practical action steps. Rapid implementation of patient interventions becomes even more important in the rapid pace of emergency nursing interventions (e.g., where the external defibrillator is located, how to access emergency power). Or for example, in addition to knowing that a pacemaker set and internal pacing wires may be needed during a surgery, the nurse must also be prepared to make those pacing wires immediately available during surgery. Likewise student nurses must learn where emergency drugs are stored and how to procure them immediately during an emergency. It is not sufficient for the student to know about the possibility of needing an emergency medication such as Narcan, or Atropine, but where such medications can be found for emergency use and how the nurse can gain access to the drug. Likewise, reconstituting and mixing drugs that may be used in emergencies should be learned in advance.

Learning to make a case for a needed patient intervention, assessment or attentiveness

Students need to communicate in their nursing reports to other nurses, physicians and health care team. Making a case for an intervention is part of one’s advocacy and safety role whether the case is clearly defined, or an early warning about subtly evolving patient changes. Communicating one’s assessments and rationale for a needed intervention in clear, cogent cases is best accomplished through a clear clinical understanding of changes in the patient across time. Situation Background Assessment Recommendation and other standardized tools for making a case can be useful, but they will only be as useful as the student nurse’s accurate grasp of the clinical situation and clear reasoning about the patient’s clinical condition. Sometimes nurses and students will encounter a poorly understood clinical situation, perhaps early changes when the patient is still compensating for their physiological disturbances. In that case, the nurse or student needs to shift gears and explain that the situation is ambiguous; that a clear case for what is going on is not yet evident, and it would be helpful to have a second opinion, or even the assessment of a rapid response team. The less experienced nurse will more likely feel uncomfortable in requesting a second opinion when the clinical data are unclear, but with more experience, and perhaps a failed “early warning” the nurse will become more confident in requesting a consult when the patient evidence is still unclear.

Conclusions

Modern medicine with its patient response-based therapies, and instantaneous interventions in patient clinical changes cannot work without expert nurses who are able to clinically reason across time about changes in the patient and/or in changes about their own understanding of the situation. Likewise, allopathic medicine, with its attention primarily on diagnosis and treatment of a subset of physiological and biochemical systems changes do not address the human experience, nor recovery from an illness. Human beings dwelling in lifeworlds fall ill and need allopathic diagnostic curative powers; but patients are required to undergo treatments, to recover over time, and re-enter their lifeworlds. Often patients’ lifeworlds and embodied capacities are altered as a result of injury and disease and therefore need situated coaching, nurturing, encouragement, teaching and other nursing practices in order to fully recover. Increasingly we must teach better health care teamwork, and begin shared interdisciplinary education in medical and nursing schools.

References