From beginner to expert: Gaining a differentiated clinical world in critical care nursing

The purpose of this study was to further explicate the Dreyfus Model of Skill Acquisition in the practice of critical care nursing. For this analysis data were used from a sample of 105 nurses practicing in the adult, pediatric, and newborn intensive care units of eight hospitals in three metropolitan areas. The data were composed of group interviews in which nurses gave narrative accounts of exemplars from their practice and close observations and intensive personal history interviews of a subsample of nurses. Two interrelated aspects were found to distinguish four levels of practice, from advanced beginner through expert. First, practitioners at different levels of skill literally live in different clinical worlds, noticing and responding to different directives for action. Second, a sense of agency is determined by one's clinical world and shows up as an expression of responsibility for what happens with the patient.

Patricia Benner, RN, PhD, FAAN
Professor
Department of Physiological Nursing
University of California San Francisco
San Francisco, California

Christine Tanner, RN, PhD, FAAN
Professor
Department of Adult Health and Illness Nursing
Oregon Health Sciences University
Portland, Oregon

Catherine Chesla, RN, DNSc
Assistant Professor
Department of Family Nursing
University of California San Francisco
San Francisco, California

OVER THE LAST DECADE nurses' understanding of the development of expertise in clinical nursing practice has been advanced by the application/extension of the Dreyfus Model of Skill Acquisition to the study of nurses.[1-3] This model holds that in learning a practice, changes in four general aspects of performance are reflected: (1) movement from a reliance on abstract principles and rules to use of past, concrete experience; (2) shift from reliance on analytic, rule-based thinking to intuition; (3) change in the learner's perception of the situation from one in which it is viewed as a compilation of equally relevant bits to an increasingly complex whole in which certain

This research was funded by a grant from the Helene Fuld Health Trust.

The authors acknowledge the consultation and assistance of Stuart and Hubert Dreyfus, Sheila Kodadek, and Jane Rubin in the interpretation of data and in the preparation of this article, and the contributions of graduate students who participated in interpretive sessions: Barbara Haberman-Little, Martha Haylor, Susan Thollaug, Peggy Wros, Dawn Doutrich, Yoko Nakayama, and Monica Dostal.

Adv Nurs Sci 1992;14(3):13–28

parts are relevant; and (4) passage from detached observer, standing outside the situation, to one of a position of involvement, fully engaged in the situation.

This article discusses a portion of a larger phenomenological study designed to further describe the nature of skill acquisition in nursing practice and to delineate the kinds of practical knowledge exhibited in expert practice. Here we will describe two interrelated aspects of practice that distinguish four levels of practice, from advanced beginner (i.e., new graduate) through expert. First, practitioners at different levels of skill literally live in different clinical worlds, noticing and responding to different directives for action. For example, for the new graduate, action is guided by principles, rules, and the practical structures for reporting actions such as flow sheets, charting, schedules for vital signs. In contrast, the expert practitioner is guided by direct apprehension of the action required by the situation at hand, and the documentation follows the action. The second major aspect, a developing sense of agency, is determined by one's clinical world and shows up as expression of responsibility for what happens with the patient and growing social integration as a member and contributor of the health care team. (A fuller account of the distinctions among levels of practice is found in a forthcoming book by the same authors.)

THEORETICAL PERSPECTIVE

Central to this analysis are notions of experiential learning, clinical knowledge development, and human agency. The terms experience or experiential learning have pragmatic[4] and phenomenological underpinnings[5-8] and contain within them a critique of a private subjectivistic account of experience. As noted by Dewey:

> Experience: denotes the planted field, the sowed seeds, the reaped harvests, the changes of night and day, spring and autumn, wet and dry, heat and cold, that are observed, feared, longed for; it also denotes the one who plants and reaps, who works and rejoices, hopes, fears, plans, invokes magic or chemistry to aid him, who is downcast or triumphant . . . it recognizes in its primary integrity no division between act and material, subject and object, but contains them both in an unanalyzed totality.[4(p18)]

Experience, as used here, is always about something and always has some "harvest" in terms of the clinical knowledge of the practitioner. This study takes a practicalist turn in that what is learned in the practice by the practitioner is considered knowledge even though it contains puzzles and cannot always be fully located in the currently explicated science. This view of knowledge differs from that held by the rational tradition. Rationalism is the doctrine that holds that all knowledge can be expressed in self-evident propositions or their consequences. Knowledge is born of disengagement from the world to achieve the vantage point of an unprejudiced spectator. Only in this atmosphere of disengagement, stripped of all ties to the cares and concerns of the world, can one achieve the "objectivity" of true and certain knowledge. In the pragmatic turn, the knowledge of the practitioner goes both before and after science because what occurs in the natural field of clinical experience is more variegated and complex than can be captured at any one time by scientific experiment. What is known sets up the questions and influences what is noticed, and the actual clinical experience alters, ex-

tends, or disconfirms what is known in the scientific discourse. Experience as conceptualized here requires openness to the new situation, but that openness is constituted by what has gone on before; it is not naive and undifferentiated.

In the rational tradition, agency consists of the ability to consciously represent different possibilities in a situation, calculate how to achieve these, choose between them, and thus plan strategically. From this view what distinguishes humans from animals in their agency is the power to plan. Taylor offers a different view of agency:

> Agents are beings for whom things matter, who are subjects of significance. This is what gives them a point of view in the world. What distinguishes persons from other agents is not strategic power, that is the capacity to deal with the same matter of concern more effectively . . . what springs to view is that persons have qualitatively different concerns. . . . The centre is no longer the power to plan, but rather the openness to certain matters of significance.[7(p104)]

METHODS

Sample

The sample for the study was composed of 130 nurses who practice in the intensive care units (ICUs) of eight hospitals, seven of which are located in two far western regions of the United States and one in the eastern region of the United States. The informants practiced in both children's ICUs and in adult ICUs, distributed evenly across surgical, medical, cardiac, and general ICUs. Since the sample was selected to be educationally homogeneous, 98% of the nurses had baccalaureate degrees.

For this analysis, data from a smaller sample of 105 nurses were used. These nurses were selected on the basis of their membership in one of three groups, clustered by expected level of practice based on years of experience and peer/supervisor nomination. The groups were as follows:

- Advanced beginner: up to 6 months' work experience (N = 24)
- Intermediate: two years' work experience in the ICU. This group contained members with considerable experience in other clinical settings, so that many of the proficient practice examples came from this "intermediate" group (N = 33)
- Expert: at least 5 years of experience in the ICU and recognized by peers and supervisors as an expert practitioner (N = 43)

Data

All informants were interviewed in groups of four to six nurses, again clustered by expected level of practice. In these interviews the informants gave narrative accounts of their clinical practice, describing specific patient-care situations. Group rather than individual interviews were used to create a natural conversational setting for storytelling and to encourage participants to talk with each other as practitioners in natural practical discourse about particular clinical situations. Each participant was encouraged to actively listen, asking questions for clarification and understanding and also to add similar or contrasting experiences from their own clinical practice. Discussions about generalities and ideology, while allowed intermittently, were limited by the request to "tell a story" about particular situations with as much conversation, thoughts, feelings, and expectations as possible while staying within the language of

the familiar, everyday, narrative discourse about their everyday practice:

> This language, which recognizes only particular cases and details of practical interest or anecdotal curiosity, which always uses the proper names of people and places, which minimizes the vague generalities and *ad hoc* explanations appropriate for strangers, leaves unsaid all that goes without saying. It is akin to Hegel's "original" historians who, "living in the spirit of the event," take for granted the presuppositions of those whose story they tell. Through its very obscurity and the absence of the spurious clarity of semi-enlightened remarks for the benefit of outsiders, it gives some chance of discovering the truth of practice as a blindness to its own truth.[9]

In addition to these group interviews, 48 of the nurses were interviewed individually about their work history and early perceptions of nursing and nursing education. Each of these 48 nurses was also observed during practice at least three times.

Analysis

Analysis of the data occurred in several phases. First, transcripts of interviews were reviewed by members of the research team individually. Interpretive summaries of each clinical episode were prepared by each member and discussed in group research meetings. These interpretive summaries were used to develop beginning descriptions of levels of practice and as the basis for identification of early themes and issues. Second, observational notes were examined to reveal aspects of everyday practice that would not be apparent in the narrative accounts and to augment/dispute beginning interpretations of levels of practice. Third, simultaneously and early in the data collection process, themes were identified both from the background frameworks (e.g., Dreyfus model of skill acquisition, domains of practice identified by Benner[2]) and from the interviews and observations. Fourth, sections of text were coded using these themes so that related texts could be retrieved using the software program Ethnograph. Finally, coded excerpts were retrieved for in-depth interpretation of the levels of skill acquisition and the recurring themes and issues.

FINDINGS

Advanced beginners

Advanced beginners used learned procedures to infer from the clinical situation the immediate requirements for action. Their clinical narratives focus on what is to be done for this patient during the time that he or she is in their care. In contrast to the more complex perceptual grasp of experienced clinicians, who perceive the patient's status, projected changes in status, and the nursing involvement in bringing about those changes, advanced beginners are more acutely aware of the patient's current status and what needs to be done to maintain that status or to prevent decline.

Most evident to advanced beginners are the multiple and competing tasks that must be accomplished in the patient's care. Their work is shaped by a concern to organize and to prioritize tasks, and failure to do so raises considerable anxiety: "I hate that feeling, just being very crazy. I think that's the most

Most evident to advanced beginners are the multiple and competing tasks that must be accomplished in the patient's care.

stressful. More stressful, I think, than not understanding something because I know I can always ask someone, I can look it up." These nurses are distressed and feel their practice is unsafe when they lose control of the task environment. They are more accepting of their limited understanding of a patient's condition and feel that the situation can be remedied by consultation or further reading. This comfort is possible because they do not feel full responsibility for advanced planning and for preventing patient situations from developing. Rather they feel responsible for completing the tasks that are ordered or implied in the nursing and medical care plans.

Much of the perceptual work of advanced beginners is recognizing the concrete manifestations of clinical signs and symptoms. They work at and are excited about "seeing" for the first time a case of dyspnea or a negative reaction to a blood transfusion. Clinical entities encountered for the first time provide opportunities to "match" theoretical knowledge with clinical practice:

> I think the one thing I felt improved was just watching how a child in respiratory distress copes. This child was coping, and every sign or symptom that I'd ever learned in school I was seeing before me. His little face was puffed out to here, and his little arms were going a mile a minute, and his nares were flaring, and he had retractions practically through the other side.

Preoccupied with recognizing clinical states and changes in those states and lacking contrasts from past instances, advanced beginners are less likely to grasp variations and patterns within particular situations. Situations are seen as an instance of the general category of dyspnea, but typically the advanced beginner has little or no prior experience to elaborate nuances or distinctions. Temporally, advanced beginners perceive clinical situations as they appear in the immediate present, while past or anticipated future patient states are at most unattended theoretical categories. Until they have worked with patients through various illness trajectories, they have difficulty understanding the patient's current status in a larger perspective. The scope of their clinical grasp is similarly constricted as they focus on particular details of the patient condition and seldom achieve a practical grasp of the salient clinical issues and their interrelatedness.

A third major aspect of advanced beginners' clinical world is how the situation shows up as a test of their abilities and knowledge. They describe the clinical situation in terms of what it demands of them, rather than in terms of the demands of the situation and the patient's particular responses. Similarly, outcomes for the nurse are reported with equal or greater emphasis than the outcomes for the patient. One nurse, for example, describes her response to a "textbook case" of drug reaction in a patient under her care. She swiftly turned off the patient's penicillin and called a more experienced nurse who successfully treated the patient with epinephrine. The advanced beginner's thoughts after the episode were, "I made it through!" This self-consciousness arises because advanced beginners are constantly working at the edges of their safety and knowledge. In addition, they are deliberately taking on the role of the nurse, acting like a nurse, even though they cannot fully inhabit the role. This awareness of self, alongside the awareness of the patient situation, is markedly different from the experienced nurses, who are transparent in their

clinical narratives because of the comfort and skill with which they embody the practice.

Advanced beginners organize their work and structure their days according to the demands and requirements that are external to the immediate patient care situation. In stable situations they feel secure with practice directed by orders, rules, and procedures, or "common practice," as is evident in the descriptions of care above. In unstable situations, they lack the flexibility and clinical know-how to adapt to rapidly changing situations. Consequently they miss subtle cues of problems and continue care in a relatively unchanging way or notice signs of problems developing and call on more experienced clinicians to guide their interventions.

Advanced beginners recognize that they are not operating in the situation with the ease and flow that they see in more experienced nurses. They attribute this lack of ease to their inability to apply abstract principles to the current situation, as evidenced below in the comments of two nurses. (Throughout this article, N1 indicates an advanced beginner, N2 a competent nurse, and I the interviewer.)

N1a: I think what's stressful is the expectations on us to be good all the time and to have that knowledge right now.

N1b: Right, because it's not just one system that is failing, it's all the systems that are failing. And those patients get real critical when everything's going on, and you have to think about everything that could possibly go wrong. And everything is going wrong, and you just, it's like the knowledge should be there and where is it? And it's not. And if it is there, it's in the notes, but you've still got to read it, and you don't have time right now to get out that piece of paper and say, "okay, drug toxicity, this is what I should look for and this is what I should do."

Advanced beginners identify the problem as a knowledge deficit or at least as a knowledge application dilemma. They themselves question how to operate in a situation where a plan of action is not immediately apparent, as demonstrated below.

N1a: So how do you know what to do when somebody codes? How do you know what to give them if you don't know what the notes (say)?

N1b: Oh *there's a protocol.*

N1c: There's a standard . . .

N1b: We've got a little diagram-type thing . . .

N1c: It's like you do on a code. You have that little diagram that you go through, just like you do.

Advanced beginners believe that they can rely on protocols to guide their action even in an unstable, critical code situation. This naive trust in standard protocols for action is possible because the advanced beginners lack sufficient experience to know that each patient-care dilemma calls for particular responses from the nurse and health care team. Repeated experiences with a code protocol will overturn the naive trust, and advanced beginners will begin to read situations for their particular requirements and constraints. Agency for the new graduate is defined by doing the work and getting the tasks done according to structured guidelines, norms, and others' expectations.

Because the demands of clinical situations often outstrip beginners' clinical judgment, they "delegate up" their observations

and concerns and rely on the judgments of more experienced clinicians who surround them. Advanced beginners rely on experienced clinicians to decide when to give medications as needed, order extra laboratory tests, call a physician, and, in general, suggest what is required in an evolving patient situation. For example, with a postoperative patient who was paralyzed, an advanced beginner relied on the resident to tell him when to give each dose of pain medication. While he was appropriately concerned about managing many aspects of the patient's status, including fluid balance and blood pressure (BP) parameters, he did not include pain assessment and management in his description of concerns for the first two hours that the patient was in his care. When the physician suggested the patient be given something more for pain, the nurse immediately and unquestioningly complied. His stated concerns and actions indicated how thoroughly he delegated both the assessment and management of pain to the advising physician.

Requirements on advanced beginners to record certain activities place these activities more firmly into their plan of action. Most units have standards for recording that require the nurse to note on a flow sheet hourly vital signs, medication flow rates, intravenous (IV) flow rates, for example. Advanced beginners place high priority on aspects of their practice that require such recording. It seems that the institutional demands for recording certain activities set the standard for care for many advanced beginners.

Actions and decisions recorded by other nurses in patients' flow sheets also guide the advanced beginner's practice. Changes in patient status noted by the beginner frequently led them to examine the flow sheets for similar changes in the previous 12 to 24 hours as well as to look for the action taken by the nurse at that time. So, for example, when a patient's BP dropped 5 points below the parameter set by the physician, the advanced beginner was observed to check the flow sheets and then to increase the vasopressor the same amount that it had been increased the last time the patient's BP had behaved in this way. In this practice of matching present care to past decisions about care, advanced beginners provide tested interventions and consistency in their care but do not take into account the differing contexts in which current and past interventions were offered.

Advanced beginners experience complex agency in which they feel responsible for managing patient care fully for the first time, but at the same time they feel largely dependent on others. They question their own agency in and contributions to the care of patients but at the same time feel a remarkable sense of responsibility to perform. "It's so different once you get out of nursing school and you're actually responsible and you're the one that's going to do everything. . . . It was, 'Oh my God. I'm responsible now. I'm not the student just watching and observing. I have to actually do something.' " At this point, their responsible action or agency does not often include determining what to do or even how to do it, but rather following what has been designed and structured by others.

Competence

The advanced beginner moves to competence in part as a result of a crisis in confidence but also as a result of being taught by actual clinical situations and the actions by

other health care workers. The narratives of nurses at the competent level show that they are questioning their trust in the resource environment and in the judgments of more experienced staff who surround them. They talk about incidents in which experienced nurses and physicians make faulty assessments or prescriptions; these incidents contribute to a crisis of confidence about the authority of coworkers. In losing their sense of certitude about the judgments of experienced clinicians, these nurses feel a new level of obligation to know about and to manage clinical problems themselves. At this point in skill development, knowledge for safe practice comprises a command of discrete facts about discrete situations, and thus the preparation these nurses feel they need is daunting. The entrant is suspended in the practice by the belief that principles and rules indeed cover the action required by the practitioner.

One response to the recognition that given directives and structures are not sufficient is to develop goals and plans to structure the work.

One response to the recognition that given directives and structures are not sufficient is to develop goals and plans to structure the work. Order is imposed on what has come to seem potentially chaotic without guiding action by deliberate goals and plans. For the competent nurse, "making a difference" literally shows up in terms of what the nurse has achieved through setting goals and plans for the day.

N2: I think you get into a kind of thing where you are deluding yourself and you are working so hard, you want to think you are making a difference. And you have to examine whether you are deluding yourself when you are working so hard, and you want to make a difference. And you have to look at the fact that maybe I can make a difference by preparing this family. I tried to do that . . . I arranged for the patient to have last rites while his son was here . . . it didn't help him much but it helped him a little bit. . . . And the way I maintained was being able to say, I can give you the sedation. I will fight for his sedation. I will fight for his comfort issues, and I will fight for the right to be heard because I know him. And the fact that I was being pretty vocal. I mean, being able to know what I could do from when his hair needed to be cut, when he needed a shampoo, the little things that I knew were making him comfortable or making his family comfortable helped me maintain even though . . . they weren't going to go the way I wanted them to go.

The practice is constituted by goals that determine the action even when the nurse cannot achieve her preferred goal of allowing the patient to die. She keeps her goal of advocating for less aggressive therapies, but since that cannot be heard, she sets up accomplishable goals that sustain her in the situation, sustain her action.

Preferred actions are those that fit the goals and the plans for goal achievement. Consistency, predictability, and time management show up as important, and gaining a sense of mastery through planning and predictability is the accomplishment. The focus is on time management and the nurse's organization of the task world rather than on timing in relation to the patient's needs.

N2a: I'd rather have a difficult patient two days in a row than two different easy patients.

N2b: Yeah.

N2a: Just because you can't anticipate—even if they're demanding patients—Or say, for instance, you have a demanding patient and everybody says, "Oh, they're such a grouch." But if you have them two days in a row, you can figure out the first day and anticipate what they need. And I've got patients like that and so, they say, "Oh, nobody ever brings me blankets." So fine, you offer them a blanket. Or people say, "Oh, she always wants to go to the bathroom right when I'm busy doing something else." So think about it and offer to take her to the bathroom when you've got time, not when she's asking but when you've got time. "Oh, do you need to go to the bathroom? Here, let me unplug your I.V."

N2c: It just improves your body care if you can have consistency in your practice.

The clinical world of the competent nurse is structured by the desire to limit the "unexpected," to achieve a status quo as illustrated in the competent nurse's account of an unexpected event:

I: What kinds of things did you use to get through that?

N2: It kind of humbles you. At one point, I'm feeling like I have things straight now, and I can handle this, and when something like this happens, I think, well, I still have a lot of learning to do. I can handle the situations that are status quo; it's the unexpected that I have to learn to deal with now. But then I think back to situations when I was brand new. Things that are status quo now weren't back then. Things I can troubleshoot and solve now were much different back then. I usually needed help.

Not needing help, ordering the task world, and planning based upon goals and predictions structure what shows up for the competent nurse. It is not accidental that this vision of performance and agency is institutionally rewarded and encouraged as the "standard."

Structuring the day by goals and plans, however, interferes with perceiving the demands of the situation and with timing (doing interventions in response to the patient's responses and readiness). Thus the competent nurse does not readily see changing relevance. Their skill of seeing is hampered by their need to organize data collection and to achieve goals. Inevitably the clinical situation intrudes by not conforming to preset goals and plans and the nurse must adapt. Formal descriptions do not automatically lead to recognition of actual signs, and varied responses require time to assimilate and recognize. Following one's plans and expectations can limit perceptual grasp, as is obvious below in one nurse's comments.

I was being a good nurse and turning him every two hours and he had really bad breath sounds on his left side. So I gave him physical therapy, elevated his left side so he could drain, had him cough. But it took me a couple of times to realize that when I turned him on his left side, with his bad lung down and his good lung up, his SVO_2 showed great readings and his heart rate was wonderful, and then I would turn him on his back or turn him up on his right side and within a few minutes he would go into bursts of SVT [supraventricular tachycardia] and his [oxygen] saturations would drop. I had called the doctors and they didn't seem too concerned about it. They said "Relax, he has a healthy heart." I said, if he has a healthy heart, why is he doing this? It spontaneously resolved after I turned him off his side. And I said okay, now I know what's going on. I'll keep him off that side. It was just a hypoxic reaction because he wasn't oxygenating well enough with his bad lung.

There is the budding recognition that "being a good nurse" does not necessarily mean following one's plans or even the physician's orders. As long as the nurse focused on standard procedures (turning the patient every two hours) and on the usual formal expectations for the situation (thinking, e.g., "the heart is healthy and should not go into supraventricular cardiac arrhythmia"), she did not notice that the response was reasonable in relation to this patient's lung capacity.

The nurse experiences a crisis in the limits of elemental analysis and recognizes the need for synthesis and seeing the whole:

N2a: That's all I could see. The patient was hypotensive. I had to fix his hypotension, but I wasn't really looking at everything else. I wasn't putting together the big picture. I was very focused on this man's hypotension. He circled downward and ended up coding. It was a bad code. It wasn't run well, and I felt really lousy. I felt like I hadn't put things together well and I should have seen this coming the second I walked in the door.

I: Did you know that then, or do you know that now?

N2a: No, I learned it awfully quick after that. I said now I've really got to look at things and look at the whole thing and see what's going on. But, no, at that time I just knew he was hypotensive and that I had to fix that. Since then I've learned . . .

I: Do you have a checklist that you go through?

N2a: Yes.

I: You didn't have a checklist before?

N2a: You have little bits and pieces, but it just doesn't all fit together.

I: Didn't they present the checklist in the heart course?

N2a: They do present it in the heart course, but it's still—different things happen with different patients. So it's not exactly as the heart course presents it. Every patient is a little bit different. So, it's not always as easy as going down the list and saying this and this and this. No, you have to sometimes consider other factors. But they did present a list. A sort of list, but it's not always that easy. Plus, understanding the concepts of preload and afterload, that doesn't come from—you don't understand that for a while.

N2b: They give you a definition and you can spit it back.

N2a: Right, you can spit out a definition like that, but you can't picture what is going on in that heart or that mind until you've had a few of these hearts and realize what is really going on.

The crisis of the "checklist" is apparent. It is no longer enough to have the analytical template, and the nurse is struggling to learn to read the situation in relation to past actual situations. The crisis of trust in the adequacy of formal, scientific knowledge and an analytical approach to clinical situations is accompanied by a crisis of trust in coworkers, and this combination can lead to an excessive sense of responsibility. Feeling the limits of formal knowledge, the limits of coworkers' responses, and the recognition of the underdetermined openness of historically situated clinical situations, the nurse may feel totally responsible:

N2a: Once it's my patient I just get so nervous because I feel that everything that happens is going to be my responsibility, whether or not the doctor's telling me to do something. I feel like I'm going to be liable. It's

my fault he arrested. I should have caught it earlier. But if it's somebody else's patient, I can do everything. I can push the meds. I can do everything, you know. I can function.

N2b: And you can even tell them, "Hey, you did it fine, don't worry."

N2a: Or I could tell them what they should be doing. I mean I feel almost more confident, but when it's your patient, you have such a sense of responsibility that, oh, my God, anything I do.

The competent nurse copes with the hyperresponsibility that he or she feels by increasing vigilance and by checking often—usually as a result of a disaster, a "war story." This is evident in the following example of the nurse who had taken care of a patient who lost circulation to the leg during the shift immediately following her shift. The nurse had noted that the patient's foot had pulses but was perfusing poorly: "It made me much more aware and everything that I'm doing, just making sure, double checking that there is something there, you do hear a pulse, you do feel one."

Agency is more apparent and deliberate in the narrative of the competent nurse than in that of the advanced beginner. In fact, the competent nurse appears to take more responsibility than is realistic given the responsibility of other health care team members. The self is ever present and critically reflective in the narrative. These nurses provide elaborate accounts of what they are thinking and feeling and how they are structuring the situation by their perspectives. Agency is based on explanation and interpretation of the situation in part because the experiential base for understanding is missing at this point.

Proficient practice

Proficiency is marked by an increased skill in seeing changing relevance. The narratives of proficient nurses are frequently about overturned expectations and seeing contextual and situational changes that require actions other than those planned or anticipated. Changes in the clinical situation and recognition of these changes now loom large in the narratives. They now have an increased ability to recognize changing relevance, which in straightforward situations includes both the recognition and the orchestration of skilled responses to the changing situation, as illustrated below:

We admitted a man who became very sick very quickly. He had a huge infarct. About two hours after he was admitted, he had vomited and obviously had aspirated his vomitus. He was hypoxic. He was blue and crawling off the stretcher. He was a huge man. I said to the intern, "You need to draw a blood gas." And he said, "I drew one when he came in." I looked at the resident, and I threw the blood gas syringe, and I said, "Could you please draw a blood gas." His PO_2 was 30 or something like that. He had to be intubated. I said, "You know, the situation changes often, and you can't say, 'I drew one.' " I said, "Look at him. Take a gander. Does this look like the same patient you drew the blood gas on?" He just didn't know what to do.

Here the proficient nurse demonstrates her ability to recognize change in the situation and her recognition of lack of experiential knowledge on the part of the intern. While hypoxia seems obvious from the description, the intern probably had little experience with such rapid deterioration and may have had little sense of the time lapse. This is a good example of experiential clinical knowledge. Any one of these clinicians would have been able to answer a formal

test question about the possibility of blood gas changes within an hour and correctly identify conditions under which oxygenation changes rapidly, so it is not "factual" knowledge that is at stake here. It is the skilled recognition and orchestration of skilled responses to a rapidly changing situation. However, the changed relevance noticed need not be an emergency. Often the changed relevance relates to recognition of slowly accrued changes and progress in patients' capacities such as eating, sleeping, and moving. When the changed relevance sets up new conditions and requirements for action, the proficient nurse most often resorts to analytical planning and problem solving rather than just seeing the most appropriate response to the situation.

The competent nurse's practice of going down a checklist is different from the proficient nurse's recognition of a contextually determined shift in priorities. What is new at the proficient level is the nurse's ability to read the situation and to notice when the patient's condition has changed sufficiently to warrant a redefinition of the situation, a change in perspective and action. The skill of seeing has become direct recognition through association, although the proficient nurse may have to figure out what action to take in response to the pattern recognition. This is illustrated in a nurse's description of learning to recognize needed shifts in therapies for postoperative heart patients:

> I feel pretty comfortable, and you learn when they're warming to start giving the volume and when to stop because now maybe they need a little bit of Levophed to keep their blood pressure up, when to shut off the Levophed because they're waking up and you know their catecholamines have kicked in and that kind of thing. It's almost routine, whereas before it took a lot of trial and asking questions.

This change is based on procedural knowledge and protocols, but the transition being described is the flexible recognition in particular situations, the relationships between the numbers, and the way the patient looks and responds.

The clinical world is increasingly differentiated so that some things automatically claim attention. This shift in perceptual grasp frees the nurses from excessive responsibility, since they no longer have to deliberately anticipate changes to notice them. Numbers gain meaning, or salience, so that the focus is no longer so much on the recording structures as it was for the new graduate:

> It is the difference between staying in your room, and writing down all those little numbers, and making sure they're on a sheet, and getting to the point where you know what the numbers mean. You have done the typical things that you can do [standing orders and protocols for blood gases, and medications], and then you get the doctors or call them in the middle of the night instead of waiting until 6:00 AM, so that when they do rounds they can't ask you why you didn't call them.

This nurse captures her transition from competency to proficiency as a transition from analysis and interpretation to direct understanding. Organization can now be ordered by the situation as it unfolds rather than by preset goals:

> My organizational skills have improved . . . . You know that if you have 12 things going on, some things have to be prioritized and left out . . . . The first six months you might dwell on it more and be harder on yourself . . . you feel terrible that you didn't get this done . . . . [You worry] that something bad is going to happen to the baby later because you missed something. But you just learn what is important, I guess, as you have more experience.

Proficient nurses no longer feel anxious about the consequences of what they might leave out because they have more confidence in their ability to notice the important things.

Proficient nurses read the situation better and can set priorities for what they see in the situation, and they no longer feel anxious about the consequences of what they might leave out because they have more confidence in their ability to notice the important things. This budding sense of salience is not infallible, but it is still a real advance over the undifferentiated dread and worry of the advanced beginner and the excessive vigilance of the competent nurse.

Expert practice

The expert's perception of the clinical world is vastly different from that of the beginner or competent and more fully developed than the proficient level. When things are going smoothly and the expert is in familiar territory, she or he grasps a situation immediately and directly. Important aspects of the situation simply stand out as salient, while less important aspects stay in the background. Unlike beginners, experts know when they have a good grasp of a situation and feel uncomfortable when they don't. Experts are open to the clinical situation in that their grasp is not determined, formed, by expectations, sets, and formal knowledge of the general, although those aspects are clearly in the background.

A major story in the narratives of the expert was that of having a different and better grasp of a situation than other clinicians. In the excerpt that follows, the nurse describes a 70-year-old woman who is first-day postoperative for an abdominal aortic aneurysm repair. The clinical understanding of the situation by the house staff and hence by the new nurse taking care of her is that the patient is "taking her time to warm." She had labile BP and metabolic acidosis and had remained unresponsive since surgery. The new nurse had spent much of the shift trying to keep up with the "nipride game" being played by the house staff managing her care. The expert nurse "could see" that help was needed—"there was a flurry of activity" and that the new nurse was in desperate need for help.

I had a sense of what was going on and I looked at the patient and there were two things that I noticed right off: one that her abdomen was very large and very firm and the other that her knees were mottled. I said, "She has a dead bowel." And they said, "She doesn't have a dead bowel." And I said, "She has a dead bowel." All right, trying to back off a little bit, I asked "Would we consider that maybe she has an ischemic bowel?"

The expert recognized a pattern, knew that she had the correct grasp, coached others to see the situation in the same way, and in other ways made a case for a different treatment plan. Her confidence in her understanding of the situation set up the possibility for advocacy and for making a case. The story unfolds that the expert nurse made the case that the patient needed to return to surgery, but the attending physician could not be reached. Still the house staff did not pick up on the urgency and thought it could wait until the attending physician arrived. The patient quickly decompensated, and once again the expert nurse told the physicians that the woman was going to code:

I said, "This woman is going to die. And as I'm saying this, the family needs to know. Someone better go talk to this family now." The poor nurse taking care of the patient was devastated . . . because she had been trying to manage this all morning but didn't have the experience. She's kind of going along with what they're doing, which is fine. If you don't know, how can you? You just don't know. I was very sad, very angry because I felt that I was giving them every possible clue to make a decision about this woman . . . . I really think at times they see with different eyes than we do. And the attending physician had come in and said it—they were thinking that it was just part of the patient's recovery and they were having a rocky recovery course.

In addition to the capacity for pattern recognition, this exemplar illustrates three other major distinguishing aspects of this level of practice. First, the nurse's sense of urgency was clearly different than that of other clinicians. She had experience with similar trajectories of rapid decline; her grasp of what lay ahead shaped her understanding of and response to the situation at hand.

Second, we see in the expert's description of the situation and her interpretation of the new nurse's practice how their concerns differed:

The patient was so sick that the nurse taking care of her and I really had minimal time to deal with the family. Other nurses were helping us in dealing with the family. At one point, though, when I could see that things were getting really bad, the nurse taking care of the patient spoke to the family, just briefly, and told them that their mother was very critically ill at this point and that they really couldn't stay, but if they'd like to they could come to the room and see her for a minute. That was one of the things that I had suggested, that even though there was this flurry of activity and the room looked like a bomb had hit it, you know, IVs going everywhere, I really felt that either the family was going to see the patient now or they were going to see her when she was dead and that they should come now. The concerns of the nurse taking care of the patient were that she needed a hand hanging all the IVs, getting the drugs. She was looking for someone to get her a couple of liters of IV fluid.

The practice also differs greatly in the expert's direct access to action, her fluid, skillful maneuvering in very complex and difficult situations. The expert is at home managing rapidly changing situations and is able to attend to many other aspects of care that go unnoticed by the less experienced clinician. What shows up for her is a recurring aspect of the expert's narratives—the attention to family concerns in the face of rapid decline of their loved one. The nurse could simultaneously manage multiple, complex therapies for the patient—for example, vasoactive drips, fluid therapies, ventilation—and notice that the family members were sitting in the waiting room not knowing that anything had changed for their loved one.

Third, the sense of agency and responsibility for the patient's well-being is more realistic in terms of actual possibilities inherent in the situation and in the nurse's capabilities as compared to the burden experienced by the competent nurse. This sense of responsibility shows up in three major areas: (1) negotiating and managing physicians' responses to the patient situation; (2) keeping track of what's going on with the patients of less experienced nurses and augmenting the less experienced nurses' clinical assessments; and (3) being responsive to and advocating for the patient and family concerns in ways that more closely

match the actual concerns and needs. This agency shows up repeatedly in the narratives of experts. Their understanding of what the patient needs is what claims their attention; hence if they believe that the patient needs a different medical therapy than what is currently ordered, they find ways to negotiate with the medical team to ensure that the patient gets what is needed.

DISCUSSION

The term clinical world was used to reflect the particular experiential ground and understanding of a group of practitioners at a point in time. The narratives of nurses with differing levels of practice reveal markedly different clinical worlds. The clinical world is a practical world, not a total or uniform theoretical system; however, it does have commonalities and patterns as a result of shared clinical wisdom and experience. The possible ways of being in the clinical world differ in predictable ways at different points in experience. It is simply not possible for the advanced beginner to be in a clinical situation in the same way with the same reference points and experiential knowledge as the expert. Two experts will not necessarily agree or even have the same possibilities in a particular situation, but they will have more organized points of disagreement and a larger shared ground of understanding and experienced contrasts than the beginner.

The clinical world, then, is shaped by learning from experience. The nurse, using natural and human science and the humanities, including knowledge of cultural coping and healing systems, learns directly from practice the varieties of "natural courses" of events associated with illness, disease, recovery, birth, and death. The nurse learns qualitative distinctions in practice. The clinical world becomes progressively more differentiated, and different aspects of the situation show up as important. For the beginner, tasks to be completed and recorded organize their understanding of particular situations. They begin to "flesh out" their theoretical understandings, seeing how particular illness states actually manifest themselves in real situations. Competent nurses cling to the belief that complex theoretical understandings and sophisticated goals and plans will provide them with the needed guides for practice. Proficient marks a major shift in this understanding. For the proficient nurse, the situation now claims his or her attention rather than preset goals and plans. The narratives of the proficient nurse are stories of recognizing changing relevance, where nuances and subtleties of the situation now stand out. Each level of practice is characterized by advances in clinical knowledge and a resultant shift in the clinician's grasp of the clinical world.

Central to this view of skill acquisition as gaining an increasingly differentiated world of judgment, perception, and distinctions of worth or goods is the role of emotion in experiential learning. The concrete experience of the practitioner learning about better and poorer outcomes, learning distinct patient/family concerns, and learning from the contrasts and similarities between various clinical situations helps to shape an emotionally imbued world of possibilities, concerns, risks, and dangers. Experiential learning is tied to emotional responses to actual situations. Initially the advanced beginner may be flooded with anxiety and fear of making a mistake and may have to dampen emotional responses. But already at the

competent stage, a sense of discomfort or dread may signal the nurse to reexamine his or her interpretation of the situation. Anxiety is now more situationally attuned. At the proficient stage, attunement increases to the point that emotional responses signal the nurse to notice changing relevance because increasingly loss of a good grasp of the situation is felt by the nurse. With expertise and emotional responses, the skill of seeing and associated actions are increasingly tied together.

What it means to be a responsible agent acting in a clinical nursing situation is determined by one's perceptual grasp of the situation. Agency for the advanced beginner is accomplishing tasks; for the competent nurse it is setting goals and making plans to achieve those goals. For the proficient nurse, agency takes on new experientially based possibilities to recognize new issues and changing relevance directly in the clinical situation. For the expert, reading the situation is based on expected changing relevance, including action based upon significance inherent in the situation and a practical grasp of other clinicians' perception of the situation.

REFERENCES

1. Benner P. From novice to expert. *Am J Nurs.* 1982;82(3):402–407.
2. Benner P. *From Novice to Expert: Excellence and Power in Clinical Nursing Practice.* Menlo Park, Calif: Addison-Wesley, 1984.
3. Dreyfus HL, Dreyfus SE. *Mind Over Machine.* New York, NY: Free Press, 1985.
4. Dewey J. *Vol. 1: 1925 Experience and Nature.* Carbondale, Ill: Southern Illinois University, 1988.
5. Heidegger M; Macquarrie J, Robinson E, trans. *Being and Time.* New York, NY: Harper & Row, 1962.
6. Heidegger M; Hofstadter A, trans. *The Basic Problems of Phenomenology.* Bloomington, Ind: Indiana University Press, 1982.
7. Taylor C. The concept of a person. In: *Philosophical Papers, Vol. 1, Human Agency and Language.* New York, NY: Cambridge University Press, 1985.
8. Taylor C. Self-interpreting animals. In: *Philosophical Papers, Vol. 1, Human Agency and Language.* New York, NY: Cambridge University Press, 1985.
9. Bourdieu P; Nice R, trans. *The Logic of Practice.* Stanford, Calif: Stanford University Press, 1990.