High-Fidelity Simulation and the Development of Clinical Judgment: Students’ Experiences

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ABSTRACT

Nursing education programs across the country are making major capital investments in alternative learning strategies, such as human patient simulators; yet, little research exists to affirm this new innovation. At the same time, nursing programs must become even more effective in the development of students’ clinical judgment to better prepare graduates to take on increasingly complex care management. This qualitative study examined the experiences of students in one nursing program’s first term of using high-fidelity simulation as part of its regular curriculum. On the basis of these experiences, it seems that high-fidelity simulation has potential to support and affect the development of clinical judgment in nursing students and to serve as a value-added adjunct to their clinical practica.

Currently, nursing education is facing many challenges. A national nursing shortage has resulted in a surge of interest by more diverse students in the face of an even more critical lack of faculty. Health care reimbursement efforts to reduce acute care admissions and lengths of stay often produce inconsistent practica experiences and greater competition among regional programs for practica sites. These challenges demand that nursing education consider new learning strategies to better prepare professional nurses to assume increasingly complex roles that require a much higher level of critical thinking and clinical judgment skills than in the past (Kataoka-Yahiro & Saylor, 1994; Porter-O’Grady, 2001; Tanner, 2005).

With advances in technology, high-fidelity (i.e., as close to real as possible) simulation offers a new alternative to contextual learning. Computerized human patient manikins provide a realistic outward appearance (e.g., proportionate limbs), known as cosmetic reality, and can mimic physical findings, including breath sounds and pulses throughout the body, and respond to student interventions (Bond & Spillane, 2002; Seropian, Brown, Gavilanes, & Driggers, 2004). Conversations between the manikin and nurse occur through voice-over technology; that is, a facilitator can speak as the patient from a microphone in a control room.

Due to an absence of research about the effects of simulation on learning, particularly as it relates to clinical judgment, an exploratory study examining four dimensions of clinical judgment development, as well as the interaction among them, was begun in 2004. The Figure represents the dimensions studied:

- Students’ self-report of confidence in their clinical judgment skills.
- Students’ aptitude for critical thinking, an important component of clinical judgment.
- Qualitative observations of students’ clinical judgment skill during simulation.
- Students’ experience with simulation, conveyed through a focus group.

The purpose of this article is to examine the experience dimension, that is, the high-fidelity simulation experiences of some of the first student participants and the effect of the experiences on the students’ development of clinical judgment. Experience has been identified as “a foundation for adult education practice” (Tennant & Pogson, 1995, p. 149) and the basis for the development of expertise. Experiential learning theorists Kolb (1984) and Schön (1987) touted the value of experience in the developing thinker and professional.

LITERATURE REVIEW

For the purpose of this study, the term clinical judgment refers to those thinking and evaluative processes that focus on a nurse’s response to a patient’s ill-structured and multilayered problems. Contrary to the more linear and simplistic nursing process, clinical judgment is highly con-
Clinical judgment refers to the ways in which nurses come to understand the problems, issues, or concerns of clients/patients, to attend to salient information and to respond in concerned and involved ways; included in our understanding of the term is both the deliberate, conscious decision-making characteristic of competent performance and the holistic discrimination and intuitive response typical of proficient and expert performance. (Benner, Tanner, & Chesla, 1996, p. 2)

Currently, there is little research examining the newest technology of high-fidelity simulation and its relationship to clinical judgment. Many of the studies cited in this review represent a wave of classic educational research conducted in the 1980s (Gilley, 1990; Kolb, 1984; Schön, 1987), focused on experiential learning, including some early simulation work (Gredler, 1992; Lederman, 1984). At the same time, nursing programs began using low-fidelity simulation in the form of skills laboratories (Elliott, Jillings, & Thorne, 1982; Gomez & Gomez, 1987; Kolb & Shugart, 1984; McDonald, 1987).

Simulation takes many forms, so there is no one universally accepted definition. However, one centered on learning in the higher education setting stated that: educational simulations are sequential decision-making classroom events in which students fulfill assigned roles to manage discipline-specific tasks within an environment that models reality according to the guidelines provided by the instructor. (Hertel & Millis, 2002, p. 15)

In addition, experiential learning (in the form of simulation) “is especially adaptable to adult learners; [it gives] opportunity to see real consequences of one's actions, to feel the exhilaration of success and the frustration of failure” (Gilley, 1990, p. 261). Therefore, high-fidelity simulation may be one of the few learning strategies, apart from real-life patient care, that helps nursing students fully address the complexity of patient problems or events (Kolb & Shugart, 1984).

Simulation furthers learning in several important ways. The interactive nature of simulation motivates students (Gilley, 1990; Theall & Franklin, 1999). In addition, the active role of students promotes better or deeper learning, that is, learning that allows students to understand more, remember longer, and be more successful in evaluation (“Deep Learning,” 1993), much like Mentkowski and Associates’ (2000) triad of learning, development, and performance. Learning is student centered and constructed, and finally, learning through simulation bridges gaps, allowing students with more life experience and those with less to come together in a realistic setting and learn from one another (Hertel & Millis, 2002).

Within nursing education, simulation will never fully replace real contextual human patient care experiences; however, it provides a reasonable facsimile to patient care as a valued adjunct to less-than-predictable patient care experiences. In addition, simulation offers the opportunity to broaden students’ understanding of a more diverse patient population, as students learn together and share their perspectives in a low-stakes, controlled environment. Schön’s (1987) identification of a low-stakes environment as the best setting for practice-based learning supports simulation as an alternative clinical setting. Gilley (1990) concurred, strongly describing simulation as an adult learning activity that, while realistic, allows learners to make mistakes without paying the consequences.

As with any teaching-learning strategy, the simulation must be determined and well planned by the educator. Gredler (1992) identified that the basis for the design involves a particular task, issue, or crisis for which there is no single, clear solution. High-fidelity simulation participants carry out their assigned roles in a true-to-life setting; their decisions have consequences that result from their decisions and actions (Gilley, 1990; Gredler, 1992), adding to the realism of the simulation.

The debriefing, an integral element of the simulation experience that follows immediately after the actual exercise, allows participants “to be led through a purposive discussion of that experience” (Lederman, 1992, p. 146), so they can reflect on it. Because the affective domain is engaged in learning and may be activated in either a positive or negative way, the debriefing can help students cope with their emotions and integrate the meaning of their learning experiences (Gilley, 1990; Hertel & Millis, 2002).

A crucial participant in the debriefing is the facilitator, who guides the learners to think accurately about the experience and put it into a realistic perspective because “knowledge that is the product of experience is highly subjective”

![Figure. The Lasater Interactive Model of Clinical Judgment Development.](image-url)
Ethical concerns are minimized.
Self-evaluation is promoted.
271 learning time can be maximized.
Variables can be controlled.
Experimentation and failure are allowed.
Decision making can be learned effectively.

In professional nursing education, simulation as a learning strategy has historically been used as a means for teaching psychomotor skills, such as injections and catheterizations (Gomez & Gomez, 1987), providing a safe environment in which students may practice by responding to predetermined clinical situations (Elliott et al., 1982; Friedrich, 2002; Gordon & the Medical Readiness Trainer Team, 2000). Simulation as a learning strategy for acquiring cognitive and affective skills, such as clinical judgment, however, has not been widely used in nursing, if the literature is any indication. Several studies acknowledge that the simulation setting could possibly be effective for skill acquisition beyond psychomotor development (Elliott et al., 1982; McDonald, 1987). In fact, McDonald (1987, pp. 291-292) cited a number of values in using simulation, all of which support learning in domains other than the psychomotor:

- Variables can be controlled.
- Learning time can be maximized.
- Ethical concerns are minimized.
- Experimentation and failure are allowed.
- Self-evaluation is promoted.
- Feedback can be elicited.
- Decision making can be learned effectively.

Howe and Warren (1989) stated that students’ practice of critical thinking skills in real-life or simulated real-life situations increases the probability that those skills will be used. In addition, they offered that students should have many opportunities for practice. Because of the competition for clinical practice sites and short inpatient stays, traditional nursing practice opportunities are increasingly limited. In addition, the actual clinical practice setting is high stakes, in that the well-being of real patients is involved, and students are naturally nervous as they are gaining proficiency in a psychomotor skill. Although this situation suggests that high-fidelity simulation should be useful for teaching clinical judgment and other cognitive and affective skills, there is no current evidence in the nursing education literature to support this.

METHOD

Context

Oregon Health & Science University (OHSU) School of Nursing began using high-fidelity simulation in lieu of 1 clinical day per week of a clinical course, Nursing Care of the Acutely Ill Adult, in the winter 2004 term. Two groups of 12 students each came to a laboratory setting (a hospital-like room with a computerized human patient simulator) on 1 of 2 mornings per week, in lieu of their clinical practice, for 2½ hours per group of 12 (48 students altogether).

The sessions began with the nursing faculty facilitator providing some pre-simulation teaching, usually linked to the theory topic for the week (e.g., caring for patients with respiratory illnesses). Within each group of 12, four patient care teams of 3 students each engaged in a scenario during each session. While one team participated in the scenario, the others were able to watch the action simultaneously from the debriefing room. In each team, one student served as primary nurse, with ultimate responsibility for the patient care interventions, including delegation to team members. Although each team engaged in a scenario weekly, each student became the primary nurse every third week.

Each high-fidelity simulation experience included two phases and three opportunities for learning, as described by Seropian et al. (2004). In the first phase, the actual simulation, the students involved in the simulation benefited from a contextual patient scenario, with which they interacted directly. At the same time, the other students could observe the live action. During the second phase, or debriefing, both those who had engaged in the scenario and the observers learned through thinking about and discussing the experience with the help of a simulation facilitator.

Design

This study, embedded within a larger study, explored the effects of high-fidelity simulation on the development of students’ clinical judgment, using several dimensions (Figure). The larger study used an initial qualitative method of researcher observations, then subsequent refinement and administration of several developing quantitative instruments, prior to yet another qualitative method, that of a focus group. This article centers on the findings from the perspective of student experiences in OHSU’s first term of using high-fidelity simulation as a regular part of the curriculum.

The first term of using high-fidelity simulation as a regular component of the curriculum was chosen as the larger study time frame so the students who had the least exposure to previous simulation experience became the participants of the larger study. The 48 junior-level students (47 women, 1 man) who were enrolled in the Nursing Care of the Acutely Ill Adult course had weekly high-fidelity simulation experiences as part of their coursework. Throughout the winter term, the author/observer had no instructional or evaluation responsibilities with any of the simulation students. Thirty-nine of the 48 students were observed and, therefore, were candidates for a focus group.

Participants

On the basis of the author’s observation that traditional students (younger than 24, female, no previous degree, and White) may have experienced simulation differently than did nontraditional students (older than 25 or male or had a previous degree or of a racial/ethnic minority), it was hoped that there would be two focus groups. All 39 observed students were invited to participate in a focus group; however, all 15 volunteers were nontraditional students. Eight nontraditional female students, who were able to meet at a
mutually convenient time, formed the final group. There was at least one representative from each of the four larger simulation groups of 12 each, with an age range of 24 to 50. Five of the 8 had previous bachelor’s degrees, representative of OHSU’s student composition, and 1 was of a racial/ethnic minority. It should be noted that the nontraditional composition of the final focus group potentially biases the findings.

Data Collection
The focus group took place in the simulation laboratory to evoke the highest degree of memory possible from students. The participants received consent forms before the session, and there was an opportunity for questions before the students signed them. Only first names were used during the 90-minute session, which was videotaped for accurate analysis. Participants received a small cash award and a gift card for a well-known coffee company as incentives for participation.

Using Morgan’s (1997) principles for focus group facilitation, the author, who conducted the focus group, reviewed the definition of clinical judgment, as well as the conceptual framework used for the observations. Several predetermined questions served as prompts (Table), although the idea was to allow the participants to moderate their own group with as little leader involvement as was practical (Morgan, 1997). Open-ended questions were used to occasionally clarify the intent or meaning of a student comment.

Data Analysis
The focus group data analysis was retrospective, following a traditional framework for qualitative data analysis (Marshall & Rossman, 1999). The first step was to organize the data. Immediately after the focus group, the author noted the categories that seemed to stand out as important, as well as some of the most pertinent student comments. Later, the researcher watched the audiovisual recording multiple times. With the second and subsequent viewings, the researcher transcribed the main idea from each individual group member’s contribution, combined with subsequent and rich note taking in the margins.

After many viewings and readings of the notes, the author identified 13 primary themes during the second analysis step:

- Simulation was stressful, although low risk.
- Role-playing was sometimes difficult.
- Some scenarios were more real than others.
- Debriefing was the most important phase for determining clinical judgment, but not enough time was spent on it.
- The acuity of the scenarios increased students’ awareness in their clinical practice.
- The scenarios required students to think for themselves and intervene accordingly.
- The physiological responses from the human patient simulator were important feedback.
- The human patient simulator had some occasionally critical limitations.
- More honest, forthright feedback from the facilitator was needed.
- Assessment and reassessment were key to successful clinical judgment.
- Working and connecting with other students was helpful and informative.
- Learning from the simulation laboratory frequently transferred to the clinical practice settings.
- Some changes in the high-fidelity simulation process may prove helpful for increasing the quality of the learning.

Noting that some of these themes seemed related, the author condensed the 13 into 5 major codes and tested them against the transcript, the third and fourths steps of analysis. The five codes included:

- The strengths and limitations of high-fidelity simulation.
- The paradoxical nature of simulation, that is, the provocation of anxious and stupid feelings, yet increased learning and awareness.
- An intense desire for more direct feedback about their performances.
- The value of students’ connection with others.
- Some general recommendations for better facilitation and learning.

The codes fit approximately 95% of the students’ responses from the transcript.

FINDINGS

The Strengths and Limitations of High-Fidelity Simulation
The desired outcome of high-fidelity simulation is for students to transfer their learning from the simulation laboratory to the clinical setting as they care for human patients. Hence, much of the discussion about the strengths and limitations of the students’ simulation experiences focused on that goal.

Strengths. The group identified some important strengths of using simulation for their learning. The most frequently mentioned comment was that simulation served as an integrator of learning, that it brought together the theoretical bases from their classes and readings, as well as the psychomotor skills from skills laboratory and lessons learned from clinical practice, requiring them to critically think about what to do. One student stated that “you had to actively work through” the issues, integrating all of the learning.

This form of realism was touted in contrast to simply reading about a condition. By responding to a situation during the scenario, the “patient” provided instant feedback, by which students saw the outcomes of their interventions. Some of the situations fostered debriefing conversations about the “little things” that were so critical in practice but were missing from the reading or difficult to grasp only by reading. For example, a participant indicated that she knew patients requiring narcotic agents could experience a cardiopulmonary depression following administration, but
her awareness of the importance of monitoring vital signs, a seemingly mundane and routine task, was heightened by her participation in a scenario with a rapidly decompensating patient.

A second strength of simulation that was discussed several times during the focus group was the breadth of experience gained in the simulation laboratory. For example, one group member was assigned to a gastrointestinal surgery unit for her clinical practicum and was rarely exposed to pulmonary or cardiovascular patients except in the simulation laboratory.

Other group members identified that although the patient situations in the laboratory seemed a bit extreme, the scenarios forced them to anticipate what could happen in the clinical setting, which was obviously useful in the development of clinical judgment. This anticipation was most often mentioned in conjunction with administering medications. For example, one scenario required the students to administer an antibiotic agent to which the human patient simulator reacted with full-blown anaphylactic shock, necessitating immediate action from the students. Several of the group members stated that scenarios like this heightened their awareness in the clinical setting, making them double check for known allergies before administering medications to real patients and knowing where epinephrine and other counteracting drugs were located on their units.

Limitations. The human patient simulator had its own inherent limitations, which could affect the transferability of learning to the clinical setting. Some that were identified by the focus group participants included that the human patient simulator always had a female voice, as the laboratory staff playing the roles were almost entirely women, but the participants also stated that this was a limitation they quickly forgot. The patient simulator also had no visual, nonverbal communication, such as grimaces or smiles. Certain kinds of assessments were not possible, such as a neurological examination (i.e., reflexes cannot be elicited), and although the simulator could be punctured with a needle for intravenous administration, it could not be cut to simulate an incision or wound, nor could it exhibit certain physical signs, such as swelling or color changes.

The Paradox of Anxious and Stupid Feelings Yet Increased Awareness

Focus group members talked about the anxiety that simulation produced in them, especially in the beginning. As they became familiar with the scenario format, they recognized that usually an unexpected event would happen during the scenarios that required clinical judgment. Most of the group talked about how this anticipation or “foreboding” increased their anxiety levels. However, they also noted that although it seemed real and “you could really mess up” in the simulation laboratory, “you knew Sim Man® wasn’t going to die,” affirming the low-risk nature of simulation.

Several participants stated they “felt like an idiot” during the simulation scenarios, especially when they were in the role of primary nurse. Often in the debriefing, they recognized and verbalized what they should have done. This recognition is not unusual in practice-based professions, according to Brookfield (1995), because professionals such as nurses often encounter dilemmas where the options require difficult choices and practice standards are consistently challenged.

Despite these labels of “anxiety-producing” and “feeling like an idiot,” the group participants verbalized that they did learn through the scenarios. These findings corroborate Brookfield’s (1995) observation that simulations and case studies can be valuable in helping learners “appreciate at a visceral and emotional level the need for critical reflection” (p. 262). One participant noted, “the experiences where I messed up, I learned the most,” further affirming the observations of Brookfield (1995), Dewey (1933), and Benner et al. (1996), as well as the value of reflection. Although the participants primarily focused on what Brookfield (1987) labeled negative “trigger events” (p. 26) and Belenky, Clinchy, Goldberger, and Tarule (1986) called “studies of dissonance and discrepancy” (p. 227), their reflections concurred with Brookfield’s and Benelky et al.’s findings: Cognitive growth occurs in the endeavor to explore and resolve the disequilibrium.

Intense Desire for More Direct Feedback

One of the unexpected themes of the focus group was stated spontaneously and discussed throughout the session by most of the participants: a strong desire for more direct feedback from the simulation facilitator. Most of the feedback focused on being supportive, pointing out the positive aspects of the students’ performances and building on their strengths. However, almost all of the focus group par-

| TABLE |
| Questions to Guide the Focus Group Discussion |
| How do you think that working with the scenarios in the simulation laboratory helped develop your clinical judgment ability? |
| What was most helpful in the debriefing as you reflected on your simulation experience? |
| Describe some of your thoughts during the simulation experience when you were the primary nurse. |
| How did your experience with simulation add or detract from your clinical practica experiences? |
| During what part of the high-fidelity simulation experience did you learn the most about clinical judgment? |
| Is there anything else you would like to discuss that we have not covered or asked about regarding the simulation experience? |
Participants wanted more definitive and straightforward feedback, including the severity of the patient outcomes if the judgments they exercised had been followed in reality.

One participant stated that although it was nice to hear that she had done a “good job,” she knew within herself she could have done better and grew to mistrust the adulation. She stated, “I would have benefited from knowing the shortcomings of my choices.” This comment was echoed by several other students during the focus group session. Several participants suggested that a possible solution was to use some debriefing time to review the simulation videotape with their peers and the facilitator to dissect the action.

Value of Students’ Connection with Others

Another theme from this focus group was the meaningful collaborative and narrative learning that high-fidelity simulation fostered: learning from each other’s simulation experiences, learning in teams, and learning from the experiences of other students and faculty through interjected stories during the pre-simulation learning sessions and debriefings. Brookfield (1986) also discussed the value of a peer learning group, which can serve as a “powerful support for adults” (p. 135) who are experimenting with new ideas and roles. Ideas can be tested with those who are “engaged in a similar quest” (p. 135).

Learning From Others’ Simulation Experiences. Traditional education frequently holds individuals’ performance as a confidential matter between the professor and the student, but the members of this focus group stated how helpful it was to hear the faculty member’s comments about the clinical scenario and others’ ideas during the debriefings. One said she appreciated others’ perspectives and approaches because they made her more flexible in her thinking, giving her a broader range of interventions, based on clinical judgment, to apply to the same patient care issue.

Several participants mentioned that they learned more during the debriefings when they were not the primary nurse because being in a supportive role and more task oriented allowed them to “step back to think more about what I would have done.” Although the focus group members said they learned a great deal from observing and hearing others, they also admitted that watching the simulation scenarios from another room was often boring and not always useful. They reported that frequently the 9 students in the debriefing room would start to talk about something else, ignoring the scenario until those engaged in the scenario returned to the room for debriefing. When they did focus on the scenario, the participants said they were thinking about what they would have done if they had the role of primary nurse. Kolb (1984) posited that fully grasping meaning occurs when students engage in all four stages of learning, including reflective observation and concrete experiences; these students were missing a learning opportunity (Seropian et al., 2004).

Learning in Teams. Focus group participants also appreciated staying in the same small groups for the duration of the term, stating that they began to recognize their teammates’ strengths and “develop a rhythm.” Several noted that they did not like being the primary nurse, principally having to think about delegating responsibility or dividing up the required tasks. This was most likely related to novice students’ lack of experience and, therefore, discomfort in having ultimate responsibility in a role that was not yet familiar to them (Benner, 1984; Benner et al., 1996). Others noted that they just wanted “to go in there and start caring for the patient,” emphasizing the drive for concrete experiences (Kolb, 1984).

Narrative Learning. Many participants talked about “a rich opportunity to hear others’ stories” from the facilitator, as well as from other students’ clinical practica. One of the participants identified the facilitator as a “living person that you [could] trust” and affirmed the value of hearing from her, “you’ll see this a lot in your practice,” adding that this kind of learning was missing from their reading. This agrees with much of the literature about narrative learning, especially Tanner’s (2006) work that it is an important source of reasoning for nurses.

Discussion

These students’ experiences in high-fidelity simulation highlighted some critical issues that may help nursing programs that will be integrating high-fidelity simulation into existing nursing curricula to improve learning and development of clinical judgment. In addition to the findings discussed above, the focus group’s recommendations centered on improving reflection through the debriefing process, providing more structured observation for those not engaged in simulation, and increasing time for active engagement in simulation scenarios.

Debriefing

Debriefing, conducted with student peers, allows students to reflect on their experiences and integrate the new cognitive learning from the simulation exercise (Lederman, 1984; Seropian et al., 2004). The quality of reflection during the debriefing was recognized for its learning value and identified as key to even better learning. For example, one participant identified that she “was not conscious of my thinking during the ‘doing’ until the debriefing,” corroborating the observations of Mezirow (1990), who identified that critical reflection engages learners in “reassessing the way we have posed problems” (p. 13), as well as the way we have solved them with actions and feelings. Another student stated that the debriefing gave her “a chance to verbalize my thought processes so it was more concrete—‘I did this because I thought about it in this way.’” This participant affirmed that active engagement in simulation offered her the opportunity to be both a concrete learner and an observer in a reflective manner (Kolb, 1984).

Perhaps more important to learning for these group participants than the depth of the debriefing was the idea of having clear standards for evaluation that students are striving toward. Brookfield (1986) stated that:

one reason for the infrequency of systematic evaluation of adult learning is the absence of an evaluative model that
derives its criteria and procedural features from the nature of the adult learning process. (p. 262)

The students’ observations, as well as Brookfield’s (1986) comments, offered a clear case for the value of standards that are “grounded in, or reflective of, the concepts, philosophies, and processes of adult learning” (p. 262), as well as the value of a process for their systematic application.

Engaging Observers

It is not surprising that the quality of learning for the uninvolved students was not as great as for those who were actively engaged. According to Mezirow (1990), the “most significant learning experiences in adulthood involve critical self-reflection” (p. 13), in which those who were watching would not necessarily engage. However, there is potential for learning in the reflective observation of peers during simulation scenarios (Seropian et al., 2004). Since this study was conducted, observing students are now actively engaged in problem solving in the debriefing room, using resources available for their learning, such as textbooks and relevant equipment. In addition, observing students are invited to bring their knowledge and insight into the scenario by interrupting to offer information or solutions to the engaged participants.

IMPLICATIONS FOR NURSING RESEARCH, EDUCATION, AND PRACTICE

High-fidelity simulation offers diverse students a forum in which to advance their clinical judgment skills. However, the research examining the effects of high-fidelity simulation on the development of clinical judgment is scarce. Although this study offers insights not previously described, the cultural and ethnic diversity of this group was limited. More research should be conducted with a broader cultural diversity of students to elicit their responses to the experience of high-fidelity simulation and its effects on the development of clinical judgment. In addition, although high-fidelity simulation seems to be a valuable component in the development of clinical judgment, research is needed to link performance in simulation with skill in real clinical practice settings.

Although high-fidelity simulation gives faculty the opportunity to observe students’ clinical judgment in a confined setting, thereby allowing for more attentive coaching, it may also present challenges to faculty who are more familiar with traditional teaching strategies. Faculty development may add value to students’ learning experiences. Further developing the concept of clinical judgment will offer both students and faculty a basis for assessing and improving clinical judgment.

CONCLUSION

New graduate nurses need clinical judgment skills to function in today’s complex care settings. The chaos and pressures of real patient care practica present a challenge for quality facilitator oversight and assessment, which are controlled in simulation settings. In addition, health care professionals and the public have questioned the ethics of students “practicing on” patients, even with instructors present (Elliott et al., 1982).

Although the study sample was small and limited to nontraditional students, the focus group method was useful in garnering an initial and intimate perspective of students’ experiences with high-fidelity simulation. Nursing programs using high-fidelity simulation should consider using focus groups at least once per year to ensure the goals of simulation are matching students’ perceptions. Multiple groups, considering independent variables (e.g., age, racial/ethnic group, previous health care experience) may provide even more insight into the effects of simulation.

This focus group of junior-level OHSU nursing students, regularly engaged in high-fidelity simulation for the first time, discovered that high-fidelity simulation allowed for integration of their learning from the classroom, the skills laboratory, and their reading, as well as their clinical practice. In addition, the simulation laboratory offered challenging, ill-defined patient situations, requiring clinical judgment skills. The debriefing, following the simulation, provided an opportunity for students to reflect on their performance and discover alternative interventions from each other and from the facilitator.

REFERENCES


Gredler, M. (1992). Designing and evaluating games and simula-
DEVELOPMENT OF CLINICAL JUDGMENT THROUGH SIMULATION

Hertel, J.P., & Millis, B.J. (2002). Using simulations to promote
learning in higher education: An introduction. Sterling, VA:
Stylus.
through environmental education. ERIC/SMEAC Environ-
mental Education Digest No. 2 (ERIC Document Reproduc-
tion Service No. ED 324193). Retrieved March 22, 2007, from
http://ericnet.edu/edu/ed324193.htm
for nursing judgment. Journal of Nursing Education, 33, 351-
356.
of learning and development. Englewood Cliffs, NJ: Prentice-
Hall.
answer? Journal of Nursing Education, 23, 84-86.
post experience analytic process with implications for its effec-
tive use. Simulation & Games, 15, 415-431.
Lederman, L.C. (1992). Debriefing: Toward a systematic assess-
ment of theory and practice. Simulation & Gaming, 23, 145-
160.
Marshall, C., & Rossmann, G.B. (1999). Designing qualitative re-
McDonald, G.F. (1987). The simulated clinical laboratory. Nurs-
ing Outlook, 35, 290-292.
Mentkowski, M., & Associates. (2000). Learning that lasts: Inte-
grating learning, development, and performance in college and
J. Mezirow (Ed.), Fostering critical reflection in adulthood: A
guide to transformative and emancipatory learning (pp. 1-20).
Morgan, D.L. (1997). Focus groups as qualitative research (2nd
ing. Nursing Outlook, 49, 182-186.
a new design for teaching and learning in the professions. San
Simulation: Not just a manikin. Journal of Nursing Educa-
tion, 43, 164-169.
Tanner, C.A. (2005). What have we learned about critical think-
ing in nursing? Journal of Nursing Education, 44, 47-48.
model of clinical judgment. Journal of Nursing Education, 45,
204-211.
Tennant, M., & Pogson, P. (1995). Learning and change in the
Theall, M., & Franklin, J. (1999). What have we learned? A syn-
thesis and some guidelines for effective motivation in higher
education. In M. Theall (Ed.), New directions for teaching and
learning: No. 78. Motivation from within: Approaches for en-
couraging faculty and students to succeed (pp. 99-109). San