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Confronting Life and Death Responsibility: The Lived Experiences of Nursing Students and Nursing Faculty Response to Practice Breakdown and Error in Nursing School

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Confronting Life and Death Responsibility: The Lived Experiences of Nursing Students and Nursing Faculty Response to Practice Breakdown and Errors in Nursing School

by

Lori A. Rodriguez

DISSERTATION

Submitted in partial satisfaction of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

Nursing

in the

GRADUATE DIVISION

of the

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO
Confronting Life and Death Responsibility:
The Lived Experiences of Nursing Students and Nursing Faculty Response to Practice
Breakdown and Errors in Nursing School

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By
Lori A. Rodriguez
This work is dedicated to my daughter

Alison Rodriguez

A nurse and a healer
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Writing a dissertation is an oddly solitary community activity. Solitary in that only one person does the writing, but behind that person, is a community supporting, coaching, and encouraging the journey in many different ways. In my case and on my journey, it was a community. The Moore Foundation provided the financial opportunity to attend school where each contact and experience had an impact. From the many outstanding faculty, to the supportive Office of Nursing Student Affairs, to my fellow students, the brilliant people at the University of California, San Francisco have all been a part of my learning community. My friends and family have also provided support and encouragement on this journey. The journey itself was unusually hazardous marked with ill health and medical and surgical interventions that at times made writing impossible. But there were times when writing was a friend and a comfort when I could do nothing else.

Mrs. Betty Irene Moore was the victim of a nursing error. Instead of getting angry, she decided to endow nursing in a way that would help other patients so they would not have to suffer in the same way. I will always be grateful to the Moore Foundation for the Moore Fellowship that allowed me to pursue my studies. This research explores nursing students’ experiences of error. It opens a window into an area of nursing practice that is largely unexplored and I hope that Mrs. Moore finds some solace in knowing that this important area is getting attention.

My friend and advisor, Patricia Benner had encouraged me to pursue my doctoral degree for many years. Yet the timing was right when my own interest in nursing education coincided with her appointment as Senior Fellow at the Carnegie Foundation to
study nursing education in the United States. The Carnegie Foundation National Nursing Education Study (CFN NES) has been the home of my research. Dr. Benner has encouraged me every step of the way to pursue my passion of studying nursing education. She allowed me to frame and include my research questions in the interview protocols. She has provided guidance through questioning and challenging my thinking. The insights that she provided through editing have improved the quality of my work. Being a research assistant on the CFN NES has been a unique and unforgettable experience.

I am so grateful for the input and support of my dissertation committee chaired by Dr. Benner and made up of Dr. Sutphen, Dr. Fontaine, and Dr. Day.

Molly Sutphen is a brilliant scholar who has provided skillful questioning in order to get me to think deeply about this work. Her attention to detail and willingness to tenaciously help me understand complexities and not accept the "easy" route has resulted in a more thoughtful and in-depth approach to my work.

Dorrie Fontaine has served as both a guide and a mentor through the tedium of getting through the doctoral process when my thinking was often distorted by chemotherapy drugs. Dorrie's compassion, patience, and pragmatism made her an outstanding advocate. When I become frustrated with my nursing students I will think of Dorrie and close my mouth and do what it takes to get them through school. Her ability to find the positives in any situation and provide encouragement was greatly appreciated. She is an outstanding role model.

When I think of what it takes to be a great teacher, I will think of Lisa Day's passion in the classroom. Lisa agreed to be on my committee despite the extraordinary
teaching load that she carries in the MEPN program. I hope she finds something in my writing that lifts her and supports what she is doing with nursing students. She has an extraordinary understanding of what it is to be a nurse and somehow imparts that to her students through her vivid vignettes in teaching.

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My two "little sisters", Susan McNeish and Liana Hain wound up providing more support to me than the intended support I was supposed to provide them as their UCSF "big sister". Susan is my soul sister and I can only aspire to her intellect. She furnished a needed philosophical quote and the citation for it from a hotel room in Canada. She
provided post-operative care after my first surgery and was part of the day-one post-op party at my house where the UCSF sisters gathered and talked research in spite of the Jackson-Pratt drains. That gathering provided a lightness that helped me through my first loss. Liana sat up with me all night after my last surgery and quizzed the nurses before they touched me. Studying nursing errors had its short-comings, but Liana made me feel safe in a sometimes unsafe world. Hours of talking, encouraging, supporting, challenging, thinking and working together are treasured.

Our phenomenology group led by Maria Gudmundsdottir and made up of Meera Nichols and Elizabeth Marlowe was a place where intellectual curiosity was valued and modeled. I believe some of the conversations in this group advanced my thinking beyond what I had imagined as possible.

My Family

When someone in a marriage decides to pursue a PhD, prudence dictates that it be a joint decision made by the couple. I have had the unwavering support of my husband Jim Rodriguez from the moment that I began thinking of returning to school. It is because of his support and encouragement that I was able to continue my studies through the difficult times.

My son James Rodriguez is completing his baccalaureate degree at the same time. It has been fun discussing our school experiences and there have been times we have been able to coach each other through some of the rocky spots. My sisters Nancy Tarr and Susan Hanlon are my favorite cheerleaders. During my illness Nan insisted that we meet once a week at Le Bou to just be together. Susan moved here just last year and happily joined our weekly family ritual. Time has passed and we continue to meet.
Finally I wish to dedicate this dissertation research to my daughter Alison who hand carried me through my illness. About the time I started school she made a decision that she wanted to become a nurse. So for the first year, we were both taking classes. Once I became ill, she temporarily set her studies aside to care for me. She never complained. She always encouraged. She always supported. She is a blessing.
Abstract

As a part of the 2007 Carnegie Foundation National Nursing Education Study, this study describes the lived experiences of nursing students and faculty members with errors and practice breakdowns. Questions on errors and practice breakdowns were included in focus group and individual interview questions during site visits and phone interviews to the nine nursing schools in the study. Using interpretive ethnography this study takes into account the culture, context and situational aspects of the experiences.

In three separate articles presented here as chapters two, three, and four, the study explores errors and breakdowns within student learning communities where students are developing habits, practices, skills and ethical comportment suited for the practice of nursing. It addresses the question asked by the Institute of Medicine Report (2001): How do nursing students learn about errors in practice? It demonstrates that although not always labeled as “promoting patient safety” concern about patient safety is central in nursing education. Students see themselves as being the patient’s last line of defense for preventing errors in a health system that is fraught with potential hazards (Benner, Hooper-Kyriakidis, Stannard, 1999).

Chapter two identifies different ways that students may experience errors or practice breakdowns. The theme of being “pulled up short” in learning was described by Gadamer (1975) and explicated by Kerdeman (2004). Chapter three reveals that there are a number of practices, skills, habits, formal and informal structures and processes in nursing school that are designed or in place to help nursing students avoid making errors. The chapter also discusses how once an error is made or a breakdown in practice occurs,
nursing faculty members use the experience to teach students ethical responses and responsibilities in relation to keeping patients safe, and preventing practice breakdown.

In the fourth chapter a pedagogy common to all nine nursing schools is disclosed. Instructors use first person experience-near stories of breakdowns to teach students about patient safety. The faculty stories of their own errors and breakdowns further illustrate that the experience of being pulled up short is a powerful transformative experience as these cautionary tales extend to new generations of nurses.
CHAPTER ONE

Introduction

An error is a breakdown in nursing practice that comes from a wrong decision, an omission, or a wrong action. Such action, decision or omission is judged wrong by peers, nurses, or faculty at the time of its occurrence (Benner et al., 2002; Meurier, Vincent, & Parmar, 1997) or it may remain invisible, and never discovered. A large body of literature seeks to describe the nature and causes of human errors. Much of this literature focuses on the error as a detached event that can be observed, defined, and in some cases eliminated. Nursing students’ experience of errors and faculty response to errors remains largely unexplored. The body of literature does not address the experience of error as it occurs for nursing students, within nursing schools and clinical agencies, and within the practice.

This study takes an interpretive ethnographical-phenomenological approach to investigating nursing students’ experience of error. In interpretive phenomenology the researcher enters into the social group practice and situates him/herself in the world/culture and situations to be studied. The researcher gathers information through a variety of ethnographic methods showing how practices, values, and social structures are evident in the context, actions, and actors of those studied (Denzin, 1997). Significance and meanings of the experiences, actions and practice are studied.

An interpretive ethnographic study produces descriptions as well as interpretations. Ethnographic research describes and interprets a culture or sub-culture which can occur through a number of field activities including observations, interviews, and informal discussions (Geertz, 1973). An anthropologist, Geertz, key originator of
interpretive ethnography, dubbed this type of ethnographic research as “thick”
description because the researcher takes into account the actions, words, background
meanings, and the dispositions of those being studied. Geertz’s (1973) way of doing
ethnography follows the tradition of interpretive phenomenology. He suggests that the
ethnographer must “venture in,” in order to uncover and describe meanings, structure,
process and functions of a culture. For example, to an observer giving a superficial or
“thin” description, it may appear that a nurse walks in a room, turns on the over bed light,
checks an armband and administers a medication. Thick description captures the same
nurse walking into the room, glancing at the IV to see if it is running and determining if
there is family around who might benefit from learning about the medication to be
administered; turning on a light so they can observe the patient’s color and body, taking
the pulse, while checking skin temperature and color, all while checking an armband;
noticing a patient’s breathing and ability to swallow in the process of positioning them and
prior to administering a medication. Thick description also explores the meanings of the
medication, expectations for efficacy, and concerns held by the nurse and patient. By
dwelling in actual cultural situations, the researcher begins to develop and interpret a
richer, livelier, and more complex understanding of meanings, circumstances, habits and
practices in the studied culture. Geertz describes a process beginning with gathering
information and writing text from the field, through guessing at the meanings of the
information, assessing those guesses, improving on those guesses, hypothesizing and
writing the interpretation as it develops (Geertz, 1973). The thick description emerges
from the nurse researcher’s careful attention to the language, habits, practices and skills
evident in a particular context and world, in this case, the public world of nursing.
When beginning interpretive work, the researcher brings their traditions and history as their background of understanding. In interpretive phenomenology the person can never separate him/herself from this background. Such is the condition for any perception and communication to occur for human beings. One enters into a hermeneutic circle of understanding based on both explicit assumptions, and beliefs but also taken for granted background meanings of the situations. Any interpretation or understanding is necessarily based upon preexisting understandings. The interpreter is never a *tabla rasa*, or blank slate. It became clear that in this interpretive project that the interpretation is never final, but is being informed by new observations, circumstances, and learning. The three papers presented as chapters two, three, and four represent a growing understanding of the experience of errors and practice breakdowns by faculty and students as they occur in nursing schools. The first paper is a general descriptive approach to the project, with categories and themes described. Each of the second and third papers are the results of understandings gained from interpretations that preceded them.

This study on nursing student error is part of a larger study on the education of nurses sponsored by The Carnegie Foundation National Nursing Education Study (CFNNES). The CFNNES is a qualitative research study and incorporates focused interpretive ethnography as part of a larger Carnegie project, Preparations for the Professions. The Preparations for the Professions Project is a comparative study of professional education in law, clergy, engineering, medicine, and nursing. Purposes of the larger study are to determine the signature pedagogies of professional education, compare and contrast educational methods, determine how to educate for both competence and
integrity, how to educate for imparting professional judgment and how to teach complex skills ("Preparations for the Professions Program Phase 2. Overview", 2003).

Because this study of nursing error is embedded in a series of studies, some of the methods were dictated from previous completed studies in order to develop comparisons across the professions. However each study was also shaped by discipline-specific concerns and the nature of the particular professional practice. For example, in health care, the problem of errors currently looms large in policy and epidemiologic studies. The IOM Reports brought public and professional attention to the problem of errors in healthcare and call for qualitative and quantitative research to determine how students in healthcare are taught about errors (Aspden, Corrigan, Wolcott, & Erickson, 2004; IOM, 2001; Kohn, Corrigan, & Donaldson, 1999; Page, 2004).

The Nursing Education Study examined nine entry level nursing programs in the United States and one RN to BSN program (Appendix A). One diploma, two associate degree programs, three traditional baccalaureate degree programs, two fast track baccalaureate degree programs, a master’s entry level program, and an RN to BSN programs were studied in geographically diverse areas. The criteria for selecting the schools were:

1. The school had an excellent reputation for teaching and learning.
2. The pre-licensure programs had a high State Board Examination Pass Rate.
3. The schools were recommended by either an accrediting body, or a State Board of Education.
4. Additional consideration was given to achieve a geographic sampling and accommodate a school’s academic calendar.
5. A decision was made to study an associate degree program in California because both the researchers and nursing associations had heard that a two year, associate degree program in California could take as long as four to five years to complete because of the pre-requisites.

The goal was to focus on the best practices of teaching rather than looking for deficits or judging the programs against pre-specified criteria. The Carnegie Foundation requested that we visit at least two of the same schools as the Medical Education Study. The University of California, San Francisco and the University of Washington in Seattle were determined to be schools that both nursing and medicine jointly visit for medicine and nursing. Additional schools were chosen through collaboration with the Tri-Council of Nursing made up of the American Association of Colleges of Nursing and Commission on Collegiate Nursing Education, the American Nurses Association, the American Organization of Nurse Executives, and the National League for Nursing and National League for Nursing Accrediting Commission; and the National Commission of State Boards of Nursing. All of these organizations agreed to advise on relevant studies of nursing education already conducted by the professional societies, and to assist with developing policy implications and implementing findings from the study.

The purposes of this interpretive study, presented here in three separate papers, are to describe the lived experiences of nursing students and nursing faculty members with errors and breakdowns taking into account the situation and context of teaching, being in school, and learning. This research provides an interpretive account of interviews, conversations, and observations to uncover what the experiences are, how
students learn about errors, and how students despite numerous safeguards are still exposed to errors and breakdowns in practice.

Chapter two is a descriptive account of students' experiences of errors. Nursing students can experience the phenomenon of errors and practice breakdowns in at least five different ways. They can (1) anticipate making an error; (2) make an error; (3) prevent an error; (4) witness an error; or (5) deal with the results of someone else’s error. This chapter also reveals an overarching theme that reappears in student experiences of error. Making, witnessing, or preventing an error is unplanned experiential learning that can pull a student up short or catch them off guard. Gadamer (1975) and Kerdeman (2004) identify being pulled up short as an unplanned, unwanted event or experience that can create a deep profound learning and can cause the learner to form or reform their identity. Repeatedly throughout the text of the next three chapters students and faculty discuss the experience of learning from errors and breakdowns as being painful, yet transformative. In the experience they confront the responsibility of being a nurse. Within the context of being pulled up short, both students and faculty repeatedly identify that students learn nuance, specifics, and hidden aspects of the practice if the student is open to the learning. The student develops a new level of awareness about the possibilities of encountering risks and the importance of avoiding them. The student understands that safety requires levels of mindfulness and error is always possible. This understanding changes the student's identity, self-understanding, and responsibility. Reaching this understanding is necessary to be a participant in a self-improving practice, and in this respect experiential learning from practice breakdown is formative.
The original intent of the paper presented as Chapter three was to expand upon one of the findings uncovered in the first paper, what it meant to the student to confront an error and the responsibility of being a nurse. In the reading of the text it was repeatedly articulated that error and breakdown, when they occurred, were used as experiential learning to teach the student to take responsibility for their practice. Yet many of the faculty participants talked about the safeguards in place that keep errors from occurring. Further exploration revealed that there were a number of practices, skills, habits, formal and informal structures and processes in nursing school that are designed or in place to help nursing students avoid making errors. This section of the paper focuses on faculty practices that help the student avoid making an error began with examples and grew as the text was read and reread. The embedded safe practices within the every day practice of nursing school point to the essential, yet sometimes taken for granted nature of patient safety practices used in nursing schools, and the central role of nurses in promoting patient safety and preventing health care errors in their everyday practice (Benner, Hooper-Kyriakidis, & Stannard, 1999). Chapter three further discusses how once an error is made or a breakdown in practice occurs, nursing faculty members use the experience to teach students ethical responses and responsibilities in relation to keeping patients safe, and preventing practice breakdown.

Being pulled up short by being exposed to practice breakdown or making an error is often formative for students, changing their sense of self, and developing a sense of salience in relationship to patient safety and practice breakdown in complex health care teams and situations.
In the practice setting a licensed caregiver has ultimate responsibility for the patient and this sets up the need for peripheral experiential learning that is more pronounced at the beginning of the student’s education. Practice apprenticeship articulated as legitimate peripheral participation by Lave and Wenger (2006) is used as an underpinning for this chapter. Patient care delivered by student nurses is advanced gradually based on the student's learning and responses in previous situations. Experienced nursing instructors seem to know how to advance the student toward full practice. Gradual advancement through legitimate and limited peripheral participation helps to keep patients safe by limiting the student’s practice to areas of their level of preparation.

In the fourth chapter, I originally intended to discuss how errors are framed by faculty as learning experiences but as I read and reread the faculty members comments, their own error experience stories emerged as a pedagogy for teaching students. First person experience-near stories of breakdowns are used by faculty to teach students about patient safety. These stories grab the students' attention and create a sense of salience by bringing risks and threats to patient safety to the forefront. They are used by faculty to model self-disclosure and humility, and they serve as an invitation into the practice by providing a realistic view of practice to the student. The faculty stories of their own errors and breakdowns further illustrate that the experience of being pulled up short is a powerful transformative experience as these cautionary tales extend to new generations of nurses. Students follow the faculty members’ example by disclosing their near misses and errors so that students may vicariously learn from their mistakes.
The following three chapters begin to open up and explore errors and breakdowns within student learning communities where students are developing habits, practices, skills and ethical comportment suited for the practice of nursing. They address the question asked by the Institute of Medicine Report (2001): How do nursing students learn about errors in practice? They uncover how nursing students and nursing faculty talk about the phenomenon of error and practice breakdowns. Through narrative accounts they uncover what and how students are taught about making and preventing errors. They describe the interaction between the culture of nursing school and the experience of error, showing how practice and values develop and are passed on. This study demonstrates that concern about patient safety is central in nursing education, though it is not always labeled as “promoting patient safety.” Students see themselves as being the patient’s last line of defense for preventing errors in a health system that is fraught with potential hazards (Benner, Hooper-Kyriakidis, Stannard, 1999.)
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Appendix A

Carnegie National Nursing Education Participant Schools

<table>
<thead>
<tr>
<th>Name of School</th>
<th>Type of Program Studied</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Riverside</td>
<td>Diploma</td>
<td>Newport News, Virginia</td>
</tr>
<tr>
<td>Roberts-Wesleyan</td>
<td>RN to BSN</td>
<td>Rochester, New York</td>
</tr>
<tr>
<td>Saddleback</td>
<td>Associate degree</td>
<td>Mission Viejo, California</td>
</tr>
<tr>
<td>University of California</td>
<td>Masters entry</td>
<td>San Francisco, California</td>
</tr>
<tr>
<td>University of North Carolina</td>
<td>Baccalaureate fast track</td>
<td>Chapel Hill, North Carolina</td>
</tr>
<tr>
<td></td>
<td>14 month program</td>
<td></td>
</tr>
<tr>
<td></td>
<td>24 month program</td>
<td></td>
</tr>
<tr>
<td>University of South Dakota</td>
<td>Associate degree</td>
<td>Sioux Falls South Dakota</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Washington</td>
<td>Baccalaureate</td>
<td>Seattle, Washington</td>
</tr>
<tr>
<td>Villanova University</td>
<td>Baccalaureate</td>
<td>Villanova, Pennsylvania</td>
</tr>
<tr>
<td>Pilot: Samuel Merritt</td>
<td>Baccalaureate</td>
<td>Oakland, California</td>
</tr>
</tbody>
</table>
CHAPTER TWO

The Lived Experiences of Nursing Students with Errors and Practice Breakdowns

Abstract

Confronting the experience of errors and practice breakdown can make the nursing student aware of their practice and their responsibility. The results of the study reported here describe experiences nursing students have with errors and practice breakdown while in nursing school. This study was a part of the 2007 Carnegie National Nursing Education Study and included questions on error and practice breakdown for focus group and individual interview questions during site visits and phone interviews to nine schools. Using interpretive ethnography, this study takes into account the culture of nursing school, the context and situational aspects of the text. This paper describes the study and one of the lines of inquiry. It asks specifically: What are the experiences of error as students describe them? What meanings do students attribute to making an error in nursing school?

Introduction

Healthcare research and reports including several Institute of Medicine reports (Aspden, Corrigan, Wolcott, & Erickson, 2004; IOM, 2001; Kohn, Corrigan, & Donaldson, 2000; Page, 2004) have brought attention, raised public and professional consciousness, resulted in increased federal funding, focused the industry, and changed legislation on healthcare errors. Healthcare errors have also been extensively studied quantitatively (Brennan TA et al., 1991; Cook, Hoas, Guttmanova, & Joyner, 2004; Fernald et al., 2004; Flynn, Barker, Pepper, Bates, & Mikeal, 2002; Greengold et al.,
2003; Mayo & Duncan, 2004) and qualitatively (Beck, 1993; Bosk, 2005; Ebright, Urden, Patterson, & Chalko, 2004; Kyrkjebo & Hage, 2005; Maxfield, Grenny, McMillan, Patterson, & Switzler, 2005; Paget, 1988). The goal of these previous studies is to provide information that will lead to error reduction. Most studies focus on the incidence and nature of error and explore physician or nurse practice. Few of the studies take into account the cultural context of practice and fewer studies explore the experience of errors in nursing school. Little of this healthcare research mentions nursing students and the role of education in reducing errors and promoting patient safety. Quantifying and categorizing student errors are not the same as exploring the nursing student’s experience of error. Learning to deal with prospective and actual errors is part of learning the practice of nursing. Students find themselves dealing with their own and other’s errors. Despite their importance to student learning and their ubiquity, little research is available on nursing student errors and breakdowns in practice. Even less research is available on the student’s experience of error.

Since 2000 and the first of the Institute of Medicine reports, efforts to eliminate medical errors have been a focus of research and practice. Several nursing studies explore the occurrence of errors as a serious problem and attempt to quantify and determine the sources of the error (Balas, Scott, & Rogers, 2004; Rogers, Hwang, Scott, Aiken, & Dinges, 2004; Smith & Crawford, 2003). The ubiquity of errors within the under-determined complex practice of nursing has been studied in new graduate nurses (Ebright et al., 2004). However, little information is available on the way that nursing students learn about error through their own experiences in nursing school. Habits of integrity, vigilance and even silence are found among graduate nurses, however little research
describes how these habits are formed. This study examines nursing students’ experiences of error while they are attending nursing school. The focus of this study is on the experiential, unplanned learning that occurs in clinical practicum or accidentally in the environment, structures, and processes of schooling.

Schools of nursing rely heavily on the clinical practicum experience to supplement classroom instruction and extend the conceptual information and processes that can be learned from texts and lectures (Greiner & Knebel, 2003). These activities form part of the planned curriculum of nursing schools. However, in the clinical practicum, activities do not always go as planned. From errors and breakdown experienced in practice the students develop character, values, attitudes, habits, actions, and beliefs. Through the students’ observations, actions and intentions, aspects of the developing practice related to error and patient safety are made visible. Clinical experience with patients presents nursing students with a practical, complex, and always unique experience where skilled know how is learned in the practice setting. The experience of being “pulled-up-short” (Kerdeman, 2004) or caught off guard by an error is a frightening (Pagana, 1988) yet an unexamined way of learning the practice of nursing. Kerdeman (2004), using the work of Gadamer (1975) to describe the nature of learning, identifies a kind of experiential learning as being in the experience of being “pulled-up-short.” Kerdeman characterizes being “pulled-up-short” as a dimension of teaching and learning that is not well explored or articulated in educational research. Being pulled-up-short differs from both conceptual and reflective learning by predisposing one to question and doubt not only what they thought they knew, but moves
the individual to a deeper level of self-understanding of who they are in both character and identity.

Literature on the experience of error in nursing school is insufficient to determine what the student experience of error is and how the experience of error shapes the identity and the practice of the novice nursing student. Still one can surmise that errors and breakdowns in physician and nursing practice have a role in forming identity and shaping practice (Baker, 1997; Benner, Hooper-Kyriakidis, & Stannard, 1999; Benner, Tanner, & Chesla, 1996; Bosk, 1979; Freidson, 1975; Light, 1972; Paget, 1988). Arndt (1994) in her study on registered nurses concludes that dealing with errors openly and talking about them requires moral courage and helps learning from error to occur. How do students learn about errors? How are they taught to deal with errors? If they witness an error, do they know what to do? Do they do anything? Besides making errors, what other ways do students experience errors and breakdowns in nursing school? This study will disclose what students say about errors and breakdowns, and how this experience of error occurs for students. It will explore how errors and breakdowns challenge the moral courage of students as they are forming their identity as a nurse.

Background of the Study

This study on the nursing student’s experience of error is part of a larger study on the education of nurses sponsored by The 2007 Carnegie Foundation National Nursing Education Study (CFNNES). The CFNNES is a qualitative research study and incorporates focused interpretive ethnography as part of a larger Carnegie project, “Preparations for the Professions”. The Preparations for the Professions Project is a comparative study of professional education in law, clergy, engineering, medicine, and
nursing, and teaching. The purpose of the larger study is to determine the signature pedagogies of professional education, compare and contrast educational methods, determine how to educate for both competence and integrity, how to educate for imparting professional judgment and how to teach complex skills ("Preparations for the Professions Program Phase 2. Overview", 2003). Because the study of nursing students’ experience of error is embedded in a study that is a series of studies, some of the methods were dictated from previous completed studies in order to develop comparisons across the professions. However each study was also shaped by discipline specific concerns and the nature of the particular professional practice.

The Nursing Education Study examined eight entry level nursing programs in the United States and one RN to BSN program (Appendix A). One diploma, two associate degree programs, three traditional baccalaureate degree programs, two fast track baccalaureate degree programs, a master’s entry level program, and an RN to BSN programs were studied in geographically diverse areas. The schools selected for the study had an excellent reputation for teaching and learning, high state board examination scores, and were recommended by either an accrediting body or a State Board of Education. Additional consideration was given to achieve a geographic sampling, and accommodate a school’s academic calendar. Human subjects approval was sought and obtained from Committee on Human Subjects Review at the University of California, San Francisco and from the Institutional Review Board at the Carnegie Foundation.

Participants

Participants in the study included nursing school administrators, nursing faculty, and nursing students from the nine participating schools. The questions about the
experience of error were in protocols that were used with program directors, clinical preceptors, nursing faculty, sophomore students, and senior students. The number of program directors interviewed was 27. The number of clinical preceptors interviewed was 35. The number of faculty in faculty focus groups was 85. The number of students in focus groups where the questions about error were asked was 149. The number of students participating in narrative groups where practice breakdown was discussed was 69. Therefore the total sample where questions specific to error were asked of faculty and students was 365.

Specifically, questions about student error were embedded in selected protocols (Appendix B). Prior to any interview, clinical observation, or focus group meeting, informed consents were given out and explained. At the beginning of the on-site interviews and focus groups, participants were asked to fill out a participant background questionnaire. Informed consents for phone interviews were returned by fax prior to the beginning of the interview. Participants were given the option not to participate. They were also informed that if, at any time during the interview they wished to end the interview or go off the record that they could make a request. These requests were always immediately accommodated. Confidentiality and anonymity for the individual were guaranteed. Interviews with administrators and some faculty were performed prior to the site visit by telephone. Participants on site were focus group members in the faculty focus groups, the course leader focus groups, the clinical preceptor focus groups, the student focus groups, the student narrative groups, and individual students engaged in their clinical learning setting that could have been a skills laboratory, a simulation, or the clinical settings of hospitals or community placements.
Defining Error and Practice Breakdown

The definition of what constitutes an error is widely contested in existing literature and contested conflicting definitions of error were also identified in the current study. Students and faculty would use mistake and error interchangeably and would distinguish errors using terms such as learning experiences, slips, breaks in technique, and even faux pas. Distinctions on the meaning of an error are dictated by the practice and affected by local and focal practices. Local practices are defined by a community that works together. Baker’s research on tacit rules within a practice describes rules found in a local setting that may or may not be found within the larger practice. A focal practice may be common to a specialty group of nurses and may extend beyond the local area. These distinctions as they were described by both faculty and students will be the subject of another paper.

Breakdowns in practice such as errors were identified as interruptions in ongoing activity that bring attention and focus to performance (Dreyfus, 1991). A breakdown in practice includes errors but also can be a breakdown in communication or other aspects of nursing practice and may not always be seen as an error. Learning about the practice of nursing from such breakdowns was found in nursing research (Benner, 1984; Benner et al., 1996). Continued research into the role of breakdowns in novice development may uncover more about how nursing practice is learned.

The lack of information in the research literature on nursing student error may be due to a reluctance to discuss or share errors, and concern over legal implications as Meurier et al. (1997) found in a study of more experienced nurses. Insurance companies cautiously protect data on errors made by healthcare providers (Beckmann, 1995). At
least one study on student error suggests that healthcare institutions are reluctant to share reports on nursing student error because of the legal liability of the institution (Wolf, Hicks, & Serembus, 2006).

The contested nature of both the definition and experience of error may affect the student recognition of and response to questions about error. The experienced nurse’s redefinition of errors into non-errors as reported by Baker (1997) and Stetina, Groves, and Pafford (2005) may have an affect on the reporting of and research on student errors.

Anxiety, fear, potential for shame and humiliation, potential for failure may all lead to a response of silence from students and the lack of available information and literature on student error (Cohoon, 2003; McClure, 1991; Sokol & Cummings, 2002). Responses to error are a crucial factor in revealing how error is experienced and defined or redefined by students and managed by faculty. Another factor contributing to the lack of data on nursing student error may be that the relationship between the researcher and the participant as one involving faculty and student, therefore the student may be concerned over ramifications with evaluation or grading.

Obtaining information on student error is not only a methodological challenge, it is also an ethical challenge and may be a contributing factor to the limited amount of research available on student error (Armitage, 2005). Student anonymity and confidentiality must be guaranteed. Informed consent, emphasizing the student’s right to not respond is essential to the ethics and to the purpose of any study on students. The responsibility of sharing the results of the study with the participating students is also an ethical mandate and models the experience of learning through sharing experiences. Published stories of error without participant permission or knowledge can lead to shame
and blame and discourage future research participants from coming forward (Armitage).

Prior to embarking on this study it was unknown how much students would talk about their experiences and if they would disclose errors they had made, prevented, or witnessed.

The Findings

The first line of inquiry is largely descriptive. What are the experiences of error as students describe them? What meanings do students attribute to making an error in nursing school? When asked questions about errors and practice breakdowns students were willing to share their experiences, dispelling any sense of a code of silence or fear of punitive responses and treatment. This may be because the interviewers were clearly “outsiders,” who were visiting campuses and collecting data. The openness of the students in sharing their experiences was greatly appreciated by the researchers. The interview text uncovered that students can experience errors and breakdowns in practice in at least five different ways. They can anticipate making an error, make an error, witness an error, prevent an error, or deal with the results of someone else’s error.

The Anticipation of Making an Error

Anticipating making an error is something that students think about. The fear of making an error has been described in studies by Pagana (1988), Kleehammer (1990) and Beck (1993). Consistent with their findings this study found that thinking about and anticipating the possibility of making an error terrified nursing students.

STUDENT: Making a medication error… it terrifies me that I could hurt somebody and that terrifies me.

Many students come to nursing school having felt the weight of making an error that might have important, even life-threatening, consequences for themselves or others,
perhaps when learning how to drive or other risk prone activities. Students in nursing school gain knowledge about medical errors and practice breakdowns through the media, journals, reading, personal experience, planned lectures, and through publicized cases. One student describes how reading about error had affected her thinking:

I do a little journal reading on the side... And something that scared me... I think it was in the American Journal of Nursing. A nurse makes an actual mistake in regards to either medications and/or procedure type mistakes once in twenty eight days... that just sent just a chill through me because I’m thinking as a student, how many patients do I see?

Fear of making an error can serve as a way of making the student aware of their responsibility. Weick and Sutcliffe (2001) found that the preoccupation with failure in high risk-high reliability organizations led to a level of mindfulness that can prevent failures. Although the student is not relating a personal error, she has an understanding of how serious an error can be. In the background is the culturally embedded maxim to do no harm to another human being. Yet an article in a journal informs the student, once every twenty eight days they will make a procedural or medication error. For the student, this is a frightening thought. Even without having the direct experience of making an error the student exhibits care and concern. The avowed concern indicates that she is becoming an involved participant, taking on the practice and is no longer an outsider looking in at the practice.

In two schools, students mentioned classes specifically where the subject of errors was covered.

STUDENT from School A: Well, last quarter we had the Ethics class, which just sort of scares you into never wanting to make a mistake. And now we have, Transition to Professional Practice, which sort of says, avoid making a mistake. If it does happen, ... these are the steps that might happen. The nurse manager might
find out, there might be an incident report, it might, depending on the error, lead to this and that action.

STUDENT from School B: And they actually had a class, a one day focus on med errors and the fact that you are going to make errors and that it’s really serious when you do and that when you do make them, you’re probably going to cry and feel horrible. She [the instructor] said, “I would be more concerned if you did not feel that way…if you didn’t shed a tear or feel anxious or horrible, I’d be concerned because this is a serious issue”. It’s not that you are taking the wrong medication. You’re giving the wrong medication and it could be the wrong dose and the wrong time and it’s the wrong patient. And it was a repeated theme…. I felt like it was presented in a very supportive way but that really kind of hit home with, wow, like, I’m not just providing care but its not that I can make a huge difference in terms of life or death stuff, because they’re not going to give me that much responsibility initially…

The formalized teaching on errors helps the students to think about making an error. While of course recognizing, as the first student says, “avoid making a mistake,” the students are told what action steps to take if they do make an error. The second student speaks of a day long focus on errors. Here the instructor shares with the student what the expected response should be and her concern if the response is less than that. The expectation that the student react with remorse and deep concern was universally voiced by the faculty in this study. The class on errors leads the student to confront the awesome responsibility “wow, like, I’m not just providing care but like not that I can make a huge difference in terms of life or death stuff because they’re not going to give me that much responsibility initially…”

While these two different examples from two schools point out different approaches to the subject of error, one does not preclude the other and it is possible to teach both the formal approach and following the rules of reporting and filling out the incident report as well as the importance of taking responsibility, owning the mistake, feeling remorse, and figuring out a way to prevent the error from occurring again.
In anticipating an error students often mention that as a student they will not be getting that much responsibility, or that they are at a point in their program where they have had limited experience and therefore seemingly little opportunity to make an error. This next passage speaks to the gradual introduction that nursing students have into the practice. The worst thing that a student imagines at this juncture is a falling patient. Yet he/she is aware that new expectations are on the horizon. Concern is voiced on whether students will perform differently when they progress to a level of more independence.

STUDENT: At this point though, we’ve had limited experience of doing things that are error prone. We haven't been administering medications, we haven't been giving injections, we haven't been doing really anything invasive, per se. So our errors up until this point would have been limited maybe to a patient falling as you were transferring them or something like that. And the instructors, in every course that is one of the main focuses, patient safety, and you need to think about patient safety and nurse safety as well, how to protect yourself from injury. And they really stress that, they observe us very carefully when we do things. And in some ways that’s great and in some ways I wonder what it’s going to be like when we’re not observed as carefully. Will we be, will we perform any differently, and will we be less on our toes?

Students talk about being watched very closely and recognize this will not be the case when they are practicing on their own or even further through their nursing school experience. The students speak about the trust that they have in their clinical instructors to not put them in situations that they can’t handle, to not let them perform a skill incorrectly, to prompt them, often through questioning if they observe a break in technique. The clinical instructor serves as a safety net for the student.

…there’s a certain level of trust that I know I had in my clinical instructor. She never thought anything was too big for us to tackle if we had been trained in it, yet she sat there with us and I mean, I was not one of the students who was able to do a catheterization, but a handful in our clinical group were able to do catheterization and on their own. But she’s breathing over your shoulder, exactly walking you through it. And if I were called to do it I’d be nervous as all heck but I know that she wouldn't let me do anything wrong. She would say, “Oh”. I mean, I went to check on glucose and I forgot to put on my gloves. Right away
she’d say, “Jane, do you want to put on your gloves?” “Oh, sorry,” it’s just small things that you just overlook ’cause you’re so nervous, but in trusting my clinical instructor, I know she wouldn't let me make any big mistakes that would harm the patient or harm me.

This text reveals that the student’s anxiety is reduced because of the level of trust in the instructor, the manageable assignments, the prerequisite training before performing, and the consistent coaching through the performance. Faculty are in a complicated role of protecting the patient while allowing for the performance with maximum autonomy of the student. A delicate balance must be maintained. The experiences provided for the student must allow them to test the boundaries of the nursing role while still performing safely. Confidence and competence of performance are the goal, but they cannot come at the expense of patient safety.

Making an Error

Despite the safety net of the instructor, gradually increasing expectations, and an enormous emphasis on patient safety, students do make errors and experience breakdowns in their developing practice. Students readily discussed the errors they made. Comments such as “everyone makes mistakes” and “it’s going to happen” were less rationalizations than they were statements of fact. Errors made by students were minor possibly because of the limits placed on what they can do, but plentiful. The act of making an error no matter how minor caught students off guard and often resulted in a physical response. Students consistently discussed the supportive attitude of faculty in the face of an actual error, thus contradicting the picture of anger, upset, and immediate dismissal from school for committing an error. Students repeatedly spoke about rules of not hiding or covering up an error. The following story illustrates many aspects that students discuss when they talk about making an error.
FEMALE: I can think of two mistakes that I made and then the teacher and what the teacher said to me made an impact on me... A patient was in a coma and she had a feeding tube and the nurse said to me, I’ll set up all of the things that…all the medicines and everything that you need to put in the feeding tube. I was with another patient. She’s like, okay, well, I’ll do this and then you can administer the medications to them. So she put all of the medications on her table. So I went in the room and I was administering all of it and I pushed all of them through and it was a huge mistake because I didn’t really like…I was giving the meds so it was my responsibility. Even though she did that I should have checked and said, okay, what am I giving? Okay, check it off. So I just gave the meds and the nurse came back in. She’s like, where’s the mouthwash? And I’m like, mouthwash?

[laughter]

FEMALE: I’m like, mouthwash? Well, it’s down with the meds… I freaked out. Even though it wasn’t a huge deal, like mouthwash and ingesting it wasn’t such a big deal but I freaked out because I just, I took responsibility for that because even though she said, I’ll do everything for you…

MOD: Now, was it the instructor that did that?

FEMALE: No, the nurse on the floor…so in one of the cups, it was red and it looked like something else that I was giving her.

FEMALE: Was it in a medication cup?

FEMALE: Yeah, it was in a medication cup so …and she was like, No. I put that on the side. That’s the mouthwash and take the swabs and do mouth care with her. Oh. It was just a big miscommunication. So the nurse made me fill out…I had to fill out an incident report and everything. I was just like…at that point, in that moment. And now that I look back at it, it was a mistake and I can learn from it but at that point I was really flustered.

MOD: Now, capture your feelings because I think that’s a real common issue for students, is just the - really the terror of making another…so if you can talk about that descriptively.

STUDENT: …I was in the moment, I was so flustered. Like when the nurse said that to me, number one, …it made me feel really bad about myself and I was concerned about what she thought of me and I was concerned. Her [the patient’s] mother happened to be…I don’t know. She wasn’t in the room but I think she came and she overheard what happened. …I didn’t feel confident in doing any care in front of the mother because now knowing that I did that, I was thinking that the mother’s like, she doesn’t really know what she’s doing and it messed me up a little bit in my confidence. And I was flustered, I was nervous and I was
really hard on myself. So I was mad that I made a mistake and that I didn’t check. I just blindly just walked in and gave the meds without even looking at anything. I just, I trusted the nurse. She put everything there and…so I was flustered and nervous and it affected me later. Even though my teacher took me aside and said, “Okay, Mary Jane, if this is the worst mistake you’re ever going to ever make, you’re fine”. Even though it was a big mistake …I think in that moment she could just see that I was like, my gosh, I can’t believe I did that. She just kind of said, alright, it’s not a huge deal, just next time check on what you’re giving. I just can’t believe I did that. She …really didn’t make a huge deal out of it and even though it kind of was, she just…I don’t think she wanted it to affect me in my confidence, so - and filling out the incident report it just was like so, what’s the word…I don’t know.

Making an error often serves as a painful and transformative learning event. One does not intentionally start out to make an error, so the learning is unplanned, and not foreseen, and the individual is caught off guard challenging what they thought they knew about themselves in the situation, and challenging their sense of security and control.

Several aspects of being pulled-up-short are unique to the experience. First the event that occurs is not one that is planned. The learner may be going through their daily activities in a non-problematic, habitual way, being careful and mindful. Events occur, reminding us that we have limited or no control or choice. The event occurring has an abrupt and unforeseen nature. A catastrophic event or error typically results in the profound upheaval that one experiences when being pulled-up-short. However, Kerdeman (2004) expands the idea of being pulled-up-short to cover non catastrophic events, as well as catastrophic events, by pointing out that it also occurs regularly following everyday mishaps referred to as “everyday shatterings”. The event serves as an interruption and a breakdown. The interruption is to our way of being and the breakdown is to our sense of immunity to error or invincibility in performance. The experience may be characterized by feelings of being surprised, shocked, shattered, and not safe. It is far from the feeling of power and mastery that comes from other ways of learning. We are thrown into self-
doubt. We experience self-negation. We may also experience a sense of surprise and turning around of what we formerly thought or took for granted.

The student’s role of working alongside an RN is an important and influential partnership where the student gains access to the practice by working closely with a professional. However, the role of the student is not always clear. Breakdowns in communication as found by Sutcliffe et al. (2004) are insidious. It is unclear in this situation why the nurse thought she could pour the meds and have the student administer them. In this case the student admits to overlooking a principle of good practice in order to be helpful and useful to the nurse. The student recognizes that in administering the medications it was her responsibility to know what she was giving. The mistake, administering mouthwash through a feeding tube was later deemed minor by the instructor and although minor, the larger issue of administering medications that she had not herself procured did not escape the student.

The student says, “I was flustered, I was nervous, and it affected me later.” When a nursing student makes an error, it is an event they “neither want nor foresee” (Kerdeman, 2004). The unplanned nature of the event catches the student off guard. When the student says the words “what mouthwash?” the reader may be able to identify with the feelings that the student describes. This is a good example of Kerdeman’s (2004) concept of being “pulled-up-short.”

The student says, “it made me feel really bad about myself and I was concerned about what she thought of me…I didn’t feel confident in doing any care in front of the mother because now knowing that I did that, I was thinking that the mother’s like, she doesn’t really know what she’s doing and it messed me up a little bit in my confidence.
And I was flustered, I was nervous, and I was really hard on myself.” According to Kerdeman (2004) being pulled-up-short refers to the actual experience of the individual when they make an error and are caught off guard, throwing them into self doubt. There is no sense of choice or deliberation as occurs with deliberate reflective learning. The experience of errors can involve both the experience of being pulled-up-short and later reflective learning.

Kerdeman (2004) explains that the learning from being pulled-up-short is also not the same as the feeling of proficiency that occurs following skilled learning. In the student’s story of this error there is no sense of power or mastery, and no feeling the achievement of getting something right. It is a different way of learning than when an individual deliberately tries to learn a new skill and then achieves proficiency in the skill. There is a sense of breakdown of self and of developing practice, causing the student to stop and redefine who she was. She speaks of lost confidence.

Being pulled-up-short as described by Kerdeman is likely to occur in a practice context as a result of actual experience and being in the situation. “When we are pulled-up-short, events we neither want nor foresee and to which we may believe we are immune interrupt our lives and challenge our self-understanding in ways that are painful yet transforming” (Kerdeman, p. 145). In this way it alters one’s self understanding and identity and may be called formative or transformative. In another student story, the student remembers the moment of being pulled-up-short and describes it in physical terms.

Thinking about it makes me scared. Anyway, but it was something minor. I didn’t realize it till the next day. It was a PO med that I forgot to give but it was one of those things when like your heart start to pound and like all the blood either went to my face or left my face. Like, it was just feeling like the world’s
going to end and I’m going to have to drop out of nursing school, I forgot to give
his [unclear] yesterday. Like, it wasn’t a big medication but I remember feeling
awful and feeling like I had to drop out of nursing school because of that because
I had made a mistake and I was real hard on myself. But I remember that awful,
awful, awful feeling and we went to our post conference [unclear] and just
thinking about it. That was one of the worst.”

Even though later deemed as minor, the initial response to the experience was
devastating. The student is thrown into self doubt. The student’s initial response indicates
the lack the experience to know whether this was a serious. Faculty are often sought out
as sounding boards. And faculty coach students to see what is salient when they make an
error. “Was this a serious error or am I OK?” Physical symptoms of the heart pounding,
nausea, and gut wrenching responses were reported by many students in the study. As in
this case, students would sometimes refer to possibly being asked to leave school as a
source of their response and fear, but when questioned further they would realize that this
was not occurring. In fact, most students felt that faculty was supportive if they made an
error.

STUDENT: I really think that when we do make mistakes, ’cause I know that
every single one of us here has, that the staff has like, our teachers and instructors,
have been really supportive of us. When we do make mistakes, and rather than,
"Wow you guys are really stupid, you know, they're like, "Okay, well you made
this mistake, what are you going to do next time?" And rather than beating us
over the head with it, they've really been helping lift us up about it, so that we
learn it, ’cause it really does seem like they do remember being in school.

Unlike the punitive response that is often part of the rumor mill of nursing school,
students consistently reported responses from faculty that were seen as supportive and led
to growth of the student. Rather than pointing out errors in front of the patient, students
discussed the discretion of faculty, taking them out of the room and asking them, “What
did you forget to do?” “OK, you’ve made a mistake, what are you going to do?” “OK,
well let me help you”. “What were you thinking, where were you at?” The students
reported that faculty often used their own experiences with errors and practice breakdown in order to get the student to understand that errors are a part of practice.

The potential for making an error and actually making an error discloses in an often painful yet transformative way the life and death responsibilities inherent in nursing practice.

STUDENT: So I guess that the gravity of the situation really, or a possible situation, really kind of hit home and freaked me out. But at the same time was like, we have an amazing privilege to be with people and be providing care but with that privilege comes an incredible like burden of responsibility. Again, it’s not like, oh, [unclear], you righted the wrong, right, I’m fine. It’s not me, I’m not concerned about like that. It’s like this person has consented to be have received care is depending on you like not to screw up and that this person like could [unclear] in your hands at certain times and during certain procedures. So you kind of got to be on top of it. If you’re having a bad day, leave it at home or like if you’re upset at your boyfriend, like don’t bring it in with you. Or like focus. When you’re taking report, don’t be like chatting to Sally Sue or like Bob or whatever. Like go over what you’re doing. And it’s what (our instructor) said like, if you’re not upset, that’s going to concern me because it should be upsetting to you. This was really made clear.

This student articulated the tension between confronting the responsibility and the privilege of being with and caring for vulnerable people. Confronting life and death responsibility is a reality that students must come to grips with in order to become a professional nurse.

In these actual examples and throughout the text emerges the powerful theme of learning habits of practice and thought. Out of recognizing the responsibility the student speaks tentatively of the level of engagement as a habit of practice required by nurses when she says, “so you kind of got to be on top of it”. To learn the profession of nursing requires a level of focus that many students are undertaking for the first time. The students realize this is serious work and if they do not focus on their performance and
embody a level of concern when they make an error, this is not the profession that they should be in.

Another aspect repeated by students when they related their stories was the importance of the response to the error, not just that they made the error, but that they dealt with it openly and honestly.

STUDENT: I think if you're honest with it, with them, and like if you do something, you go up and you tell 'em, instead of trying to like cover it up, you're gonna be in a lot better shape. Because, if you do it, and you catch it, then that's so much better than, like I said, trying to cover it up and sneak around it. So.

INT: Are you thinking of any particular experience?

STUDENT: No, I've just had like little mistakes here and there, and just going up to the instructor and saying, "Oh, I did this, is that a really big deal?" basically. You know, "Is that gonna hurt them or whatever?" Most of the time, no, you know.

INT: And you realized each time it was a mistake.

STUDENT: Well, so far. You know, I mean they haven't been big. Like I put like the wrong ted-stockings, on somebody before [laughs] and I was like, that just doesn't seem right to me. [laughter] You know, and so, you know, when you go and you tell 'em what happened, they're like, "Oh, okay, well let me help you," you know, and they'll take you to the closet and say, “Well, you know, this is …”, they'll explain it better to you if you're not understanding something.

Students are encouraged to be honest, to speak up, and to admit their mistakes.

The idea of learning habits of integrity and having those habits encouraged and supported by a thoughtful faculty response is a reminder of faculties’ strong role in teaching and modeling ethical comportment. In this previous scenario, the student again uses the faculty as a barometer, to tell them if this is a serious or minor error. The faculty removes the student from the patient care area into the “closet”, modeling discretion, and helps the student to understand what they did and how it could have been done differently. Bosk (1979) refers to the mistakes of novices as the “honest errors of the inexperienced” (p.3)
in his ethnographic work on surgical residents. Allowing students the autonomy to make minor errors and then being present and coaching the student through the error builds habits of integrity without causing harm to the patient.

While students frequently brought up medication errors in the study, it was acknowledged that medication errors are the kinds of errors that students are most likely to be aware of. Errors in communication or judgment may be just as prevalent, but one has to have the insight and ability to follow through with a patient assignment to know if their communication or judgment helped or hindered patient progress. In the larger CNNES, it was found that most students do not consistently follow-up on their patients once they leave their particular clinical assignment resulting in much lost experiential learning. The next story illustrates a number of the aspects already described as well as relating a complex story of communication breakdown and the learning of clinical judgment.

STUDENT: …it's not like a major thing, I don't think, but I was up front with an instructor afterwards, and told her that it happened, but I didn't mean for it to happen. I was doing a functional health assessment, which is ten pages, and you have to figure out their whole life history, of every illness they've ever had, their family tree, it's really, really in-depth. So I was talking to the patient, and this was on the cancer unit and he was there because he had a tumor right in the opening between [his] esophagus and his stomach. I read the history and physical and all of his CT scans, MRIs, and [it] said he had like masses in his, around his kidneys and his adrenal gland. He'd already had these tests three or four days ago. So, when, I was asking has he ever had any kidney problems or you know, asking about the other aspects, and he said “No”, and I said, "You don't have any kidney problems?" And then I mentioned the that he had masses on his kidneys. And he said, "Huh?" So I, and then I was thinking the doctor should be telling these patients, he should have been told by now that if, days ago that he had this test. But he didn't know that, so I was like, "Oh my god." he doesn't, 'cause I know that was gonna totally stress that patient out. He's like, "Mass on the kidney? What are you taking about?"
… but I knew I was getting in deep, so I quickly got off of that subject, and told him, "If you have any questions, when you see your doctor tomorrow, make sure you make yourself a list." I went and told the instructor, in case a doctor cussed
her out or whatever, "Why is your student telling him that he has these other things," I didn't even get into the adrenal one. I felt so bad, because he's already stressed out, being in there with that, and I thought, "He doesn't even know he has these other ones." So, I mean it was a mistake, but I didn't mean for, I thought he, definitely already knew all the stuff that, I figured the doctor would tell him what was wrong, what he had.

MSPKR: And how did the instructor deal with your --

MSPKR: I asked her, "What do you think I should do?" that was one of her things she told me to do is, go back in and talk to him, and suggest that he make a list of things, to discuss with his doctor, something that may be bothering him, anything that's on his mind. I think that was definitely on his mind, after, but I kinda went on to the next question, after I realized, 'cause I know that's not a nurse's job, to be telling him that he had, these other issues, that's the doctor's job, but I thought he already knew, I thought he was just leaving that out of the functional assessment, that he didn't have these things, and he didn't know. So I felt bad. So, that was basically what I did, then the next day I had him, and I asked him, did he ask the doctor any questions this morning, I was trying to get a feel of how he's feeling. And he seemed to be better, I could tell I was stressed, when we were talking about it at that moment, but the next day he seemed like it wasn't an issue any more. Maybe it still was, I don't know. But he said, "No, I don't want to ask my doctor any …I don't know. Nothing ever happened with that. You know, there was nothing like life-threatening mistake, but it was something I really didn't want, I didn't mean to do, but I just did it…So, next time, I maybe I shouldn't even ask, if he says “no”, just put “no”. And I was, so I was like, "Oh my god," and inside I was like, "Oh my god."

As in many of the other student related experiences, the student uses the instructor to determine if this was a serious error. Getting pulled-up-short by an error like this one helps to point out or clarify the boundaries and limits of nursing practice. Assuming full disclosure between the doctor and this patient, the student doing the functional assessment inadvertently questions the patient about evidence of metastatic disease. The nurse needs to learn to balance what they know from lab and test results, with the patient’s understanding of their disease. In performing a full functional assessment the student enters into an area where he is unaware of the limits of the patient’s knowledge. “Mass on the kidney? What are you talking about?” Instead of making an abrupt exit to
get his instructor, the student hangs on and tries to come up with some sort of saving behavior. So he moves on to another subject, continuing the assessment. He later openly and honestly discusses the interaction with his instructor asking for coaching. Unlike many other patient situations mentioned by students in this study, the nursing student has an opportunity to follow-up the next day and work with the patient. Of all the possible reactions, the patient tells the student, “No, I don’t want to ask my doctor”. The student comes up with some imagined reasons for this, but is generally surprised that the patient wants no further information. When the student says “it was something I really didn’t want, I didn’t mean to do but I just did it”, “inside I was like, “Oh my god.” the reader might be able to feel the loss of control of the situation that Kerdeman points out when being pulled-up-short.

Within this story is a story of learning clinical judgment. The student weighs the options of the next time he is in a similar situation with a patient and he says, “Well, maybe I shouldn’t even ask, if he says no, just put no.” It is likely that the student will never face a similar situation in the same way. There are many things that a nurse learns over time about questioning patients and balancing what they know with the patient’s own knowledge.

We consider the anguish that occurs when we are pulled-up-short as something to avoid, yet it is unavoidable in anything less than a perfect, error free world. Kerdeman (2004) suggests, the anguish, the loss of self that occurs, can serve another purpose, to disturb our assumptions opening new ways of seeing, perceiving, opening up possibilities for change, growth, and learning that are otherwise hidden when things are going well. The experience of being pulled-up-short teaches us limitations and boundaries by
disturbing our assumptions. In dealing with their experience nursing students confront the life and death responsibilities that are part of the practice of nursing. In an under-determined clinical practice such as nursing and medicine, when one has the wrong grasp or understanding of the clinical situation, the best hope for the patient is that the clinician will stay vigilant and be open to being “pulled-up-short” when things do not go as predicted by the clinician’s understanding of the situation (Benner et al., 1999).

Witnessing an Error

Making errors was not the only way that nursing students experienced errors. Students also talked about witnessing another nurse, their preceptor, a medical student or someone else make a mistake. Nursing students are often in the unique position of working side by side with another nurse. Once they have graduated, their own workload may preclude them from actually witnessing someone else’s error. Baker (1997) reports an exchange where a nurse and a student are making the rounds delivering the medications that do not occur on the routine medication delivery schedule. They are about to deliver antibiotics to a pediatric patient when they realize the dose is two hours late. Dosing of antibiotics is predicated on maintaining blood levels. By giving the dose two hours later the blood level has already dropped, but more importantly, the next dose will be given two hours after the previous dose, creating a dangerously high or toxic level. The student offers to go get an incident report, so that the situation can be documented and reported and explicit rules can be followed. The nurse says, “like--- you will! Give the drug now and we’ll get the night staff to give the next dose an hour late—by morning he’ll be back on track!” (Baker, p.157). The student witnesses an error and
A student in the CFNNES study related the following story:

I was in pediatric rotation at [unclear] and I was following a staff nurse and from day one she kind of came off like she didn’t want students. Like very - she was very like not really in the teaching mode and kind of felt obligated to have me. But there was one situation where she had a patient, she was primary nurse for the patient and she had known him for like three months. He was like a twenty-three year old who had leukemia so he was in and out of the hospital. So she knew him very well but there was an opportunity where she had to give him meds and she specifically told me she was like “This is Benadryl, I’m pushing it past, [the nurse pushes the Benadryl intravenously in an unsafe manner] “It’s not like the correct way to do it but I’m going to do it any way.” So just from and I told my teacher and my teacher confronted the nurse later on. But just to do that in front of me and to say oh it’s like I don’t care….that really heavily impacted me because you know what else little mistakes like if she uses just that and be like oh I did that wrong, she could be springing up other things too and it made me concerned that she would do something like that. Specifically tell me in front of me and then she got mad because I told my teacher that I felt that it was my obligation to tell my teacher.

INT: Why did you feel that?

FEMALE: Because I didn’t feel like it was right for the patient. Like I said, if she’s doing little things like that I mean all it takes is one little mistake to kill a patient or hurt a patient, you know, they trust you so much and that’s your responsibility is to give the proper care. And to do something like that just because you know him well doesn’t make it any different.

INT: So how did that experience change your practice?

FEMALE: It changed [me] to be more careful and to realize just because we have all the authority to give meds, to give directions, doesn’t mean it’s right and because you do have that authority doesn’t mean you can change it however you want.

Beyond the witnessing of a mistake, the moral outrage articulated by this student finds its roots in what she knows to be right and good about being a nurse. She recognizes the responsibility and position of authority that the nurse has over not only patients, but over students who are partnered with nurses. While in the first segment she talks about
her outrage for this individual patient, she proceeds to state that this attitude of arrogance and display of hubris by the nurse is possibly part of a pattern of practice. The student noted that the nurse was not only doing something wrong, but announcing it to the student. Like the situation in the Baker article the nurses perform in a way that the student recognizes as wrong. In this case the student speaks to her instructor and notions of good practice are upheld.

The student in this situation, taking a courageous stance and taking on the role of patient advocate, informs her instructor, a person of power and authority. The instructor in another courageous move models the crucial behavior and conversation and confronts the nurse with the report of her observed behavior. As reported by Maxfield et al. (2005), only 10% of healthcare providers will take on this conversation. Faculty modeling of confronting and not side-stepping the situation sets an example for this student to follow.

The potential for this situation to be observed and not reported by the student and brushed off or rationalized by the instructor discloses an important part of learning the practice of a nurse. If students and faculty are not willing to inform, report, and confront, the notions of good practice are harmed. Faculty and students are in a unique position to witness and prevent error. The crucial conversation is held and the student’s notion of good practice is supported.

Preventing an Error

The students questioned in this study reported that safety education was begun “on the first day of school” and “drilled” into them. Given the student’s opportunity to work with one or two patients and to check drug orders and look up drugs, it is not surprising that students related stories of preventing errors and mistakes.
STUDENT: You know I had a situation today...with a medication, you know. It clearly said one tab 120-milligram tab. But down below it said dose 60 milligrams. Well that’s half of that. Well which one is it? Is it a one tab at 120 or ...Well I talked to [my instructor] and she said it was good you picked that up. Go to the pharmacist. I trot over to the pharmacy and this is all a learning process for me. She goes, one it was good you caught it because it’s not clear. If you give him one you could give him too much or you might end up giving him too little. So in the case I went over to the pharmacist and they said oh yes that’s kind of confusing, it should be one tab. But look at the dose. And I said okay but I still went back and questioned them one tab versus [unclear] I’m a nursing student and I picked it up lucky. You know the nurses, I mean they’re busy. They might just go along you know and just say okay one tab, one tab. Just go on. But I kind of reared into a little bit. You know in this case the patient could have received too much.

The use of technology and automated delivery systems was seen by faculty as a way of preventing medication errors. Yet, three research studies (Balas et al., 2004; Greengold et al., 2003; Stetina et al., 2005) generate questions about the effectiveness of computers and technology in reducing errors. Greengold et al. found a higher rate of error among nurses who used automated delivery systems. Stetina et al. and Balas found that when nurses used unit dosing, computer order entry, and bar-coding there was a perception that errors were reduced, but nurses relied on the systems overlooking basic principles of good practice, resulting in different types of medication errors. Students in the CFNNES study talked about the emphasis on safety and how principles of good practice even when using technology are stressed in their programs.

STUDENT: We have a system in each hospital these days in this area called Pyxis, P-Y-X-I-S. Pyxis is a pharmaceutical dispensation of medications. Everything is numbered, labeled and boxed. You put your identification into the computer, you tell the computer what patient you need, what medicine for. You look it up. It gives you drug name, trade name and it tells you what box, in what drawer and you are to go and pull out the medicine out of that drawer. The drawer pull open. There’s fifty boxes in that top drawer. And other people can make a mistake and that’s what happened with me. Another person made a mistake and because...this is the truth.
I have like…I’m going to say voices but they’re not voices in terms of like [unclear].

INT: Hallucinations, yes, yes.

STUDENT: There are certain instructors’ voices that I will hear in back of my mind when I go to do something or reach for something that’s just like there. And I will hear it and I will briefly go [unclear/whispers]. And I’ll hear that it happens so fast I don’t even consciously…I’m very rarely consciously aware of it unless something is not right and then I go, wait a minute. And then I pay attention to it. In this instance that saved both me and my patient.

I was going to go get [Lasix] out of Pyxis in the top drawer. The pharmacy techs put the drugs in the right box and sometimes other nurses will return a drug in the wrong little hole, right? So I go to pick up Lasix and it’s not Lasix, it’s [Digoxin]. And so I pick it up and I close the door and I look at the bottle and this is the wrong drug. So I go back into Pyxis and pull it out. Come to find out they had put the wrong drug in the wrong box. You see?

So those safety things that are drilled into you from the moment you get into the program. There’s a certain point where everything is memorization. Memorize, memorize, memorize, five rites. You review them and you’re asked and you’re quizzed on the floor and you’re asked in front of your patients and [any moment someone could ask me], you better know and that’s because they want you to process what you’re doing. And then you get to a point of, is this medication right for this patient. Oh yeah, it’s right for the patho physiology but is it right for this patient? Do they really need [unclear] that much? Is the fluid just in the wrong compartment? That kind of stuff. And that’s when you correlate beyond just safety of the five rites but you’re now correlating safety geared towards your patient.

We caught the mistake. I went to the medicine instructor and said this isn’t right. It says this box. This drug is here but where’s the Lasix? And it’s those moments when the instructors know that there’s a certain level of integrity and that’s what this program does and they encourage integrity. If you make a mistake, great, tell me about it. Don’t walk away from it because if you walk away from the mistake now, you’re going to walk away from it when you’re on the floor and you cannot do that. And that’s one thing that I have a great appreciation for in nursing, period, is that there’s a certain respect for integrity. It doesn’t matter whether you’re right or wrong so much as did you do the right thing? And I think that differentiates us from a lot of different professions.

This senior student tells of the experience of learning the five rights through memorization and repetition. She then adds what you must also think about as a nurse
delivering medications. Is it really the right medication for the patient taking into account the patient’s pathophysiology and the individuality of the patient? Not just is it the right dose but is the ordered dose right for this patient? What other pathophysiology might effect the action of the drug? In this act of preventing an error from occurring is an excellent example of what it is to think like a nurse, to think beyond the rote memorization of rules, and to individualize care for each patient based on his/her response to illness. Nor does he/she rely on the medication delivery system. He/she carefully checks the labels and finds that somewhere along the line the Lasix was switched with Digoxin.

The student uses the opportunity to reinforce that she wants to uphold the integrity of the profession. She has been taught the number one rule, “If you make a mistake, tell someone about it.” Students and faculty repeated this rule many times throughout the interviews.

**Taking Care of the Patients Who Have Been Victims of Error**

There is one other way found in the CFNNES study that students experience error. This final kind of experience was not related by the students, but was brought up in a faculty interview.

**INSTRUCTOR:** we receive many patients from other facilities and they’re coming to us because a very significant error has occurred and so the patient is in very bad shape. And so one of the values of the unit where I have my students is that they get to see up close and personal the consequences of healthcare errors and it personalizes.

Seeing the results of someone else’s error and dealing with the consequences is probably a powerful learning experience for these students. Personalizing the incidents by knowing the patients and families brings the consequences of error inside the student’s
world. In this nursing school it is possible to assign students to a unit where they will care for patients who are the victims of some sort of error. The instructor states that is one of the values that one of the values emphasized is to see the consequences. Further study on students who have this experience could be valuable to understanding what the student learns.

Summary and Emerging Themes

Our study revealed that students experience errors in at least five ways: by anticipating an error, making an error, witnessing an error, preventing an error, and caring for patients who have experienced an error. Within these five ways of experiencing an error three major themes emerged from the text. First, through errors and breakdowns in practice students confront the responsibility of being a nurse. Whether the student is anticipating, making, witnessing or preventing an error the accountability for even minor performance is realized. Second, specific situations help the students to learn various aspects of practice. Learning a high level of focus, being constantly careful, speaking in a way that does not divulge more than a patient wants to know, and integrity by reporting what has occurred are just some of what is learned from the experience of breakdown. Breakdowns in practice make habits and thoughts of practice visible and illuminate how habits of practice are learned. The experience of being pulled-up-short is a daily occurrence for students. The experience is painful and formative. Learning how to be in the face of a complex under-determined practice is essential to learning how to be a nurse.
Implications

As much as nursing students strive to avoid errors, the experience of making and witnessing errors is inevitable. Preparing the student so that they know to report the error and protect the patient should be in place in every curriculum. Stories of error from faculty and from the students make errors real and normalize the inherent habits of such behaviors as vigilance and integrity that are necessary to the profession. While students are given the option to share their stories, encouraging students to share their stories may strengthen the students’ own habits of communication and integrity. Faculty need to explore their own comfort with allowing and embracing student stories of error into post-conference activities. Instructors could recognize and reward students who are willing to speak up. Instructors could also link the story told to show the students how sharing the story supports the integrity of the profession. When stories are told, students understand that they are all vulnerable to potential error, but the stories are a way to normalize the error experience, so that it becomes visible and transparent.

Students need to understand the experience of being “pulled-up-short” is painful yet transformative. Within that experience the student is opened up to character building, habits of practice, and the limits and boundaries of the practice. In building their character students seem to understand how easy it is to make an error and redouble their efforts in vigilance and mindful care giving. The student experiences the value of protecting the patient by telling the truth and not hiding or covering up experiences. Integrity becomes a part of the student’s everyday performance.

While error is to be avoided, the very real experience of breakdowns in practice discloses aspects of the practice that may be hidden. This study discloses breakdowns in
communication between the student and the nurse resulting in errors in overdosing or under-dosing a medication. There are probably other areas where communication could be improved. Finding ways of strengthening the communication between the staff nurse and the student will only lead to better and safer patient care. The pairing of students with more experienced nurses in the clinical practicum opens the students up to witnessing and preventing errors made by others. Learning how to communicate in a way that allows the other person to see their own error and accept it is a skill that often comes with experience. However, teaching and modeling the conversations that are tactful, yet effective protects the patient and demonstrates to the student that these conversations are necessary and doable.

Limitations

This study does not represent the full cadre of all nursing schools, types, geographic areas, and student profiles though it was a national sample in which nursing schools all geographical regions of the country were selected, West, Southwest, Northeast, Southeast, and Midwest. It was a purposive sample since the goal was to explore excellent examples of nursing education rather than a random sample of nursing schools. Readers are cautioned about making generalizations from this study. It is more appropriate to see commonalities across different schools and groups in an interpretive study. Family resemblances and distinctiveness are the analogies used rather than sameness or context-free elements that can be generalized across situations.

No two errors have exactly the same context or consequences. The importance of individual background, circumstance and complexity of the situation should make it clear
that errors must be looked at and learned from as individual occurrences with particular patients.

The stories and exemplars obtained in this study were always parts of larger interviews focusing on teaching and learning practices. Time constraints and a desire to create a complete picture of the developing practice often prevented interviewers from focusing more comprehensively or with more breadth into stories of errors. A different interpretive phenomenological approach could be attempted but without the larger study context, it might not achieve the same ends as this study.

Acknowledgments

The author thanks her advisor, Dr. Patricia Benner and the Carnegie Foundation for the Advancement of Teaching for the opportunity to participate in Carnegie Foundation National Nursing Education Study. I thank all of the scholars who participated in the study and shared their insights Dr. Molly Sutphen, Dr. Lisa Day, Dr. Vickie Leonard, Dr. Bill Sullivan, Dr. Anne Colby, Dr. Mary Huber, Dr. Alex McCormick, and Mr. Gordon Russell. Special thanks to Carnegie President Dr. Lee Shulman who originally suggested that the study include examining students’ experiences of error. Additionally, thanks are extended to the Gordon and Betty Moore Foundation for their funding of my doctoral education.
## Appendix A

Carnegie National Nursing Education Participant Schools

<table>
<thead>
<tr>
<th>Name of School</th>
<th>Type of Program</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Riverside</td>
<td>Diploma</td>
<td>Newport News, Virginia</td>
</tr>
<tr>
<td>Roberts-Wesleyan</td>
<td>RN to BSN</td>
<td>Rochester, New York</td>
</tr>
<tr>
<td>Saddleback</td>
<td>Associate degree</td>
<td>Mission Viejo, California</td>
</tr>
<tr>
<td>University of California</td>
<td>Masters entry</td>
<td>San Francisco, California</td>
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<tr>
<td>University of North Carolina</td>
<td>Baccalaureate fast track</td>
<td>Chapel Hill, North Carolina</td>
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<tr>
<td></td>
<td>14 month program</td>
<td></td>
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<tr>
<td></td>
<td>24 month program</td>
<td></td>
</tr>
<tr>
<td>University of South Dakota</td>
<td>Associate degree</td>
<td>Sioux Falls South Dakota</td>
</tr>
<tr>
<td>University of Washington</td>
<td>Baccalaureate</td>
<td>Seattle, Washington</td>
</tr>
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<td>Villanova University</td>
<td>Baccalaureate</td>
<td>Villanova, Pennsylvania</td>
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<tr>
<td>Pilot: Samuel Merritt</td>
<td>Baccalaureate</td>
<td>Oakland, California</td>
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Appendix B

Listing of Protocols and Embedded Questions

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of Protocol</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>4*</td>
<td>Conversation with Program Directors*</td>
<td>How are student mistakes (clinical errors) handled? Is there a place that students can report their mistakes? Are mistakes discussed? Is there an overall policy for student error (might be in a policy related to patient safety) and are the students aware of it?</td>
</tr>
<tr>
<td>7*</td>
<td>Conversation with Clinical Preceptor/Educator*</td>
<td>Has one of your student(s) made a mistake during this clinical rotation? A near mistake? How did your student(s) handle it? Was the mistake reported to anyone else?</td>
</tr>
<tr>
<td>8*</td>
<td>Conversation with Nursing Faculty Focus Group*</td>
<td>What do you teach the student about handling error? If they make a mistake how do you handle it?</td>
</tr>
<tr>
<td>12*</td>
<td>Sophomore Student Focus Group*</td>
<td>Where do you talk about issues around patient safety? How are patient care mistakes handled by your faculty? Have you made a mistake during your clinical rotation and how was it handled?</td>
</tr>
<tr>
<td>13*</td>
<td>Senior Student Focus Group*</td>
<td>Where do you talk about issues around patient safety? How are patient care mistakes handled by your faculty? Have you made a mistake during your clinical rotation and how was it handled?</td>
</tr>
<tr>
<td>14*</td>
<td>Nursing Student Narrative Group*</td>
<td>Have you made a mistake during your clinical rotation and how was it handled?</td>
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CHAPTER THREE

Pedagogies of Promoting Safety: How Students Learn to Take Responsibility for Developing Their Practice

Teaching and Learning to Prevent Errors, Take Responsibility and Mitigate Patient Harm

Abstract

Practices, methods, habits and rituals to promote patient safety are integrated into the everyday activities of nursing school. In the findings presented in this paper these often hidden or taken for granted practices are explicated. Despite all of these practices, errors or practice breakdowns still occur. When an error or practice breakdown occurs nursing faculty members use the experience to teach students ethical responses and responsibilities in relation to keeping patients safe and preventing further practice breakdowns. This important aspect of teaching that contributes to the identity and character formation is disclosed.

Introduction

Keeping patients safe is a key priority of all nurses, including clinical faculty who teach students the practice of nursing. The social contract of doing no harm is as applicable to faculty and students as it is to nurses regularly providing direct care. Clinical faculty members serve as mentors, content experts, and coach students in skilled performance and on ethical concerns and comportment. Obviously, not all errors can be avoided, so faculty can use error situations as opportunities to discuss ethical responses to making an error, including how to take responsibility for any error and how to prevent
similar errors in the future. While multiple safeguards are built into nursing schools’ processes of training students in the clinical practicum, errors and breakdowns in practice still occur. Breakdown in practice is a preferred term because the term “error” is highly charged in the healthcare system and invokes questions of blame and shame. Dreyfus (1991) defined breakdowns as interruptions in ongoing activity that bring attention and focus to performance. A breakdown in practice includes errors but also can be a breakdown in communication or other aspects of nursing practice and is not always seen as an error. Learning from breakdown was found to be an integral part of nursing practice (Benner, 1984; Benner, Tanner, & Chesla, 1996).

The Institute of Medicine report, Crossing the Quality Chasm (2001), recommended studying how students learn about errors and quality during their professional schooling. This paper presents the findings of a national study that included exploration of explicit and tacit practices used to prevent students from making errors and how faculty teach and model taking responsibility when an error occurs.

Review of the Literature

The clinical nursing practica found in nursing schools are high end apprenticeships for nursing students that hold all of the complexities of actual practice. In the clinical practica, students integrate cognitive learning, skilled-know-how, and ethical comportment to learn to practice in the real patient care setting. The three essential high end apprenticeships, cognitive, skilled know-how and ethical comportment are taught in all teaching-learning arenas, the classrooms, the skills lab, and the clinical practica (Benner, Sutphen, Leonard, & Day, In progress). In nursing education, a large portion of teaching occurs in the practical clinical settings and the skills labs. The integrated
apprenticeship of nursing education is complex and largely under-determined. Under-determined here means that teaching and learning depend on the context of the sites of learning and depend on the ambiguities of practical complex open-ended situations where change across time is highly relevant. Lave and Wenger (2006) suggest the term “legitimate peripheral participation” (LPP) for practice intense apprenticeships that expose the learner to the complexity and risks of the profession. They assert that practice grounds learning and learning occurs through the social interaction of participation. Complex and integrated performance is introduced through observation. As limited co-participants, students gradually take up the practice. Practice meanings are generated through “actional” contexts, and not abstractly created somewhere in the mind. Students may be coached at the bedside to notice, to problem solve, and to think. A student working with a patient experiencing chest pain is taught the role of positioning, starting oxygen, and making basic assessments. In order to maximize learning, actual performance is required, rather than just talking about it. Responsibilities are limited in the beginning of the LPP and introduced gradually with the eventual goal for the student to become a full participant in the practice.

The action orientation of LPP puts novice learners in the unique position of recognizing and managing potentially harmful actions. Novice students acknowledge this potential for harm and are terrified of making a mistake (Beck, 1993; Kleehammer, Hart, & Keck, 1990; Pagana, 1988). Students in our sample were extremely concerned with making a mistake, and many noted that they hadn’t fully realized before that their nursing actions could cause death or survival of the patient.
STUDENT: It’s like this person has consented to receive care and is depending on you not to screw up and that this person could be in your hands at certain times and during certain procedures.

Kerdeman (2004) identifies a kind of learning that can only come from a breakdown in such engaged participation as “being pulled up short”. Whether the student nearly makes an error or actually makes an error, a transformative learning experience can occur. One of the themes uncovered in this research was the everyday habits, rituals, and situated practices of nursing school that are set up to avoid errors and breakdowns in practice. These practices also help not only nurses, but other colleagues including physicians, respiratory therapists, and pharmacists to prevent errors and practice breakdowns. Protecting the patient is at the heart of nursing practice. Learning through the experience of being pulled up short is a dramatic kind of experiential learning that often constitutes the character and identity of the learner. The ease of making a slip or experiencing a lapse becomes real and possible. Students get that mindfulness and vigilance are essential aspects of everyday nursing practice.

The Carnegie Study

This study is part of the 2007 Carnegie Foundation National Nursing Education Study (CFNNES). The CFNNES is a qualitative, interpretive inquiry into the pedagogies, goals and three apprenticeships of nursing education. The CFFNES study is in turn part of a larger Carnegie Study, Preparations for the Professions that is a comparative study of the preparation in professional education of five practice professions, nursing, the law, medicine, engineering, and the clergy. Consequently, the nursing study was designed to contain both nursing content specific research questions, and questions related to
professional education that could be compared across the clergy, engineering, law, and medicine.

In writing about the Carnegie Foundation Preparation for the Professions Study, Carnegie Foundation President, Dr. Lee Shulman, asserted that “the moral challenge to the pedagogy is to guide the students through these increasingly responsible levels of practice, while sustaining the social contract with clients that guarantees zealous concern for their well-being and safety.” (Sullivan, 2005, p. xi). The pedagogy that Shulman writes of is a compendium of the pedagogies that are used when teaching professional practice. Professional nursing education places the inexperienced student into the practice setting early in the educational process. In this novice stage, the student possesses little understanding of the background, the social relations, and the situations confronted in everyday nursing practice (Benner, 1984). Balancing patient safety with the challenge of providing meaningful learning is the dilemma faced by clinical faculty everyday.

This paper draws on narrative text and field notes in order to examine the words, actions, and practices of students and faculty related to student errors and breakdowns in practice. A breakdown in developing practice often discloses notions of good practice and aspects of practice that are taken for granted when everything is going smoothly. Additionally, the results presented here will uncover practices that are embedded in nursing education in order to promote patient safety and increase responsibility and performance of students. These practices move students from the periphery of professional practice toward full participation, all the while struggling to prevent errors and breakdowns in practice (Wenger, 1998). Specifically the aims of this paper are (a) to uncover the social practices in nursing school used to avoid making an error, (b) to
uncover practices that faculty use to determine how to help students integrate the apprenticeships, and (c) to disclose how the experience of making an error is used to teach the student about responsibility, accountability, and duty.

Methods

The CFNNES examined nine nursing programs in the United States. One diploma, two associate degree programs, three traditional baccalaureate degree programs, two fast track baccalaureate degree programs, a master’s entry level program, and an RN to BSN programs were studied in geographically diverse areas. The schools selected for the study had been recommended as schools where the best practices in nursing education could be observed and studied. Human subject’s approval was sought and obtained from the Committee on Human Subjects Review at the University of California, San Francisco and from the Institutional Review Board at the Carnegie Foundation.

Participants in the study included nursing school administrators, nursing faculty, and nursing students from the nine participating schools. Nineteen protocols containing pre-formulated interview questions were designed for each category of participant. Questions about error and practice breakdown were embedded in most of the interview protocols prior to the beginning of the study. The narrative text was obtained from interviews, focus groups, and field notes of observation with program directors, clinical preceptors, nursing faculty, sophomore students, and senior students. All participants consented prior to their interview or observation. The participants comprised the following: program directors, 27; clinical preceptors, 35; faculty (in focus groups), 85; students (in focus groups about errors), 149; and students (in focus groups about practice breakdown), 69. Therefore the total sample where questions specific to error and practice
breakdown were asked was 365. The total sample in the Carnegie study was significantly larger than this sub-sample that was asked specific questions about errors and practice breakdown.

By taking an interpretive ethnographic approach as described by Geertz (1973; 1983), the study explored pedagogical strategies and social learning relationships that faculty used. Narrative texts of the experiences of error and practice breakdown as described by the students and faculty were studied, and interpreted for patterns and themes related to the social enterprises, rituals, and habits employed to avoid errors and practice breakdowns. Geertz espoused studying local knowledge and providing thick description and meaning including the significance of habits, practices, and rituals especially as these relate to the moral vision and identity of the actors. The strategy is to study parts and wholes of the texts, observations, and practices: “Hopping back and forth between the whole conceived through the parts that actualize it and the parts conceived through the whole that motivates them, we seek to turn them, by a sort of intellectual perpetual motion, into explications of one another” (Geertz, 1983, p. 69). Geertz's methodology does not allow for the isolated exploration of an error separated from its situation and the larger context. His work guides the researcher to see the experience as part of a greater whole and continually interpret, question, and reinterpret the parts interacting with the whole.

The goal of this work is to articulate both the formal explicit and less obvious, more tacit practices related to teaching and preventing nursing errors, in nursing school, the classroom, the skills lab, in hallway conversations, and clinical practica preparation, discussions, and debriefings. The narratives in the interviews were read and reread and
themes regarding the importance of patient safety emerged. Many of the practices in place to support patient safety are taken for granted, some explicit while others are tacit, yet they provide a framework for the clinical experience. Consequently, the text of these narratives were studied to identify strategies, habits, and practices related to error prevention, repair, or education, especially those error incidents where the student was clearly engaged in the situation with a sense of identification and responsibility for the situation.

The Findings

Avoiding Error

There are substantial safeguards in place to prevent errors during students’ clinical experiences. A licensed nurse is always assigned to the patient and has ultimate and final responsibility for the care of that patient during his/her shift. Beginning students are given a patient assignment that address parts of care and limited responsibilities. It is typically not until the senior semester that students begin to assume full responsibility for the patient. During this novice development, nursing faculty closely supervise their students. Instructors are typically readily available when students are caring for patients, other than during the senior semester when many students are assigned to a clinical preceptor. This close supervision is repeatedly emphasized by clinical faculty. One nursing instructor jokingly said they were so closely watching the students that they were “like white on rice.” In this first excerpt from an interview, a pediatric nursing instructor talks about guarding students and limiting their performance so that no harm can occur.

INSTRUCTOR:…We've never had a student make a mistake that's caused the person to fail clinical… They're guarded too well for that. We don't give enough rope to hang themselves ever, or to hurt a child.
Closely guarding the student comes from a desire to prevent mistakes and harm from happening to the patient. Having the instructor closely guard the student provides a safety net for the student and the patient. By not giving the students “enough rope to hang themselves” the instructor is metaphorically speaking of the limiting students’ responsibilities to what they can presumably safely perform. Limiting students’ assignments to include only what they have been trained in and limiting the level of responsibility so that the student is partnered with a graduate nurse who assumes ultimate responsibility for the patient, allows students to learn by observation and repetition of various agreed upon and often circumscribed duties. For example, a beginning student may be assigned to taking the vital signs, performing the activities of daily living, and doing a basic physical assessment. Such practices allow students to join into the practice of nursing through limited participation as suggested by Lave and Wenger (2006). Advancing a student’s limited participation is based on the assessment of the student’s readiness conducted by clinical instructors. Students gain more experience and as peripheral duties increase, the risks involved increase, and students assume increasing responsibilities (Lave and Wenger).

Students are not only aware of the safety net that the instructor provides; they count on it and expect it. With the safety net trust develops between the student and the instructor. The safety net limits risk, potentially limiting high stakes and high anxiety learning.

However, this is a two edged sword for the students’ sense of engagement and responsibility for the patient. Conceivably, performance anxiety could be so diminished by close supervision that the students might be able to avoid feeling responsible. Some
nursing research has recommended reducing student anxiety to promote learning (Beck, 1993; Kleehammer et al., 1990). Complete comfort when one has not attained a level of competence in nursing, is said to be “scary” and instructors are wary of the overly confident or comfortable student because it points to little insight on “secondary ignorance” not knowing what the student does not know or cannot yet know.

INSTRUCTOR: The faculty fear factor that I’ve heard about is … about the student who goes off half cocked, the hotshot kind of student. You don’t know what they’re going to do. And the faculty is afraid about that kind of student ‘cause they’re very unpredictable. And I think I can say with all certainty that those are the ones the faculty are going to be watching the closest and pulling in the tightest. The others, you get a sense of which students you can let go and trust to come and [they] ask you if they’re not sure and those who are just going to be out there. And I think our faculty’s pretty good about figuring that out.

The overly confident student puts the instructor on alert. There is fear because the student performance is unpredictable and it is not clear what they might do in unguarded patient situations. Experienced faculty members know that these are students who must be watched closely. These students are not given the same freedom and autonomy as the student who is perhaps less confident but has earned trust through asking questions when they do not know the answer, or have demonstrated that they will actively seek coaching in situations that are challenging to them. Knowing when to trust a student to work autonomously is an embodied skill that the instructor gains through experience. As an embodied skill it may often be rapid, non-conscious and non-reflective. The instructor does not seem to have a conscious list of criteria for trusting a student. Instead the instructor describes it as getting a sense. As the instructor says “you get a sense of which students you can let go and trust”. The student who can be trusted has increased access to participating in the nursing role.
Instructors provide student assignments that are not beyond the assumed performance level of the student. In the next example the student creates a mental picture of the instructor breathing over the students' shoulders so closely supervising performance that the student believes that it would not be possible to make an error.

STUDENT: …there’s a certain level of trust that I know I had in my clinical instructor. She never thought anything was too big for us to tackle if we had been trained in it…she sat there with us and …a handful in our clinical group were able to do catheterization on their own. But she’s breathing over your shoulder, exactly walking you through it. And if I were called to do it I’d be nervous as all heck but I know that she wouldn't let me do anything wrong.

Does such closely guarded performance result in producing a functioning autonomous professional? “Breathing over the shoulder” and “exactly walking you through it” limits the independent learning of the student. Other students and faculty suggest questioning, asking for next steps, and coaching without oppressive tactics are more effective teaching methods than fostering excessive dependence through excessive observation. For the student feeling some sense or degree of responsibility is more consistent with providing the mentored autonomy that is required for learning the practice.

Students and instructors articulate a sense of trust built through interactions. This trust is built on a mutually agreed upon set of expectations that faculty and students define, redefine, and respect. As a student takes risks or demonstrates their abilities, faculty change and refine their expectations of the student. Instructors expect students to identify what they do not know or cannot do. They expect students not to take risks beyond their understanding. The faculty expects that with adequate training and repetition, students can perform safely. When faculty expectations are not met the faculty identify breakdown in the student’s practice.
In turn, students expect their instructors to watch them closely and expect training on unfamiliar procedures. When student expectations are not met, students identify breakdown. Trust is important and when an instructor intentionally hands a student the wrong medication the student can see it as a “trick” and could potentially undermine that trust.

STUDENT…an unnamed teacher actually got the wrong medications on purpose to see if I would catch it, and I did, but you know, so they'll almost try to trick you.

The student is troubled that the possibility of tricks has been introduced into the instructor/student interaction. For the student who requires total concentration to get the five rights of medication delivery correct, the possibility of another source of error from the instructor can occur is unsettling. Yet, through the modeling that errors from unexpected sources can occur, the student may learn a reality of practice. It is understandable that the student would like a smooth, predictable, rule guided trajectory of learning, however it is not reflective of the realities of practice.

Students expect the faculty to not allow them to make a mistake. As one instructor states in the following excerpt, she would not stand and observe a mistake, she would see it about to unfold and stop it from occurring.

INSTRUCTOR:…you would not observe a mistake. You would catch them. If you would observe a mistake about to happen, you would stop it.

Yet, in some cases the instructor provokes a mistake by handing the student the wrong medication or the wrong dose. Here, the student was ready to give the medication and the instructor said,

INSTRUCTOR:…would you check again, not just look over, don’t rely on me, I said. Then I explain I did it on purpose and I told her about my experience in my early nursing years. So, if I gave the medication [the] doctor gave to me, I would
kill the patient. This was my experience. …It was kind of hard on some students. They didn’t like it….You are away from the patient and you give them [the student] the medication and then [you observe] are they checking? And I am telling you ninety-five percent…check and they say, “Oh! That’s’ not the medication I have in here.

Setting the student up with the wrong medication or knowingly allowing the student to get perilously close to making an actual mistake occurs in nursing school. In these situations the instructor typically explains how the patient is never actually at risk and often not even aware of the interaction between instructor and student. The instructor must weigh the potential of losing the trust of the student with the learning that may be gained. As this instructor says, it was kind of hard on some of the students. When expectations are interrupted, students may not like it. The student may be acting upon a tacit contract that the instructor will not allow the student to make an error, and so when the instructor abruptly switches tactics, by setting the student up for a possible error, the student may feel betrayed. The instructor here recalls a vivid near mistake of nearly killing a patient because a doctor hands him a potentially lethal dose of a drug. No doubt, the instructor feels such a vivid near miss justifies potentially breeching trust with the student and provides a unique learning experience. Kerdeman (2004) describes a kind of tension that the instructor must face and that is wanting the student to achieve competence and mastery while still having the student be open to the possibility of being pulled up short. Teachers want to teach so that error and breakdown are avoided, but they must also teach that error and breakdown are real possibilities. The instructor here has intentionally set up a distressing learning experience. The tactic used by the instructor may actually increase student anxiety. Kerdeman doubts that the student should always be made comfortable and put in anxiety free learning situations. Maintaining the balance
between teaching to create a powerful learning experience while minimizing student anxiety requires instructor experience and expertise and a strong ethos of respect for the student’s sense of self-worth and dignity.

In the next example a student and then an instructor discuss the necessity of checking and re-checking in order to learn habits of safe medication administration. The student reveals that habits of safe practice are “drilled” into them from the moment they enter the nursing program. She mentions the five rights of drug administration. Some students mention five while other students mention seven, but the outcome is the same: repetitive habits of performance eventually resulting in an embodied performance of medication delivery. The seven rights are a checklist ritual that does not allow the student to perform the task mindlessly. They include right patient, right drug, right dose, right route, right time, right reason and right documentation.

STUDENT: So those safety things that are drilled into you from the moment you get into the program. There’s a certain point where everything is memorization. Memorize, memorize, memorize, five rights. You review them and you’re asked and you’re quizzed on the floor and you’re asked in front of your patients and any moment someone could ask me, you better know and that’s because they want you to process what you’re doing.

The student is on notice, at any moment and even in front of their patient they may be asked about any aspect of the drug they are giving. There is no way that the student can avoid the uncomfortable possibility of being pulled up short unless they know the answer. The discomfort and pain of being caught off guard is taken seriously. As the student says, “You better know.” And it is not just about the memorized ritual, it is about integrating knowledge of the drug, with the requisite skills needed to deliver the drug, and thinking through the process on your feet. The student must put together a coherent picture, showing that they know what they are doing and that they are beginning to think
like a nurse. This is even more demanding in the current style of medical and nursing
practice where many medications are titrated according to the patient’s prior response to
the drug.

In the schools studied, clinical instructors expect students to prepare for their
patient assignments. This expected preparation encourages the student to apply
theoretical information in the practical setting. Preparation helps the student to meet the
expected and anticipate the unexpected needs of the patient. Students are expected to find
a way to prepare for their clinical assignment as well as respond to changes that occur
between the assignment being made and the actual care of the patient. In the following
excerpt a second degree nursing student describes her preparation for her clinical
assignment.

STUDENT: I come in the day prior to working with my patients. We have actual
worksheets that our clinical instructor wants us to fill out. We don’t need to have
them completed prior to our arriving on the floor for our patient care but we need
to have some sections worked out. So for example … I came down here and
picked a patient before 2 o’clock yesterday and spent about an hour reading the
paper chart and the computer chart, things I don’t have access to at home. I went
in and met Tammy [pseudonym for the patient]. And then I took the information
about her admission diagnosis and her pain history. And thought OK what things
do I need to know? But then I went back to the apartment and logged on to the
library and used the UPTODATE website quite a bit last night and looked up
interstitial cystitis and chronic pelvic pain, printed out things on pain assessment.
I usually try to bring in a couple of things if there is [time]…Sometimes its really
hectic and then sometimes you hit just a lull. I had not heard of the International
Pelvic Pain Society,…and so I brought in their assessment. I actually looked
through it last night. It was more detailed than I was going to go through but it
helped me to understand the etiology of chronic pelvic pain and some of the
issues involved. I also spent some time reviewing pain as a topic and an
assessment topic and looking at making sure I knew what I would be doing and
asking in my pain assessment. And again an up to date nice article about the
definitions and the genesis and evaluation of chronic pain since chronic pain is a
little different from post surgical pain which I dealt with when I was here fall
quarter. I read part of them last night.
The preparation elaborated by this student indicates a mature professional approach to the student assignment. This student was a self-described non-traditional student with a degree in teaching and years of teaching experience. The student draws upon multiple resources to prepare for the clinical experience. Not only does she study the patient’s chart at the hospital, but then goes home to her apartment where she gains access to the school library resources and she researches the diagnoses and symptoms, differentiating pain assessments and finding one that is appropriate for the type of pain that the patient has. Thorough preparation for the clinical assignment is expected in this nursing program, and the student utilizes the tools provided through the school’s internet access. Methods of preparation, such as internet access for students, are explicitly embedded in this nursing program to support good practice and prevent possible breakdowns. This kind of elaborate preparation is actually practiced in most of the schools we studied. Students were given elaborate care plans, or information sheets to fill out on their patients prior to their care, they were usually debriefed on their patient’s condition, and then checked at the end of the day for changes in the patient’s condition or changes in the care plan over the course of the day.

There are many disruptions to this “ideal practice”. Limited time for making and obtaining patient assignments and shortened hospital stays resulting in the movement of patients throughout the hospital system may result in students’ assignments shifting to other patients. Some students are not able to travel to the hospital site prior to their actual clinical experience, so that reading the chart and looking up the diagnosis may be limited to a short time before the student takes up the assignment. Some students may not have access to the resources required to thoroughly prepare. In situations where the student is
not allowed or not required to prepare prior to the clinical experience, the student misses the deeper learning that can occur with this kind of preparation and leaves themselves open to potential breakdowns in practice. The student in the example is able to weigh options, study different approaches to pain assessment and prepare a thoughtful plan because she can prepare ahead of time. She has studied distinctions of acute and chronic pain assessment in order to promote an accurate assessment of this particular patient. This preparation is not broad or abstract; it is particular and specific to this patient. Without a focused assessment the student could obtain information from the patient that could lead to the wrong medication or intervention and without preparation the student would not be aware of the omission.

Additional methods of preventing errors are articulated by students and faculty. Training prior to entering into the clinical setting through repeated laboratory simulation is used as a way to increase competence and decrease errors in skilled performance with patients. Ideally, the student will be able to correctly perform the skill after practicing it in simulation. However competence may only be gained after repeated performance in the actual setting on real patients. The transfer of simulated learning into actual practice may open the student to other kinds of error or practice breakdown, because the student may ignore situational clues that are present remembering the simulation as it was learned. Even well designed simulation experiences cannot be relied on to eliminate errors in practice. The complexity of working in the unscripted real situation brings in a new context, shades of meaning, and unexpected challenges. The experiential learning that occurs in clinical practice is essential in the developing the student.
In the following excerpt from a focus group interview, the student describes extensive simulated mental practice that instructors put her through. She offers it as an example of what she calls being “pimped” by clinical instructors.

STUDENT: But another thing too is they - everybody has a…I call it a pimp session with every single clinical instructor, no matter who they are in this program…Pimping is when they draw out of you what you know. A prudent nurse would, dot, dot, dot, fill in the blank. This medication is for and why are you giving it? And in the medication scheme of things what is the most important? Well, they’re having dialysis in an hour. And my patient isn’t having dialysis. What if they were? And you’re just kind of but they’re not! They’re not having dialysis! [the instructor says] “No, you have to think about this”. And it’s drawing out of you your baseline knowledge and getting to the core of what it is that you know. And once they have that, I think they package it somehow and they have this way of…and that’s the art. Once they draw that out of you they can kind of gear…okay, you’re doing what, what, what today? Okay, so I’m going to do this administration of this piggyback with you at this time. And we’re going to do it before we go in the room and then once you’re in the room, I’ll be over here. And I will stop you at any time if there’s an error. And so you go through and you work your way from the patient back to the [pump]. And you say okay, this medication is for this patient because, and that’s part of the pimp session, da, da, da, da. You’ve rehearsed it before you give the med. And you go in the room and you check your equipment, you check your patient, you do your five rights and then you make sure is this compatible with this? And that’s where the critical thinking comes in and they just kind of stand there and watch you and you look in their eyes and they know if you don’t know. And then that’s when there’s an initiation of, a prudent nurse would…

The questioning described by this student is deep, difficult, questioning requiring that the student be engaged and participate. The questions often offered in rapid fire succession are showing the student that constant, concerned thinking is required by nurses. It makes no difference if your patient is not having dialysis today, but will be in the future and what are you thinking about that?

Brancati (1989) wondered if the art of pimping in medicine was dead. Pimping is a method of teaching and learning only found in teaching practices. Brancati reveals that Flexner observed and was delighted with the pimping he observed at Johns Hopkins.
Pimping refers to relentless, hard questioning. Brancati likens it to the conditioning of an athlete, often hard and painful but the results are worthwhile. While Brancati says that it is a political or power approach to teaching interns so that they will be humbled and not ask further questions, in nursing school as well as medical school it is used as a way of stimulating thinking. The students are expected to know the answers to the questions prior to entering the patient’s room and think on their feet. Here, the student refers to it as an art as well and says that it is used to draw out information.

Pimping is still alive in nursing schools today. The threat of pimping creates a readiness, and awareness that stimulates thinking. The instructor who can question and probe is valued by the student for pushing the limits of what they know and how they apply it. This level of intense coaching makes the students anticipate, question, and think through what their possible moves might be. Experienced instructors “just kind of stand there and watch you and you look in their eyes and they know if you don’t know.”

As a way of minimizing errors and priming the student’s patient safety skills, one school shared that they administer a didactic safety quiz prior to the beginning of the students’ practica.

INSTRUCTOR: They get a clinical safety quiz several days before clinical prep, sometimes the day before, sometimes a couple or three days before. It varies. And these safety quizzes are quizzing them on the main concepts, the key concepts we feel are extremely important for this particular focus. For instance, the one on the assessment focus would have what are the newborn temperature parameters, what would be a normal newborn temperature or vital signs in general, for that matter, the whole thing, the whole set. And we give them like little scenarios, like you’ve just taken your newborn’s temperature. His temperature is 97.2. What’s your next action? What’s your first priority with this baby? To see if they recognize that the baby is cold stressed and if they know what to do. So it’s basically, they’re basically questions like that, that are safety issues, that if they didn't know what to do then of course the baby would get worse and could get acidotic and that sort of thing, so we discuss after they finish the safety quizzes then we discuss the key concepts and it kind of brings it home.
to them a little bit more closely, I hope anyway. They’ve certainly done better in clinical since we’ve been doing those quizzes and better on tests as well. So we discuss those types of things in clinical prep. And then of course answer any questions, go over what paperwork is due and then give some little examples of patients they’ll be taking care of and what they’re going to do with those patients, their typical day with a schedule-wise, and help them with time management ‘cause they’re very, they’re so new they’re not very good at that.

The quiz serves two purposes: one, to assess the students’ knowledge prior to going into clinical; and two, to inform the student of potential dilemmas that they may face. The required learning of a practice cannot be spelled out completely (Lave & Wenger, 2006) and nursing as a whole can never be made completely explicit. All practices are under-determined in that they are situated, open-ended, and require ongoing innovation and improvisation. Not all possible dilemmas can be covered in a quiz, but the instructor’s expert knowledge in putting together a meaningful quiz increases the access of the student learner to what might occur in practice. A written quiz also introduces the student to language that they might hear in a particular specialty. Commonly, the quiz is used as an assessment tool but here it also says these are the key concepts and this is what is most important in this area for patient safety. The quiz in no way takes the place of the impending practical experience, but it serves as a potential alert and orienting system to point to where and how the student should pay attention to in specific patient care situations.

**Negotiated Meanings**

The meaning of a specific instance of practice breakdown in nursing school is negotiated by faculty, student, and staff nurses in the situation and context and is affected by relationship and participation surrounding learning of novices (Benner, 1984; Lave & Wenger, 2006). This negotiated meaning occurs in the context of learning, therefore an
error or breakdown is often labeled a learning experience by nursing school faculty. The learning that occurs from practice breakdown is necessarily experiential, where preconceptions are corrected, or failed expectations are articulated, and clarified. Experiential learning, as Gadamer (1975) points out is always a turning around or being in some way upended or surprised by the situation.

In this example, from a faculty focus group interview, the faculty discusses the meaning of error and the sense of trying to negotiate meaning can be heard.

INT: What is an error?

FACULTY: [multiple voices] It could be giving [the/a?] medication at a wrong time. Or giving less of a dose than [he’s?] prescribed…Medication errors are the most common….Like doing a dressing change, and maybe touching the wound in the wrong way. You know, hopefully, we didn’t transfer harmful bacteria. So, to me, an error that could result in harm to a patient [it could be a break in] procedure [or] protocol, but if you catch that…It’s a mistake. I think a mistake, not an error…it’s a mistake…An error is something that could result in a harm to the patient…Harm. Exactly…

INT: In the first 15 or 20 minutes, when we were talking about what you were really focusing on, you tended to downplay the importance of the technical per se, and talked more about their judgment, their interpersonal and yet I’m struck that when you’re talking about error, you’re focusing very much on the technical

FACULTY: An error in judgment that…Is, an error … where you don’t realize what you don’t know…Like you’re looking at a change in the patient’s condition that is significant, and you don’t recognize it as such. And you move ahead with your plan, without recognizing this. That’s an error in judgment that I think comes from not being aware of your limitations. Like, “I don’t really know what I’m looking at. Something’s different. But I don’t know what I’m looking at.”

INT: So, how would you handle that, versus someone who gives two doses, you know, a double dose of a drug that

FACULTY: Well, but it’s different, though. I mean, that’s … interesting…I know, but that… students told us they had they a very, very specific protocol for reporting dosage or other technical [errors]. It’s a technical error…

INT: What about an error in judgment?
FACULTY: That's experiential learning….“Now that I think of it, I spoke to this patient in the wrong way.” This is the key….And that happens… And I think I handle the other kind of errors that you’re talking about like giving the wrong dose, or at the wrong time, or something. I handle that the same way… so [I] bring up, too, “What happened in your process that caused this slip?”…Right….Right….So, going back and looking at the process, and saying, “How can you reinforce this so it won’t happen? What have you learned from that?” I guess the thing that I thought about, when you first asked, and I’m still thinking about is to normalize that errors happen.

The faculty members in this excerpt from a focus group have a great deal of difficulty identifying what an error is and distinguishing an error from a lapse, a mistake, or from a slip in a procedure or protocol. Here they determine that an error in judgment results in experiential learning. For them it is related to not knowing and the student may learn from the experience. The students do not have the skilled-know-how to talk to patients in various situations. They don’t have the experience to handle the complex communications skills that are required in some patient care situations. They don’t always know that they don’t have these more advanced communication skills until they, in Kerdeman’s terms, “get pulled up short.” Faculty cannot agree on what makes an event an error and are vague as they consider how they might normalize that errors happen. They have difficulty negotiating the meanings, as this lively conversation among them demonstrates. The meaning of an error or practice breakdown cannot simply be reduced to an abstract idea that ignores situation and context.

It must be remembered that the novice enters into the practice through legitimate but limited peripheral participation. (Lave & Wenger, 2006). A student's first experience in clinical may be purely observational, basic communication skills may be practiced, and as the students' experiences in the clinical setting increase the student may be doing assessments, integrating activities of daily living, and eventually patient teaching. The
early, very limited participation is to protect patients, and safely increase the students’ abilities to perform. Gradually students move toward full participation in practice where they will be accountable and take responsibility for the patient once they are licensed. Activity is initially limited but the goal of the activity is to increase students’ competence. The complex and rapidly changing patient care environment coupled with the students’ novice level of performance makes students prone to experiencing practice breakdowns in their development within the practice (Benner, 1984; Lave & Wenger, 2006). The idea that mistakes are going to happen, or as many faculty say, “mistakes are inevitable” comes from this movement into under-determined situations of practice without the necessary capabilities or competence to manage all aspects of the situation. It is difficult to imagine that even an expert nurse would be able to handle every situation. No matter how long a person is trained or how experienced they are, new situations arise, moments of inattention and lack of focus occur, and distractibility is high healthcare settings. It is not surprising that mistakes are said to be inevitable. What is admirable is that so many safeguards are in place to prevent them and faculty stress integrity if an error or breakdown occurs.

**Breakdowns in Novice Practice**

Sometimes learning goes beyond the planned experience and a new, unplanned, unforeseen experience occurs. When an error or practice breakdown does occur the experience or near experience of error interrupts the flow of student performance and pulls students up short, abruptly upending smooth flowing performance and any preconceptions and assumptions that the student had for the situation (Kerdeman, 2004). It is an uncomfortable even painful experience, yet it is potentially transformational.
STUDENT: Thinking about it makes me scared. Anyway, but it was something minor. I didn’t realize it till the next day. It was a PO med that I forgot to give but it was one of those things when like your heart start to pound and like all the blood either went to my face or left my face… it was just feeling like the world’s going to end and I’m going to have to drop out of nursing school, I forgot to give his colace yesterday…It wasn’t a big medication but I remember feeling awful and feeling like I had to drop out of nursing school because of that because I had made a mistake and I was real hard on myself. But I remember that awful, awful, awful feeling and we went to our post conference and just thinking about it. That was one of the worst.”

It is necessary for students to be attuned to the potential for making an error because the clinical situation is never so determined that fixed rules and procedures alone will support the student performance. The clinical instructor needs to find a zone of learning where the patient is protected and the student is engaged, open to learning, and open to being pulled up short. If the student is not encouraged to step out of their comfort zone and into a zone of learning, the experiential learning required for attaining competent professional practice and an identity of responsible practice cannot occur.

Autonomous student performance must be balanced with obligation and concern for the patient. There are always tensions between potential danger to the patient and allowing the student to learn.

When a breakdown in practice occurs, the role of the instructor adjusts from the role of prevention to monitoring safety, teaching, coaching and modeling responsible behavior to students. In the following example an instructor relates a story about a student who is prepared up to the moment of walking through the door and has her instructor by her side. Mental or simulated rehearsal prior to performance and questioning is used in order to promote safe performance.

INSTRUCTOR: I had one student …who was giving dig [digoxin], and before we went to the room,...[while] standing at the door, [I said] what are you going to do? You're going to check the pulse first. And walked into the room, and before I
could even breathe, that student had squirted that dig right down that child's mouth, and had not checked the pulse. And there's no way you could undo that...Well, you didn't check the pulse. Let's check it right now, and it was okay.

Even though the instructor and student rehearse the procedure prior to performance and the instructor accompanies the student, the action of the student happens before the instructor can stop her. The instructor then focuses on the safety of the patient. “Let’s check it [the pulse] right now.” The instructor assesses that the patient has not been harmed. The student’s impulsive performance may have been related to the anxiety of having the instructor looking over her shoulder or just to the anxiety of giving a new and different medication that required a specific procedure. The instructor’s role to safeguard the patient requires immediate attention to the patient and any changes that may have occurred because of the breakdown. The modeling of this attention to the patient makes the focus on the patient salient to the student. Nursing instructors model good practice and bring their own experiential backgrounds and past practices, representing what is possible and expected.

Lave and Wenger (2006) speak of the student absorbing the practice and their new identity through their participation. While the pulse is checked after the occurrence and found to be in acceptable limits, and to the instructor it did not make a difference, it was still a breakdown in performance. The instructor says, “whether the pulse was OK or not it would have been the same thing.” This breakdown in practice is regrettable, and considered dangerous. The subsequent actions of the instructor make the student feel and participate in the actual risk of this breakdown. If the patient’s pulse had been below the allowable threshold the incident becomes reportable. In this case it was above the threshold, so it is a “near miss.” In most cases the occurrence stays between the student
and the instructor, unless the student decides to share it in post-clinical conference. No incident report is needed because the child’s pulse was above the threshold for withholding the drug. This near miss that could have resulted in harm to the patient but fortunately did not harm the patient.

Taking Responsibility

Teaching Students to Take Responsibility

In many schools, students are specifically taught how to manage the aftermath of making an error. In the following focus group interview faculty conveyed the important points that they teach students even before an error occurs. Taking responsibility is at the core of professional nursing practice. The responsibility described by nursing faculty requires further exploration. It implies that you must answer for your actions and performance, not to be blamed, but to be open and not try to justify or make excuses.

INT: What do you teach students about errors and breakdowns in practice?

FACULTY: [Multiple voices] To own it. Accept it, right from the beginning. accept it, responsibility and accountability. You're a student and you'll make mistakes, and gee I wish we could say that we've never made any, but we've made them, too. So, they learn right from the beginning that the buck stops here, with the nurse. And that it will happen….There's no perfect nurse. That's right. So what do you do about it then, how do you deal with it after that? Occurrence reports, they're to protect you and the patient.

INT: What about errors, not medication errors, but errors in judgment or failure to communicate to somebody? How do you work with those?

FACULTY: Accountability, right from the beginning. …You talk to the student, one-to-one first, on, most students are willing to share their experiences in post-conference, and in post-conference it's what went well for you and what didn't go so well, and what will you do differently next time…How could you prevent that from happening? What are your other options that you could do, that maybe would work better?
In this exchange between faculty members, instructors articulate very specific behaviors that they expect from students. Recognizing the breakdown from the beginning, owning up to it and accepting it for what threat it poses to the patient demonstrates a responsible appropriate response. The student is responding to an action that has gone awry, possibly a missed drug dose, a misspoken word, a slip in procedural technique, of failing to notice that an order has changed. The recognition of this interruption in performance is the initial action. It may be initially perceived by the student as an error or mistake, or it may not. The label mistake, lapse, slip, error, or breakdown occurs in language given to the action after it occurs. Thus we see how an error or mistake, as the label applied after the action, is a breakdown in performance and only after it occurs, does it become publicly articulated as an error or mistake. The act is not planned or foreseen and is a part of the practice and serves as an interruption to the smooth flow of performance.

Instructors want the student to recognize the error or breakdown for it’s meaning for the patient. But is it an error, slip, lapse, mistake, or learning experience? Here we see how labels could confound the student. Naming the act is potentially contentious and each individual situation requires negotiated meaning between instructor and student because it is an area of unsettled social contestation. Therefore recognizing an error is not always a simple task.

Once labeled as a mistake or error, ignoring or attempting to justify a mistake would be redoubtable student behavior. The “buck stops here” is a slang expression and it is used by the instructor to emphasize her desire to get the students to understand the responsibility of their practice. To understand the buck stopping with the student nurse is
to take responsibility and not defer it to someone or something else, to not make excuses for unacceptable, below standard of practice performance.

Accepting responsibility and then being accountable to the patient, the practice, and the institution through documentation is part of the expected process in nursing school. Accountability to the patient is discussed by many students. There is an obligation to do the right thing. The institution typically requires occurrence or “incident” reports. They are discussed here as a tool used to protect the nurse.

However, in actual practice Baker and Arndt discuss the act of redefining (Baker, 1997) and disidentifying (Arndt, 1994) actions that have gone awry as something other than an error. Redefining errors as non errors allows work to continue. The interruption or inconvenience of taking responsibility for an error by recognizing, reporting, recording, and reflecting on methods of future prevention may outweigh the responsibility. Nurses seem to weigh the severity of the breakdown with other factors to determine whether an action is going to be treated as an error. Baker found that students observe this way of handling error. As Lave and Wenger (2006) say, the student absorbs the practice through their peripheral participation. That absorption may include some of the less professional aspects of situations they observe. For example, students may observe short cuts in medication delivery.

In a study on nurses' medication errors, Arndt (1994) found that nurses recognized that they were subject to procedures and protocols regarding both drug administration and the antecedents of the mistake. The nurses emphasized the importance of facing up to their responsibility and accountability. They recognized their moral and ethical responsibilities. Yet these were tempered with acting against the rules in situations where
a nurse determined that there would be punishment, discipline, or a lack of support. The nurses emphasized that they would only keep silent in situations about minor mistakes and that major mistakes that resulted in harm to the patient would be handled according to the rules. Nurses also identified that there were situations where they would act against the rules if they were investigating how an error occurred, its causes, and what changes could prevent future errors. They would “disidentify” the error in order to keep the occurrence within the department or unit, provide support to whoever had committed the error, and create a constructive framework to discuss the error and keep it from occurring again. “Disidentify” is the term Arndt employs. Disidentifying bears a resemblance to the redefining in Baker’s study (1997). The process of disidentifying was identified as a way to protect and support individuals and keep the practice going despite the error. Disidentifying and redefining errors are a part of nursing practice and students observe this behavior that is sometimes in contrast to taking responsibility. In some situations it prevented correcting an error or preventing a future error of the same kind.

Despite this, faculty attempt to help the student to understand the importance of taking responsibility for any error that they observe or commit. Once the student recognizes and reports an error, faculty ask similar sets of questions to prompt the student to reflect upon and think through the process in order to prevent similar breakdowns in the future. Taking the appropriate ameliorative steps to manage the harm of the current error and prevent future such errors are part of the expected learning process from the faculty and students’ perspective. This questioning and reflection are seen as a necessary part of learning to become a safe and responsible nurse engaged in a self-improving practice. What went well and did not go well? What will you do differently the next
time? How could you prevent that from happening? What might work better? Students are taught that errors or breakdowns are to be expected, but the response to a breakdown needs to be open, not hidden or covered up.

_Taking Responsibility as a Part of Forming the Identity of a Nurse_

Instructors question students to promote experiential and reflective learning and point out what is needed or expected in particular clinical situations. The rigorous kind of questioning that occurs after a breakdown encourages students to think and problem solve in particular situations. The instructor works with the student to form rigorous habits of practice that ensure the student’s integrity in relation to preventing errors, and dealing responsibly with them when they happen. When students are questioned about a breakdown, honest, forthright answers are expected. Behaving ethically is an expected aspect of character development of nursing students. As the instructor who is quoted next states, the error does not seem to be as important as the student’s response to the error.

INSTRUCTOR: We expect them to be prepared, we expect they will make mistakes because they’re learning, and it isn’t that they make the mistake, it’s what they do about it when they make it.

The disclosure of clear paths of trajectory are likely to be the most influential factor shaping the learning of newcomers (Wenger, 1998). A path of trajectory means pointing out possible directions of student experience and learning. Paths of trajectory are provided when instructors explain to students that despite the strong safeguards that are put in place; they may still make an error. The context of learning gives students a safe ground for their experiences of coping with the possibility of making an error. Instructors repeatedly explain that the response to the error needs to be open and honest. Students develop an identity which embodies integrity and good judgment. Again, in the following
example, the instructor’s comment on expected responses to an error implies that errors are made in the context of learning, and those breakdowns, while not applauded, are facts to be dealt with and learned from. The student’s response to the breakdown is critical in the development of the student. This instructor’s position on students making an error was far more prevalent than a more punitive rigid, documented approach to student mistakes. Throughout the text of this study, clinical instructors seemed far less concerned with students making a mistake than they did with the student’s honest response to the mistake and their concern and actions to protect the patient from harm. This finding parallels Bosk’s (1979) findings on surgical residents where response and attitude play a great role in how an error is judged. Correspondingly, a nursing instructor reports:

They can make a mistake; we expect they will make mistakes. Again, being prepared as much as possible is very, very important. I think I speak for the faculty in saying that it’s not that they make the mistake; it’s what they do about it. They must be ready, willing and able and anxious to go to the instructor or the primary nurse, whoever, to say this is what happened so that we can make our mistake good, correct our mistake

“Ready, willing, able and anxious” is an emphatic statement about expected student attitude and response toward an error. The expectation is that the student recognize and report what has happened. Being open and honest and not trying to cover it up is of great importance. Continued referral to habits of telling the truth and not covering up develop habits of integrity in the student. Again in this passage the importance and expectation of preparation for possible error was expressed.

Students affirmed that the message of not hiding a mistake and telling someone about it was received. In this next example, the student relates that walking away from a mistake is an indicator of a breakdown in good nursing practice.
STUDENT: If you make a mistake, “Great! Tell me about it”. Don’t walk away from it because if you walk away from the mistake now, you’re going to walk away from it when you’re on the floor and you cannot do that. And that’s one thing that I have a great appreciation for in nursing, period. That there’s a certain respect for integrity. It doesn’t matter whether you’re right or wrong so much as did you do the right thing? And I think that differentiates us from a lot of different professions.

The student articulates a great appreciation for “doing the right thing”. The student links the honesty and integrity found in the practice of nursing to the act of admitting to a mistake. This student shows how the possibility of making a mistake, an error, or experiencing a breakdown begins to become embodied in the developing nurse. The importance of recognizing an error and telling someone about is emphasized. Not walking away or covering up one mistake leads to a slippery slope of hiding and covering mistakes. The integrity that is so important to the profession is developed here in the quiet, private nuanced space of the developing practitioner. This student recognizes integrity as a keystone to practice.

Discussion

While this study shows that instructors often focus on medication errors when teaching about patient safety and medication errors are a major and essential issue in safer nursing practice, other aspects of nursing practice breakdown were not as frequently addressed. The TERCAP (Taxonomy for Error Reporting: Root Cause Analysis and Analysis of Practice Responsibility) audit identified eight categories possible causes and contributive factors of practice breakdown and serious errors made by nurses (Benner et al., 2002). They are: (a) lack of attentiveness; (b) documentation errors; (c) lack of agency/fiduciary concern; (d) inappropriate judgment; (e) lack of intervention on the
patient’s behalf; (e) medication errors; (f) lack of prevention; and (g) missed or mistaken MD orders.

In this study, for example, attentiveness, and frequent monitoring of patients for specific responses to therapies were seldom included in the discussions about error as a potential area of nursing practice breakdown. Failure to detect the subtle signs of a patients changing clinical condition were not mentioned by faculty. Yet failure to detect and intervene in a timely and effective manner is a major responsibility and intervention belonging to nurses (Clarke & Aiken, 2003). Lack of prevention such as avoiding the hazards of immobility and iatrogenic causes of patient harm such as skin breakdown, contractures, loss of continence, falls, stasis pneumonia, or ventilator acquired pneumonia were seldom emphasized as specific areas of nursing practice breakdown. Students may not have enough contact with patients to see the results of not preventing complications. Student nurses’ cumulative contact with a single patient may be limited. But it is also possible that this is considered as a standard of good practice in nursing school that students are closely accountable for, and therefore these essential aspects of good nursing practice seldom are actually omitted by nursing students.

The researchers specifically questioned students and faculty about errors of clinical judgment. Students and faculty alike agreed that this form of practice breakdown was harder to detect, and perhaps under-monitored and attended to by both students and faculty. However errors of clinical judgment were sometimes treated by faculty as areas of lack of knowledge and clinical exposure. One instructor when asked specifically about possible errors that were not medication errors stated,
Usually when I’m going through their charting, I’ll ask them; did you check the IV site? Or did you listen to bowel sounds? Or did you look at the incision? And they’re like oh, I never did that. Well then, they have to go back in and check it.

These types of errors in charting could be seen as errors of omission because the student simply does not know that they are suppose to be charting on all of these symptoms, or possibly do not know that they are supposed to make assessments about these other aspects of the patients, or they don’t know how to do the assessments and integrate them into the whole picture of the patient. Here the instructor says they admit, “I never did that.” The instructor catches the omission, questions the students, and finds out that they did not do an assessment.

Clinical judgment is typically taught, not in relation to errors and patient safety, but rather in terms of learning how to assess patients, how to set priorities, and how to judge patient responses to therapies or medication (Chapter 5, Benner, Sutphen, Leonard, & Day, In Progress). Patient advocacy was strongly valued by students and faculty interviewed, yet students identified examples of failure to advocate for patients as a sub-standard practice on the part of staff nurses. Students highly valued advocating for their patients and considered a wide range of practices as patient advocacy such as translating training materials for non-English speaking patients, encouraging patient privacy and confidentiality, and spending extra time and listening to an anxious patient. However, neither students nor faculty explicitly identified lack of advocacy as practice breakdown.

Nursing students are at particular risk for communication breakdowns since they are on the units for limited periods of time and are neither regular members of the team nor regular participants in the channels of communication. For example, in one situation a student communicated information to a patient regarding the progression of his disease
before he had talked to his physician. In another situation the patient was self-administering insulin and it was not communicated to the nursing staff or the student, and the student delivered a second insulin dose. In any study of errors in healthcare, insidious communication failures are difficult to discover and explore (Sutcliffe, Lewton, & Rosenthal, 2004). Failure to communicate as was studied in Silence Kills (Maxfield, Grenny, McMillan, Patterson, & Switzler, 2005) is rarely mentioned as a source of student error. The Sutcliffe study found communication as the source of over 90% of the errors discovered and provided a contribution to understanding the methods of obtaining such information. Communication failures between nurses and physicians are introduced by Sutcliffe and like all of the communication relationships reported in the Sutcliffe et al. study, are potentially sources of devastating medical error. Patterns of communication and breakdowns in communication that are particular to nursing students, faculty, and those with whom they interact require further study.

Limitations

This study used a purposive national sample since the goal was to explore excellent examples of nursing education rather than a random sample of nursing schools. It does not represent the full cadre of all nursing schools, types, and student profiles. However it is a select sample from excellent schools of nursing. Readers are cautioned about making generalizations from this study. It is more appropriate to see commonalities across different schools and groups in an interpretive study. Family resemblances and distinctiveness are the analogies used rather than sameness or context-free elements that can be generalized across situations.
The stories and examples obtained in this study were always parts of larger interviews focusing on teaching and learning practices. Time constraints and a desire to create a complete picture of the developing practice often prevented interviewers from focusing more comprehensively or with more breadth into stories of errors. A more focused approach on just student errors could be attempted but without the larger study context and it might not achieve the same ends as this study because of the change in the context of the study.

The CFNNES study only looked at students educated in the selected schools of the Carnegie Study. Admittedly, these schools were chosen because of their reputation for good nursing practice and their geographical representation. All of the schools in the study were located in the United States, so the results of the study cannot be generalized to nurses educated outside of the United States.

Summary and Conclusions

The nursing school environment is one where students practice aspects of the role of the nurse and gradually take on more responsibility. Explicit and tacit safeguards are built into the attendant social relations. Students are closely supervised by their clinical instructor and a licensed nurse is ultimately responsible for the assigned patient. Training prior to performance is expected and students are expected to identify what they don’t know and not take risks beyond their understanding. Students are expected to come to clinical prepared for their patient assignment. Performance is limited to assignments that are not beyond their scope of ability. Repetitive training on tasks and procedures is done in simulation or imagination prior to performance, and checking and rechecking is expected. Habits of safety are incorporated into teaching and learning from the beginning.
of nursing school. Intense questioning, sometimes known as pimping, keeps the students concerned, engaged, and participating and teaches the student by absorption what it means to think like a nurse. Preventing and avoiding error is the focus. But balancing close supervision of the student with allowing the independence and autonomy required for learning is a challenge. Trust is built on elaborate scaffolding of fulfilled mutual expectations. It is important to understand this elaborate scaffolding, because it is within this context that errors and practice breakdown still occur.

Faculty need to be engaged with students in the practice setting in order to know how to advance responsibilities, so that the student is able to move toward a full practice. Many faculty seem to know intuitively, they sense a dangerous student or advance the ones that they fully trust. Faculty are wary of the overly confident student and students who do not ask questions. Faculty must always have one eye on the patient and protect the safety of the patient while advancing the student. This remains a challenging and delicate act of balance. We found few assessment procedures that could validate the faculty self assessment of students safety, and this is a definite gap in teaching and learning for patient safety.

Habits of practice are learned through peripheral participation in the practice. The experience of errors and practice breakdown give students the opportunity to see integrity and habits related to it in action. Recognizing an error, telling someone about it, speaking the truth as it is known are behaviors that are respectful of the integrity of the profession. Novice performers in a complex and underdetermined practice are going to make errors and doing the right thing about those breakdowns is a value that is universally taught and modeled by nursing faculty we studied.
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Reference List


CHAPTER FOUR

Narrative Pedagogies: The Use of First-Person Experience-Near Narratives to Learn and Teach about Patient Safety

Abstract

When exploring the way that nursing instructors teach students about errors and making mistakes and patient safety, it was found that instructors use first person experience-near stories to teach students. The faculty stories of their own errors and breakdowns illustrate the power of being pulled up short as the stories are passed on to new generations of nurses. Using cautionary tales nursing instructors point out salient aspects of practice, illustrate important aspects of patient safety, and create a safe space for the student to learn to share their own errors and experiences of practice breakdown.

Introduction

Nursing students learn nursing practice through a complex, integrated set of apprenticeships (Benner & Sutphen, 2007; Sullivan, 2005). These high end apprenticeships are comprised of cognitive knowledge, skilled know-how, and the development of ethical and moral values (Sullivan, 2004) and have been identified in the development of at least four other practice professions: medicine, law, engineering and the clergy ("Preparations for the Professions Program Phase 2. Overview", 2003). Within these apprenticeships many teaching strategies are employed. Nursing faculty and students engage in narrative pedagogies using experience-near, first person stories. We found narrative pedagogy was used extensively to teach about and to warn of possible practice breakdown and to teach about patient safety.
Practice professions rely on experiential learning to varying degrees (Reed, 1996). Nursing depends heavily on the clinical practicum to provide direct learning experiences. Nursing faculty share stories from their own clinical background to extend the range of clinical situations that enhance student learning. Students too are encouraged to share stories from their clinical practica in the post-clinical conferences that are commonly held in nursing schools. Taylor (1985) used the term, creating a space of “entre-nous”, to indicate a unique space where two or more people could share common concerns and focus together on those concerns. Faculty create this public space through sharing breakdowns of practice in their own experiential learning, which provides public dialogue from which students and faculty can consider the practice together.

This study was part of a large interpretive ethnographic study, The Carnegie Foundation National Nursing Education Study (CFNNES), where best educational practices within nursing schools were explored. When the study questions were developed, no specific questions about the role of faculty sharing experience with the students were included. Responses about sharing experiential learning were obtained inductively from asking questions such as, “How do you teach your students about error and practice breakdown?” After reviewing the interview text from the study and particularly the text from the questions that were asked about error, it was evident that many faculty members share stories of their own practice breakdowns and errors with students, sometimes individually, but often in their clinical groups. This paper explores what it means to faculty and students when such first-person learning experiences are used as a teaching strategy. Specifically the aims are to identify those stories that faculty tell, identify comments about what it means to the faculty to share their clinical learning
experiences, and to articulate the purposes, and meanings of this commonly used pedagogical strategy. The language of sharing is examined as a pedagogical strategy to convey the social embeddedness of an ethos of “doing no harm” and promoting “beneficence” in a professional practice. Students’ responses to listening to faculty stories and what meanings the stories hold for students are examined as well as students’ use of their own clinical experiences for the benefit of their classmates’ learning.

Design of the Study

The CFNNES explored the professional education of nurses at nine nursing schools throughout the country. Schools were chosen by reputation, geographic distribution, and availability during the times of the study. At each site visit a team of approximately five researchers interviewed and observed students, faculty, and administrators. Interviewing protocols, modeled on previous professional studies in the larger Carnegie Foundation Preparation for the Professions Study were developed prior to the site visits and some questions were edited so that they would be appropriate for nursing schools and some additional questions were added that were specific to the experiences of nursing school.

Narrative text was recorded from individuals in person and through phone interviews, focus groups, and clinical observations. All individual interviews and focus group interviews were recorded and then transcribed. The participants in the study included directors, participants in faculty focus groups, preceptors, students in student focus groups, students in narrative focus groups, students in the clinical conferences and their clinical practica for a total of 588 consented faculty and student participants. Human subjects’ approval was obtained from the Committee on Human Subjects Review at the
University of California and through the Institutional Review Board at the Carnegie Foundation.

The interview text was then coded by the research team into twenty two nodes in NVIVO, a computer program specifically designed for qualitative research. NVIVO had also been used by the other professional studies at the Carnegie Foundation. For this particular paper, the text relating to responses that was coded to the error category was explored. As text in the error category was read repeatedly, a theme of faculty sharing breakdown and errors emerged. The text disclosed that there was a commonality among the schools about sharing breakdowns in practice and errors. Faculty used their experiences to teach students or make a point salient when working with students. These exemplars were studied further for their use as a pedagogical strategy and for their meanings.

The Findings

Sharing Mistakes

Numerous examples of faculty teaching students about the possibility of errors, and the nurse’s professional responsibilities in relation to making errors were evident in the narrative text. The following themes were identified: 1) themes of getting the students attention, 2) creating a sense of salience by bringing risks and threats to patient safety to the forefront, 3) modeling self disclosure and humility and 4) acting as a bridge from what once happened to the present.. The prevalence of sharing their mistakes and breakdowns in practice as a pedagogical strategy is illustrated in the following passage.

INT: What do you teach your students about handling errors or mistakes?
INSTRUCTORS (multiple voices): I’ve told them in pharmacology and then I tell them as seniors these are the errors I made the first time I did this, I gave that. And I've told students errors I've made as a nurse. We all have.

In this brief exchange this group of instructors indicated that they all share mistakes and errors that they have made in their years of practice. Students appear to be told about practice breakdowns multiple times by multiple people. Sharing errors seems to be a matter-of-fact occurrence and routine to these instructors. One result of sharing an experience is that it allows students to learn about the world nursing practice. Nursing faculty and students spend a great deal of time together teaching, learning, observing discussing and reflecting. When faculty share mistakes and learning experiences, it is done for many reasons such as to make a point salient or to make it clear to the students that making and dealing with mistakes is a part of practice. Consequently this practice elicits various responses in the students. The narrative text disclosed many of these in the stories that faculty related. The broadest interpretation of the pedagogy of owning and presenting their own mistakes is that as member-participants of a practice, it is the responsibility of practitioners to make public what they learn experientially, whether through excellent practice as in detecting early changes in a patient’s condition or in falling short of the standard of practice, or making an error. Breakdowns in practice are considered to be high stakes learning, or high cost experiential learning, costing patients and staff members alike in terms of safety and harm, and it is the responsibility of the practitioner to make that hard won knowledge public so that the same error is not made again.

A second central goal is to ensure that system repair and redesign can happen so that the mistake is less likely to occur again. This stands in stark contrast to competitive
individualism where the goal is to present only one’s best or most heroic practice. The practice responsibility of member participants of a practice is to share the full gamut of hard won, high stakes experiential learning. This was the spirit in which these faculty and students alike disclosed their practice breakdowns and errors as a means of participating in a self-improving practice honoring high stakes learning so that no future patient or student would have to suffer a similar error.

Attention Getting

Meaningful information comes from telling stories of breakdown. Students absorb learning from practice through these stories. The stories themselves are often of a startling nature. The following story related by a classroom teacher places the teacher into a time when she was a junior in school, relating to exactly where her student listeners are in the program. She shares a story that would be shocking to a novice.

TEACHER: I don't teach clinical, but...one of the very first classes...is the one I was telling you about, where I'm talking about the novice to expert thing. I share with them very openly an incident that happened when I was a junior, exactly where they are at school, where my friend and I were novices, we had a man turned over on his side, dealing with that very specific thing -- this bedsore -- he threw a PE [pulmonary embolus] and died, and we didn't know it. And I looked at him, and I didn't know dead when I saw it. And I said he looks funny. I mean, because he looked funny. He was blue. He wasn't breathing. But we were novices, because we were very focused on this thing [the bedsore], and he was right out of the intensive care unit. He actually was someone that a student should never have been taking care of, particularly juniors.

But, anyway, in that horrible moment, my instructor walked by, and she heard "he looks funny," and she immediately knew what was the problem. And in my memory she was airborne. I'm sure she wasn't. But she called a code, she started CPR, and Niki and I stood there, just with our jaws open. And I share that with the students, and over the course of the time I teach them, I refer back to that, because it's a story that catches their attention. But it allows them to know we have all been there, we all been caught by surprise, and been in situations over our head. We have all made mistake. If it was a mistake, let's look at what led up to the mistake. Were you tired? Were you not paying attention? What
happened? Or was there an institutional thing that happened? And let’s deal with that. I’m not particularly punitive.

The teacher shares openly this very frightening experience, creating a space where it is acceptable to disclose something that was a breakdown in her developing practice. It was probably not a mistake or even preventable at the point that she had contact with the patient. This is a space that faculty can share for nursing students. There is a sense that this may be the first time that this space of exploring high stakes learning or practice breakdown is opened up for these students. From the simple act of turning the patient over to treat a bedsore, he dies. The teacher arouses the feelings and emotions of what it must be, to be a novice and not even know what happened and what “dead” looked like. She says, “He looks funny. He turned blue and wasn’t breathing.” At this time the student has no descriptive distinctions for what she is looking at, but the student senses that the way the patient looks is not normal. The patient had just come out of the intensive care unit and later as a nursing instructor, she realizes that it was not clear to her why he was even assigned to students.

Next, as a teacher being interviewed, she explains why she refers back to this story. First she states that this is a shocking story that grabs the students’ attention. Pulmonary embolism and its nuances, is a condition and situation that they are not yet familiar with, but they are familiar with turning a patient over in bed to attend to a skin breakdown. Normally, the patient does not die. Besides getting the students’ attention, placing the students in a familiar situation such as turning a patient, allows the instructor and the students to share a familiar activity, we as nurses hold this in common. Most of the time there is no incident when you turn a patient, but this time there was. There will be times when you find yourself in situations that you may not feel prepared for and
something unexpected happens. “We have all been there. We all make mistakes.” While technically not a mistake on the student’s part, the story of breakdown creates an opening for students to speak about their own experiences of being pulled up short and practice breakdown. These comments are meant to reassure the students as well as serve as a warning.

The teacher then goes on to explain the story as it unfolded. As novices these students did not understand the insidious nature of pulmonary emboli and believed that they somehow caused this man to die. Nurses, as they become more experienced in their practice, realize that any patient in a hospital bed is more prone to clotting problems. Immobility is a real and usually manageable nursing problem and nurses learn that emboli are only one of the reasons that stressing early mobility is so important. But as these juniors found, they did not have the situational experience to understand this, and only later did they understand that anyone turning this patient would have caused the same result.

Her instructor overhears the comment, “he looks funny”, and in what appears like flight to the student, “she was air born”, sets in motion all of the activities of resuscitation. She captures the sense of what it is for a novice to witness these actions. “Niki¹ and I just stood there, just with our jaws open.” At this point the listening students are probably fully engaged in the teacher’s story.

INT: What did your instructor say? What was the outcome?

TEACHER: He died. They put a pacemaker in him right there on the code and took him back to the SICU (surgical intensive care unit) where he died. But our instructor took us to lunch. We sat there. I remember not even being able to eat. I knew I had killed this man. And at some point later on in my career, [I

¹ Pseudonyms rather than actual participant names are used to protect confidentiality.
understood] of course I didn't kill this man. He was unstable. He had gangrene in his feet. He was going to die anyway.

Here she relates how it feels to think that her actions killed this man, “I remember not even being able to eat”. Even though her instructor takes them to lunch and tells them it was not their fault, she says that it was not until years later and much more experience that she really understood that death was inevitable for this patient. The tension of the situation gives way to laughter about other things that had occurred. The setting of being at lunch and talking about death in one moment and then laughing about other things is common to extreme situations such as this experience. Telling the story puts not only a human face on the teacher, but also provides for the students an enlarged understanding of this experience. As seen through the eyes of a novice it was gut-wrenching, potentially career ending. Kerdeman (2004) speaks about the kind of experiential and situational learning that occurs in such an event as “being pulled up short”. Being pulled up short is the kind of learning that occurs when things do not go as planned, where the learner is caught off guard, and where expectations are upended. This kind of learning can be transformational. In relating the story of her own experience, the instructor is providing an animated vicarious second hand experience for the students. In the case of making an error or mistake, relating a first hand experience may prevent other students from making the same error and save patients from experiencing the same breakdown. When students’ emotions are dramatically engaged in the retelling of the story, the situation becomes memorable. Vicarious learning from another’s failure is a common benefit of “cautionary tales.” The story may prevent the student from being pulled up short in a similar situation. With all pedagogical practices there is no guarantee of learning that comes with the retelling of a “cautionary tale."
The compassion of her instructor becomes a formative event for this teacher. The instructor explains to her that dealing with the unexpected is a natural part of the process of nursing. She hears the words from the teacher and at the time the words helped her deal with the pain and upheaval or in her words, “absolutely heartbroken and terrified”, of being pulled up short. The instructor was there being supportive instead of criticizing. It is not until years later that the teacher realizes that dealing with this level of uncertainty is endemic in the underdetermined nature of nursing practice. It allows for modeling, caring, understanding, listening, and reflecting that helps students and faculty alike develop an active learning community where there is a high degree of sharing and extending experiential learning to the group members (Wenger, 1998).

TEACHER: But our instructor did take us, and by the time we finished eating, she had let us know we were not at fault, we had some things to laugh about, and she made it human for us…And because a teacher did that for me, I will do that for another student, because she showed great compassion when I was absolutely heartbroken and terrified. And now I will sit down with a student,[and say] no, you probably didn't kill anybody. We really don't do that very often in our profession. And I think that is a myth that we perpetuate on students to keep them in line. We do not kill people very often.

Taylor (1985) discussed the effect that language has on creating a public space. "Language creates what one might call a public space, or common vantage point from which we survey the world together" (Taylor, p. 259). Sharing ones’ old, but memorable practice breakdowns opens a space of rapport between the instructors and the students that would not ordinarily be there. Taylor stressed that the public space is not just a place of communication where information is conveyed or transferred but a richer space where participants are focused on a common concern. It is a place where new meanings become constitutive or new identities conferred for the members of the group (C. Taylor, 1985). It is an opportunity to create in the faculty-student relationship an area of shared concern. It
can also create the possibility for rapport between the students and the instructors that allows for further sharing. Creating such shared spaces is central to nursing practice. The instructor opens up a place with students where they are both concerned about patients and errors, and their professional responsibility in such situations.

Because her clinical instructor sat and listened, explained and showed great compassion, this teacher learned something important and worth passing on about teaching nursing. Reassurance, support, and encouragement are an essential part of the work of nursing faculty and nurses. It was important to hear, “No, you probably didn’t kill anybody.” Patients die of their own disease process and life comes to an end and often in the presence of the nurse. But the likelihood of killing someone is small. The space created by the story discloses a common ground where nurses are concerned about the responsibilities that they shoulder. The teacher uses a pedagogy of vicarious learning where the student can see how to comport oneself at the very edges and margins of the practices, in the clinical situations that you cannot plan for, but must somehow have some induction to so that as a beginning practitioner you will be able to comport yourself in a manner similar to the instructor, and feel the solidarity of the student’s own survival and experiential learning.

If the instructor had been silent or taken a punitive approach toward the students, the students would possibly have lived for years with the belief that they killed the patient. Even though the reporting student heard that she was not at fault, it was not until she had gained experience years later that she understood what had happened and was able to own the absolution the instructor had offered many years earlier. Instructors who don’t communicate with students or are actually punitive in their response, miss the
opportunity of modeling compassion and understanding of the complexities of learning the practice. Although Geertz (1973; 1983) wrote about first person experience-near narratives or stories in a different context, as he described them in his anthropological study, they can form a major pedagogy of clinical and ethical learning both from faculty and from students. Students, following their faculty member’s lead, also readily share their own breakdown stories in the post-clinical conferences so that their classmates can benefit from their “mistakes,” from their high stakes learning. These first-person, experience near stories include detailed descriptions of the experience including what the student or faculty member was thinking and feeling at the time of the incident. No student should have to repeat the same expensive learning and no student should have to suffer the same problem seems to be the social contract among the nursing students’ and faculty learning communities in the classroom, skills lab, and in the post-clinical debriefing sessions.

*Creating a Sense of Salience and Bringing Meanings to the Forefront*

Another pedagogical reason that faculty shared their mistakes with their students was to bring salient situated or contextual information to the attention of the students. In relating the story of an error instructors can bring explicit awareness to a particular subject. These are “cautionary tales” that dramatize and illustrate the significance and function of various safety rituals common in nursing practice. For example, it is one thing to tell the students to check the patient’s armband prior to delivering a medication, and quite another to relate a story where the instructor, early in her own practice, did not check the armband and suffered the consequences.
INSTRUCTOR: I teach medication administration…and I always use myself as an example because they [the students] have a medication administration record that has a list of the meds and names and everything we teach them. You must take that into the room and identify your patient, even though you’re caring for one patient … right outside the room, get in the habit, always do it. Because I say, the day I learned that I had passed my boards, I made a medication error and I describe it …It was at the hospital here and at that time there were four, six, eight, ten bed wards and I had a ward of four jovial, young men and I was, you know, twenty-one and they were teasing me and making fun of me. And we drew up our own meds and put them in med cups. And I went into this room with the four men and I had two medications on my little tray, which now, [since then] you know, they eliminated that error possibility by not having to do that. And I went up to gentleman number one with gentleman number two’s antibiotic and he happened to be allergic to penicillin and that’s what the medication was. His allergy, I believe, was nausea [and] vomiting, not the anaphylactic type reaction. So the outcome was not problematic for the patient but I didn’t take my little card and compare it to his name band and I’ll never forget that. It was in August of 1973 and the seventeenth, I believe - and I got my results for my boards that day because it was a very long period of time between taking that test at that time and [when] they get them back now. So I use that as an example and say, you know, even though you think you know who your patients are, always take that record, the medication administration record, into the room with you. I hope it teaches that we all can make mistakes, it’s not the end of the world, I learned from it, I remind my students every time now. And as a nurse I’ve made sure that even when I continue to work in the summer that I continue to practice those habits of always checking that name [band] with the patient.

The moral of the story is clear, if it could happen to the instructor as a newly graduated nurse, it could also happen to these students. While the students are not with the instructor on August 17, 1973, they are brought in to share in that experience. They are allowed to see how simple it is to get distracted and go to the wrong patient with the wrong medication. The story gives meaning and context to checking the armband before administering the dose. Notice that the instructor speaks vividly from her own experience, creating, what becomes a shared memory of a significant, meaning-laden event. There is danger, threat, and survival. When students ask questions she can answer, because she too still remembers. The day becomes marked for her as a milestone. She remembers it as a day that transformed her practice. There is now a shared meaning
between the students and instructor about why armbands need to be checked and patients need to be correctly identified. The story serves as a warning to the novice. You can never be too careful, and you may think that you know who your patients are. The instructor then talks about what she hopes is the result of sharing the story. That the students hear that it is not the end of the world if a mistake is made. Through the story, habits of practice such as vigilance and focus are reinforced by relating the experience. Even today as the instructor practices, she finds that she still remembers the breakdown and the memory reinforces her own habits of safe practice. As medication delivery continues to change, there will be new stories that instructors pass on to students about the importance of focusing, paying attention, and making sure that the nurse is with the right patient before doing nursing care. She stands in front of them as living proof that as awful as the experience was, she survived and even improved her practice, as a result.

The next instructor talks about sharing a story of delivering 10 times the ordered dose of a drug because of a missing decimal point. She tells this story in a class on thyroid conditions.

INSTRUCTOR: I was to give Synthroid I.V. to a woman who was hypothyroid. The order read 3. Which I thought was a very large dose. When the vials came up there were three vials to be reconstituted, which again made me think that this is too large of a dose, so I called the pharmacy and the pharmacist said, well, it is a large dose, but it is within the possible range of dosages. I had this icky feeling that it wasn’t right. I went to the patient and as I was pushing the I.V. med in, again, I had this icky feeling that it was the wrong dose. So, I then went back to the chart and looked at the doctor’s order, which I had not done, but should have done from the beginning. And it was an error of placing the decimal in the wrong place, so I had given ten times the amount of the drug that was intended. I went hot and cold. I thought well this is the end of my nursing career! I would lose my license. I called the doctor and told him about the error. “I am really sorry; I have made a terrible medication error. I gave your patient ten times the dosage of synthroid that was ordered. What can I do to help this patient? He said to watch her closely for arrhythmias, to carry Inderal in my pocket, ready to administer it to her if she had a tachycardia. I arranged with the other nurses to watch my other
patients while I stayed in the patient’s room. The patient became very antsy, and very hot then, for the first time after surgery needed to have a bowel movement. The patient dramatized all of the symptoms of hyperthyroidism. I fanned the patient. I put a cool cloth on her head, and stayed with her. Her pulse stayed below 120. She came through it without arrhythmias, but I will never give the wrong dose of Synthroid again, I will always check the original order and call the doctor if I have questions. I will never go against my instincts, overriding my icky feeling that this is not right. I learned that I could survive and continue to be a nurse even though I made a terrible error. I am grateful that the patient came through O.K. I filled out an incident report at the end of the shift.

She then discusses why she shares her mistakes with students.

INSTRUCTOR: But it makes it okay, in a sense, because they put you on this [pedestal], oh, you never made a med error. And I describe to them how a patient became hyperthyroid because of my medication error and how we handled it. They all get the hyperthyroid questions for the test.

An upending experience of making an error is vividly and dramatically shared with the students. It is a story that would terrify anyone outside of the nursing profession and also serves to grab the attention of the novice students. The instructor explains how talking about the error changes their perception of the nurse as someone with perfect performance, on a pedestal, where no mistakes are ever made. Again, the instructor creates a common ground of shared concern for the patient. She explains how the error was managed and how the response to the error then becomes a part of practice. It is a story of truth telling, integrity, and follow-up. Within the story of error, the instructor shares the responsible practice of nursing with the students. The details of the story and of the patient’s symptoms are so vivid that they all get the questions regarding the signs and symptoms of hyperthyroidism correct on the test that is given at a later time. Not only are the meanings related to hyperthyroidism made clear, but also the students hear about what it means to have integrity and take responsibility. The sharing in a public
space allows students to absorb some of the less teachable aspects of integrity, responsibility and honesty in responding to an error.

**Modeling Self-Disclosure and Humility**

In sharing their mistakes, instructors admit to vulnerability, to being human and not being some model of perfection. Instead, as the following excerpt shows, the instructor feels that the self-revelation that she doesn’t know something, opens up a clearing for students to say that they don’t know something in a clinical situation. Stressing the importance of researching information, asking questions, and seeking help no matter how experienced you are lies at the heart of this first-person experience.

INSTRUCTOR: And be willing to admit I don’t know everything ...I’m not aware...I often say to the students I don’t know everything so I often have to go back and ask somebody even though I’ve been doing this for years.

No matter how experienced a nurse becomes, it is important to hold a stance of curiosity, of not always knowing the answer. The experienced instructor feels that it is important to stress this to the novice students. It is all right to not have every answer. The instructor uses language indicating humility “I don’t know everything”, “I have to go back and ask”, and “I am not aware” [of everything]. This accurate and heartfelt revelation allows the students to relate to their own situation of being a newcomer in a complicated, complex profession. It is a healthy correction to the dangerous stance of mastery, which is dangerous because the student expects that he or she will “know everything” or assumes that they must know everything. The practice of nursing, like medicine, and law is under-determined, and requires an ongoing stance of an expectation of the ever present real possibility of breakdown (Weick & Sutcliffe, 2001). Also, to be viable, all practices must be continually self-improving and this requires responsible
experiential learning and responsible articulation of that learning in the practice arenas where other nurses and patients can benefit.

A Bridge from the Once to the Now

Nursing instructors provide a bridge from their own experience in practice to the experiences of the students. Gadamer (1976) speaks of making something distant close and using language to make the strange or unusual familiar. He speaks of language and specifically hermeneutics as “a bridge built between the once and the now” (p. 22). While his reference is about making antiquated biblical references relevant, the words of bridging what once occurred in the practice to the now, has relevance for any ongoing practice such as nursing and teaching. Nursing instructors admit to their own mistakes in the past and share them with students. The experience of making a past medication error now resonates with a generation of newcomers. Admitting to students who already fear making a mistake shows how there is a place in the practice where mistakes are somehow managed because, the instructor, after all, has survived and is here in front of the students to tell about the mistake.

STUDENT: Our professors admit they’ve made mistakes in the past and they tell us you are going to make mistakes but when you make that mistake you will never, ever forget it. It’ll be something that you will remember forever and you’ll never make that same mistake again.

In this example the student relates that the instructor provides a warning, “you will make mistakes,” and this is what the students fear the most (Pagana, 1988). But mistakes serve as an event of experiential learning that students do not forget. The act of the breakdown changes the situation and it also changes the person who has made the error. We remember our errors as those transition points in our lives where we were
startled and pulled up short. Our trajectory was altered and we are not quite the same. In never forgetting, errors become a part of experience, a part of learning, and a part of our identity as practitioners who can make an error, and the concomitant resolve to never make the same error again. “No one is perfect, we all make mistakes, you will never forget”. All of these quotes represent that mistakes and errors occur naturally in a practice profession such as nursing. Faculty want students to feel that it is a normal expected occurrence, to not hide the event, to responsibly manage the error minimizing the consequences to the patient and to make it a public shared learning event for the practice community. System repair or redesign may well come out of an error, but the practice responsibility for error is shared by all members-participants of the practice. This is central to being a member-participant responsible self-improving practice community (Benner et al., 2002).

In the next example, the student talks about remembering a personal story from the instructor about a medication error. The instructor’s story occurred once in the past and it becomes a part of the now, because the story serves as an opening into the practice. At this time the student has no particular event to attach the comment to.

FEMALE: At the same time, I remember that she told us her personal story of the time that she made the med error, so it kind of made it more [important], I’ll be really careful but at the same time to be honest. To just admit it and hold up the whole scenario and the one thing I think that I remember from that class. She kept emphasizing how important it was to just be honest with the patient that the mistake had been made because they’d probably be more grateful that you shared the information with them and just admit that you’ve made an error …

The student uses the instructor’s story as a warning and says that she will be more careful, and be honest if an error occurs. She seems to be trying on the language related to the story. She doesn’t have a real event to relate to, leaving her to conjecture how she
would handle a mistake. But the instructor’s words serve as a bridge and bring an awareness to the students that was not there before. It is important to be vigilant and careful. Furthermore, it is safe to admit to the error and important to be honest with the patient and important to be honest in documenting the error. The instructor’s words have provided a second hand experience, which gives the students access to the practice that they do not yet have.

*Student Sharing in Post Clinical Conference*

The bridge from the faculty to the students is actualized and reciprocity is accomplished when students begin to share those first person, experience-near accounts in post-clinical conferences. In the next two examples, stories of breakdown are shared. In the first story, the instructor explains how the student makes the error and then shares it in post clinical conference to prevent others from making the same mistake. In the second story the student shares a practice breakdown that she witnesses.

**INSTRUCTOR:** I had a student who was giving medications and had mixed up a medication and was using a needle and took the needle off with the syringe to go in the room, and I know she meant to put it in the sharp’s container but she was doing three things at once and dropped it in the regular trashcan. And I said, “You just put that in there”. And she [said] “Did I?” Immediately she started searching through the trash. And I said, “Get some gloves on and do it” We took the trash bag out but she immediately recognized the problem and started looking for it and disposed of it appropriately. She was the one to bring it up in post conference, she said, because “it happened so easily and I want to tell everybody else that I did it.”

**STUDENT:** I walked into the nursery, and there was a nurse there who said, “Oh, don’t worry about that baby. I just assessed her, and everything’s fine.” And I remember standing there thinking, oh good. But then I said, I can’t do that, you know, I can’t do that, and you can’t do that…I opened up the blanket and looked in, and sure enough, the baby was tachycardic, flaccid, and cold. That’s the day I realized the awesome responsibility to do our job because that baby was then placed in the incubator and intensive care and was there for at least a week. And I’m thinking how many hours would it have been ‘til somebody had actually, you
know, discovered the baby’s condition – I think that’s the day I realized that you
never -, you are responsible. I don’t care if somebody else has that assignment. If
you have anything to do with that patient you’re responsible.

By sharing errors made, witnessed, or prevented students disclose that the post
clinical conference is a safe place to discuss breakdowns in practice. The courageous
student in the first exemplar does not hide or cover-up that she made an error, but instead
sees it as an opportunity to warn her classmates how quickly and easily such a breakdown
can occur. Both of these cautionary tales teach the other students about aspects of
practice that are not easily taught in a classroom. In the first story the student is distracted
by other activities and mindlessly drops the needle in the trash. In the second story, the
student explains to her classmates how she recognized through her own actions, the
awesome responsibility of being a nurse. Even if someone tells you, its okay, you don’t
have to follow-up, as a professional nurse, you do have to follow-up and take on the full
responsibility of those in your care. The willingness of students to disclose their errors
and share them was evident throughout the interviews carried out in the CFNNES.

_An act of inclusion_

INSTRUCTOR: We’re human, you will make mistakes, but what do you do when
the mistake is made? And that process and how the faculty helps the students
walk through that process encourages them to do what’s right for the patient
because it’s not a punitive thing.

The use of the word “we” in the above exemplar indicates to the students that they
are included in the practice and part of that inclusion will unfortunately be in making
mistakes and experiencing breakdowns in practice. The language of the instructor makes
the students co-participants. She has created, with language, Taylor’s space of “entre-
 nous”(Charles Taylor, 1985). The instructor stresses the importance of doing what is right
for the patient. Moving right to the action of what you do about the mistake makes a difference. Experienced faculty can walk students through a mistake, because they have made mistakes before. The process is not punitive, thereby encouraging the students to report their mistakes. The focus is on transparency, accountability, and minimizing the impact of the error on the patient’s well-being.

INSTRUCTOR: My big thing is I always tell them… I mean, how many times have I made that mistake myself. I say we all make mistakes. Yeah, this is going to shake your confidence today, but you need to keep plugging away at this. Keep doing things over and over again. You’re going to build up that confidence with time. And I tell them you are my responsibility, you can’t be beating yourself up over something that I’m checking it, I’m watching you do. That’s why I’m here. So, don’t beat yourself up over something that I’m checking and watching over. You know, I just want them to know you’re here to learn, and that’s why you’re working with me today. So you can build these skills and you have somebody to do it with.

In this final example the instructor summarizes much of the rationale for sharing experiences of practice breakdowns with students. She includes the students as member-participants of the practice. She uses an attention-getting statement, “I say we all make mistakes.” She relates to the feeling of being pulled up short, explaining that the students’ confidence will be shaken. She encourages students to repeat what they don’t know over and over again, and eventually they will build up their confidence. The instructor takes responsibility for the students’ performance. “I’m here, I’m checking and watching over you”. Students are here to learn and learning is an integral part of a practice profession. Here the instructor’s goal is to provide a safety zone of supervision to decrease the students’ anxiety. As the student progresses in the program the level of supervision will diminish, but the student needs a time of feeling protected from making a mistake from a lack of knowledge and awareness of risks to patient’s well-being. This supportive reassuring stance helps the students prevent errors and get through the minor mistakes.
The faculty member acknowledges that it is normal to feel as though your confidence has been shaken to its core. It incorporates both the past and the future and negotiates the past experience with the present action. Instructors represent the history of the practice as a way of being a nurse, as a way of being a member-participant of the practice. They provide testimony as to what has gone on before, what is possible, expected and desired. In sharing their stories of breakdown, the instructors demonstrate good ethical comportment not as “perfect” practitioners, but as responsible, accountable and transparent practitioners. It is a courageous and practice building act.

Discussion and Implications

While some of the literature on medical error discusses a shame and blame culture (Jones, 2002; Kohn, Corrigan, & Donaldson, 1999; Lawton & Parker, 2002; Leape, 1994; Wachter, 2004), this research found that nursing instructors not only reveal their errors, but also they use them as a narrative pedagogy by telling stories of their own practice breakdowns to nursing students. These stories seem to serve several purposes. The stories open a public space that serves as a vantage point for sharing and discussing mistakes. They introduce the students to actual practice where things do not go as planned. They disclose a common ground and common concern for patients’ well-being and the ever-present risk of errors and the role of nurses in preventing and mitigating the harmfulness of errors that occur. The faculty seeks to change the students’ perceptions of perfect performance. The stories grab the students’ attention, serving as a warning and point to salient aspects of practice. They allow the novice to engage in some of the more difficult aspects of practice, albeit through vicarious accounts. The stories allow students to absorb
ethical components of nursing such as truth-telling, honesty, integrity, maintaining vigilance, and taking responsibility. The stories teach humility.

This paper examines a limited number of specific examples, consequently it cannot be all inclusive or exhaust the use of narrative pedagogies in teaching about patient safety. Further study on faculty narrative pedagogical strategies related to teaching students about errors and practice breakdowns may bring more examples and pedagogical strategies to light.

The narrative pedagogy of first-person sharing mistakes opens the practice to students. Faculty story-telling makes it easier for students to tell their own stories of experiential learning and practice breakdown in post-clinical conferences. Faculty hold a powerful teaching tool, their own stories of breakdown that can be used to teach in all aspects of nursing, but particularly in teaching ethical comportment the ethical apprenticeship where stories may help students to understand some of the aspects of actual ethical comportment in real situations of practice breakdown. Students may be surprised by the faculties’ stories, which reveal them to be less than perfect, but students say that they learn the importance of telling the truth and not hiding their errors. They may learn to be more careful and vigilant through this vicarious experience. They learn the nursing ethos for placing the patient’s well-being first which is a core or central notion of good in nursing practice.

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Reference List


CHAPTER FIVE

Summary and Discussion

The complexity of the care environment and the under-determined nature of nursing practice make the experience of error almost inevitable for nursing students. However, errors and practice breakdowns are subjects rarely studied possibly because of issues of method and the ethics of confidentiality. This dissertation describes nursing students' experiences of errors and practice breakdowns and faculty members experience and views of student errors and practice breakdowns. This study demonstrates that students are closely supervised in the nursing school environment because their entry into practice is through legitimate and initially limited peripheral participation, and faculty members are vigilant about patient safety and inculcate the nursing role of patient safety in their work with student nurses. The study concludes error and breakdown experiences are a central part of the formation of the character and identity of nursing students; and that patient safety is central to the self-understanding of becoming a nurse..

Chapter Highlights

Chapter two provided descriptions of how students experience errors. Although there may be additional ways that students experience errors and practice breakdown, anticipating, making, witnessing, preventing, and caring for the victims of errors were categories of experiences described by students and faculty in this study. The student experiences of making an error disclosed in this study were generally minor in nature causing no harm to the patient. In fact, many student errors were caught before being made, making them “near misses” rather than actual errors. We found that nursing educators teach nursing students about the possibility of making, witnessing, and
preventing errors. Currently this teaching and learning occurs primarily in the clinical settings. Prevention of errors and patient safety is a pervasive concern in nursing education. Students indicated that they were taught the importance of disclosing any errors, and were typically taught the appropriate response to limit harm to the patient and communicate to others what had occurred. Students tell about their experiences of breakdowns and near misses in post-clinical conferences making their experiential learning available to other students. This practice of disclosure of near misses, and practice breakdown in post-clinical conferences teaches the students to reflect on their practice and to share the responsibilities of taking up a self-improving practice. Students frequently prevent errors and these experiences are also shared and acknowledged to other students in post clinical conferences.

The experiences of errors and breakdowns in practice resulted in students confronting the responsibility of becoming a nurse in an abrupt and often dramatic fashion. The philosophical concept of learning through being pulled up short was introduced and shown to be an integral part of learning in the student experiences. The phenomenon of being pulled up short (Gadamer, 1975; Kerdeman, 2004) is introduced in chapter two and is a constant theme in all of the chapters. Students often are pulled up short when they make, witness, or prevent an error. Current teaching models and theories treat errors as single events that occur as aberrancies (Beckmann, 1995; Cook, Hoas, Guttmanova, & Joyner, 2004; Mayo & Duncan, 2004; Reason, 1990). This study demonstrates that errors or practice breakdowns that occur within the clinical nursing experience may have multiple contributory sources, and that as practice breakdown, they interrupt the flow of practice. A breakdown in practice safety may cause the nursing
student to be pulled up short calling into question their own assumptions, practices, and identities. Kerdeman points out that as a result of being pulled up short students learn to see the world differently. These experiences contribute to the formation of the character and identity of the developing nurse. Kerdeman identified being pulled up short as a powerful yet under examined way of learning. This research opens up the examination of the role of being pulled up short in developing as a practitioner in a practice profession. The fourth chapter demonstrates that the learning from being pulled up short is passed on to generations of new nurses through the pedagogy of sharing from the experience of practice breakdowns by faculty and students alike.

Chapter Three examines ways that nursing school is structured in order to keep students from making errors. Students are introduced to the community of nursing practice through legitimate peripheral participation (Lave & Wenger, 2006). We found that the gradual introduction of responsibility is a hallmark of good nursing education. Skills, practices, formal and informal procedures are used by faculty and embedded in the everyday work of the student; all directed at preventing patient harm and teaching the student how to prevent harm. Students are routinely and consistently taught habits of patient safety. Providing for patient safety is an explicit expectation of nursing faculty for students. When students do experience a breakdown in practice or make an error, faculty members encourage the student to identify the event as an opportunity for learning. Faculties use these opportunities to teach integrity, to stress honesty, and to emphasize such things as vigilance, focus, and mindfulness in relation to practicing safely and preventing error. Patient safety is so integrated with the education of nursing students that it is ubiquitous. It may seem invisible because it is so well entrenched in the expectations
of the nursing role to prevent hazards common to hospitalization and to promote patient safety (Benner, Hooper-Kyriakidis, & Stannard, 1999).

Chapter Four disclosed a narrative pedagogical strategy used in nursing schools. The instructors used their own experiences of errors and practice breakdown in order to teach students and make lasting impressions on them about certain salient aspects of practice. Sharing a story is an opportunity to teach and model through first person experience near accounts as described by Geertz (1973; 1983) and make visible aspects of nursing such as compassion, caring, and vigilance that are difficult to teach in a lecture setting. The disclosure of an error or breakdown creates a public space between the student and the instructor where errors can be shared. Taylor's (1985) philosophical understanding of what it is to create such a public space is used as an underpinning of this paper. Gadamer's (1975) words "a bridge from the then to the now" convey the passing of information in a practice to new generations which is a moral and ethical responsibility in all professional practices. The opportunity to share errors and breakdowns in nursing practice models the transparency and self-disclosure behaviors that are encouraged in error prevention (Aspden, Corrigan, Wolcott, & Erickson, 2004; Greiner & Knebel, 2003; IOM, 2001; Kohn, Corrigan, & Donaldson, 1999; Page, 2004). We found this sharing of cautionary tales to be a commonly used pedagogy in the nine nursing schools in the study.

Discussion

On the basis of this study alone, it is difficult to say if these are the only ways that nursing students experience errors and practice breakdowns. However, the recognition that students experience errors in at least five ways opens possibilities for further specific
research focused on the anticipation, the making of, the witnessing, the prevention of, or student reaction to caring for patients who are victims of an error. Additional research seems needed as each kind of experience has subtleties and nuances that require further study.

This study demonstrates that faculty members are aware of the likelihood of errors and breakdowns occurring in nursing school clinical experience and nursing practice. Faculty members are encouraged to continue to prepare students by explaining that errors and practice breakdowns are a possibility and the experience may not always be one of making an error, but also one of preventing and witnessing. As shown in chapter two and three, the approach that the schools in the study took included both the formalized aspects of taking responsibility such as recognizing and reporting as well as aspects of ethics such as truth-telling, professional responsibility when making, witnessing or preventing errors, and learning from the breakdown. Paths of trajectory help to shape the learning of the novice and since previous research and this research show that students fearfully anticipate making errors, it suggests that instructors may want to continue to provide examples of experiences and clarify that errors may occur and the response to them must be open and honest. It seems prudent to continue to inoculate students with the fact that errors do and will continue to happen despite the best efforts at preventing them. It will always be essential to deal with errors immediately and forthrightly in order to minimize harm and contribute to a self-improving practice.

The impact of the experience of being pulled up short is illustrated in chapters two, three, and four. Being pulled up short is a powerful learning experience. In providing for clear trajectories faculty can warn students that this experience may occur,
and is painful and unavoidable. Instructors can also point out the importance of staying open to this experience rather than fostering the idea that it is possible to always prevent, or avoid error. The most egregious error is to cover up an error, leaving unaddressed the potential harm to the patient and prevention of future similar errors. This study suggests that learning from the experience of being pulled up short increases vigilance and mindfulness, and makes nursing students aware of the risks inherent in nursing practice. Being pulled up short typically heightens the student’s awareness about honesty and integrity. Chapter four shows that nursing instructors remember their errors and breakdowns as transformative learning experiences and share them with their students. Therefore one may conclude that this experience transforms the identity of the developing nursing student.

Students discussed the internal conflict they felt when witnessing other health care providers’ errors and breakdowns. They may or may not know how to manage the situation and confront co-workers. As in cases discussed in this study, the instructor may intercede, thus modeling the required behavior to confront someone about an error or practice breakdown. Yet, as one study showed, eighty percent of health care workers were found to remain silent and not confront co-workers. (Maxfield, Grenny, McMillan, Patterson, & Switzler, 2005). Witnessing an error and remaining silent about it is likely to occur in practice. Further study to explore how new graduates respond to witnessing an error or breakdown may help to explore this perplexing breakdown which the graduate nurse will eventually confront in practice. Further study which explores cases where students have either confronted the breakdown themselves or faculty has confronted the
breakdown may disclose effective methods for confronting and managing this difficult area of practice.

Faculty members sharing their own experiences of errors and practice breakdown was found to be a common pedagogy. The practice of relating their own experiences of errors and breakdowns is so common that it may go unnoticed, yet these cautionary tales serve as a window onto the world of real nursing practice for students. These tales create a sense of reality, distinguish salient features, and make visible what is at stake in practice. These breakdowns in practice are high cost experiential learning and instructors grasp that it is their responsibility to make this painful, transformative learning experience public so that the same errors are not repeated by their students and to model appropriate behavior for students.

One possible result of this level of sharing and self disclosure is that students readily told their stories of error and breakdown to the researchers. They talked about their stories as learning experiences for themselves and cautionary tails for others. They stressed that although sometimes difficult and painful, they learned from the experiences. This is a valuable pedagogy already in place in many nursing schools and reinforcing and strengthening this practice of sharing cautionary tales is recommended.

Other literature identifies the contested nature of the term error (Cook et al., 2004; Meurier, Vincent, & Parmar, 1997). In nursing research the practice of disidentifying and redefining error has been found (Arndt, 1994; Baker, 1997). The discussion of faculty members in chapter two demonstrates the challenge of defining and identifying an event as an error. Yet, the qualitative distinctions provided by students and faculty members in the examples illustrate the value of the descriptions. In these descriptions, events can be
examined in the context of what occurred. For example, what may appear as a medication error because the same medication is given by two different people is shown to be a communication error as well. The context and situation provide for clarification and get at underlying problems. As other research has shown communication breakdowns are insidious (Sutcliffe, Lewton, & Rosenthal, 2004). Further exploration of the relationships of the students to co-workers and the role of communication in student errors and breakdowns would be valuable.

This study explored the best practices in nine nursing schools and shows that the avoidance of errors and practice breakdowns are a seamless, routine part of the actions, procedures, and rituals that can be found in clinical teaching. Chapter two revealed that practices that promote patient safety were abundant and embedded within these routine activities. Nursing faculty are vigilant in preventing nursing students practice breakdowns, particularly medication errors. Close supervision, training prior to performance, mental simulation, skills laboratory simulation, pre-clinical preparation, checklist rituals such as the six “rights” and nameband check, and task repetition are some of the ways that the activities of the school promote patient safety. Nursing schools may consider these teaching practices to be a benchmark for safety and examine their own curricula to determine if these practices are in place. For example, allowing students pre-clinical preparation where they can look up interventions and treatments, they can project a plan or care, and can work off of this plan incorporating deviations in the actual situation helps the students to capture and articulate their experiential learning, perform more safely, anticipate patient needs, and problem solve in order to improve practice.
Faculty members struggle with their dual goals of promoting patient safety and preventing student errors, and allowing students to learn from errors. In all the schools we visited we found a robust nursing culture of open discussions of practice breakdowns so that other students could benefit from another student’s experiential learning. The high risk nature of errors threatens patient safety. Yet instructors understand that these nursing students will soon be graduate nurses and expected to perform in complex situations. Balancing patient safety needs while trying to produce a functioning clinical nurse remains a challenge. The image of the instructor on the student like “white on rice” in chapter three does little to aid the expected independent and autonomous performance expected from a graduate nurse.

The TERCAP study discussed in chapter three identified eight areas of practice breakdown where serious errors occur (Benner et al., 2002). We found a focus on medication errors when we asked faculty and students about their error. While trying to get participants to focus on other types of errors, the conversation would often shift back to the clear cut and easier to report medication error. Yet it is not clear whether students experience errors and breakdowns in the same categories found in TERCAP or whether they are harder to detect. For some of the identified TERCAP areas such as lack of prevention, the student has limited and peripheral engagement with patients, so that they may not know if they contributed to through failing to intervene, skin breakdown and contractures. Errors in judgment are also harder to detect unless the outcome for the patient has resulted in obvious harm. The close supervision of the student in their clinical practicum provides safeguards which would likely prevent an error in judgment from
hurting a patient. Rereading our text and exploring it through the lens of the
categorizations provided in the TERCAP might provide additional insights to this text.

At least three additional manuscripts are anticipated from this dissertation research: further examination of what it means to anticipate an error, distinctions in language as described by faculty and students of the meaning of an error, further exploration of what it means to bear witness to someone else making an error and the ethics and challenges of disclosing a witnessed error, the contribution of the student in preventing errors, how the experience of being pulled up short causes some students to question their identity and how that identity is confirmed by working through the experience. Chapter two was lengthy and may be divided into at least two different manuscripts. There will be a greater focus on what students learn from each type of experience.
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