Simulating Nursing: Rhetoric, Materiality, and Disciplinary Learning

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Abstract

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This dissertation explores live-action clinical nursing simulations as dynamic sites of discursive, embodied, and ethical rhetorical learning. Clinical simulations offer students hands-on practice with robotic patients in structured scenarios. Thus, in line with recent research on material rhetorics, simulations demonstrate how learning to communicate within new disciplines and professions is a material and embodied process, supported by interactions with people, objects, and environments. In order to effectively act within the medical community, students must make physical transformations (gesture, stance, gaze); discursive transformations (tone, voice, vocabulary); and interactive transformations (attitudes towards and capacities for engaging with other people and things). To demonstrate the rhetorical complexity of learning to be a nurse, then, this dissertation draws on a year of qualitative research on junior year nursing students in clinical simulations – including fieldwork observations, student interviews, and video recordings of their three simulations. I consider how students interact with the physician and the

patient, negotiate their priorities for care in response to the robotic simulator and classroom space, and repurpose classroom and professional genres to meet their needs. Overall, I argue that clinical simulations create a unique context in which students practice professional care in rhetorically situated and responsive ways while also critically reflecting on these performances and possibilities for revision and change. I also discuss this research's implications for creating writing classrooms that operate as unique rhetorical contexts and teach disciplinary and professional writing with greater attention to materiality and embodiment.

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Chapter 1

Rhetorically Situating Patient Simulation

At the end of her junior year in nursing school, I asked Liz to reflect on what she had learned throughout the year about a nurse's professional role. As part of her explanation, she described a burgeoning awareness of the rhetorical work that nurses do everyday, adapting everything from their talk to their posture for their various audiences in the hospital:

> [Nurses] would get labs back that were critical […] and in front of the parents they would be serious and say, 'You know like, this isn't necessarily the sign that we're looking for' and they would explain and be very professional and logical about it and then they leave the room and the door closes and they're running trying to find someone else because whatever they saw is a big deal and that isn't okay. So that kind of, how to carry yourself, throughout the hospital and depending on who you're talking to too.

Liz's description of nursing practice emphasizes a wide range of rhetorical action from the textual (interpreting labs) to the verbal (communicating with parents) to the embodied ("how to carry yourself"). She demonstrates a flexible awareness of how these actions change "depending on who you're talking to" and ties these questions of audience back to the physical spaces of the hospital ("the door closes and they're running"). Overall, Liz's discussion demonstrates that in order to become part of the nursing professional community she will need to learn much more than technical skills and jargon of the field. To effectively communicate and act as a nurse she will need to make physical transformations (gesture, stance, gaze); discursive transformations (tone, voice, vocabulary); and relational transformations (attitudes towards and capacities for engaging with other people and things within a variety of contexts).

I would argue that Liz's attention to the material and embodied aspects of professional discourse is not unique to the field of nursing. While rhetoricians and writing scholars alike have long seen written and spoken discourse as central to joining or participating in communities, this

view overlooks much of the embodied and material learning that is vital for active community participation. In order to acquire the identities, dispositions, and embodied actions that accompany becoming members of new professional communities, individuals must learn new ways of carrying themselves in the world and must adapt their physical and material practices for a range of audiences and in response to dynamic, emergent situations. Broadly, then, this dissertation promotes a view of disciplinary learning not only as a process of learning to write but also as a process of linguistic, physical, and ethical transformations.

Specifically, "Simulating Nursing" investigates nursing students' embodied professional learning during clinical simulations, which provide them with hands-on practice caring for robotic patients in structured medical scenarios. I draw on a year of qualitative research on junior year nursing students, including fieldwork observations, interviews, and video recordings of their simulations, to examine the range of ways that students learn to enact professional nursing identities in simulation settings. I argue that simulations offer a rich site to study disciplinary learning as an embodied and material phenomenon because they create a context in which students practice enacting professional care in rhetorically situated and responsive ways and also reflect on these performances by considering possibilities for revision and change. I see an investigation of clinical nursing simulations as having implications far beyond medical education, however, as it engages in current conversations in material and scientific rhetorics and professional and disciplinary writing studies as well.

Drawing on this range of scholarly work, my dissertation project was driven by three guiding research questions. First, a recent line of inquiry in rhetorical scholarship seeks to better account for material persuasion through attentiveness to multiple modes of communication (physical, verbal, and visual) and multiple rhetorical actants (both human and non-human)

(Hawhee; Rickert). Scholars of material rhetoric call for a re-orientation away from an exclusive focus on the rhetor's language in the process of persuasion to consider how bodies, objects, and even built environments can have rhetorical qualities, agency, and effects of their own (Enoch; Bennett; Rice). Rhetoric of science scholars, recognizing the key role that objects often play in scientific inquiry, have also examined materiality's role in the construction of scientific knowledge (Wilson and Herndl; Lynch; Graham). While these studies often consider the material experiences of disciplinary insiders or public audiences, the role that scientific materials play in initiating newcomers to a discipline has received less consideration. This research on material rhetoric, then, frames two key research questions for my project:

1. How do embodied, material, and discursive action contribute to the rhetoric of patient simulation? What can patient simulation teach us about the multi-modal and affective rhetorical dimensions of professional learning?
2. How are educational simulation environments designed to support certain kinds of rhetorical action and foreclose others? What rhetorical role do simulation space and objects play in shaping the ways students learn and enact disciplinarity?

This dissertation puts forth a view of clinical nursing simulations as unique rhetorical contexts where a range of actants – students, instructors, manikins, the environment – support but also disrupt and redirect action. I argue that these disruptions necessitate that nursing students learn to be flexible and responsive rhetors, negotiating the unexpected and moving between practical knowledge about what has worked in the past and their constantly changing embodied knowledge of the simulation moment and its exigencies.

Secondly, one of the biggest current debates in writing studies today is whether writing knowledge acquired in the classroom can be transferred to new disciplinary and professional

contexts. Disciplinary and professional writing scholars have argued that a confluence of factors including student perceptions and attitudes (Bergman and Zepernick), curriculum organization (Wardle; Nelms and Dively), and differing perspectives on the role of writing (Freadman and Adam) interfere with student's ability to successfully apply writing knowledge in new contexts. Still, scholars argue that by focusing on developing rhetorical awareness rather than specific textual forms, writing instructors can help students study genres in flexible and transferable ways. Thus, this project also considers clinical simulations as sites for disciplinary genre acquisition. A third research question summarizes these considerations.

3. How do simulations support disciplinary genre learning in ways that are similar/ different from classroom or workplace contexts? What unique possibilities for meta-awareness, play, and change are supported by this context?

Throughout my analysis, I demonstrate how simulations foster problem solving dispositions in nursing students and support situated genre use that can translate not only to professional contexts, but also back to classroom writing tasks. In addition, I argue that because of their existence in relation to real contexts, nursing simulations provide unique opportunities for meta-awareness that help students to critically reflect on professional discourse in nursing and consider possibilities for revision and change.

Having briefly overviewed the broad scope of my project, this chapter, specifically, will aim to situate patient simulation within contemporary conversations in material rhetoric scholarship in order to provide both contextual information about simulation in health care pedagogies and a theoretical groundwork for the remainder of this project. I start by providing context on patient simulation with a brief history of technological developments and summary of recent directions in health care and nursing research. From there, I overview theories of material

rhetoric with specific discussion of their relevance for my inquiry into the rhetoric of clinical simulation. Then, I will discuss research on patient simulation in the humanities that is relevant to this material rhetorical framing. Because this is a fairly specific topic and there is limited related research, I draw on research with rhetorical implications from gender studies and anthropology, as well as rhetorical scholarship on related practices like dissection and anatomy education. I conclude by articulating the relationship between this project and gaps in the current rhetorical research on patient simulation and providing a brief chapter outline for the remainder of the dissertation.

Clinical Pedagogy and Patient Simulation

I am not the first to identify clinical simulations as a rich site for rhetorical study. In *Frame Analysis* (1974), sociologist Erving Goffman expressed interest and excitement in the burgeoning field of patient simulation as a unique site for studying how individuals learn to enact discourses within social communities. Quoting Levinson's article "Bedside Teaching" in *The New Physician* (1970), Goffman explained: "Simulation is a newly developing area of medical education which provides lifelike clinical experience without actually involving living patients, and indeed where the participation of a living patient would be undesirable or impractical" (59-60). For him, practice with simulated patients represented a perfect example of his concept of "keying," a kind of utilitarian make-believe: "The purpose of this practicing is to give the neophyte experience in performing under conditions in which (it is felt) no actual engagement with the world is allowed… What one has here are dry runs, trial sessions, run-throughs—in short, 'practicings" (59).

At the time of Goffman's publication, simulators were a new area of research and

development within robotics, which was devoting most of its energies to projects interested in replicating human cognition (Rickert 19). Levinson specifically discusses Denson and Abrahamson's development of "SimOne" in 1963, a patient anesthesia simulator that could breath, show a pulse, and respond to student actions. While SimOne's technology was far ahead of its time, it was also much too expensive for mainstream commercialization. It was not until 2000 when Laerdal introduced the first SimMan mannequin, that simulation technology became viable for most medical training programs. Now, simulated manikins are used extensively in medical training programs for nurses, doctors, anaestheologists and others (Rosen 162). They have a prominent role in shaping the way that medical professionals come to interpret and articulate the body. In other words, they have become part of the landscape of "technocorporality": "the ways in which technologies are becoming (or perhaps, were always) entwined with our bodies, experiences, and existences" (Sunden 97).

In the following two sections, I contextualize patient simulation's role in health care education broadly, to understand both how it developed out of more traditional apprenticeship models as well as its pedagogical (and technocorporal) role today. I draw on Foucault's genealogy of medical practice as well as histories of nursing and simulation in order to provide this context, while also discussing some of the criticisms of simulation pedagogy and current research directions in nursing.

History of Patient Simulation in Nursing Education

Foucault believed that clinical training represented a unique instance of the "appropriation of discourse," which he associated with all educational systems (227). He argued that clinical training was unique because rather than appropriating language practices, students

were being trained to appropriate a clinical gaze that took the symptom as symbolic and operated outside of speech. In *The Birth of the Clinic*, Foucault argues that the shift to apprenticeship models of doctor training at the end of the eighteenth century was also marked by this visual shift in pedagogical practice. Pedagogy became governed by "a language without words, possessing an entirely new syntax, to be formed: a language that did not owe its truth to speech but to the gaze alone" (83). He clarifies further that, "A way of teaching and *saying* became a way of learning and *seeing*" (78). The doctor transmitted the clinical gaze to his pupils through observation of the patient during clinical practice. Visible in Foucault's history is the important ways that medical education necessitates multimodal learning — visual and physical encounters along with verbal practice. This is one of the reasons that nursing education is such a compelling place to examine disciplinary learning as a material and embodied phenomenon.

Professionalization in nursing began in the United States after the Civil War, when more than 3,000 women served as nurses providing for the sick and wounded. Many of those women would go on to establish nurse training schools, the first of which opened in 1872 (Egenes 6-10). In hospital training schools nurses would provide 2-3 years of free care in exchange for clinical lectures and instructors. The apprentice system received critique, however, and after a multi-year examination of nursing education concluding 1923, the Rockefeller Foundation published a report recommending that schools of nursing needed to focus on education rather than patients and should develop more rigorous educational standards (Egenes 19). Still, the growth of baccalaureate and graduate programs in nursing was slow even into the 1960's, with the majority of nurses participating in hospital-based certificate programs. The 1964 Nurse Training Act increased federal funding for nursing programs and brought about the growth of graduate nursing programs and the spread of baccalaureate nursing education (Egenes 21). Today, nurses in the

United States can practice with a Diploma in Nursing from a three-year certificate program, but these programs are rapidly decreasing and most nurses receive either Associates or Bachelors degree (Egenes 23).

Coinciding with the rise of baccalaureate nursing school was the rise in simulation practice for health practitioners. In 1963, a neurologist at the University of Southern California began to teach third-year medical students using actors that had been trained to exhibit various conditions (often referred to as Standardized Patient actors). Meanwhile, engineer Stephen Abrahamson and physician Judson Denson, also at USC, were at work with Aerojet General Corporation on SimOne, a human patient anesthesia simulator (Rosen 161). Despite early prototyping of simulated manikins, it was not until Laerdal's introduction of the first SimMan manikin in 2000 that simulation technology widely accessible for training health care providers. Competing simulation manufacturers began including software, training scenarios, and monitor interface to encourage schools to choose their product (Rosen 162).

Patient Simulation Today

In 2000, a report from the Institute of Medicine entitled, "To Err is Human: Building a Safer Health System" created an exigency for additional research into methods for practitioner training when it reported that 44,000- 98,000 Americans die each year from preventable medical errors and that medical error is the eighth leading cause of death – greater than AIDS, breast cancer, and homicide. The report proposed extending simulation training as one direction for future improvements. They defined simulation as "a training and feedback method in which learners practice tasks and processes in lifelike circumstances using models or virtual reality, with feedback from observers, other team members, and video cameras to assist improvement of

skill" ("To Err is Human" 176).

As this definition suggests, simulations in health care education today can take a number of different forms, including the use of plastic model parts that mimic the "feel" of particular practices and hiring "patient educators" – actors or trained volunteers who can offer feedback to doctors in training. My research focuses specifically on simulations that are "sequential decision-making classroom events" and utilize high-tech robotic manikins that respond to care both physically and verbally (Hertel & Millis 15). These computerized manikins are programmed to mimic breath sounds and pulses and their vital signs respond to student intervention. For example, its temperature might rise to indicate that an infection that has been ignored is worsening or its pulse might quicken in response to a medication that students administered. Meanwhile during simulations, a facilitator, often the instructor, speaks as the patient from a microphone in a control room so students can converse with the manikin as well and hear its reaction to their care.

Thus, I did not examine some of the more skill-based learning that students did in the simulation lab, like when they practiced inserting a catheter on a plastic pelvis using proper sterile technique. While this skills practice introduced students to the "feel" of catheter insertion and the very complicated physical negotiations they needed to do to maintain sterility, they did not practice the patient interaction that accompanies the technique. For the purposes of my study, the difference between learning a decontextualized technique versus practicing that technique in a rich, three-dimensional clinical scenario was quite significant. Once they moved into the simulation context, students had to integrate technical learning alongside conversations with patients and physicians, adapting to the specific physical environment of the patient room and the manikin's bodily particularities. In the process, their learning shifted from memorizing

techniques to the deeply situated, responsive physical, linguistic and ethical learning that is the focus of my research. For example, the difference between practicing catheter technique in skills lab and students' experiences inserting a catheter on their elderly patient during their fall geriatric simulation was quite noticeable. A number of them, overly immersed in the technical aspects of the procedure, forgot to warn their patient about what they were doing. One of my focal students, Michelle, reflected on her experience with the simulated catheter insertion:

> I forgot to warn the patient that I was going to touch her genitals and she was obviously just like, 'Oh, oh my gosh…' so I was just like, 'Whoa, okay, this is real like I need to actually warn her' […] so yeah just like stuff like that makes it feel more real is just really good.

As Michelle's reflection emphasizes, the high fidelity simulations more closely resembled reality, with the patient reacting to their care both physically and verbally and thus, reminding students, "this is real." Looking at simulations that were "sequential decision-making classroom events" enabled me to see how students actually practiced the discourse of patient-interaction, rather than just how they learn to talk about body models with their peers. As I discuss below, T. Kenny Fountain's recent book on cadaver dissection is able to speak extensively to the latter concern about how scientific objects guide classroom learning, but there is still much to be said about the ways classroom practices teach students strategies for patient-provider interaction.

Despite its widespread use, patient simulation in health care education comes with its own set of critiques, particularly when it is posited as an alternative to interacting with real people. A good example is the slew of responses to the University of Minnesota Medical School's 2010 announcement that it would be moving away from hiring paid patients for second year students to practice pelvic exams. Instead, students would be working exclusively with the "Pelvic ExamSim," a manikin-based model with sensors that can provide feedback on student touch (Bannow 1). Comments on this article typically relied on a rhetoric of individual

experience and representational critique that resembles rhetoric of the early women's health movement in the 1970's. Comments often began with, "From a woman's standpoint" and "As a woman" and continued by critiquing the inadequate manikin for perpetuating dehumanizing medical treatment: "NOTHING is worse than going to a doctor for this proceedure [sic] & being treated like a 'piece of meat' rather than a living, breathing, feeling person" (Epstein).

A female graduate student wrote an editorial in response to the article arguing first that simulators were not capable of providing the personalized feedback of human actors: "standardized patients… [are] able to give extremely helpful feedback, such as, 'It would help if you didn't rub my knee while inserting the speculum.'" She then went on to argue against the standardization of bodies in medical education, aligning this with a larger cultural critique about representations of the female body: "In an era where women's bodies are continually objectified and encouraged to look more and more like a Barbie Doll, it is truly disturbing to see our bodies being literally replaced with plastic dolls in the training of the professionals who will care for our bodies" (Kesti 1). This controversy at Minnesota captures a number of elements of the larger debate surrounding the use of simulated patients in health care education: Do simulators undermine practitioner-patient interactions and further dehumanize the patient? Do they standardize and misrepresent bodies to practitioners that need to be able to recognize variation?

As the above example of the catheter procedure demonstrates, some of these critiques could be answered by clarifying the distinction between manikins that are used simply for skill-based practice and those that are part of larger simulation exchanges that do incorporate "patient" feedback through the mechanism of the instructor microphone. In Chapter 3, I talk more about exchanges where student's physical and verbal interactions with the manikin supported empathetic and responsive care. It is also important to recognize that most medical educators

share in the trepidations that were articulated in response to the University of Minnesota's decision. Simulation experiences are still rarely seen as a complete replacement for clinical experience and instead are most often positioned as a supplement that can provide students with hands-on practice prior to and during their interactions with live patients. For example, in Nehring and Lashley's review of simulation research over the past forty years, out of 22 studies on high-fidelity simulation and nursing education, ten examined simulation "as an adjunct to traditional teaching methods" while only two examined "the use of simulation as a replacement for hours in a clinical setting" (538). In addition, simulations are valued for providing opportunities for students to act in high-risk situations that they may not encounter during their short amount of time in clinical environments, as well as for the ability to debrief with instructors and peers after interactions.

As simulation education has grown, nursing scholars have been conducting research to better understand its influence on student learning and clinical practice. While initial nursing research on simulation was concerned with evaluating its effectiveness in developing hands-on skills and providing technical practice, recent work has taken an interest in the relationship between simulation and non-technical practices. Three recent reviews of simulation research in nursing highlight widespread interest in student confidence, interpersonal communication skills, and even empathy (Weaver 2011, Nehring & Lashley 2009, Yuan et. Al. 2012). This research resonates with a number of current conversations in writing studies including the role of student collaboration in negotiating new writing situations and the transfer of learning from classroom situations to real world contexts. I discuss these connections in more detail in the conclusion when I delve into the implications of my research for classroom pedagogy.

Simulation Field Context

I found my way to researching clinical nursing simulations from a rhetorical perspective through a personal connection to a researcher in nursing; my mom is a nursing professor. Early in my graduate school career, she became director of a nursing simulation lab at a liberal arts college in the Northeast. Some initial conversations about student experiences in the lab, particularly around acquisition of clinical discourse, prompted my interest in simulations as a unique site for disciplinary learning. She and her colleagues had begun collecting recording of students in the lab and in a discourse analysis course the following quarter, I transcribed and coded several of these recordings. After that, I continued to explore medical simulation in my coursework, looking at historical designs for simulators and public documents about simulation. Meanwhile, my mom went on to become director of nursing at a Large Public university in Southwest Canada, which facilitated my conversations with directors at local nursing simulation labs about this research project. Ultimately, I chose to conduct my research at a mid-sized private urban university, henceforth referred to as Northwest University[1]. I chose this site because of their smaller student body and longitudinal curriculum, which enabled me to follow the same group of students through a year of simulation practice, as well as the lab director's enthusiasm and interest in the project.

As Creswell (1998) asserts, because qualitative research often requires close access to practice often outside a researcher's typical domain of knowledge, personal circumstances and connections often provide initial access for qualitative researchers. Despite this recognition, there is some discomfort in relying on these connections for a project's conception through to its

[1] Throughout this project, I use pseudonyms for both my research site and my participants to protect their anonymity, which follows procedures outlined by the University of Washington's Human Subjects Division. This project received exempt status through the Human Subjects review board at both the University of Washington and Northwest University.

completion. I hope to use this discomfort productively, however, to maintain a critical orientation towards my position as a researcher. I discuss this methodological orientation in more detail in Chapter 2, "Materiality and Methodology."

My specific site for investigation, Northwest University's Clinical Performance Lab (CPL), occupies 20,000 square feet of a floor of an urban medical center and is used by undergraduate and graduate nursing students. The CPL includes five low-tech (called "low fidelity") simulators used for teaching basic assessment and skills (adult and infant CPR, lung sounds, central lines), seven mid-fidelity manikins used for simple simulations and basic assessment (lung sounds, heart sounds), and two high fidelity simulation suites with manikins that can run over ninety different scenarios (the neo-natal intensive care unit and adult intensive care unit). Undergraduate nursing students begin working with the simulators during the last quarter of their sophomore year of study. They start on the low-tech manikins, practicing communication, basic drug administration, and bed changing. By the end of their junior year, they are practicing in both the high-tech adult and infant simulation suites. Meanwhile, they are also enrolled in coursework and beginning their clinical placements at local hospitals. Thus, a case study of nursing students as they come into professional identity during their junior year can consider the experiences accrued during simulation scenarios alongside other classroom and experiential learning.

In clinical nursing simulations, students are immersed in a particular narrative set up by the simulation coordinator that provides them with an opportunity to take on the roles of nurses providing care to a patient. The simulation coordinator at Northwest University was Lee and her full-time job was designing and organizing materials for the simulations, orienting students to the process, and running simulations for all nursing students at the university. In the simulations I

observed, three groups of 2-3 students each took turns caring for the patient for approximately twenty minutes, while the patient's condition worsened. During their turn, students practiced conversations with one another and with the patient, engaged in critical thinking to problem solve, identified possible causes of complications, and decided on interventions. They also had physical interactions with the simulation environment and the manikin– applying sanitizer, putting on latex gloves, adjusting the patient's dressing gown, checking wounds, etc. While one group provided care, the other two sat in a nearby classroom watching a video stream of the simulation on a screen. After each group's turn, the students, clinical instructor, and simulation coordinator reconvened in the classroom to debrief on the simulation sequence. Descriptions of all three simulation scenarios that I observed are available in Appendix 1.

Layout of the Clinical Performance Lab

The Clinical Performance Lab is located on the fourth floor of an urban medical center. As seen in Figure 1.1, when you enter the lab (1), you are immediately aware of the large oval that dominates the center of the space – the "Teaching and Learning Lab" (7). Surrounded by tall, sound-proof walls, the oval is where students practice low-fidelity simulations like assessment and drawing blood, included in their curriculum as "skills lab." These simulations take place on one another or on "flesh nuggets" (Kira)– sectioned off pieces of a mannequin like the torso used to practice catheterization.

The CPL also includes offices (13, 14), lounges (2, 10) and workspaces (11, 18) for students and staff as well as a psychiatric interview room (9), a hospital bathroom (16), a community apartment for home health care (6), and an outpatient clinic (15). The key locations for my study, however, were the simulation control room (4), the two simulation suites (3, 5),

and the classroom where we held debriefs and where students not participating in a simulation

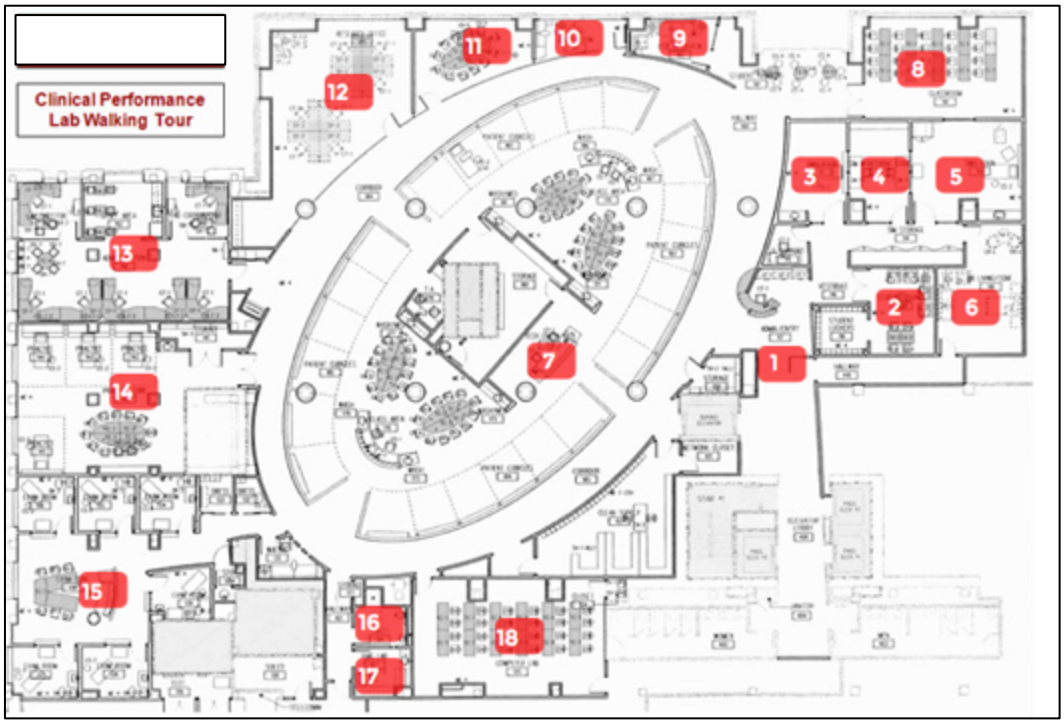

Figure 1.1: Map of the Clinical Performance Lab. Image from Northwest University.

would watch it on-screen (8). All three of these rooms share a wall and, in fact, if something was going wrong in the classroom (the video stream had stopped working, the volume was too low), students could knock on the wall to alert the coordinator and their instructor of a problem.

The simulation control room (Figure 1.2) is positioned between the two simulation suites and is where Lee, the clinical instructor, and I sat during each of the simulations.

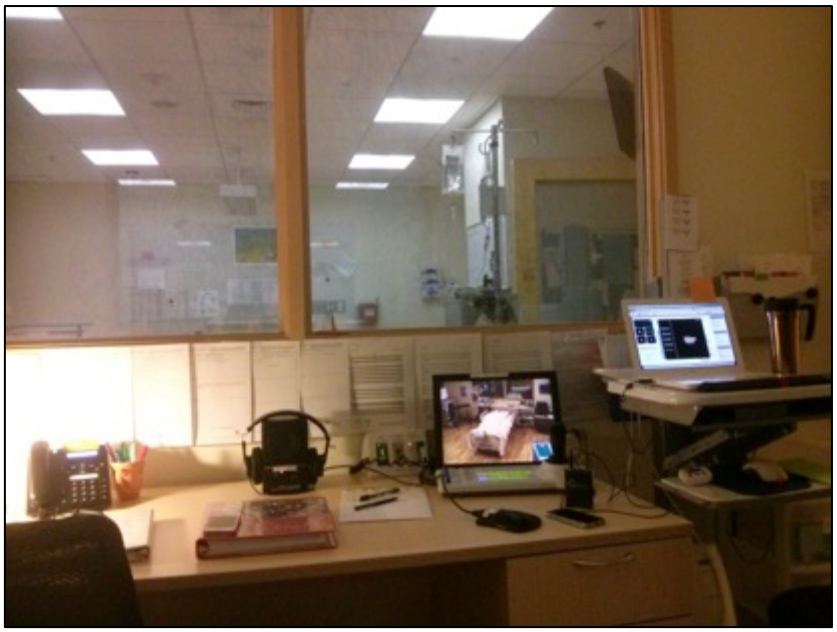

Figure 1.2: Instructor's Control Room Looking into Simulation Room. Photo by Author.

The large window is one-sided, so that students see only a dark surface in the simulation room. Meanwhile, the computer on the main desk controls all of the patient simulator's vital signs and a microphone is connected to the simulator's voice box. Another microphone speaks from the sky to students, playing the role of "eye in the sky" and responding to their questions about the simulation and its limitations (ex: Can I draw blood on the simulator?). From the control room, Lee, the simulation coordinator, can manage the cameras in the suites, zooming in and out to focus student attention on different aspects of the simulation (for those observing in the classroom). For example, if the telemetry screen is showing an increase in the patient's temperature but the students in the simulation have not noticed yet, Lee will zoom in on the screen for the student audience in the classroom.

Figure 1.3: Students with Infant Manikin. Video Screenshot.

When I began my study, Lee gave me the choice of sitting in a corner of the simulation room during the simulation or sitting with her and the instructor in the control room. This was a difficult decision, as being in closer proximity to students as they participated in the simulation would have given me more direct access to the energy in the room and a better sense of how they were experiencing the narrative. However, I also felt strongly that my presence in the room would be a source of stress and disruption in a situation that already felt very high stakes to them. A number of my focal students reflected on how their awareness of the multiple audiences of the simulation (their instructors in the control room and their peers in the classroom)

influenced their actions. Thus, I ended the research feeling it was a good decision to make my presence as inconspicuous as possible.

The two simulation suites each include a patient simulator – Joe/ Josie in the adult suite and Hal in the OB/pediatric suite. These high-fidelity simulators can sweat and cry, have nasal and oral secretions and reactive pupils, and make breath, bowel, and heart sounds. Medications can be injected into a pad in their arms, though oral and rectal medications are verbalized.

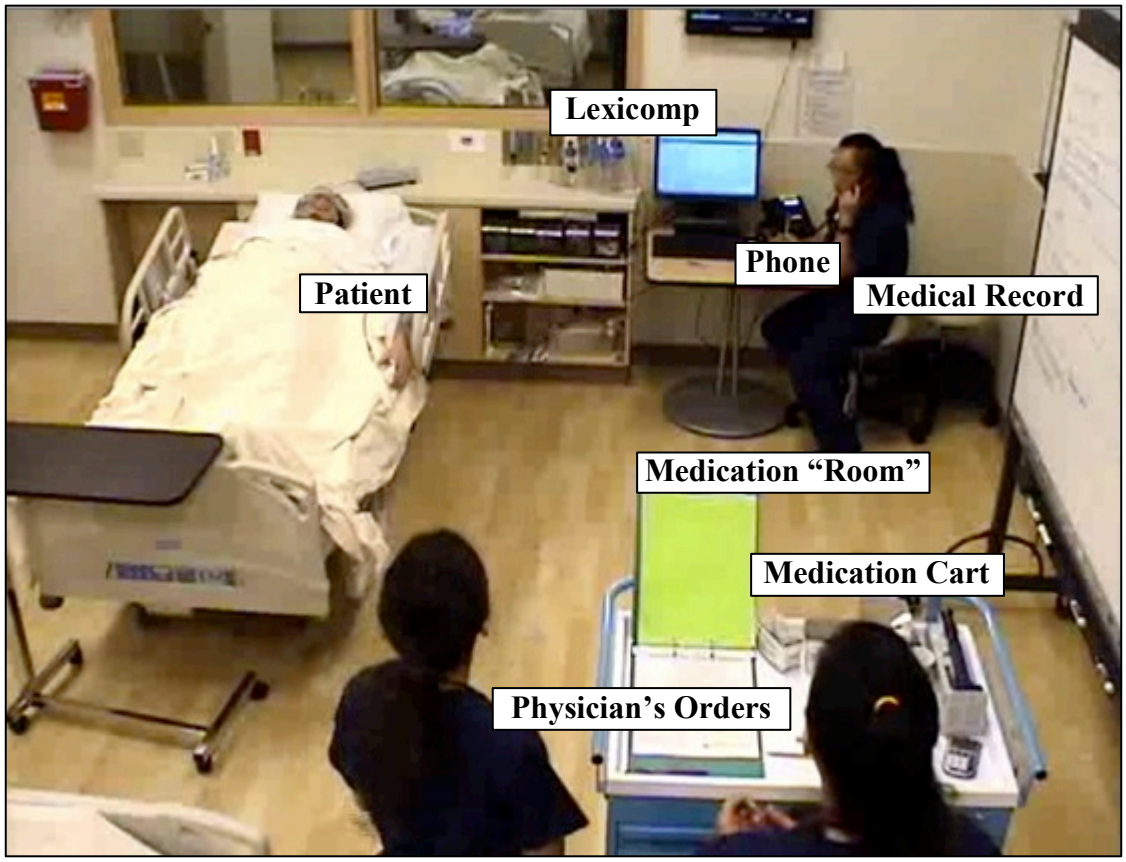

Figure 1.4: Layout of the Adult Simulation Suite. Video Screenshot.

During her brief tour of the room, Lee reminds students of the location of all of the supplies they will need for care (gloves, a sharps container for used needles, oxygen, catheters, blood drawn IV's, etc.). There is also a computer in each room with Lexicomp online, so students can look up any medication in the same way they would in a hospital setting. Next to the computer is a phone

that connects into the control room. Students verbalize who they are calling and Lee or the clinical instructor fields the call.

The "medication room" is a cart on the other side of the room, which created some challenges for students who felt that private conversations they might have about medications were now within the patient's earshot. As nursing student Kira noted:

> That's the thing though its so tricky because you wouldn't administer medication in the same room as the patient or like draw it up so I would probably just ask the people around me but in this instance the people around me were like in the room.

There is also a large white board in each room that the students use to collaboratively chart the patient's information. Before the simulation, Lee gave the whole group time to reacquaint themselves with the simulator and agree upon a template for charting. Student perspectives on charting will be discussed in more depth in Chapter 5, where I focus on embodied uptake of the simulated medical record.

A Material Rhetorical Framework

Just as research on simulation in nursing has begun to consider the relationship between simulation practices and non-technical skills like confidence building, interpersonal communication, and affective learning, this project takes an expansive view of the learning that occurs in simulation contexts beyond a focus on verbal or written discourse. I argue that what students learn in simulations is more than just an ability to write or even talk like a nurse (the discursive); they also learn to move around the room, physically interact with the patient and peers, provide care in response to written texts in the room, and much more. For these reasons, I see simulations as an ideal context for exploring how disciplinary learning can be viewed as a material-discursive process and position this project work alongside a recent line of inquiry in

rhetoric and composition that seeks to better account for material persuasion with attention to multiple modes of communication (physical, verbal, and visual) and multiple rhetorical actants (both human and non-human). Throughout these chapters, I draw on theories of materiality that call for an orientation away from exclusive focus on language and emphasize instead the important role of embodiment and objects and environments in communication. Here, I briefly introduce some key definitions and theories to help contextualize this framework.

In "Bodysigns," Fleckenstein (2001) defines materiality as "the fluid potential of physical reality. It includes bodies, places, and performances—'enactments' of reality in particular places at specific times" (762). Fleckenstein's definition calls attention to the highly contextual nature of materiality as it represents a particular intersection of bodies in space and time, changing from moment to moment. Thus, even though the simulations I examined all took place in a controlled environment that was designed to support certain enactments and restrict others, theories of material rhetoric can help make sense of the vast range of student performances within this context and the ways that texts, objects, and spaces acted upon groups differently.

Rhetorical theorists typically approach considerations of materiality from two differing views. One approach is to view objects, environments, and even bodies as sites where discourse and power are inscribed. As critical cultural studies has gained momentum in the humanities, attention to how materiality manifests cultural norms of gender, disability, and race became quite common within rhetorical analysis. For example, in *Rhetorical Bodies* (1999), authors discuss representations of Demi Moore's pregnant body, accounts of the psychological body in mental illness memoirs, construction of HIV-infected body through home-testing kits, and figuring of the racialized "rustic body" as illiterate and degenerate. While materiality garners attention in these discussions, the agency remains with humans to inscribe materials with meaning.

In contrast, a current shift towards object-oriented philosophy in the field has resulted in analyses that are more interested in the persuasive capacities of materials as "actants" that exert rhetorical force and shape rhetorical situations in excess of humans and human intention. Bruno Latour introduced the language of "actants" rather than agents to describe non-human entities with impact. In Latour's Actor-Network theory, "actor-networks are assemblages of humans and nonhumans; any person, artifact, practice, or assemblage of these is considered a node in the network… Links are made across and among these nodes in fairly unpredictable ways" (Spinuzzi 5). Thus, agency is distributed across the human and non-human "actants" that participate in the network and is accrued through increasing connections. More recently, Bennett's *Vibrant Matter* (2009) introduced the concept of "thing-power," arguing that objects and environments (non-human actants) can play an active role in promoting ethical and healthy behavior.

Responding to the debate about materiality as inscribed or agential, Fleckenstein argues that materiality is both shaping and shaped by "semiosis," the sign systems we use to pattern material reality. She contends that "[l]anguage evolves out of materiality, then reverberates back on that pool of potentiality, molding it to reflect an organized image that does not exist until so patterned. These material-semiotic systems comprise a complex network of feedback and feed forward loops, all of which create, disrupt, and re-create the other" (771). In this material-semiotic view, questions of whether language accurately represents reality have little relevance because reality and language are understood to consistently inform and transform one another. Instead, the rhetorician can ask instead how material and human articulations interact to promote certain interests, world-views, effects, and even arguments. Within my own research, a material rhetorical framework calls my attention to three inter-related aspects of the simulation: (1) objects and environments as actants; (2) student embodiment; and (3) material genre learning.

First, attention to the rhetorical influence of objects and environments has led to quite compelling research in the rhetoric of science recently, where objects play a key role in both scientific activity and discourse. In an overview of recent work in this field, Jack (2010) offers three rhetorical approaches to the study of scientific objects. The first, *emergence*, focuses on how novel scientific phenomena gain recognition within scientific communities but has the least relevance for my research. An example of this approach is Graham's (2009) article about how the technology of the brain scan contributed to fibromyalgia's acceptance in Western biomedicine. The second, *productivity*, investigates how objects produce "results, implications, surprises and applications." My analysis in Chapter 3 takes this approach as I discuss the way that the manikin and simulation environment disrupt and redirect student care, demonstrating rhetorical impact by non-human actants. Finally, *embeddedness*, investigates how objects are situated in local material networks of practice. My discussions in Chapter 4 and 5, which consider student's genre learning in simulations in relation to their physical interactions with the manikin, the environment, and one another, take this embedded view to account for how objects impact students' material-discursive learning.

Second, the embeddedness approach to material rhetorics also puts emphasis on student's embodied action in the simulation as they interact with various objects and environments. Since embodied learning is fundamental to the simulation experience and one of its primary goals, all three of my research questions rely on conceptions of embodiment. Broadly, I am interested in how clinical simulations provide training in embodiment of nursing identities, including the movements and gestures of nursing. While often referred to as the acquisition of "psychomotor, technical skills" within health care research (Nehring & Lashley), embodied rhetorical theories call attention to the socially situated nature of this learning. Drawing on theories of materiality

and disruption, Chapter 3 takes up the question of how students' physical immersion into the simulation context can act as a source of redirection and surprise, complicating their care. Meanwhile, Chapters 4 and 5 draw on theorists such as Bourdieu (1990), whose concept of habitus emphasizes the important role that bodily learning plays in acquiring shared dispositions and values within a community. In this way, I emphasize the relationships between bodily and discursive modes of learning as students work to acquire disciplinary languages and orientations to the world.

Third, writing studies scholars have recently begun to consider the role of material objects and environments in genre acquisition as well. For example, in "Materiality and Genre," the authors analyze the circulation of genres in a wide range of communities—courtrooms, doctor's offices, and classrooms—arguing for the influential roles that genres play in shaping practice. For them, genre analysis aims to uncover the ways that "'lived textuality' plays a role in the lived experience of a group" (Devitt, Bawarshi, and Reiff 2003). This definition also ties genre learning to identity as well. Genres are seen as influencing both individual identifications and interactions between members of a community. They are tied to the epistemological and procedural knowledge that exists among groups with common interests and goals. Thus, Chapters 4 and 5 take a material view of disiplinary genre learning, considering how student interaction with and performance of both verbal and written nursing genres emerges out of the physical simulation environment and their interactions with one another and the patient manikin.

Of course, the learning that occurs during clinical simulations is not merely technical. Nursing as a field relies on relationship building between nurses and their patients, as well as among groups of nurses, and between nurses and other hospital staff. Thus, a large part of the learning in simulations is emotional and hierarchical — learning how to orient towards others

and engage in ethical communication practices. In "Going Postal: Pedagogic Violence and the Schooling of Emotion," Worsham draws on Foucault's notion of discipline to argue that, "Pedagogy locates individuals objectively in a hierarchy of power relations; but also, and more importantly, it organizes their affective relations to that location" (223). Thus, she raises important questions about emotional schooling in simulations. Throughout this project, I am attentive to how students' emotional reactions to patients, coworkers, and others are enacted and evaluated as well as to their own accounts of emotional connection or disconnection within the simulation. Chapter 3 takes up the question of empathy specifically, considering how the rhetorical context of the simulation supports but also occasionally interrupts empathy for patient experience. Meanwhile, Chapters 4 and 5 consider how students negotiate power relationships within the simulation through their participation in its unique genre system.

Thus, because of this project's investment in understanding the relationships between language learning and bodies, objects, and environments, I position it as part of a recent line of inquiry in rhetoric and composition scholarship that seeks to better account for material persuasion. As demonstrated in this brief introduction, I also draw on interdisciplinary research in the philosophy of science, gender studies, and object-oriented philosophy to inform this materialist theoretical framework. I see clinical simulations as ideal sites for material rhetorical investigation because they are places where disciplinary identity is being performed by students through both talk and action. At the same time, this project aims to address more broadly how interdisciplinary writing classrooms might better support the material and embodied teaching of field-specific communication. Now, I turn to a brief overview of existing rhetorical research on medical simulation to consider how my project participates in these conversations specifically.

Rhetorical Research on Patient Simulation

Overall, research on patient simulation that is relevant to material rhetorical concerns tends to study the topic from one of three approaches: (1) critical cultural studies (2) object-oriented philosophy and (3) discourse analysis. Those taking a cultural studies approach have considered the design of medical simulators and their relationship to dominant cultural norms including race, gender, and health. While this scholarship was very influential for my initial interest in simulation, I ultimately position my project as a departure from critiques of the problematic relationship between simulator design and cultural norms. Rather than critiquing the ways in which the simulated body fails to accurately represent the complexity and variation of the human body, I am interested in a more "productive" reading of simulators (Muckelbauer) that can account for their affordances and rhetorical action as well as their limitations.

Other scholars, utilizing object-oriented theorists like Latour and Barad, are interested in the simulator's role as actant in the construction of medical knowledge. At the same time, those coming from a linguistic background are interested in the "talk" of clinical simulation and its relationship to other pedagogical environments. For my purposes, I see different strengths and limitations of this research based largely on the authors' disciplinary positioning and their objects of study. For example, Prentice's anthropological positioning focuses attention on the affective and physical conditioning of physicians in simulation contexts, but does less to account for their discursive (both written and verbal) learning. Meanwhile, T. Kenny Fountain's research on rhetorical learning on human cadavers includes discussion of both physical and discursive learning, but struggles to account for student's ethical and relational attitudes towards patients. In this section, I briefly overview research within each of these different approaches to provide a picture of current material-discursive knowledge about patient simulation across disciplines and

to demonstrate the unique contributions of my research.

First, research in gender studies has addressed medical simulation as it shapes and is shaped by cultural influences. For example, Erika Johnson (2005) examines full-body and pelvic simulators to argue that simulation practices maintain one-sex body models popular during Enlightenment times: "the 'female' simulator consists of the female primary sex organs but not the rest of the body… the simulators seem to be built upon an understand of sex in which female is a subset of male" (155). For Johnson, this treatment of gender in the design of simulators is particularly problematic because it perpetuates attitudes in medicine that the male body is the unmarked category, that female bodies must be seen through their similarities and differences in relation to the male, and that reproductive organs are key defining features of the female anatomy as the locus of difference (156).

Similarly, Sunden takes up the relationship between simulators and gender norms in her article "Blonde Birth Machines" (2012). Here, she reports on Noelle, a maternal and neonatal simulation system with an interest in the "politics of simulation" (99). Sunden examines technical manuals, instructional videos, and an interview with Noelle's designer to consider how the simulator's design inscribes both sexual difference and ideas of race and nation. She is particularly interested in the addition of "perfectly washable, combable hair" and "three ethnic colors" of Noelle, which do nothing to participate in the simulator's process of delivery but instead, "feed into and foreground affective responses on the part of the human user… attentiveness to detail in the simulator body is not set apart from medical practices, but becomes an intrinsic part of them" (107). For Sunden, the addition of details like hair, skin color, and breasts on the simulated birthing body (and lack of bodily fluids, odors, and sounds) represent a problematic "selective bodily awareness" that influences conceptions of gendered bodies in the

medical imagination.

Finally, my recent article "'MacGyver-meets-Dr. Ruth': Science Journalism and the Material Positioning of Dr. Carla Pugh" takes a different approach to examining the relationship between gender norms and patient simulators by considering the gendered positioning of a female scientist who is involved in patient simulator design—specifically pelvic and breast simulators—in news coverage. Ultimately, I argue that journalists fore-ground Dr. Pugh's materials in ways that associate her with gendered activities, objects, and spaces and make certain scientific fields appear more "natural" for women.

As previously mentioned, my aim was for this project to be a departure from cultural critiques of simulator manikins. One reason for this approach is that to some extent, I find critiquing the simulated body to be too easy. Any scientific representation of the body can always be read as reductive. Of course, this is not to undermine the importance of critiques that reveal how scientific understandings of the body continue to efface race, culture, and gender. These critiques vitally call our attention to the cultural situatedness of our scientific views of the body. At the same time, a critique of the simulated body on the grounds that it does not accurately represent the reality and variation of the human bodies (what Shiappa has called "representational correctness") ultimately goes against the purposes of much simulation design and undermines the unique insights and contributions to learning that simulation can provide.

In fact, representational accuracy was never the goal for medical simulation design: fidelity of physiological experience was paramount. Since simulators are designed with physical interaction in mind, critiques that focus on accurate visual representation are neglecting the motivations of designers and practitioners who interact with the machines. In contrast, both Johnson (2010) and Prentice (2014) turn to object-oriented philosophy in their analyses to

rethink the role of simulators as actants in the teaching of medical practice.

In "Simulating Medical Patients and Practices," Johnson (2010) draws on ANT and Karen Barad in her analysis of medical simulation to argue that in the simulation, the simulator and the student are both shaped by and shaping the practice. Barad's agential realism calls for an attentiveness to "the social and political relations [that] are embedded in the materiality of technological artifacts," including patient simulators (Johnson 120). Taking this agential view of simulation, Johnson turns her attention to simulator design, and specifically the question of how phenomenological interactions between human and machine change depending on cultural context. She finds that a pelvic simulator that is used successfully in the US fails in Sweden because of the different ways humans and machines exert force on one another (a phenomenon she refers to as "intra-action") in different cultural environments (132). Thus, Johnson's study suggests that there is important work to be done not only in understanding the cultural norms that are inscribed within the simulator, but also in looking to how those norms translate to student understanding and interpretation of the body through processes of intra-action.

Similarly, Prentice's *Bodies in Formation: An Ethnography of Anatomy and Surgery Education* (2014) draws on Bruno Latour's work and describes relationships between simulator and surgeon as "mutual articulation" rather than intra-action: "knowledge of the object is embodied in the surgeon at the same time that the surgeon brings that object into being" (230). Also taking an interest in simulator design, Prentice argues that the process by which engineers and programmers articulate surgical skill for their computer and translate that skill back to the practitioner represents additional instantiations of mutual articulation (231).

Prentice's larger project extends beyond Latour, however, to consider the relationship between surgical education (including simulation, dissection, and clinical practice) and the

technical, ethical, and affective formation of physicians (9). Similar to my own theoretical framework, she argues against a "visual and cognitive bias that runs through academic and practitioner discussions of biomedicine" and is instead interested in the embodied acquisition of "perceptions, affects, judgments, and ethics" in the process of surgical education (6). Prentice's analysis is valuable to my work especially for its interest in the educations of surgeons as an affective and embodied process: "I show how practices in specific sociotechnical milieu accumulate to remake the trainee's body in ways that allow the emergence of unique dispositions to act, to relate, to believe, and to feel that many medical practitioners share" (104). However, Prentice's work is not as attentive to the discursive dimensions of disciplinary learning and her analysis does less to theorize relationships between spoken and written genre acquisition and embodiment. This makes sense given her disciplinary positioning in science studies and Anthropology.

In contrast, T. Kenny Fountain's recent book *Rhetoric in the Flesh: Trained Vision, Technical Expertise, and the Gross Anatomy Lab* is positioned within Technical and Professional Communication studies and relies heavily on rhetorical theory including epideictic and apodeictic frameworks to analyze anatomy education in a dissection lab. Drawing on ethnographic fieldwork with three classes (both undergraduates and medical students) engaged in anatomy education in the Gross Anatomy Lab, Fountain aims to "construct a theory of embodied rhetorical action that explains how objects, bodies, and discourses together generate a professional (in this case, medical) subjectivity that emerges in practice and is rooted in bodily activities" (14). Thus, his project shares with Prentice's an interest in the relationship between disciplinary learning and embodied identity acquisition, though he gives more attention to the "discourses, genres, documents, multimodal displays, and objects," that play a role (5).

Still, while Fountain is particularly interested in the relationship between visual and tactile learning and the acquisition of a new language of anatomical parts (27), he does not extend his analysis from the singular vocabulary terms to the writing or discourse that medical students produce in other courses or clinical practice. As he explains, students rhetorically defend their identifications to themselves and to each other. However, the patient is not available as a voice in this conversation: "unlike living patients, cadavers are poor interlocutors; therefore, anatomy students cannot verbally interrogate the bodies before them. Students can and do interrogate each other, the instructors, and the TAs because anatomical objects, specifically cadavers, are not always what they seem" (96). Here, Fountain points out a key distinction between dissection and patient simulation — the opportunity to practice performing practitioner-patient interaction. This also limits the ethical learning that both Prentice and Fountain are interested in and shifts the focus from the ethics of patient care to the ethics of dissection.

For example, both authors discuss the ceremonies that often expose medical students to the donors' families and the structured way in which students are taught to ethically engage with dead bodies. While interesting, the authors can only go so far in extending this analysis of ethical dissection practices to the ethics of patient-provider interaction. Prentice argues that most anatomy instructors make the leap that teaching ethical relations to dead cadavers will translate to the patient-provider interaction: "These anatomy instructors work from the assumption that students who learn to treat their cadavers with respect will extend that respect to their patients" (10). Similarly, Fountain is interested in how practices in the gross anatomy lab teach students to negotiate the balance between empathy for patient experience and clinical detachment (155). However, students are not being taught to practice the actual linguistic or embodied modes of patient interaction in cadaver dissection. The knowledge they are acquiring is still largely

technical, in terms of the spatial organization and visual recognition of body parts.

Both Prentice and Fountain argue that there is affective conditioning occurring in the discourse that surrounds cadaver dissection, but this does not translate into direct lessons on linguistic or physical ways of being a medical professional in the same way that simulated scenarios do. Thus, while I will draw on the authors' insights about embodied and affective learning in my own discussions, I see my project as distinctive in its ability to directly analyze learning about physical and linguistic practitioner-patient interactions.

In contrast Fountain and Prentice's emphasis on embodied learning, within Discourse Analysis, several studies have considered the unique discursive context of the clinical simulation. A recent article in the *Discourse Studies* special issue on medical training "Work to Make Simulation Work," considers the use of instructional corrections as dental students practice manual skills on a simulator. In particular, the authors take interest in tutors' invocations of "real life" during corrections to make up for technical insufficiencies of the simulator. While interesting for its insights into pedagogical language, this analysis does not engage with the discourse of actual simulated scenarios. Along those lines, a recent master's essay in linguistics, "Nursing Simulation: A Classroom Discourse Inquiry" by Janet Hughen, takes a language-oriented approach to studying scenarios. Hughen found that unlike the IRE exchange typical of teacher-student discourse, student-student interaction dominated simulation conversations and "students collaborated with each other using peer guided participation to make clinical care decisions" (Hughen V). What is lacking in Hughen's study, however, is attention to the embodied and material education that are made possible during simulation scenarios.

The *Discourse Studies* special issue points to a burgeoning interest in studying the relationship between discourse and action in research on medical education. In his introduction,

Lindwall acknowledges that "several contributions take an interest in how talk is coordinated with gestures and other embodied conduct" but suggests that this interest poses problems in identifying and coding sequential organization (126). Drawing on the methodologies in these projects, my analysis will also rely on recent work in multimodal discourse for studying material rhetorics. In particular, I draw on Norris' *Analyzing Multimodal Interaction: A Methodological Framework* for a framework that incorporates embodied modes (gesture, gaze, posture, language) and disembodied modes (music, text, environmental layout) into analysis. In Chapter 2, I provide more discussion about the integration of rhetorical analysis with multimodal approaches to discourse analysis for the methodology of this project.

Thus, research in cultural studies, rhetoric, and discourse analysis has all contributed to our understanding so far of patient simulation as a material-discursive practice. Scholars have put forth a view of the simulator as shaped by cultural norms of race, gender, and health. At the same time, simulators play in active role in shaping student knowledge of the body, through intra-action, and are not neutral apparatuses. Along these lines, there is still more work to be done in looking at how student's articulations of the body and actions are impacted by the rhetorical actions of objects and space in the simulation.

We also know that simulation discourse is unique from other pedagogical talk and is inseparable from the embodied processes, material objects and environments, and affective relations of the simulation. However, there is more to be understood about the affective conditioning that occurs in simulation scenarios where students actually practice the linguistic moves of patient-interaction, rather than just learning about the ethics of dissection. Also, previous work points to a need for understanding the relationship between simulation discourse and other disciplinary genre learning that is happening in students' classes and clinical

placements. The embodied discursive practice of simulation happens within a full genre system and to ignore the inter-relationships between academic genres and simulation genres is to miss large pieces of the rhetorical puzzle. Throughout this project, these gaps in rhetorical knowledge about simulation will inform my own research questions and directions.

Outline of the dissertation

The dissertation is divided into three sections, with five chapters in total. The first section, comprising Chapters One and Two, introduces a theory and method for the study of material rhetoric broadly and patient simulation specifically. This chapter has theorized material rhetoric and its relationship to clinical simulation pedagogy while also overviewing relevant research on rhetoric and simulation. Meanwhile, Chapter Two, "Materiality and Methodology," synthesizes perspectives on fieldwork from rhetorical scholarship and writing studies to formulate a framework for material rhetorical inquiry. In addition, it outlines the process of data collection at my site and my coding scheme for both field notes and video recordings. I discuss the impact of multimodal discourse analysis on my transcription and coding, arguing that multimodal coding can serve as a source of disruption for scholars of material rhetoric and facilitate open engagement with their data and materials.

The next section, Chapter Three, uses a material framework to examine nursing clinical simulations as complex rhetorical situations that support students' linguistic, embodied, and ethical learning. "Simulating Rhetorical Situations: Teacher, Manikin, and Students Disruptions," analyzes the rhetorical simulation context with a focus on three sources of redirection and surprise – the instructor, the patient simulator and environment, and the students themselves. I examine how all three actants intervene to shape students' discursive and embodied

learning, necessitating that students negotiate difficult conversations and recognize the wide range of variation within "normal" bodies. In this way, I argue, nursing simulations actually support more responsive and attuned patient care, rather than promoting a dehumanized view of the patient.

The last section, Chapters Five and Six, considers how clinical simulations support situated and responsive material genre learning. Chapter Five, "The Genre System of Patient Simulations," examines how simulations immerse students in a pedagogical genre system (Berkenhotter 2001) by analyzing three key genres – the Preparation Sheet, Physician's Orders, and SBAR communication tool. I demonstrate how each genre operates authentically within the simulation through its inter-discursive relationships to other genres, chronotopic coordination in space and time, and mediation of power relationships between different participants. Overall, I argue that the simulated genre system introduces students to genres in ways that emphasize their variation, their situatedness in specific rhetorical moments, and even their fallibility and in this way, it fosters students' "problem solving dispositions." Building on this view of simulated genre systems, Chapter Six, "Embodied Genre Uptake: The Case of the Patient Medical Record," analyzes medical charting in simulations, which occurs on a large white board using a template that each group designs for themselves. I discuss how students' records must code and highlight their embodied sensory information about patient experience into a shared professional vision that coordinates physical actions in the clinical context. Thus, students transform prior genre knowledge to design charts that reflect the unique temporal, physical, and relational dynamics of the simulation context. I also demonstrate how simulated charting provides opportunities for embodiment that would not exist in professional contexts, but that ultimately help students to better understand the ways in which the medical record mediates relationships to patients, other

nurses, and the health care team. I end with a consideration of how students' simulation experiences helped support their valuing of classroom writing and recognition of connections to both pedagogical and professional contexts.

Ultimately, this project explores clinical nursing simulations as one context where disciplinary learning is not just restricted to writing or speech but is also material and embodied. In simulations, other participants, objects, and the environment create affordances and limitations in supporting students' acquisition and critique of professional discourse. However, this investigation also has implications for informing our understanding of how to create classrooms that operate as unique rhetorical situations and teach disciplinary and professional writing with attention to materiality and embodiment. In the conclusion, I offer a preliminary discussion that I hope to expand on in future work of how writing teachers might mobilize some of the advantages of immersive pedagogies discussed throughout this project. I include specific suggestions for writing assignments, but also ideas for leveraging other opportunities for embodied learning like fieldwork research and experiential classroom activities. Overall, this investigation fits into my broader research trajectory which is invested in enriching our understanding of disciplinary communication—to recognize how certain conventions limit participation, to value opportunities for transformation and change, and to inform the teaching of field-specific writing in ways that better account for its embodied and multimodal nature.

Chapter 2

Materiality and Methodology

"Context matters." This seems to be the motto of many rhetoricians and compositionists as we move into the twenty-first century. The meaning is two-fold; first, context has import. We are constantly reminding one another that rhetorical choices are radically situational and that in some ways, this calls into question abstract claims about persuasion that we make to one another in our scholarship or to students in our classrooms.[2] We are recognizing more and more the need for localized attention to unique rhetorical contexts. Secondly, context implicates a physical, material presence. As described in the previous chapter, rhetorical scholars are asking questions about the rhetorical influences of bodies, objects, and spaces and about the material qualities of persuasion. They are calling into question the centrality of language and text in our research and asking for a greater consideration of the material. Tying back to the first meaning, this research can often only be undertaken in localized contexts.

While rhetoric has traditionally relied on textual analysis as its primary form of qualitative evidence, the attention to the "mattering" of context is calling for new methodologies in the field. Many who take a material-discursive view of rhetoric find it necessary to integrate observations, interviews, and other qualitative methods into their research to move beyond textual evidence: "rhetoric is not constituted simply by texts or textual fragments, but through a combination of material contexts, social relationships, identities, consciousnesses, and (interrelated) rhetorical acts that produce meanings and that are co-constructed between rhetor, audience, and particular contexts" (Middleton, Senda-Cook, and Endres 391). Such a shift

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[2] My department's decision to label the newest edition of our composition textbook *Contexts for Inquiry* seems to highlight this trend. Even in a book that aims to teach academic writing skills that will prepare students to write across the university, we highlight in the title the situational nature of this writing.

necessitates wide-ranging qualitative data collection and instills great importance in thoughtful methodological design.

Similarly, as I began designing this project I recognized that my interest in how students learn to embody professional nursing identities in clinical simulations would require access to "material contexts, social relationships, identities, consciousnesses, and (interrelated) rhetorical acts," and thus, would necessitate fieldwork, in addition to analysis of documents and artifacts. Throughout this project, I argue that clinical simulations do not mimic or merely recreate clinical experiences but instead offer students a unique rhetorical context in which they can practice situated, responsive, and embodied care. Thus, physically experiencing simulation contexts myself was particularly important because it helped me better understand the ways in which the simulation space and objects created that unique rhetorical context that students in turn learned to both inhabit and negotiate. Overall, I was better able to understand how simulations foster students' rhetorical awareness and response by experiencing the simulation space and feeling the emotional energy of simulated exchanges.

During the course of an academic year, I observed a group of approximately 80 junior year nursing students move through three sequential simulations in the clinical performance lab and also collected video recordings of all simulations. I met with focal students regularly to discuss their experiences with simulations as well as their coursework and clinical placements. In this way, I was able to consider the experiences accrued during simulation scenarios alongside the writing and speaking practices students were learning in the classroom and clinic. In order to understand the inter-relationship between individual experiences and programmatic goals, I talked to instructors in the Clinical Performance Lab and collected a range of documents affiliated with the program and medical simulation more broadly.

While video recordings of simulations gave me access to things like gestures, interactions with objects, and movements around the classroom space, much of the dynamism of the simulation experience would have been lost by working with recordings alone — a group's nervous laughter as they left the simulation room and walked together towards the debriefing classroom, the smell of someone's lunch being microwaved in a neighboring room, the slimy feel of Vaseline on a manikin's plastic shell. Thus, I opted to attend all junior clinical simulations for the course of an academic year and move with students from the orientation to the simulation lab through to the debriefs. In this way, I was able to experience alongside the students and instructors the unique affective, physical, and inter-personal qualities of clinical simulations and to better account for these intangible aspects of rhetorical learning in my field notes and analysis.

At the same time, the video recordings of the simulations that I collected throughout the year as well as my recordings of interviews with focal students supplemented my ethnographic work and were a resource for reviewing and at times challenging my perspective on an interaction. I had the unique affordance of being able to return to an excerpt of an exchange that I remembered in a particular way and review it with attention to embodied and material action. By using a transcription program that can account for multiple tiers of interaction, I was able to further disrupt my assumptions about how student's gestures, movements throughout the simulation room, and interactions with the patient and environment worked alongside their verbal and written exchange. I viewed this capacity to review and at times fully re-see important moments in the simulations as very much in line with a feminist methodological orientation that calls researchers to approach discourses without pre-conceived agendas or judgments.

In this chapter, I overview perspectives on fieldwork from rhetoric and writing studies in order to understand how scholars in these fields have been taking up ethnographic methodologies

to study materiality and embodiment. Next, I discuss my analytic orientation for this project drawing on feminist scholarship that informs my approach and articulating a dual goal of "standing under" the experiences and interactions I was observing while also being reflective of my own embodied position at my research site. After discussing my process for data collection at the research site, I overview research on multimodal discourse analysis, arguing that this approach has insights to offer those interested in material rhetoric as it provides means to account for a wider range of human communication in addition to the impact of non-human actants. Finally, I discuss my coding and transcription process, the challenges of working with video data, and my goals for future research with these materials.

Rhetorical Field Methods

In "Staging Fieldwork/ Performing Human Rights," Madison explains how ethnographic fieldwork immerses the researcher's body in their research context: "Something happens differently when your body must move and adjust to the rhythms, structures, rules, dangers, joys, and secrets of a unique location. Ethnography is as much, or more, about bodily attention—performing in and against a circumscribed space –as it is about what is told to you in an interview" (36). For Madison, fieldwork allows the researcher access to physical aspects ("rhythms, structures"), emotional aspects ("dangers, joys"), and intangibles ("rules"… "secrets") of a given space. This access to a wide range of tangible and intangible aspects of a rhetorical context is well aligned with an expanding definition of rhetoric that aims to better account for embodiment and materiality.

As scholarship in both rhetorical and writing studies demonstrates, fieldwork enables scholars to recognize and value non-textual and non-verbal aspects of communication from

gesture, to interactions with objects, to affective inclinations and also to better account for audience engagement and response. For projects like mine that are invested in understanding communication as embodied, affective, and environmentally situated, I considered this access to be imperative. Thus, I adopted an "ethnographic perspective"[3] for this project, to provide a detailed account of the "case"[4] of clinical nursing simulations. My presence at all simulations allowed access to the physical and emotional experience of student nurses' interactions in the moment and enabled me to better understand clinical simulations as unique rhetorical contexts.

Ethnographic Methods in Rhetoric and Writing Studies

In *Qualitative Inquiry and Research Design* (1998), Creswell contends that ethnographies are "chosen when one wants to study the behaviors of a culture-sharing group" and aim to draw portraits of a group or people often drawing on observations of their day-to-day lives and interviews (39). This definition, however, highlights ethnography's anthropological origins through both its emphasis on "behavior" and on a "culture-sharing group." In contrast, rhetoricians and writing studies scholars who take up ethnographic methodologies often focus less on behaviors than on discursive formations or genres with an aim of understanding how

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[3] Ethnographic research exists on a spectrum. J. Green and David Bloom have distinguished between studies that are "doing ethnography" and those that "[adopt] an ethnographic perspective" or "[use] ethnographic tools" (Heath and Street 121). For them doing ethnography involves conducting long-term ethnographic research on "a social or cultural group." "Adopting an ethnographic perspective," takes a more focused approach "to study particular aspects of everyday life and cultural practices of a social group" while still using theories from anthropology and sociology to frame the research. Meanwhile, "using ethnographic tools" entails the incorporation of ethnographic methods and techniques like interviews, activity charts, document analysis, and sound recording but not "cultural theories of questions about the social life of group members" (Heath and Street 121). Given that this project's framework draws on sociologists like Erving Goffman, Pierre Bourdieu, and Bruno Latour and that its overarching research question focuses on how individuals come to embody a nursing identity and become members of that professional community, I believe that my incorporation of ethnographic methods goes beyond merely the use of tools.

[4] According to Creswell, case studies are bounded in both space and time, drawing on ethnographic methods but with the aim of providing a detailed account of a case: "In case study research, one works with a smaller unit such as a program, an event, an activity, or individuals and explores a range of topics only one of which might be cultural behavior, language or artifacts" (66). Case study research aims to build a rich picture of a case through multiple forms of multimodal data collection but is more focused in scope than an ethnography.

texts, talk, objects, and spaces mediate actions within a community. Similarly, rhetoricians are less likely to bound the people in their studies by looking for a "culture-sharing group." Instead, they often attend to groups that are united by their discursive practices. This may mean, in fact, examining how discourse mediates action across distinctive groups or "cultures." For example, Haas and Witte's "Writing as Embodied Practice" examines a collaboration between city officials and engineers, two groups with very different disciplinary perspectives and values.

In his 1992 book review "Ethnography, Rhetoric, and Performance," Conquergood argued that given ethnography's "long-standing interest in meaning-making cultural practices and the suasory function of symbols," it was a natural match for rhetorical inquiry (80). Middleton, Senda-Cook, and Endres have since come to define *in situ* rhetorical work as "rhetorical field methods," arguing, like Conquergood, that this approach represents a fusion of research in critical rhetoric, ethnography, and performance studies. The authors overview a number of rhetoricians who by placing themselves at the site of memorials and tattoo conventions are able to consider an interactive and embodied persuasive exchange. In these studies, rhetoricians are given access not just to the text but also to its uptake in particular situations: "Participant observation allows critics to experience rhetorical action as it unfolds and offers opportunities to gather insights on how rhetoric is experienced by rhetors, audiences, and critics" (Middleton, Senda-Cook, and Endres 390).

Similarly, rhetorical field methods have had a significant presence in rhetoric of science research, as a means for accessing public reception of scientific communication. In rhetoric of science, this engagement with audience response can provide a useful supplement to analyses of scientific texts or large-scale public surveys. For example, Condit's study of women's responses to genetic counseling in a high-risk clinic supplemented her earlier work on public discourses

with situated observation of individual experiences of those discourses. Similarly, Ploeger's study of the Fermi-Lab argued that situated studies of scientific communication can extend what we know from large-scale sampling about public attitudes towards science while also addressing questions about application and learning. Drawing on interviews and visual analysis, her findings show the limitations of scientists' views of visitors as well as the differing expectations between the two groups – scientists presented the lab as a sublime scientific utopia while visitors expected explanations of the practical benefits of their work. These examples show how rhetorical field methods offer one solution to a long-standing struggle in rhetorical studies to account for the interactions between rhetors and audiences. While other scholars have turned to surveys (Schiappa) or cognitive science (Condit; Gross; Fountain) to account for audience experience, rhetorical field methods provide access to situated uptake and response in ways that are arguably better in line with the values and assumptions of our field.

That said, scholarship in the rhetoric of science has less often taken an ethnographic approach to the study of science students' classroom learning. For insights into classroom ethnography, I turn to scholarship in writing studies including research on composition and professional writing[5]. Two recent studies of literacy learning in writing classrooms demonstrate how ethnographic methodologies offer access to aspects of the classroom experience that are not available to researchers simply through course materials and student interviews like student conversations, use of the classroom environment and objects, and even the underlying emotional atmosphere and power dynamics of a classroom[6].

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[5] In contrast to rhetorical studies, writing studies scholarship has utilized qualitative methodologies beyond textual analysis since its inception. Many trace the field's ethnographic research origins to Dell Hymes, who was one of the first to study ethnography of literacy learning. Hymes' work emphasized the interrelationships between classroom, institution, and society in shaping students' language learning (Heath & Street 7).

[6] Despite composition's recognition that learning to write is always socially situated, research in the field still has a tendency to rely on interviews and analysis of assignments and student writing rather than ethnographic observation

Nowacek's *Agents of Integration* draws on a semester-long "thick synchronous slice of student life" to examine students' connection-making across three linked introductory courses (3). Presence during all of students' class sessions as well as many of their work meetings and even lunch conversations enables Nowacek to recognize how students must both "see" (recognize opportunities to apply previous learning) and "sell" (persuade instructors of the value of this learning in a new context). She is also attentive of how student connection-making can be valued or disregarded by teachers because of the power relationships in the classroom. Meanwhile, Jennifer Trainor's *Rethinking Racism* (2008) tracks how racist discourses become persuasive to students through affective frameworks drawing on a year-long ethnographic study of two English classes at a rural high school in the mid-Eastern United States. Research included approximately 500 hours of classroom observation, interviews with students and instructor, as well as attendance at school events and collection of all students' written materials. It was only by documenting a wide range of students' school experiences from their reactions to Maya Angelou in English class to the school administration's messages about individual success, that Trainor was able to recognize and trace the trajectory of students' "emotioned beliefs" as they become tethered to broader racist discourses.

Thus, both Nowacek and Trainor's work demonstrates how ethnographic research can provide access to students' complex, often affectively-charged, negotiations of rhetorical classroom situations and the power dynamics of classroom exchange. In both cases, the authors rely on thick descriptions of field notes, direct real time observation, and collected written materials to account for the complexity of classroom practice. In contrast, access to video

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of classroom practices to support its findings. This is due, in part, to the prominence of longitudinal work in the field. As Nowacek explains, "Longitudinal data sets tend to be limited to a sample of student papers and a retrospective interview conducted each semester or year. The trade-off for temporal breadth is hermeneutical depth" (3). Hermeneutical depth, of course, comes with its own set of challenges including the demands on scheduling and time necessary for an observer to be present at every class (and every office hour, student study session, etc.).

recordings provides researchers with different kinds of material for analyzing classroom-based learning since it enables them to return to particular moments later on in the process of analysis. For my purposes, presence during all of the simulations helped me to be attuned to student and instructors' affective experiences, much like Nowacek and Trainor, but access to video recordings also enabled me to account for relationships between verbal comments and gestures, positioning and movement around the classroom space, and interactions with classroom objects.[7] Similarly, some of the research on professional writing has begun to take advantage of video recording for greater access to the materiality of professional communication. For example, Haas and Witte's aforementioned article uses video recordings to consider the collaboration between city officials and engineers to revise a visual/textual document. The authors organize their analysis around three tiers to better account for materiality – textual, verbal, and embodied – arguing that each group utilizes gestures in distinctive ways that are tied to their disciplinary positions and values.

Overall, this brief discussion of fieldwork in both rhetoric and writing studies demonstrates the affordances of ethnographic methodologies for providing access to both production and reception of rhetorical actions. At the same time, my access to video recordings of the simulations also allowed me to account for student actions and instructor interventions in more detailed and precise ways than with field notes alone, by transcribing and coding data for material and embodied practice. I saw video recordings, along with student interviews, as sources for disrupting and redirecting my assumptions about particular exchanges. In this way, they worked in tandem with a feminist analytic orientation that aimed for immersion in the research site and attentive engagement with the discourses that circulated there without fixating

[7] Discourse analytic work on classroom exchange more frequently incorporates video data to gain greater access to the embodied aspects of classroom exchange like in Gardner and Levy's (2010) "The Coordination of Talk and Action in the Collaborative Construction of a Multimodal Text."

on critique or unmasking power at work.

My Orientation

In both the rhetoric and writing ethnographic studies described above, there is an obvious emphasis on unpacking systems of power and accessing marginalized voices. In general, rhetorical field methods can be seen to exist on a spectrum between those that aim for detailed descriptive accounts of practice and those that take a critical rhetoric orientation interested in unpacking systems of oppression and power and accessing marginalized voices.[8] While rich and useful, the descriptions of local practice have the potential to elide issues of power and difference between human actants (Jung 2013). Thus, I am wary of limiting this project's scope to such a descriptive account. At the same time, given my alignment with the lab's mission and simulation's goals, a critical orientation seems problematic.

While I am interested in how nursing students negotiate professional identities in individual and possibly resistant ways, I am also positioning myself as a collaborator with the staff and teachers at the Clinical Performance Lab. On a fundamental level, I believe that the mission of the lab and its practices are worthwhile for nursing education and do not aim to critique or negatively intervene with their work. Still, my interest in articulations of the ill body, embodiment of gender roles, and patient-centered practice in clinical discourse compel me towards a more critical orientation. I think it is possible, however, to take a critical view of larger social forces influencing simulation practices – cultural attitudes towards illness, perceptions of the gendered body, assumptions about power relationships between patient and practitioner – and

[8] Distinctions can often be made along disciplinary lines, with rhetorical scholars from communication more often taking a critical ethnography approach (in the tradition of McKerrow's "Critical Rhetoric") and those from English, including rhetoricians, compositionists and professional writing scholars, taking a more descriptive approach (such as Ralph Cintron's work), though there are exceptions on both sides.

still see simulations as a site for facilitating productive and resistant practices of communication. This makes sense because nurses have long represented a marginalized perspective in medical practice and research with their focus on patient-centered care and attention to the social and cultural dynamics of illness.

In addition, the qualitative methodology of this project and its orientation towards social influences on health are very much in line with interests in the field of nursing. In her article, "Design in Observational Research on the Discourse of Medicine," Barton urges researchers to recognize the distinctions between different disciplines' orientations to research. She argues that the qualitative approach taken by most discourse analysts and rhetoricians is not seen as producing verifiable evidence in medical fields: "The field of medicine tends to hold a traditional view of qualitative research—namely, that qualitative research is most useful for developing projects, questions, and hypotheses that can be more definitively investigated with quantitative methods" (312). Barton calls for "disciplined interdisciplinarity" that aims to articulate mutual areas of interest and concern across fields and takes seriously differences in methodological paradigms. For my purposes, nursing research has been much more receptive to qualitative research methodologies, including discourse analysis. I remember an early conversation with the director of the CPL where she surprised me by asking who my theorist was for the project and commenting that she had used Heidegger for her dissertation. Thus, while I aimed to be responsive to concerns in the field in my own research questions and analysis, through reading of nursing scholarship and conversations with faculty members, I felt that both the critical and methodological orientation of this project were comprehensible within the scope of a nursing research paradigm.

In my efforts to enact a methodology that was attentive to the circulation of power and

difference in simulation contexts but without imposing a critical orientation onto my subjects, I found feminist rhetorical theory to be instructive. A key principle from Kirsch and Seibler *Feminist Rhetorical Practices* is "critical imagination," referring to a new way of engaging in analysis and critique that is open to inventive possibilities and grounded in the experiences of those being studied: "we gain a deeper understanding by going repeatedly not to our assumptions and expectations but to the women — to their writing, their work, and their worlds" (20). Their focus on patience and careful attention to local experiences resonates with Krista Ratcliffe's theories of rhetorical listening and her articulation of "standing under" discourses of another to experience immersion prior to critique. Ratcliffe advocates "consciously standing under discourses that surround us and others while consciously acknowledging our particular—and very fluid—standpoints. Standing under discourses means letting discourses wash over, through, and around us and then letting them lie there to inform our politics and ethics" (28). These authors challenge scholars not to approach people and texts with preconceived agendas and instead to bracket assumptions and be immersed in the conversation.

Extending Ratcliffe's emphasis on recognizing our own standpoints, Middleton, Senda-Cook, and Endres express concern that rhetorical fieldwork has given little attention to the body of the critic: "Rhetorical scholars could learn much from our performance colleagues by more rigorously considering our own bodies and how they interact with the interpretive frameworks and situations we enter when critiquing lived rhetorical experience" (396). The authors note that self-reflexivity is often granted a paragraph in the methods sections of these analyses rather than a sustained position throughout the critique. Taken together, these authors emphasize a necessary toggling between immersion in the discourses of others and awareness of our embodied position and perspective in that immersion.

In many ways, my position as an outsider in the clinical simulation labs supported this consistent toggling during my fieldwork. The simulation coordinator would readily remind students each time she reintroduced me that I was "not a nurse" and, therefore, "was not judging them." As I struggled to guess at whether students were saying "DBT" or "DVT" (Deep Vein Thrombosis) during debriefs I was acutely aware of my own lack of disciplinary knowledge. Meanwhile, my non-nurse status was clearly marked by my lack of medical clothing – instructors wore lab coats and students wore scrubs during all simulations. In interviews, I noticed that students would occasionally make the same translational moves for me that they made for the patient during a simulation exchange. For example, as Ryan was explaining their hand-off procedures in clinical, he unpacked the acronym "SBAR" for me, even though this was a concept I was familiar with having watching students practice SBAR when they called doctors during the simulation: "Yeah because we've been practicing, we call them hand-offs, which is basically an SBAR, which is the situation, background, assessment, recommendation…"

However, as I watched ten different groups move through the same simulation and I got to know the scenarios better, it also became harder to avoid a kind of comparative judgment where each group was held up against previous ones. I found, though, that the instructors were consistently oriented towards valuing student actions. For example, in Chapter 3, I discuss a fairly unsuccessful conversation between a student and Jason about how to use his morphine pump where the student's over-emphasis on negative side effects caused Jason to be afraid of using the pump. As the situation escalates, however, the student reaches out to one of her peers to help explain the morphine pump, and it was this use of colleagues during an unsuccessful conversation that Lee positively focused on during debrief. I also made an effort in my field notes and coding to document and account for how student actions during simulations opened up

opportunities for learning and critical reflection, rather than being pre-occupied with correctness. Along similar lines, rather than fixating on how the simulator and environment were not accurate representations of the real, I tried to keep myself open to the various ways they placed students into a rhetorical moment that supported situated and responsive action. In this way, I consistently challenged myself to move away from a valid, but at the same time simplistic, critique of the limitations of the simulations.

My ability to "stand under" the circulating discourses among students and instructors was also supported by my physical immersion in the simulation experiences. When we would enter the simulation room for a tour, I would "gel in," applying sanitizer to my hands along with the rest of the group. Sitting with the instructor and simulation coordinator and observing groups move through the simulation, I would share in their excitement over little victories – the group that thought to check glucose levels as soon as the patient mentioned a headache or located a clot within the first few minutes of the simulation. At times, we would find ourselves on the verge of tears at how compassionate students were as they interacted with an overwhelmed patient. I also got to experience how chaotic things could get behind the scenes of the simulation, as the instructor played the doctor on the phone with one student and the coordinator tried to juggle voicing the patient and delivering a medical diagnosis to the room. On rare occasions, the patient microphone would be passed off to me to respond to student questions for a few minutes while the instructor and coordinator settled other aspects of the simulation. In one instance, which I discuss more extensively in Chapter 3, I was asked to participate in a simulation as a disgruntled family member and was able to experience the disorienting effects of the simulation space that I had heard students describe for myself.

Thus, I sought to remain attentive both to the range of interactions, perspectives, and

emotions circulating in simulations and to my embodied experience of the situation to fully leverage the affordances of an ethnographic methodology. Kirsch and Seibler advocate for this dual awareness of the material experiences of the researcher and the subject: "We call for greater attention to lived, embodied experience because we consider it to be a powerful yet often-neglected source of insight, inspiration, and passion… being mindful of the locations we visit… and to our own embodied experiences" (22). Throughout this research I oriented towards my research site in an immersive way where I could "stand under" the circulating discourses among students and instructors and also remain aware of my own perceptions and interactions at the research site. I believe that the ethnographic component of this research supported my inquiry into the material experiences of both the researcher and research subjects and provided me with a more comprehensive understanding of the clinical performance lab as a unique and vibrant rhetorical context all its own. At the same time, I used video recordings to disrupt and redirect my initial impressions of situations to challenge myself once again to move away from overly simplistic critiques, as I discuss more below.

Data Collection

After several initial conversations about the scope and goals of this study, I worked with the director of the Clinical Performance Lab to apply for Human Subjects approval through both my home university and Northwest University; I received exempt status from both universities. Upon approval from Human Subjects and with permission from the CPL director, in Fall 2014 I contacted two nursing instructors that were teaching large sections of Geriatric nursing. I visited their courses, introduced my research to all students in the junior year nursing class, took questions, and distributed consent forms. These forms enabled students to indicate whether they

were willing to be included in my observations of simulations and debriefs, whether they were willing to be re-contacted about the research in the future, and whether they were interested in participating as a focal student in the project (see Appendix 5).

Sixty-two students consented to be observed during simulations and debriefs, two opted out, and fifteen did not complete forms. For students that opted out or did not complete a form, I did not take notes on their actions during simulations or comments during debriefs and I also did not transcribe any of their talk or actions in simulation recordings. Six students also indicated interest in participating in the research as focal students and after further follow up, five decided to participate. Focal students met with me four times during the course of the year – once at the beginning to provide background information on their experiences with nursing so far and then once each quarter following the simulation to reflect on their experiences.

While any educational research that relies on voluntary participation risks only representing perspectives from the most motivated, successful, or vocal students in the class, I was fortunate that my five focal participants had a wide range of incomes and oriented differently to their nursing curriculum, offering a helpful diversity of views. For example, my male focal student, Ryan, was enrolled in the ROTC program and planning for a future working as a nurse in the military while Kira had gone through Certified Nursing Assistant (CNA) training in high school and worked for a summer as a CNA at an understaffed facility with advanced stage autism elderly patients. Two other focal students, Michelle and Savannah, had also participated in CNA training but had never worked professionally in a clinical environment and they tended to orient towards their curriculum more as beginners than Kira or Ryan. Liz positioned herself as a beginner as well, even though both of her parents were nurses. More detailed descriptions of all five focal students are provided in Appendix 2.

In addition to my focal students, one of my key informants for this project was Lee, the simulation coordinator, who gave me consent to observe and document her actions as she organized and facilitated simulations throughout the year. Finally, at the beginning of each simulation, I would introduce myself and this study to the clinical instructor and have them complete a consent form. Twelve instructors consented for our conversations and their participation in classroom debriefs to be included in the materials collected for this study.

In addition, I collected a variety of texts that were circulating in the CPL, including instructor guidelines for simulation, preparatory materials to orient students to the patient, physician's orders and patient documentation, and student charting (I took photographs of their charting on white boards in the simulation room). For their last interview, I asked students to send me a recent case study that they had written for one of their courses and we discussed it using a document-based interviewing approach. In document-based interviews, the conversation is guided by the author's text. I began with questions about students' composing processes and then moved into specific questions about rhetorical choices in different sections of the care plan. This enabled students to do more specific connection-making between their classroom writing experiences and those in simulations and clinical placements. The wide variety of data that I collected throughout this project helped to provide triangulation, ensuring that claims did not rely solely on idiosyncratic individual accounts.

Overall, then, my data collection included the following:

Observations –

- **Simulation Prep:** All simulation days begin with a conversation about the simulation experience, followed by a pre-clinical conversation with the clinical instructor about the simulation patient, and an orientation to the simulation room and patient simulator

(approximately an hour). I took field notes during all simulation preparation.

- **Three high-fidelity clinical simulations:** I observed all junior-class high fidelity simulations during the 2014-2015 year. For each run of a simulation, 2-4 students enter the simulation scenario for 20-25 minutes followed by a class debrief. This group then gives a hand-off report to the next group and the simulation builds in intensity with each group that enters. Each simulation includes a total of three groups and 8-10 students. I took field notes during all simulation scenarios and collected video recordings of all scenarios for a total of approximately 30 hours of video data. Detailed descriptions of the three scenarios are included in Appendix 1.
- **Simulation debriefs:** Held immediately following simulations, students, the instructor, and the simulation coordinator discuss what went well and possible changes that could be made in the future. I took field notes during all simulation debriefs.

Semi-structured interviews –

- **Focal Students:** I interviewed five focal students at the beginning of the year about their understanding of their development of a professional nursing identity. I also interviewed them after each quarterly simulation (for a total of four interviews) to get more specific feedback about the experience and its influence on their understanding of nursing and their professional role. All focal student interviews were audio-recorded and transcribed. Detailed descriptions of my five focal students are included in Appendix 2.
- **Clinical Instructors:** Informal conversations with clinical instructors occurred during simulations and were also documented and included in my analysis with permission from the instructors. I took field notes during all instructor conversations.

- **Simulation Coordinators:** Informal conversations with two of the simulation coordinators also occurred throughout the day and were documented and included in my analysis with permission. I took field notes during all conversations with the simulation coordinators.

Document analysis –

Performance Lab Documents

- Simulation guidelines for clinical instructors used to overview scenarios and provide the information they need to do a patient hand-off for the students
- Simulation evaluation rubrics
- Northwest University's promotional materials for their clinical performance lab

Simulation Documents

- Patient overviews given to students prior to the simulation for prep work
- Documents that circulate during the simulation itself including physicians orders and the patient record
- Student charting of the patient on the white board in the simulation room (photographed)

Student Writing

- Focal students' case reports

Analytic Framework

Many of the texts gathered during data collection were well aligned with traditional rhetorical methodologies (local and external documents) and writing studies research (student interviews, student writing, field notes from classroom observations). I also treated these

materials in fairly typical ways – I transcribed all of my student interviews and I used these interviews along with my field notes from classroom observations to identify key moments from the simulation that had particular relevance for my research questions. I discuss my codes and this process in more detail in the "Coding" section below. However, the collection of video data also created a corpus that could not be captured through textual analysis alone. These texts are particularly well suited for an analysis focused on material, embodied learning, however, as they provide access to student gestures, positioning in the room, and physical interactions with the patient simulator, alongside their use of written and verbal communication. In order to guide this analysis, I turned to multimodal discourse analysis, which has posited a coding framework that incorporates embodied modes (gesture, gaze, posture, language) and disembodied modes (music, text, environmental layout) into analysis.

In this section, I briefly introduce current research in multimodal discourse analysis and discuss connections between the questions guiding research in this field and my project. Then, I discuss my coding schema and approach to transcribing video recordings. Ultimately, I argue that research in multimodal discourse analysis can provide a rich resource for researchers in rhetoric and composition who are interested in better accounting for materiality and embodiment. At the same time, it creates a wide range of new challenges and questions, which I have attempted to answer in only limited and preliminary ways for the purposes of this project.

Multimodal Discourse Analysis

As my PhD work has taken place in a department with a concentration in "Language and Rhetoric," where classes align with either a linguistic/discourse-based orientation or a rhetorical orientation, questions about the difference between discourse and rhetoric abound. In *Rhetoric in*

Detail, a compilation of work by rhetorical scholars that "employ theory and/or method from linguistic discourse analysis," the authors argue that one distinguishing factor is that discourse analysis is "data driven rather than theory driven. Working upward from particular, situated instances of text and talk rather than downwards from abstract models of discourse" (Johnstone and Eisenhart 3). Scholars in this compilation see the two approaches as compatible, however, arguing that both disciplines are interested in language use in social contexts and that discourse analytic methods have become all the more applicable as rhetorical inquiry has moved "from public to private spheres, from official to vernacular rhetoric, from oratory to written and multimedia discourse, from the carefully crafted to spontaneous discourse emerging from fleeting everyday rhetorical situations" (4).

Despite the rich array of studies surveyed in Johnstone and Eisenhart's collection, all of the authors use textual analysis to approach their data, even in cases where attention to multimodality seems potentially useful. For example, a study of American Indian identity construction through humor (Basin) and another on girls' participation in a pregnancy prevention afterschool program (Young), both rely on transcription of conversation alone. This is not unusual for the field, which Rowe explains often mentions activity as a component of discourse but rarely finds ways to methodologically account for movement and action in transcription or coding: "activity as part of discourse is usually ignored in both transcribing talk and analyzing it. The result is that, although analysts refer to activity their discussion of talk, close analysis of the nonlanguage stuff of Discourse is not carried out" (227).

However, a subset of recent research in discourse analysis has focused specifically on multimodal components of communication.[9] For my purposes, Sigrid Norris (2004)'s

[9] Kress and van Leeuwen's (1996) *Reading Images* built on social semiotics and Halliday's systemic functional linguistics to argue that visual images have a unique grammar of their own. Their later work, *Multimodal Discourse:*

development of a system for studying multimodal interactions in ethnographic research on German women's identity construction proves most relevant.[10] She explains that her approach emerged as she searched for an "applicable framework that allowed me to show scientifically how the women constructed several identity fragments simultaneously by employing different communicative modes" (xi). Her framework incorporates both embodied modes (gesture, gaze, posture, head movement, proxemics, and spoken language) and disembodied modes (music, written/printed text, layout). Here, I briefly outline several of her key claims about multimodal analysis and their implications for this project.

First, Norris is interested in the differing levels of attention that individuals pay to action, arguing that actions exist on a continuum from high-density to low-density and that this is influenced by their modal intensity and complexity (94). This allows her to distinguish between actions that are in the foreground of an interaction and those in the background.[11] For nursing students new to the clinical environment, interactions that will eventually become lower-density are high density at this point and require acute attention. Things like maintaining sterility while taking gloves on and off or keeping one hand on the baby while moving around the pediatric room will become second nature, but in simulations they are in the forefront of student's minds. Lee explained that one of the biggest challenges for early nursing students is to keep their focus on the "big picture" of the simulation, rather than getting bogged down in the details of each task. For example, in Chapter 5 I discuss a group that is so pre-occupied with giving medications

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The Modes and Media of Contemporary Communication (2002), theorizes interaction between the diverse range of modes that contribute to meaning-making, setting the stage for multimodal analysis of interactions.

[10] Rowe and Kress et. al. have since taken up a multimodal discourse framework to study science education specifically, arguing that, "The materials, chemicals, apparatus and models are all imbued with meaning [in science education] and thus force attention onto the role of action in the learning process" (11).

[11] Norris also discusses the potential pedagogical implications of foregrounding and backgrounding through an analysis of a student-teacher exchange. Ultimately, she argues that in this instance the teacher "utilizes a shift in her students' foregrounded higher-level action as a teaching strategy and actually taps into the students' intrinsic motivation" but questions how that shift might be facilitated without teacher intervention (136).

and checking vital signs that it takes them a long time to find the blood clot that is actually the focus of the simulation. Thus, the question of how simulation scenarios foreground particular actions for students is an interesting one, and Norris' continuum suggests a coding approach that accounts for materiality as it plays a role in high-density action. In Chapter 3, I take up this question through a discussion of how visual, tactile, and auditory cues from both the simulator and the simulation environment supported and disrupted student care.

Along these lines, Norris theorizes that objects can represent "frozen actions." As she explains it: "frozen actions are usually higher-level actions which were performed by an individual or a group of people at an earlier time than the real-time moment of the interaction that is being analyzed. These actions are frozen in the material object themselves and are therefore evident" (14). The example Norris gives is of a magazine on a coffee table, which required a whole series of higher-level actions in order to be there. Undoubtedly, those advocating for a post-human approach to the study of interaction and communication would likely challenge this view of objects as merely as frozen human actions (Barad; Latour; Rickert). Still, the relationship she describes between high-density action and material presence is important for understanding how student and instructor action influences the materiality of the simulation space, from the warm rice pack that Lee attaches to the manikin's leg to the stuffed animal she places on the floor of the pediatric room. Ultimately, I argue that understanding objects and environments as containing human action within them is not necessarily antithetical to a posthuman orientation, as long as we can account for the ways in which the objects and environments exert agency of their own in these intra-actions.

Finally, Norris positions her project as neither cognitive nor quantitative, an important distinction given recent directions in rhetorical scholarship. As she explains, multimodal analysis

does not have access to an individuals inner perceptions, thoughts, or feelings, and can only analyze expression of these states in an interactional exchange: "we are not much concerned with the perceptions, thoughts, and feelings that people are experiencing, but we are concerned with the perceptions, thoughts, and feelings that people are expressing" (Norris 3-4). Given the recent trend to draw on neuro-cognitive research to understand rhetor and audience experience in rhetorical scholarship, this is an important distinction (Condit; Gross; Fountain). Follow-up interviews with focal students can offer some insights into their perceptions of a situation, but analysis of the videos itself can only provide access to expressions of the affective as they are displayed and responded to in action.

In addition, Norris emphasizes that her methods are designed for qualitative inquiry: "The concept of modal density only implies a qualitative notion, *not* a quantitative notion. Modes *cannot* be counted" (152). Similarly, she argues that the foreground-background continuum only has meaning in relational terms, as do her visual transcription methods. This is important given that some recent work on multimodal analysis has taken a quantitative approach. Gonzalez's "Multimodality, Translingualism, and Rhetorical Genre Studies," for example, codes multiple tiers of the interaction including verbal and embodied responses and produces quantitative results for what percentage of the conversation was devoted to each of these categories. While this can provide a useful picture of the extent of multimodality in a particular interaction, it also removes embodied action from its relational context in ways that Norris will argue are not in line with the overall goals of her approach. For my purposes, Norris' perspective on quantitative analysis also supports my more selective transcription and coding approach as discussed below.

This brings me to a larger question, however, why use discourse analytic methods within a rhetorical framework rather than simply performing discourse analysis? Ultimately, Johnstone

and Eisenhart's emphasis on the "data driven" nature of discourse analysis is helpful here, as is Cheng's description of discourse analysis as "grounding theory in data through a systematic study of structural and semantic characteristics of texts" (424). A discourse analysis of nursing simulation would begin by transcribing all 30 hours of video recordings and construct a theory of interaction based on iterative layers of coding of those transcriptions. Instead, I took a much more theory-based approach to transcription and coding, selecting excerpts for further attention based on coding field notes using the research questions driving my inquiry. These were research questions that emerged from the material, rhetorical framework I set out in Chapter 1 and focused on the impact of students' bodies and the simulation objects and space, students' affective disciplinary learning, and the physical circulation of simulated genres. While I endeavored to maintain an open orientation to my research site and subjects and to let my questions evolve in response to the situations and interactions that drew my attention, my perspective was still ultimately shaped by material rhetorical theories, as I demonstrate in my discussion of coding for corrections versus disruptions below.

These are small distinctions, but important ones, as projects like mine that draw on interdisciplinary methodologies and analytic frameworks should consistently be interrogating the disciplinary epistemologies that come along with these approaches and the practical implications of combining them. To do a material rhetorical analysis informed by multimodal discourse analytic methods, to me, meant using rhetorical theories of embodiment and materiality to inform my identification of excerpts that were then coded using frameworks from multimodal discourse analysis. Discovery of patterns across excerpts was then put back in conversation with rhetorical theories, to better understand disciplinary identity construction as a rhetorical process.

Coding

Researchers often turn to coding – the identification of categories, patterns, or themes – as a systematic means for making sense of data. Thus, there is sometimes the misconception that coding is aligned with more quantitative and positivist research epistemologies. However, as Rebecca Moore Howard explains in "Why This Humanist Codes," coding can support interpretation without quantification, providing valuable insights for the qualitative researcher as well: "Coding pushes the researcher away from confirmation bias, beyond grasping at bright shiny objects in an impressionistic reading of text. Coding compels the researcher to be systematic in handling data; it facilitates unexpected insights and impedes the researcher's impulse to notice only the passages that support his or her preliminary hypotheses" (79). Similarly, this project made use of coding not as a bottom-up means for building theory from data[12], but to support a rigorous engagement with data guided by theoretical questions and aiming to contribute back to theory-building on material rhetorics.

Like my analytic orientation, my approach to data analysis for this project was guided by feminist rhetorical scholarship, which I found well aligned with an iterative coding process. Kirsch and Seibler's concept of "strategic contemplation" as a meditative and reflective strategy for immersion "by observing without rushing to judgment, by noticing without the need to analyze, classify, and establish hierarchies" (22). This methodology resonates with Muckelbauer's concept of "productive reading," which moves beyond critique to consider the available possibilities in a text: "this style of engagement, instead of reading in an attempt to

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[12] This "bottom-up" coding approach is often referred to as grounded theory: "Researchers develop categories that emerge from the ground up (as opposed to top-down analyses) through iterative, recursive constructions of theories about the people and practices researchers study" (Sheridan 83). The recursive construction of theories often occurs through multiple rounds of data coding, marking themes and patterns as they emerge through reading and rereading materials. As Saldaña explains, "The process usually involves meticulous analytic attention by applying specific types of codes to data through a series of cumulative coding cycles that ultimately lead to the development of a theory – a theory 'grounded' or rooted in the original data themselves" (18).

discover what is lacking in a text or theory, instead of reading programmatically, reads in order to… move through contemporary problems in an attempt to develop new questions" (74). Similarly then, Muckelbauer sees ideal engagement with the "object of study" as a means of opening up possibilities rather than limiting them and envisions taking on an open attitude of discovery as fundamental to this approach. I found that my movement between noting salient moments during field observations, reviewing these moments in my video recordings, and transcribing them across multiple tiers for embodied and material interaction supported such an open attitude to my subjects and research site. This process encouraged me to re-evaluate initial impressions and drew my attention to new and important aspects of the exchange, as I discuss in the examples below.

Initial Coding:

My initial coding scheme emerged organically out of moments I was noticing during my observations that connected back to my research questions in important ways. Broadly then, I began coding both my field notes from simulations and my transcription of interviews by identifying moments that 1) involved discursive exchange in simulation with particular attention to how students were being redirected and corrected when errors were made; 2) were tied to the materiality of the simulator and simulation environment and the students' embodiment of the nursing role in that environment; and 3) directly involved writing, specifically around the white board used for charting in the simulation context. More specific descriptions of these codes and their connections back to my research questions are below:

Code	Definition	Example	Research Question(s)
"Comm"	Student communication actively shapes the exchange	Student initiates a conversation with the patient about whether she has anyone at home to help her with wound care and urges her to contact her daughter about the	1. How do embodied, material, and discursive action contribute to the rhetoric of patient simulation? What can patient

		hospitalization.	simulation teach us about the multi-modal and affective rhetorical dimensions of professional learning?
"Correct"	Discursive or bodily corrective that can come from another student, from simulator, from instructor, or unfolding of the event	Student is using jargon in communication with the patient and patient responds with "What's that?"	
"Mat"	Students' embodied presence actively shapes the exchange	Students crowd the patient trying to all accomplish different tasks and the patient becomes distressed	2. How are simulations designed to support certain kinds of rhetorical action and foreclose others? What rhetorical role do simulation space and objects play?
"Sim"	Simulation environment or objects actively shape the exchange	Coordinator coughs into the microphone and students ask patient if he's feeling mucus in his lungs.	
"Write"	Writing actively shapes the exchange	Students begin at the board by collaborating on a "to-do" list that then directs their actions throughout he simulation	3. How do simulations support disciplinary genre learning?

Table 2.1:

I used these codes both for observations of the simulations and for debriefs that followed. In addition, I also coded debriefs for:

- "prof" (for professional): connections to experiences in the "real-world," including clinicals or jobs, often accompanied by explanations of professional behavior
- "emp" (for empathy): references to connecting with the simulator or imagining how he/she would be experiencing the simulation.

Of course, while I was initially thinking about these codes in relation to the single research question listed in column 4, the connections to additional questions and to one another are already apparent in my descriptions. For example, I mention that corrections can be discursive or bodily and can come from the simulator or environment, which is clearly connected to my second research question about how the simulation environment supports and forecloses certain rhetorical actions. Ultimately, I found that these codes were most useful in helping me to identify key moments in both my field notes and interviews by looking for code clusters – excerpts where multiple codes were all in play at the same time. It was by identifying and then transcribing these moments with clusters of codes that the relationships between these various ideas and questions

began to take shape and I was able to move forward with analysis.

For example, one of my broader research questions, "How are educational simulation environments designed to support certain kinds of rhetorical action and foreclose others?", called my attention to how corrections were made during simulations. I noticed that if students did something wrong corrections could come in a number of forms – the student could self-correct, another student could correct them, the instructor could intervene through patient reaction (verbal or physical like raising the patient's temperature), or the instructor could comment as the Eye in the Sky. A more grounded approach might have begun by returning to transcriptions of all thirty simulations to identify every instance of correction, organize these corrections by source, and then continue to look for patterns that emerged in how corrections were given and received. As per my earlier discussion, I would categorize this kind of approach as discourse analysis because it begins by identifying a particular linguistic move (the correction) and works up from instances of that move to develop a theory of corrective action in simulation contexts. I see a lot of potential for productive discourse analysis on clinical simulations and hope to come back to my data with a more systematic coding approach like this in the future.

For the purposes of this project, however, my material rhetorical framework called my attention to moments where corrections overlapped with students' physical interactions with the simulator or space. As I looked more closely at corrections that re-directed student action, I became increasingly interested in how their care could be re-directed both by intentional interventions of peers or the instructor, but also by physical (visual, auditory, and tactile) cues from the simulator and simulation environment. This interest led to a reorientation towards disruption instead of correction and I went back to my field notes to develop a list of particularly

compelling disruptive moments. Transcribing these moments with attention to multiple tiers of verbal and physical action and further analysis then became the basis for Chapter 3.

Multimodal Transcription

Undoubtedly, one of the biggest challenges of multimodal discourse analysis, as articulated by Norris, Kress et. al., and others, is the extreme complexity that attending to multimodal components of an interaction adds to transcription. As Kress et. al. explain: "One difficulty with our analytical approach to classroom communication as a multimodal event is that it makes the most prosaic classroom interactions appear enormously complex…. [it] can turn what goes on in the classroom into an implausibly intricate and complex event which seems beyond the capabilities of an human brain to manage" (17). And beyond the capacity of the human brain, multimodal analysis requires a multiplicity of levels of transcription that are both time consuming and difficult to organize in traditional transcription programs. For example, in a single simulation sequence, tiers for transcription might include verbal actions for three different students and the manikin and physical actions for all three students. Physical actions would then be further broken down into gestures and interactions with material objects and the environment, creating a total of ten tiers that still do not account for instructor interventions as the physician on the phone, the Eye in the Sky, or a visiting family member.

Given the constraints of a dissertation project timeline, the limitation of being the only researcher on the project, and the sheer quantity of video data collected (90 simulations totaling nearly 30 hours of video), I had to make strategic choices about which parts of this data would be transcribed and the goals of my transcription. As previously described, I used the coding of my field notes and interviews to identify key moments that responded to my research questions and

then transcribed these video excerpts. For this project I ultimately did multimodal transcriptions of ten excerpts ranging in length from two to seven minutes. My goal while doing these transcriptions was to de-normalize the excerpts and call my attention to relationships between verbal, written, and physical action that I may not have noticed previously. Thus, I approached multimodal transcription much as Rebecca Moore Howard describes the humanist's approach to coding as "push[ing] the researcher… beyond grasping at bright shiny objects in an impressionistic reading of text" (79) and in line with a feminist methodological emphasis on open engagement with one's research subjects and site.

For transcribing video excerpts I used ELAN, a linguistic annotation tool designed by the Mac Planck Institute for Psycholinguistics specifically to support research on multimodality. The system enables transcription of both audio and visual components of a video recording into grouped layers or "tiers" that can include spoken exchange, gesture, environmental interaction, etc. (Wittenburg et. al. 1556). The tiers are flexible and can be identified and organized according to the researcher's transcription and coding goals: "The user can define and create as many tiers as needed, and the tiers can be grouped hierarchically… The advantages of hierarchical tiers are that relations are made explicit and that time alignment is inherited. The advantage of independent tiers is maximum freedom" (Lausberg and Sloetjes 847-48). Gonzalez's recent research, which uses ELAN to code focus group's of students discussing multimodal projects, demonstrates the potential of these tiers to better understand relationships between students' discussion of their writing and their embodied explanations of genre tasks.[13]

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[13] Gonzalez explains: "using ELAN's tiers allowed me to code both students' verbal and embodied responses to my questions about their experiences with conventional print and multimodal genres. This was particularly crucial for a study including students from various linguistic backgrounds, as these students used gestures to clarify ideas that may not have been communicated clearly through spoken English alone" (Gonzalez). While demonstrating the potential of this annotation system for better understanding student explanations of writing, Gonzalez still limits her coding tiers to "comments about multimodal projects, comments about conventional print papers, embodied

I used eleven tiers – three for each student in the simulation to account for words, gestures, and environmental interactions and two for the voice and gestures of the patient (played by the instructor). Figure 2.1 shows coding for the excerpt that begins Chapter 3, which involved two students having a conversation with Jason about his itchiness. As one student asks Jason to describe his itch in more detail, he gestures towards parts of his body and moves around the bed to investigate further. Meanwhile, the other student is positioned at the medicine cart in the back of the room, checking on the side effects of a pain medication that Jason has taken to see if they might be the cause of the reaction. Thus, this transcription documents the first student's questions to Jason ("And you said it's all over? No particular area? Not maybe just your leg?") and gestures ("Open hand gesture…"), Jason's response ("No I mean I just feel that its my stomach and my neck"), and both students' interactions with their environment ("Walks from

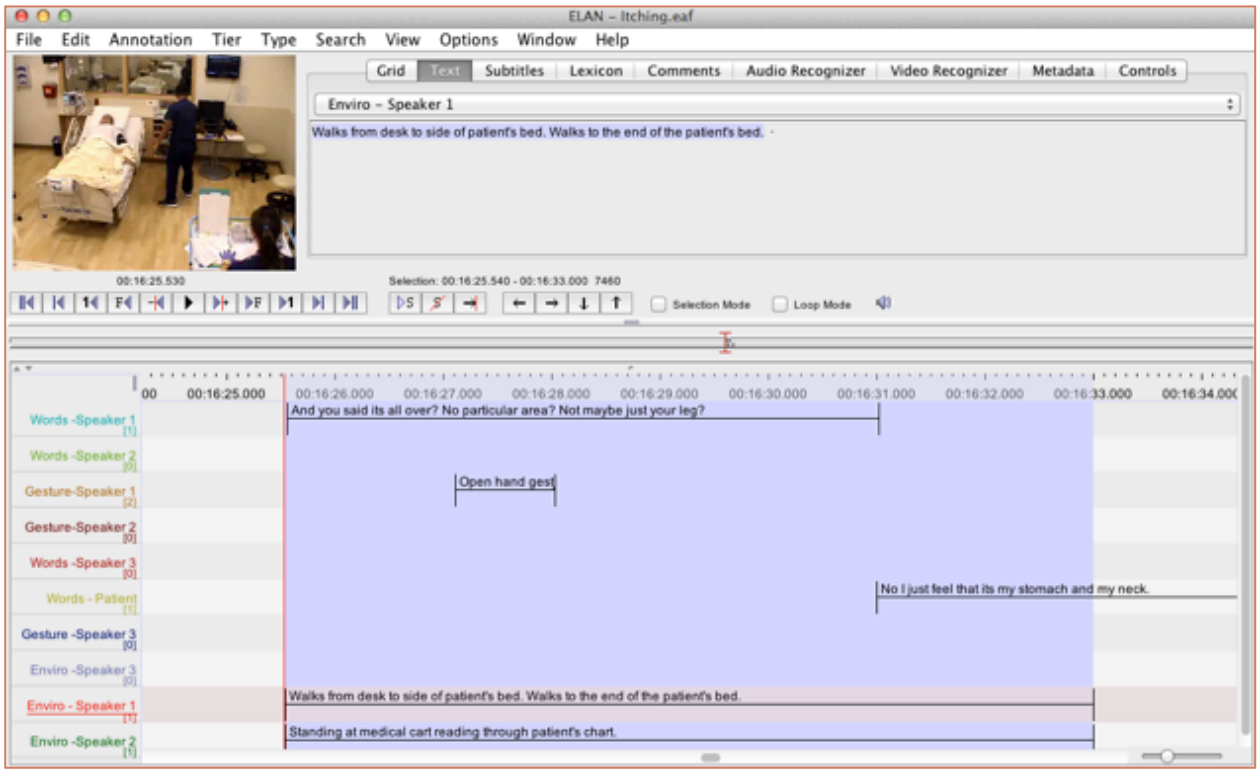

Figure 2.1: Coding a Simulation Recording in ELAN. Computer Screenshot.

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gestures, and comments made about learning and navigating new languages," thus lumping embodied gestures into a single category for consideration and emphasizing greater diversity in content-based tiers.

desk to side of patient's bed. Walks to the end of the patient's bed." "Standing at medical cart reading through patient's chart.") It also accounts for the overlap of these actions in real-time.

Most importantly, this mode of transcription helped to call my attention to interactions between individuals, environments, and objects that might have escaped me in just re-watching the video. For example, when I transcribed the excerpt in Chapter 3 where Colin and Leslie are discussing their care plan at the medicine cart and the Eye in the Sky asks them to speak up a little bit, I was initially very interested in where Colin's gaze was focused since he specifically mentions not knowing where to look. However, as I transcribed the gesture tier for Speaker 1 in ELAN, I became increasingly interested in what Colin was doing with his hands during this explanation because his gestures were clearly operating outside of the action of the simulation. Ultimately, the transcription I included of Colin's explanation of his care plan looked like this:

> Colin: *[Looking at the camera]* We're going to take vitals first so we're going to have like [*looks over to the left at the white board chart*] those out of the way. Check blood glucose [*uses right hand to make a chopping motion into his left palm*], and then depending on what that is [*makes another chopping gesture into his palm*], that will delegate our next plan of action [*moves hands back and forth and apart into a wide open gesture, as if he is holding a large ball]*. I don't know who to talk to [*Looks behind him at the camera located in the back of the room, turns back to the camera in the front of the room and points*] that one *[opens hands in a questioning gesture]*.

Based on my transcription and analysis I would go on to argue that Colin uses hand gestures to "mark the different steps his team plans to take, making a chopping motion to count off each intervention. This embodiment is operating in an explanatory mode that would be just as appropriate in a classroom, rather than immersed in the particular simulation context" (122). Thus, the gestures that I had been overlooking provided further evidence for my initial claim that Colin and Leslie as a group were having trouble immersing themselves in the action of the simulation and were operating with an acute awareness of their multiple audiences. More

broadly, this contributed to my understanding of the unique rhetorical situation of clinical simulations and the challenges for students learning disciplinary communication in this context.

Notably, my transcription of this excerpt as it appears in Chapter 3 is not identical to the transcription I did in ELAN. Just as transcribing along multiple tiers can be overwhelming for the researcher, it can also be overwhelming for the reader. Scholars interested in multimodal discourse analysis have developed multiple strategies for transcribing discourse in action, from screen-shots of a video recording to mark each gestural shift (Norris) to written transcripts with multiple tiers, modeled after a musical score (Rowe). For this dissertation, I opted for a simplistic transcription mode that documents physical action in brackets alongside verbal actions. The bracket is introduced at the moment in the conversation when the action begins, though the limitation of this method is that it cannot account for where, during the course of the verbal action, the embodied action ends.

In addition, I did not include all of the gestures or movements that were in my initial coding in these transcriptions, only those that I had particular relevance in the interaction. This was to prevent extraneous gestures or movements from taking the reader's attention away from relevant factors. In this way, I see it as similar to other modes of presenting qualitative results – for example, quoting excerpts of an exchange while summarizing others. I also recognize, however, that this selective presentation of certain movements and gestures is one way in which my biases as a researcher enter into my discussion of student experiences in these chapters. Given my theoretical orientation, I believe it is appropriate to be selective in my presentation and to base this selection on over-arching research questions as well as the specific goals of each chapter. This means that Chapter 3, which analyzes specifically the simulator and environment's role as sources of disruption has the most documentation of gesture and environmental

interaction followed by Chapter 5, which takes up questions of embodiment and genre-learning. However, I can also see how other orientations might necessitate a more rigorous documentation of every gesture and environmental interaction and thus, why Norris and Rowe's approaches to transcription could be very valuable indeed.

Conclusion

Overall, I consider my foray into multimodal transcription and analysis for this project to be quite preliminary. In the future, I believe it will be important to transcribe multiple simulations in their entirety in ELAN, because I have no doubt that some of the more mundane moments of simulations that would not have warranted description in my field notes would "appear enormously complex" once they are unpacked in a multimodal transcription (Kress et. al.). Still, based on my limited experiences using ELAN to supplement rhetorical fieldwork and student interviews, I believe it has enormous potential for helping rhetorical researchers to better account for the interactions between verbal and written exchange and embodied actions and environmental influences.

Multimodal discourse analysis can act, much like other qualitative coding, to help disrupt a researcher's assumptions about an exchange and to call one's attention to aspects of an interaction that may not have been noticed otherwise. In this way, I see it as a valuable supplement to rhetorical fieldwork that enables the researcher to be physically immersed in a unique context. While fieldwork can provide invaluable access to intangible aspects of the research site – the affective, physical, and inter-personal aspects that make the site a unique rhetorical context – video recordings can be a source for disrupting initial impressions and redirecting the researcher's attention in new and important ways. Multimodal coding can work

against an occasional tendency in the field to become pre-occupied by a critical agenda and a focus on unmasking power at the site of interest. It can support critical orientations, like mine, that are intent on recognizing and valuing how student and instructor actions open up opportunities for learning and critical reflection and how the simulator and environment support situated and responsive rhetorical action.

However, multimodal transcription specifically and attentiveness to materiality and embodiment in rhetorical scholarship more broadly creates a whole slew of new challenges and questions – How much multimodal data should be transcribed given the time consuming nature of this process? How do we identify excerpts that should be transcribed or coded? How do we present the multiple tiers of interaction to readers in ways that are comprehensible? Do we get to decide which multimodal information to include and which to exclude? I have begun to work to articulate answers to these questions within the limited scope of this dissertation project. At the same time, I remain dissatisfied with my answers, continuously questioning whether I am doing justice to the complexity of the interactions. Thus, I believe that my answers will continue to shift and change as I come to this project again and again with new questions, curiosities, and goals and as I continue to develop as a qualitative researcher interested in the inter-relationships between material rhetorical analysis and multimodal discourse analysis.

Chapter 3

Simulating Rhetorical Situations: Teacher, Manikin and Student Disruptions

In the following excerpt from the second round of simulations, student nurses Sean and Maura make up the third shift caring for Jason, a 22 year-old patient who just had surgery in both of his femurs after a car accident. The students are anticipating that the blood clot the previous shift located in his left calf is going to move to his lungs. However, the simulation coordinator, Lee, has decided to add an allergic reaction to one of his medications as an additional complication. The following conversation unfolds as Sean and Maura negotiate Jason's allergic reaction and offer possibilities for treatment. Visible in this excerpt is the way that simulations operate as unique rhetorical situations in which students must be responsive and engaged rhetors, but so must the instructors facilitating the action, the manikin they physically interact with, and the space they move through. As this chapter argues, all four actants have roles to play in supporting as well as disrupting the simulated nursing exchange and creating opportunities for students to practice responsive care.

Sean: [*Rubbing anti-bacterial gel on his hands and addressing Jason.]* Yeah, Maura will double-check the medications. We're going to try and get that taken care of for you right away. I understand what it feels like to be itchy.
Jason: It's really annoying it's just...
Sean: And you said it's all over, no particular area? Not maybe just your leg? [*Pulls latex gloves from the box nearby the head of the bed and walks around the bed to Jason's right-hand side.*]
Jason: No I mean I just feel that it's like my stomach and my neck.
Sean: [*Putting on latex gloves*.] Alright, I'll hold off on the folie and I can take a look at your skin. Would you say um, can you describe the itch a little bit more to me? Is it just... you said it was annoying, is it painful or anything?
Jason: No it's just literally itchy.
Sean: [*Uses both hands to feel neck on both sides*] Itchy around your neck? [Jason: Mhm.] And your stomach you said? [Jason: Mhm] Do you mind if I take a look?
Jason: Almost kind of everywhere. Sure.
Sean: [*Folds down the blanket so that Jason's torso is uncovered*.] I'm going to expose your stomach here. [*Lifts up the patient's dressing gown. Touches the top part of*

Jason's chest lightly with his right hand while he holds the dressing gown up with his left]. There is a little bit of... would you say its bruising?

Maura: [*Walks from the medicine cart to the side of the bed next to Sean*.] That's from the accident.

Jason: Yeah it's a little tender there. I have that seatbelt bruise.

Maura: [*Comes behind Sean to check the IV bags hanging from Jason's pump*]

Sean: [*Gently touches different spots around the torso*] As I'm touching it, what are you – can you describe to me what you feel?

Jason: Well it just feels like a bruise, you know.

Sean: Sorry, your abdomen.

Jason: Ohhhh. Oh it's okay.

Sean: Its okay? [Jason: Yeah] Does the itching get relieved when I touch it?

Jason: Uh no not really. It doesn't make a difference.

Sean: [*Turns to Maura who is walking towards the medicine cart and reaches over to grab medication*.] What do we have for the...?

Figure 3.1 Sean Investigates Jason's Itching Skin. Video Screenshot.

Maura: [*Walking back towards the bed*.] So I was reading that itching can be a side effect of the Lovenox [Sean: Lovenox] Yeah. [Walks back towards the medicine cart]
Sean: [*Pulling Jason's gown back down and blanket back up over his torso*.] And is um [*Gestures to the medication Maura is holding*] that can heighten the...
Maura: [*Reading off the physician's orders at the medicine cart*] Yeah, twenty-five milligrams IV push every six hours, yeah.
Sean: So Jason we've got, I don't know if you overheard our conversation. Maura was talking about how itching could be a side effect of the Lovenox that the previous shift gave you...
Jason: Oh... that shot?
Sean: Yeah that shot. What we could do is we could administer Diphenhydramine, which is an antihistamine that's going to take care of that itching for you. Is that something you'd consider doing?
Jason: Well now I'm starting to figure out that every time I get something, something else happens so if I take that stuff for the itching... is there going to be another problem that pops up?
Maura: [*Walks over to left side of the bed*] It can make you pretty sleepy...
Jason: [*Exhales*] Okay, maybe I'll just wait a little while see if it wears off. What do you guys think?
Maura: I think it's worth waiting a little bit. We'll check back in let's say thirty minutes or an hour and see what you think then?
Jason: Okay, or if it bugs me more than I just ask?
Maura: Of course.

In this excerpt, multiple facets of the clinical simulation are visibly at play. Most obviously, students are immersed in a particular narrative set up by the simulation coordinator that provides them with an opportunity to take on the roles of nurses providing care to a patient. In taking on these roles, they practice conversations with one another and with the patient and also engage in critical thinking to prioritize issues (dealing with the itching before the folie catheter care), identify possible causes of complications (side effects of a drug), and decide on interventions (giving Benadryl). At the most basic level, this meets Hertel and Mills' criteria for educational simulations as being "sequential decision-making classroom events in which students fulfill assigned roles to manage discipline-specific tasks" (15). Notably, their coordinator Lee is making strategic choices to complicate the discipline-specific tasks and work against student's assumptions about care. While Sean wants to associate the itching reaction with the clot he

knows is in Jason's left calf *("And you said it's all over, no particular area? Not maybe just your leg?"*), Lee forces the group to think beyond the prep work for the simulation by introducing a medication side effect they have not considered.

The second part of Hertel and Mills' definition of educational simulations, meanwhile, calls attention to the simulation space as part of its defining characteristics, rather than simply the students' actions within it. According to the authors, simulations occur "within an environment that models reality according to the guidelines provided by the instructor" (15). In this excerpt, students move around the physical space of the simulation room, apply sanitizer, put on latex gloves, check the physician's orders in the binder at the medicine cart, and adjust the patient's blankets on his bed. They also physically interact with the manikin patient, adjusting his dressing gown and touching his neck and chest. In this way, the simulation setting offers affordances for practicing the physical movements of nursing, in addition to nursing discourse.

Still, the simulation environment also enforces certain limitations on the nursing performance. Because it all takes place in one room, the medication "room" is actually just a cart in the back of the room. Students are told to pretend that this is a separate space, but it is often hard for them to negotiate when the patient can or cannot overhear their conversations ("*So Jason we've got, I don't know if you overheard our conversation…"*). The manikin's body is similarly limited. While internal vital signs are controlled with the computer so that Lee can easily adjust things like heart rate, breathing, and pupil dilation, the manikin's surface is more difficult to change. With preparation ahead of time, Lee can add things like the bruises on his chest from the car accident. However, the spontaneous itching side effect that Lee decided to add to the simulation is not physically visible on his skin. Thus, Sean mentioned in debrief his confusion about how to assess the patient's skin when there were no visible symptoms.

Despite its distinctions from the reality it is modeled after, the clinical simulation clearly represents a rhetorical situation all its own. In Bitzer's classic sense, the simulation context includes "a complex of person, events, objects, and relations presenting an actual or potential exigence" (6). That is, the simulation calls into being a response from the students — a definition that also emphasizes kairos, or the opportune moment for rhetorical intervention. Bitzer's definition also emphasizes the audience addressed by a rhetorical action, thus calling attention to the multiple audiences involved in nursing students' rhetoric during simulations — the immediate audience of the patient and peers within the simulation, the evaluative audience of the instructor and simulation coordinator behind the class window, and the theatrical audience of the students watching the performance on a screen in another classroom. Drawing on Bitzer's definition, one could ask what is the rhetoric of patient simulation and how might this translate to rhetorics of simulation more broadly?

However, conceptions of the rhetorical situation have been revised as scholars debate where exactly the exigence for rhetorical action lies, if it is pre-existing in the environment or invented by the rhetor, and similarly if the audience exists as "addressed" outside of the text or "invoked" within the text. More recent definitions emphasize the recursivity of language practices and the role of material forces in acts of persuasion. For example, in *Ambient Rhetoric,* Rickert offers the following definition:

> Rhetoric is a responsive way of revealing the world for others, responding to and put forth through affective, symbolic, and material means, so as to (at least potentially) reattune or otherwise transform how others inhabit the world to an extent that calls for some action (which can include, of course, steadfastness, refusal, or even apathy). (162)

This definition's emphasis on "affective, symbolic, and material means" shows Rickert's expansion of the domain of what "counts" as rhetoric. He emphasizes the inter-animation of language practices and material forces in any act of persuasion. Meanwhile, his focus on place ("revealing the world," "inhabit the world") echoes recent interest in ecological and networked approaches to rhetoric, which focus less on a single rhetor's communication and more on the interconnectedness of communication (Spinuzzi; Bennett; Dingo).

Similarly, in a recent essay on kairos, Rickert argues for a view of environment and time as always acting upon the subject, who is not an autonomous agent but instead a "condensation of probabilities":

> The environment is always situating us in arrangements that simultaneously unleash some possibilities and foreclose others… Thinking place kairotically, and kairos spatially, thereby moves us from subjectivity of semiautonomous, willing agents to something like subjectivity as a condensation of probabilities realized in movement, materialized in space, and invented in place. (85)

This view grants more agency to the materiality of the simulation context and objects within it, rather than focusing sole attention on student agency. It raises additional questions for this chapter: how do simulation environments "unleash some possibilities" for rhetorical action and "foreclose others"? And what rhetorical role do the simulation space and objects play in shaping the way students come to adopt disciplinary identities?

Key to answering both of these questions, I believe, is recognizing that the simulation materials and environment are one of several sources of disruption for student learners. I use the word "disruption" throughout this chapter to describe moments where or actions by which the simulation scenario as it has been set out for students is disturbed, redirected, or over-turned.

Instructors can do this intentionally for pedagogical purposes or it can emerge incidentally as a result of students' actions or a flaw in mechanics. Regardless of the cause, however, these disruptions necessitate that students navigate between their pre-meditated, often static plans for a scenario and the situation's emergent demands.

In their article "A Cyborg Ontology for Healthcare," the authors describe the important role of disruption for healthcare practice, especially in relation to working with technology:

> "The inherent danger is that a mere technological, habitual way of being does not permit us to be open to the embodied and contextualized experiences of patients. A disruption of the habitual in terms of logics, embodiment, and routines can move nurses and other healthcare professionals to a conscious integration of patient centered practice into the technological care environments. (Lapum 286)

Thus, the authors see disruption as a key means for calling healthcare workers back to embodied and situated patient care in situations where technology has routinized practice. Their emphasis on "conscious integration" points to the value of disruption for fostering meta-awareness of one's actions as well. When one's expectations and plan of action do not fit reality, this provides an opportunity to re-assess and even question actions that have been routinized. Along similar lines, Elizabeth Wilson's scholarship on robotics researchers emphasizes "the importance of being emotionally surprised, attentionally diverted, and therefore intellectually interested and engaged" in creating a successful intra-action with robotic creations (50). Similar to Lapum et. al., her research suggests that students might learn to be attuned and engaged rhetors best in environments where there is always a possibility for the unexpected to emerge.

Also taking an interest in robotic capacities for surprise, Abrahamson and Denson, the designers of the first patient anesthesia simulator, describe three pathways for disruption during

simulations in their report on the simulator — the teacher, the student, and the manikin. Using those categories to guide my analysis, I devote a section of this chapter to the rhetorical role of those three components in the patient simulation, with particular attention to their disruptive potentials. I begin by overviewing previous work theorizing simulation with an emphasis on how the capacity for surprise is a differentiating factor between assimilative simulations and change-making simulations because disruption creates opportunities for redirection and critical reflection. From there, I describe the instructor's role in the simulation and their interventions as both patient and physician to redirect care. Then, I discuss the patient manikin itself as an actant in the rhetorical context of the simulation including its affordances and limitations in teaching embodied disciplinary communication. Finally, I consider students' unique experience of conversation and interaction within the simulation context, examining how the narrative and environment as previously discussed contribute to their performances in this space.

Overall, this chapter provides a broader view of simulations as rhetorical contexts that support situated and responsive rhetorical performances, not just from students but also from instructors and the objects and environment in which they interact. I draw on a wider definition of rhetoric that moves beyond a focus on individual, intentional persuasive actions and instead accounts for how rhetorical actions can be attributed to people, objects, and environments — or in my case, teacher, machine, and student actions. Ultimately, by examining action within simulations through a more expansive rhetorical view, I can also respond to critics that see patient simulators as dehumanizing. What becomes apparent in the interactions between students and manikins in the excerpts I examine here is the many ways in which the machine disrupts and redirects students' practice – necessitating that they negotiate difficult conversations about ambiguity and recognize the wide range of variation within "normal" human bodies. At the same

time, problematic generalizations were most likely to emerge as students jokingly negotiated the distance between the simulator and reality, rather than in direct interactions with the simulator or the environment.

Disruptive Simulations: Assimilation vs. Change

Simulations are in the forefront of the contemporary imagination. We play characters in the fantasy worlds of video games, visit vacation destinations like Disney World and Las Vegas where we can walk through simulations of different international locations in a matter of minutes, and watch scientific simulations on news channels that visualize or predict the impact of natural disasters. Unsurprisingly then, simulation has also been a recent research interest for a range of scholars including postmodern theorists (Goffman), scientific rhetoricians (Roundtree), performance scholars (Magelsson), and educational theorists (Gee; Hertel and Mills).

In this section, I draw on this wide range of scholarship to both define educational simulations and distinguish between simulations focused on skill-based learning and assimilation and those with the potential to promote change. Crocco has dubbed this second category "critical simulations," explaining:

> Whereas the goal of standard simulation is to use simplified models of reality to assimilate the learner as efficiently and effectively as possible into the domain being simulated, critical simulation resists the ideological closure of assimilation by presenting models of reality that defamiliarize the domain in question and pose it as a problem to be investigated and resolved. If successful, the critical simulation will produce cognitive dissonance between one's pre-conceived notions about a domain and the new experiences generated by the simulation; this opens up a space for critical reflection and analysis. (3)

Crocco's emphasis on "defamiliarizing the domain" and producing "cognitive dissonance" highlights the important role that critical simulations can play in challenging participant's worldviews. He also emphasizes space for reflection and analysis as fundamental to optimizing these opportunities for change.

Certainly, educational simulations like those in nursing are invested in assimilating nursing students into a disciplinary community with particular values, views, and goals. However, they are designed not just for skill acquisition but also to support the development of problem-solving and communication strategies for challenging situations. In the process, they prompt conversations about the power relationships in clinical settings and promote a view of nurses as patient advocates and forces for change in a dehumanizing medical world.

Goffman, whose work is frequently taken up by performance scholars, ties his definition of "keying" specifically to patient simulation, saying that keying is "the set of conventions by which a given activity, one already meaningful in terms of some primary framework, is transformed into something patterned on this activity but seen by the participants to be something quite else" (44). The movement between some primary framework, the "real," and a secondary framework that is both patterned on the real but also "something quite else," is a recurring theme in others' definitions. In Roundtree's examination of computer simulations, for example, she argues that simulations create a bridge between theory and experimentation using "abductive reasoning to produce virtual evidence" (106). Her analysis demonstrates how virtual evidence becomes persuasive through energeia, active and vivid description of an event that activates a listener's senses (visual, auditory, tactile), bringing an event to life in the moment but also potentially shaping the listener's experiences into the future (106). Similarly, in enabling students to physically experience an event, simulations create a vivid embodied experience with

the potential to shape their understandings of care into the future in ways that a textbook reading or PowerPoint lesson cannot.

The type of persuasion that a simulation is engaged in can vary widely, however, and authors have developed a number of ways of categorizing simulations with different ends. Goffman's categories include: "make-believe, contests, ceremonials, technical redoings, and regroundings." These overlap with a number of Magelsson's categories as well. Magelsson identifies "aesthetic" simulations as those whose aim is pleasure-inducing and would correspond with Goffman's make-believe, while sandbox simulations are aimed at pragmatic acquisition of skills similar to Goffman's technical redoings. Magelsson also adds simulations of witness, which enable performers to take on a new subject position and experience empathy or solidarity with people in that position and simulations of effigy, which "through nuance, allegory, encoding, metacommunication, or other performative cues, has recourse to a third entity, which may or may not be grasped fully by all participants" (18). In addition, he distinguishes between simulations of reification, which reinforce the status quo, and those of invocation, which imagine possibilities for change or innovation.

Given these categories, most nursing simulations would be categorized as sandbox simulations/technical redoings, aimed at skill acquisition. However, recent directions in nursing research on simulation indicate a shift away from focusing on developing hands-on skills and providing technical practice and an interest in the relationship between simulation and non-technical practices, including rapport-building, team-based communication, and empathy for patients. For example, three recent reviews of simulation research in nursing highlight widespread interest in student confidence, interpersonal communication skills, and even empathy (Weaver; Nehring and Lashley; Yuan et. al.). Some nursing simulations fit more clearly into the

category of "witness," since they explicitly take empathy as one of their aims. For example, junior year nursing students at Northwest University participated in an activity where they wore heavy body suits, distorted glasses, and uncomfortable shoes, and then had to try to do everyday activities like walk around and eat pudding. The activity was geared towards helping them to appreciate the physical experiences of aging. Similarly, Dearing and Steadman's "Enhancing Intellectual Empathy" studied nursing students involved in a simulation designed to help them understand the experience of mental health patients with schizophrenia. Students listened to a 45 minute audio-tape that simulated the experience of hearing voices while being asked to engage in everyday tasks like having a conversation or playing a board game.

These witnessing simulations hint at components of invocation that are present in many nursing simulations. Rather than asking simply for reproduction of a particular nursing role, they also encourage critique and consideration of the alternative ways that patient, physician, or nurse conversations might develop. In this chapter, I argue that opportunities for disruption throughout the simulation are key to this capacity for imagining alternative exchanges and ultimately, change making within the discipline. In addition, I demonstrate how these disruptions can come from authors (the simulation coordinator and instructors) and nursing students' discourse, their physical interventions, and the environment and objects in the simulation space. In this way, I expand the view of agency in simulation contexts and call attention to the ways in which material objects can support not only technical and skills-based learning but also empathy and critique.

The Instructor as Disruptor: Building Worlds and Facilitating Action

Since I had the opportunity to watch ten groups of students move through each simulation scenario, I quickly gained a real admiration and awe for the work of their simulation coordinator,

Lee. As Hertel and Mills explain: "Simulation instructors, above all, must become facilitators of the action…the instructor must decide how much—and how—to remain involved in actively guiding the simulation activities" (20). Lee's involvement began with choosing which scenarios students would enact and how they would be sequenced throughout the year to meet student's learning and developmental needs.[14] Even after the scenarios were chosen, Lee thought strategically about how to create the right feel for each scenario and how to play each of the scenario's characters (patient, family members, etc.) to best support student learning.

For example, Karen, who was a designated instructor that worked with Lee on all of the infant simulations, described their aim to create a chaotic, challenging environment for students that would best represent the experience of a pediatric ward: "We want them to feel the stimulus, the increase in sound and movement, of having a lot of people in the room." Karen's emphasis on feeling highlights the way that she and Lee were quite intentional about the experiential impact they wanted simulations to have on students. They would use this larger vision for the "feel" of a simulation to make decisions about what kinds of disruptions to introduce. For example, with the goal of "feel[ing] the stimulus," multiple visitors were introduced during the pediatric simulation including distressed parents, siblings, neighboring patients, parents of the neighboring patients, etc. As even this simple example demonstrates, the instructor's disruptions in simulations could take a wide range of forms – from coming over the intercom as the voice of the neighboring patient, Dylan, who wants to play, to calling the secretary down the hall and coaching her on playing distressed parent for a few minutes during a scenario. Just as she was

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[14] The three scenarios that I observed were all adopted from versions written by CAE Healthcare, which composes simulation scenarios for a range of fields including aviation, the military, EMS training, and nursing. Their Program for Nursing Curriculum Education (PNCE) includes 100 Simulated Clinical Experiences (SCE's), each of which provides patient background and history, a synopsis of a patient situation, a scenario with specific events for the students to engage with, learning objectives, suggested equipment, physician's orders, and preparation questions for students.

teaching students to be responsive and intentional caregivers, Lee's success as a facilitator of the simulation world depended on a deeply rhetorical and embodied immersion in the simulation scenarios themselves that helped her recognize the many routes for productive disruptions.

Lee's disruptions were strategically designed to work against student expectations for the scenario, causing students to revise what they thought they knew about the patient and context and respond accordingly. In this way, her disruptions ensured that students would not approach a simulation formulaically, able to carry about a plan they might have mapped out the night before, but instead would have to be attentive and rhetorically flexible. Indeed, the unpredictable simulation narrative provided the immersive and emplaced experience of kairos that Rickert describes, with students as agents that position themselves amongst "a condensation of probabilities" (86). Lee would also often guide debrief conversations to ensure that students were aware of the multiplicity of possible responses to a given situation, rather than fixated on a single course, similarly supporting students' meta-awareness of the range of actions available to them.

Lee's regular immersion in the simulation context and deep familiarity with the scenarios enabled her to strategically design disruptions so that they redirected and challenged students but did not upend the scenario's narrative. Students' clinical instructors, on the other hand, who would attend only the simulation for their individual clinical group, most often followed Lee's lead, finding themselves orienting to the simulation alongside their students. Their missteps ultimately revealed the importance of the instructor role in creating opportunities for student problem solving and critical thinking. For example, one inexperienced instructor answered the phone when a group called the physician because their elderly patient was refusing rectal Tylenol. She immediately offered to change it to an oral order for the group, thereby short-cutting an opportunity for them to take on the role of patient advocate and negotiate a difficult

conversation with the doctor. Lee, on the other hand, designed the narrative of the simulations so that students would have a range of information to uncover, prioritize, and address together (detailed descriptions of the 3 scenarios are available in Appendix 1). Meanwhile, her role as the patient enabled her to intervene in the action of the simulation and facilitate student responsiveness and engagement.

Hertel and Mills explain how playing a character in the simulation scenario allows instructors a degree of control that still ultimately lets students take the lead on the simulation's direction:

> [Instructors] assuming the role of a character… works for several reasons. First, the instructor retains a satisfying measure of control over student action without requiring students to move into and out of their scenario roles. The flow of the scenario action continues even as this guidance is taking place. Furthermore, instructors in a scenario role can guide students towards the desired learning objectives in a less obvious way, allowing students to benefit from the experience of framing and solving problems on their own. If you do assume a working role, select one that gives you the measure of control you seek without becoming the decision maker in the scenario. (21)

In clinical simulations the patient role provides a lot of control for the direction of the simulation, but certainly does not position the instructor as decision maker. Playing the part of the patient, Lee was able to correct student errors that could have lead the simulation astray, indicate when students' communication with patients was problematic, and introduce new problems or complications for groups that were working successfully.

For example, in following excerpt, Lee (playing the role of Jason) highlights how Mary's

explanation about pain medication might create problems for the patient, without letting her mistakes completely redirect the group's work:

> Mary: Jason how much pain are you in on a scale of 0 to 10, 0 being no pain and 10 being the most pain you can feel?
> Jason: Uhh... I could give it a number about, I guess I'd say about a three.
> Mary: A three? Okay? Um, do you feel like you need pain medication for that?
> Jason: Well I have that button I'm pushing, right?
> Mary: Okay, yeah. [...]
> Jason: Can I ask you about that that thing that I keep pushing? [Mary: Yeah] So, it's morphine right? [Mary: Yes.] Which seems kind of hardcore to me. I've only had like Tylenol before [Mary: Yeah, um...] can I like overdose myself on it if I push it too much?
> Mary: Um it is possible to go into respiratory depression, [Jason: Ohhh...] that's our most serious concern, but the way your pump is set up is it will lock after twenty-four milligrams within a four hour period so that should help, but we're going to be watching your respiration rate and the quality of your breath.
> Jason: Well that freaks me out a little, I think I won't push it until I'm really really hurting, right? I don't want to go into, what did you call it, respiratory de--
> Mary: Respiratory depression, it's...
> Jason: That sounds awful.
> Mary: When your breath um sort of gets [*looks over to another student who has been listening in to the end of this conversation*]. How would you explain it, Courtney?
> Courtney: So we want you to be managing your pain effectively because we don't want it to get to the point where you're in so much pain that you have to play catch up and you come back from that. So um respiratory depression, you won't get to that point, don't worry, we'll watch you and make sure that you never get your breaths too few [*both students laugh*], so don't worry about that, so you should be pushing your button but just make sure that you're the only one doing it, no one else.
> Jason: Ohhh, okay. Alright.

Throughout this exchange, Lee makes several critical interventions. First, when Mary asks Jason if he feels like he needs pain medication, Lee reminds her that he is already hooked up to an IV that is delivering that medication ("Well I have that button I'm pushing, right?"). While seemingly small, if Jason had instead responded, for example, that pain medication sounded helpful, the simulation could have progressed into overdosing the patient's medication.

Next, Lee makes the strategic decision to ask the students about overdosing on morphine, putting them in a situation where they must provide an effective explanation that will ensure the

patient continues to treat his pain. Lee would leverage this kind of disruption frequently throughout all three scenarios and especially with the teenage patient, Jason, creating an exigency for students to do translation work between their medical knowledge and patient experience. In this case, Lee's disruption is not handled very effectively. Mary begins her explanation about the morphine pump by identifying the primary risk of the medication (respiratory depression). This makes sense given that her pharmacology classes are likely placing a heavy emphasis on a medication's side effects. She moves from the risk to an overly specific explanation of how the morphine pump will prevent an overdose, but this gets lost as the patient fixates on the dangerous-sounding side effect. Thus, Lee's minor disruption (asking about overdosing) continues to escalate in response to student intervention. Jason replies to the explanation, saying he will not push his morphine pump "until I'm really really hurting, right?" At this point, another student intervenes to ensure that the situation does not escalate further or derail the simulation.

During the debrief, Mary was very self-reflective about her difficulty with explaining procedures to Jason. She said, "Personally I got really flustered giving him explanations. We're used to being around each other and we all know what they mean, so I'm not used to having to explain." This comment indicated not only that Lee's prompting for translation effectively addressed an area that students felt less comfortable with, but also showed a good deal of meta-awareness on Mary's part about both where her communicative limitations were and why she was struggling with them. This was an awareness that emerged because of dynamism of the simulation context, which provided Mary with an immediate audience beyond her peers and necessitated that she handle medical jargon differently. Mary went on to acknowledge that in this case, her solution was to turn to another nurse for support, "When I didn't know what to say

[about morphine] I was like 'Courtney, how would you explain?'" Lee praised this decision and asked the group how they might phrase a response to a patient about a question they do not know the answer to. In this way, rather than merely turning the conversation into a critique of Mary's conversation, Lee transformed it into an opportunity to reflect together on ways of engaging in a difficult patient exchange. This effectively demonstrates the invocative potential of simulations that focus not just on choosing the "correct" response to a given situation, but instead on thinking through ranges of possible responses and their affordances and limitations.

Overall, this example effectively captures the ways that the instructor's interventions in the patient role emerged in direct response to student action and thus, were constantly changing for each scenario. Lee walked a fine line between letting students experience the consequences of their conversations and actions in the simulations and making sure the simulation did not get too far off track. She was also careful to design simulations where students felt that they had possibilities for action and were not so overwhelmed or stymied that they could not do anything at all. For example, last year Lee had tried out a geriatric scenario featuring a difficult elderly male character designed to help students experience the difference between delirium and dementia. However, she reported hearing some problematic "elevator talk " – students saying they were overwhelmed and did not know how to respond – that prompted her to rethink the design. Thus, in the new iteration of the Geriatric simulation they made the patient intentionally "sweet" rather than a "little crotchety." Even sweet Eliana still had plenty of potential for disruption, like challenging students' insistence that she take hospital medications instead of her own. Overall, Lee's interventions emerged from a deep, immersive understanding of a simulation's possible lines of development as well as knowledge of where students were at in their development. I would often sit through three or four full simulation sequences before I fully

understood the intricacies of why Lee was doing things the way that she was and the small ways in which her interventions prompted actions. This was also why it was so difficult for me or other instructors to take her place in the patient or physician role.

Lee was not just mentally immersed in the simulation either. One of the things that made her such a successful coordinator was that she was a performer that would deeply immerse herself in the patient's character. I found it particularly fascinating to watch her play the patient role because sometimes she would physically respond to the experiences of the patient, scratching her neck, for example, while the patient complained of itching, or pumping her foot as she talked to the students about a pain in her leg.

At the same time, because she had her mouth to the patient microphone at all times, Lee's involuntary physical responses became the patient's. When she sneezed, the students in the simulation would say, "God bless you" to the simulator. When she yawned while a student was listening to heart sounds, he became concerned about the inconsistency of the patient's breathing. At times, she would not be able to respond to student questions because she was distracted by activities happening in the coordination room and students would express concern that their patient was not responding. During a sensitivity test where a student was poking the simulator's foot with a pen, Lee had to stand up and strain to try to see when the poke was being delivered and then respond effectively.

Interestingly, these instructor actions, while not always intentional, also acted as sources of disruption in the simulation. The links and disconnects between Lee's body and the simulator's body were an important part of the simulation's rhetorical context that prompted student action and also helped support Lee's responsiveness to student care. Overall, Lee's rhetorical responsivity, her immersion in both the verbal action of the simulation and the

physical exchange (even though she was not in the actual clinical room), was a critical part of what made her role effective. In their instructor's responses, students were prompted to negotiate challenging conversations, were occasionally disrupted by unexpected responses, and were able to see the immediate effects of their interventions. Debriefs then provided them with the space to critically reflect on these interventions, not merely identifying their mistakes or a single right way of approaching action, but enumerating together the "condensation of probabilities" available to them in that particular moment.

Simulator and Environment as Rhetorical Actants

While the connections that exist between Lee's body and the manikin are indeed fascinating, they hold less importance for the simulation's outcomes as a whole than the interactions between the students' bodies and the simulator. During their orientation to the simulation room, Lee reminds students that even though the patient is hooked up to a telemetry machine that projects vital signs like heart rate, respiratory rate, temperature, etc., that they should not rely on telemetry for information. Instead, she emphasizes that "just like in clinicals, you should have hands on, ears on, eyes on the patient at all times." What this means in practice is that the simulator, specifically, and the simulation environment, more broadly, have an active rhetorical role in the simulation as well and that they persuade in a range of physical, visual, and auditory ways. Thus, action is driven not just by the human participants—instructor perturbations and student responses—but also by interactions with persuasive objects in the simulation. This perspective resonates with recent rhetorical scholarship on material rhetorics.

A recent integration of object-oriented philosophy into rhetorical scholarship has resulted in a focus on the persuasive capacities of materials as "actants" (Latour). For example, Bennett's

Vibrant Matter (2009) introduces the idea of "thing-power," arguing that objects and environments can play an active role in promoting ethical and healthy behavior. She still sees affective and sensuous engagement with these objects as fundamental to this ethics, but examines electricity systems, healthy eating, metal, and stem cells as examples of non-human agents persuading. Similarly, in "Posthumanist Performativity" Barad offers an agential-realist account of "intra-action," which occurs in a "causal relationship between the apparatuses of bodily production and the phenomenon produced" (Barad 814). Barad sees "apparatuses" as fully agential in the intra-action: "Apparatuses are not inscription devices, scientific instruments set in place before the action happens, or machines that mediate the dialectic of resistance and accommodation. They are neither neutral probes of the natural world nor structures that deterministically impose some particular outcome" (Barad 816). Drawing on work on materials rhetorics thus calls attention to the capacity for both simulation objects and environments to enact disruption and redirection in the context of the simulation event.

The idea that simulation objects and environments are crucial in supporting the authenticity of a simulation event is well recognized by simulation theorists as well. Roundtree's focus on the vivid embodied persuasiveness of *energeia* recognizes the role of materiality in the success of computer simulations. Drawing on the ancient rhetorical concept first used by Aristotle, Roundtree argues that simulations possess energeia "insofar as they bring before our eyes the forming of relationships between extra-linguistic and linguistic events. They reflect not only what we know, but also what we are coming to know and understand" (106). Meanwhile, Magelsson continuously emphasizes the unique embodied, physical learning that simulation environments afford — "the physical landscape and playing out of the migrant narrative" help him "to bodily identify with the migrants I simmed" (110). Finally, Goffman highlights the

importance of "engrossables," for the successful enactment of simulations - "a set of materials whose concatenations and interactions he can become caught up in or carried away by" (46).

In all three discussions, however, there is little recognition of the way that materials can act of their own accord, disrupting or redirecting the simulation rather than just seamlessly supporting it. Indeed, materials can help participants become "caught up in or carried away by" the simulation, but the direction in which they are moved might not always be the one intended. Ultimately, it is this disruptive potential of materials that most interests me because these disruptions have the potential to redirect the simulation in unexpected ways. In keeping with Lee's instructions to keep "ears on, eyes on, hands on" the patient, I will organize my discussion of material rhetorical action around tactile, auditory, and visual disruptions. Ultimately, I demonstrate how the materials in this study contributed to students' acquisition of a nursing identity that recognizes variation and difference across patient experiences and is flexible and responsive to their patient and surroundings. Thus, counter to popular narratives about the dehumanizing potential of simulations, the rhetorical actions of simulation objects and environments in this chapter proved instrumental in supporting students' empathetic learning.

Visual Disruptions

When students encounter a wound or an infection in a typical hospital setting, there is often a lot of ambiguity surrounding what they are seeing. Kira explained this saying, "[In Sim] the signs are more obvious, if that makes sense, so like with real people you could be like 'Hm is your leg swollen or do you just have really thick legs normally?' or like 'How do I tell if your skin's right because you have really hairy legs?'" In simulation, in part because the students were quite familiar with the manikin's "normal," visual indicators of problems were much more

straightforward. For example, Eliana's infected wound is coated in greenish Vaseline and looks, frankly, terrible. The instructors and I had some laughs watching students' slightly horrified reactions when they took off the bandage to reveal the greenish discharge.

It makes sense that visual cues would be over-emphasized in simulations – in part, they are making up for other limitations in tactile or auditory sensations that I will discuss later in this section. At the same time, however, Ryan was quick to note how these exaggerated visual cues removed much of the ambiguity from detecting problems:

> When I looked at the surgical wound, I pulled off the dressing and then I saw it was like, I mean it looked nasty but it looked like they—it was intentionally nasty because it was manufactured, it's a very synthetic feeling so you're like 'Well this looks bad, this obviously looks bad,' you know, and you want me to pick up on something. So rather than when I looked at a wound, I looked at a surgical wound the other day and when I looked at it it was like 'This looks clean, there's a little bit of drainage…' but there's a lot of interpretation, you have to look closer, whereas on the mannequin I opened it up and I was like, 'This is clearly bad.'

For Ryan, the manufactured nature of the wound in simulations removed the need for interpretation and "look[ing] closer" that he found was necessary in his clinical experiences. It made the course of action quite obvious and in doing so, it also called attention to the constructed nature of the simulation. Thus, Ryan reflects directly on who had created the wound and why: "you want me to pick up on something."

Still, these visual cues were incredibly important in supporting students in practicing real protocols for care in the simulation context. During her orientation to the simulation room, Lee described "Simisms" as visual disruptions that could keep students from properly carrying out their care. These are "things that happen in Sim that wouldn't happen in the real world because you can't get the same visual and auditory (sensual and tactile) cues that you would get in a normal clinical setting." For example, when inserting a catheter on Eliana, Ryan did not follow the proper technique of holding the patient's labia open with the non-dominant hand, while

inserting the catheter tube with the dominant hand. In debrief, he explained that he had not thought to use one hand to hold the labia open because "it was already wide open." Thus, the manikin did not provide the visual cue needed to prompt proper form.

Another prime example of a Simism was students' experiences with latex gloves in the simulation. Often, they would provide hands-on care to a patient (cleaning a wound, inserting a catheter, giving an injection) but would then forget to change their gloves before moving on to the next task. In a clinical setting, bodily fluids or other remnants of the procedure would likely provide an immediate cue for students that gloves needed to be changed. In the simulation, however, the gloves remained seemingly clean. That said, Lee was quick to point out to students that nurses often forget to change their gloves in the hospital setting as well, so this Simism provided them with important reminders about physical routines that would need to transfer to their clinical practice.

There were several visual cues that were not present in the simulation but were clearly critical for students to make the proper intervention. As a result, the instructors and I would watch group after group make the same errors. One example was Eliana's open wound. Even though Lee had attempted to create a deep open wound to cue students that they should wet pack it (line the wound with moist bandages before covering it with a dry bandage), most of them would dress the wound as if it was closed (simply covering it with a dry bandage). Students

Figure 3.2: Student Swabs Eliana's Wound before Applying Bandages. Video Screenshot.

discussed during debrief that the open wounds they had been practicing on during their skills lab, which were gaping, in part caused their reaction. This provided a good opportunity for talking through the appropriate approach to smaller wounds and recognizing that a wound can still be open, even if it is not as prominent as what they saw in the skills lab. Thus, in this instance, the visual cues in the simulation actually led to more nuanced interpretation, counter-acting the overgeneralizing that had occurred in their skills lab.

As one can see in the case of the open wound, at times student's prior experiences interfered with their interpretation of visual cues in the simulation. This connects to a concept known as "negative transfer" in educational psychology, used to describe instances where students attempt to translate learning from a prior context into a new situation but that knowledge is either not a good fit for the situation or has not been properly transformed to reflect the situation's particular constraints.[15] The influence of prior learning was even more visible in instances where students would completely fabricate visual cues to match up with their previous experience or expectations. For example, one student was asking Jason questions while he had a nebulizer (used to open up airways) in his mouth. Lee answered with a somewhat jumbled response because she was trying to indicate that the patient would not be able to talk clearly with an object in his mouth. However, the student misinterpreted this response as a sign of a neurological problem and started doing a full neurological evaluation. She reported at this point that the left side of the mannequin's face appeared to be sagging. We later found out in debrief that this student had a lot of interest in and experience with patients with neurological disorders.

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[15] The concept of "negative transfer" has been critiqued by composition scholars, however, for not accounting for the ways that deeming connection-making "negative" relies on assumed power relationships between the student transferring and the instructor who decides if the transfer "counts." For example, in *Agents of Integration*, Rebecca Nowacek writes, "The concept of negative transfer normalizes power relations. Current theory of transfer recognize that transfer is a cognitive act of an individual but they have not sufficiently acknowledge that in the context of colleges and universities, the positive or negative nature of a given act of transfer is not evaluated solely by the student perceiving a connection. In a classroom, it is the instructor who has the power to decide whether to recognize and whether to reward or punish a given instance of transfer" (37).

Thus, her interests interfered with her interpretation of visual cues to the extent that she saw sagging on the simulator's face. Similarly, another student reported that Jason's blood clot in his leg "looked larger" than it had earlier, transferring his knowledge about deep vein thrombosis and his expectation that the simulation would be increasing in intensity over time in a way that visually fabricated evidence.

Overall, the visual impact of the simulator existed in relationship to student's previous experiences, whether this was a more difficult interpretive situation in their clinicals, a more blatant wound in their skills' practice lab, or even an entirely fictitious visual encounter that supported their expectations. The simulator's visual conditions were often over-emphasized to clearly cue students for a particular course of action, which runs the risk of not distinguishing between the variation among different bodies or the wide spectrum of "normal." At the same time, it was impossible for the manikin and the simulation environment to mimic all of the necessary visual cues. Thus, students experienced "Simisms," actions that would not have taken place in a clinical setting where objects and environments would more clearly align with care.

Auditory Disruptions

In contrast to the obvious visual cues that students encountered in simulations, they struggled to identify and make sense of much less clear auditory cues. As Lee warned them during their room orientation, while the manikin had both heart and lung sounds, it was often difficult to differentiate between these sounds and the mechanical noise that accompanied the rise and fall of the manikin's chest:

> Note that her breathing sounds are separate from the sound of the chest rising and falling which is her mechanics (kind of a kkk-kkk sound instead of a lub-dub). Her chest rises and falls at a different rate than her actual breathing. You just have to listen past the mechanical sound. Sometimes you will think she's having trouble breathing.

Lee would give students a chance to practice listening to a range of lung sounds while they oriented to the machine, demonstrating for them different abnormal lung sounds. Still, listening past the mechanics of the simulator proved quite challenging for students. Many of them recognized, however, that this was a difficulty they were likely to encounter in their clinical practice as well. Liz reflected:

> What was interesting was doing the assessment because for me its always hard to like hear the abnormal anyways just like, even on a real person, because I'm so used to listening to the normal so when I hear something different I'm like "Uh, is that me or is that you?" you know, and so listening to um I don't remember what was wrong but listening to something that wasn't right in the manikin. I was like, 'Okay, I think I kn-my gut's telling me that there's something that shouldn't be here right now…'

Liz reflected here that "even on a real person," detecting abnormal chest sounds would be a challenge but she will similarly have to trust what "my gut's telling me." In the following exchange, Liz believes she has heard a non-normal heart sound while checking the patient's heart rate and thus, begins a process of negotiating this information with the patient and taking steps to confirm it with other nurses and ultimately her boss:

> Liz: [*Moves patient's gown downwards from the neck. Places stethoscope on chest and looks at watch on left hand. Waits thirty seconds. Removes stethoscope and recovers patient's chest*] How's your heart feeling Mrs. Ruiz?
> Eliana: How's it feeling?
> Liz: Yeah. Do you feel like there's any abnorm-do you feel like its beating funny or beating too hard or too soft? [*Removes stethoscope from her neck and holds it in her right hand*]
> Eliana: I don't think so. I haven't noticed anything.
> Liz: Okay, that's good. I couldn't tell but it might be because you have a lot going on [*laughs*]
> Eliana: Oh, did it seem a little speedy or something?
> Liz: Um, it sounded like there was a extra heart sound. [*Turning towards other two students who are overhearing conversation at this point*] Do one of you want to listen?
> Ryan: Yeah, I can listen. [*Walks around the side of the bed*] Okay, I'm just going to pull down your gown here real quick so I can get a better view and hear better, alright [*Moves patient's gown downwards from the neck*].
> Liz: It could just be your other organs working too.

Eliana: Oh yeah I've been told I'm a little noisy in there.
Ryan: [*Holding stethoscope to chest and listening. Recovers patient's chest and removes stethoscope from his neck. Hangs it from his neck. Turns to other students*] Yeah its definitely its quick but I can't tell if there is an extra heart sound in there or not. So I agree with you, I don't know. I think we should call the charge nurse.
Liz: Okay. I will do that. [*Heads towards the phone*]
Ryan: I'll just hold off on the catheter for right now.

In this instance, the rhetorical impact of the mechanical sounds of the simulator is clear. They interfere with Liz's interpretation of heart sounds, forcing her to encounter and deal with uncertainty. She goes through a series of steps that would similarly be carried out in an uncertain clinical situation: asking another nurse to confirm her assessment and then contacting the charge nurse on the floor to consult. At the same time, she has to negotiate communicating this ambiguity to the patient without alarming her, another skill that will translate directly into clinical practice. This means both avoiding the jargon that she would use to chart the assessment ("abnorm-do you feel like its beating funny or beating too hard?") and finding ways to talk about the problem that are authentic to the simulation context.

Liz: I couldn't tell but it might be because you have a lot going on [*laughs*]
Eliana: Oh, did it seem a little speedy or something?
Liz: Um, it sounded like there was a extra heart sound…It could just be your other organs working too.
Eliana: Oh yeah I've been told I'm a little noisy in there.

This is a particularly fascinating exchange, as both student and teacher acknowledge what is actually the problem (the machine making noises), while positioning it within the context of what could hypothetically be the problem within the simulation's situation (trouble differentiating between the noises of various organs). This double talk avoids breaking the action of the simulation, while still acknowledging that both student and instructor are on the same page about the simulator's disruption and are collaborating to negotiate the machine's intervention. The mechanics of the manikin create the exigency for this negotiation.

At other times, the simulator would make spontaneous auditory interventions that actually supported effective student care. For example, at the beginning of one group's simulation, all of the students were gathered around the patient's chart discussing their care plan and effectively ignoring the patient. Suddenly, the manikin's microphone made a loud noise, redirecting the group's attention away from the chart and towards the patient. Similarly, the simulator baby's vocal box started to periodically shut off so that it could not cry during several groups' simulations. This led to students being attentive to the silent baby, at times taking silence as an indication that his respiratory illness was worsening and inhibiting his breathing. One group tried to counter this by repositioning the baby to an upright position and the machine actually started crying again in response. In these ways, the simulator's interventions prompted situational attention, immersing students in the rhetorical moment and causing them to explore a range of possible options for response.

Auditory disruptions, in their complexity and ambiguity, often cued students to practice negotiating the unexpected in clinical practice. They had to have conversations with the patient about a potential problem with little clarity. At the same time, they used double speak to communicate to other nurses and the instructor that the problem might be with the simulator itself, but that they were still going to work within the action of the simulation to address it. Even though these conversations were prompted by the unique simulation context and the interventions of the machine, they had direct connections back to clinical practice, where students will likely encounter uncertainty daily and need to be prepared for responsive and attentive rhetorical action.

Tactile Disruptions

Prior to the second simulation, Lee spent several days perfecting the blood clot for Jason's leg. She tried putting a tiny freezer pack into a cup of hot tea but it exploded. Ultimately, she settled on a small, microwaveable rice pack, which she sewed by hand and would insert under his bandages in between the first and second groups in the simulation. Jason would ask to have the compression devices taken off of his left leg because it was hurting. In response, groups of students, with varying levels of efficiency, would discover the warm clot and order an ultra-sound to confirm that it was a deep vein thrombosis (DVT). For them to recognize the protrusion on the manikin's leg as a blood clot and carry out the appropriate course of action, the clot had to "feel" right, including being the right size, shape, and temperature.

In "Simulating Medical Patients and Practices," Johnson (2010) draws on Latour and Barad to argue that in simulations reproducing the physical characteristics of the human body is less relevant than reproducing the feeling of an interaction of patient body on physician body: "the simulator mimics practice not anatomy, and simulates participation with the body" (Johnson 125). She argues that the designers have to create a mechanical body that is experienced phenomenologically like a patient's body. Taking a similar theoretical approach, anthropologist Rachel Prentice's *Bodies in Formation* (2014) draws on Latour in theorizing surgical simulations, specifically his notion of "mutual articulation" which describes "how bodies come into being through sensory interactions with the world" (229). As an example of this, Latour describes the "Mallette a Odeurs," a kit designed to train perfume testers to be sensitive to slight differences in scent. Prentice draws a parallel between the Mallette à Odeurs and the simulated body, both created for the purpose of helping practitioners learn to be affected. Rather than "bottling up contrasts," the simulator embodies contrasts, allowing students to experience physiologically the different contours of human parts and distinctions between bodily responses.

In many ways, the manikin itself and the simulation environment were designed to support authentic tactile experiences for students. The manikin had a supple pad on its arm that students could insert a needle into in order to give an injection. By pushing on several specific areas with three fingers (the wrist, the big toe), students could detect a pulse and calculate heart rate on the manikin. The room was also stocked with a range of supplies to help students practice the tactile aspects of patient care –putting on their sterile gloves without contaminating them, opening a wound care kit and maintaining the sterility of the bandages inside, and inserting a catheter as a few examples.

All of these tactile encounters had their limitations, of course. Focal student, Michelle, reflected on the pulse function:

> And the pulses like you have to like push down at like a very particular spot to be able to feel it so it's just a matter of not being perfectly human.

In "not being perfectly human," the machine had its individualized quirks, so students had to get a feel for how to physically interact with it to get the information they needed. This was in part why Lee always gave them time to reorient to the manikin at the beginning of the simulation, practicing listening to lung sounds and feeling pedal pulses. Similarly, tactile encounters with objects in the room were sometimes less authentic because these objects were used regularly, rather than being brand new like they would be in a hospital. For example, one group struggled to disentangle a breathing mask during Jason's pulmonary embolism that Lee assured them would typically be new and carefully packaged in a hospital setting.

While the manikin and simulation room came designed to support authentic tactile encounters, Lee also worked hard to support student's tactile intra-actions with the simulator, constructing wounds out of a plastic molding called "dragon's skin" and adding Vaseline died red or green for drainage. She joked to me at one point, "Some people scrapbook on the

weekends. I make wounds." It made sense to put this kind of time and energy into creating authentic sensations because tactile cues are so fundamental to nursing practice, yet are also extremely difficult to encounter outside of a clinical context. Students can see what a wound looks like in photographs in an instructor's slide show or their textbooks, but they cannot feel the sensation of cleaning or caring for that wound.

At the same time, the simulator also generated tactile effects of its own accord. For example, its body would get increasingly warm over the course of a day if it was constantly in use, so by the end of the day it would literally feel feverish to students regardless of the patient's supposed temperature. In addition, with all of the machinery inside it, the manikin was extremely heavy, forcing students to work together to hoist the patient up in the bed and making it difficult for them to properly listen to lung sounds on the patient's back. A number of students talked about the challenge of working with a manikin that didn't "move" like a normal patient. For example, Michelle noted:

> Well they're very heavy and they don't move fluidly at all, their joints are very stiff, you have to like really force their leg up if you want to do that.

Ryan agreed that the manikin body was difficult to manipulate and required an unusual amount of force:

> It doesn't move like a person and it definitely can't—a lot of times you'd have that patient move themselves if possible so like putting a catheter in a female, you would have them bend their own legs and spread their legs rather than you adjusting them and you have to be a lot more rough with the manikin than you would be with a regular patient.

Positioning the manikin body took a certain degree of force and manipulation that nurse's would rarely use with a living patient, who is capable of readjusting his or her own limbs. At the same time, this immobility encouraged students to make use of the automatic controls for the patient's bed. In fact, a critique that was mentioned numerous times during debriefs was students

reminding each other that they should raise the patient's bed so they did not have to bend over and put pressure on their backs in order to provide care.

Not only did they struggle with repositioning the patient, but students also talked about the challenge of finding comfortable ways to utilize therapeutic touch with the manikin. They knew that they should be initiating physical contact, especially during stressful moments like Jason's pulmonary embolism, but they felt that the manikin body and the simulation environment interrupted this contact. Liz talked about adjusting slowly to integrating physical actions into the simulation environment:

> I was uncomfortable at first because I don't know the boundaries with like touching a person. So of course there's like the therapeutic touch […] But I didn't know how to do that so I was just sort of like, I felt awkward about it, just sort of standing there with my hands in an awkward position like I didn't know what to do with them um and third like it eventually it, I felt more comfortable and I warmed up to the atmosphere.

While she attributes her feelings of awkwardness and not knowing what to do with her hands in part to the simulation environment, the questions Liz is negotiating about personal boundaries and therapeutic touch are just as relevant to the clinical context. What is lacking is the real physical connection to another human that might make this type of interaction a more natural response. In its disruptive non-humanness, then, the manikin creates meta-awareness about the kinds of physical actions that *should* be present in a patient interaction, even as students struggle to integrate them.

Kira similarly talked about her challenge in physically interacting with the manikin, though she attributed it more to the simulation environment than her own predilections:

> I'm kind of a very physical person, so I like to like touch hands, or like rub a shoulder you know and so it was kind of hard when she had the bed rails up and it was like so much lower than me and we're all kind of looking down on her, it's hard and there's a barrier and I think if I were in that position I would probably feel really vulnerable.

For Kira, while she likes to "touch hands, or like rub a shoulder," she found that the bed rails and

height of the bed interrupted her typical approaches to patient care. Interestingly, her reflection ends on an empathetic note: “I would probably feel really vulnerable.” Here, rather than focusing merely on her own discomfort with physical interactions in the simulation, Kira reflects on the impact this would have on patient experience as well, eliding the fact of Eliana’s non-humanness.

In my conversations with focal students and listening to student’s debriefs, I found that Kira’s empathy for patient experience was not an isolated incident. Students spoke about their physical and verbal choices with specific references to how they might feel as a patient who, for example, has to get a third insulin shot for the day or has a group of nurses crowding around her all asking questions at the same time. In part, Lee’s performance of the patient role supported these reflections because students saw directly how their interventions could cause a range of reactions from confusion to fear. Still, the manikin provided the physical platform on which student’s took embodied actions and its responses were critical to student learning and reflection.

A primary critique of clinical simulation is that by replacing human patients with robotic manikins, simulations have the potential to further support a standardization of bodies in medical practice and a lack of responsiveness to individual patient needs. However, this critique exists on the premise that simulators are merely acted upon, rather than seeing them as rhetorical actants in their own right. What we see when we look at the simulator and simulation environment in action is that, in fact, they are quite disruptive forces that require regular attention, engagement, and responsiveness from students. Certain cues might be over-exaggerated to help prompt the “correct” student action, but these cues provide students with opportunities for meta-awareness as they identify and discuss how their diagnoses will be more complicated in a clinical setting.

This meta-awareness, especially around differences between contexts, creates a basis for students to transfer their physical and discursive learning responsively, transforming it for new contexts rather than simply applying certain technical strategies. In addition, there is a great deal of ambiguity in what students see, hear, and feel in simulations and many of them are able to recognize how this lack of clarity will reflect their real-world encounters with ambiguity in clinical settings as well. Finally, in the occasions where students struggle to make interpersonal connections with the machine because of its physical makeup, there is a continued opportunity for critical reflection on how these physical interactions should work within clinical settings. As Kira's statement and other student responses demonstrate, this disconnect does not foreclose the possibility of feeling empathetic connection to the patient's experience.

"Make it Real": Student Immersion in the Simulation

The disruptive potential of student action within the simulation is already visible in my previous discussions of instructor and machine interventions. Indeed, a key characteristic of many simulations is that participants have a degree of authorship in determining how the events unfold. Gredler's criteria for educational simulations focus on immersing students in situations where action is "set in motion by a particular task, issue, policy, crisis or problem," which prompts problem solving and engagement. Of particular importance, however, is that "answers are not cut-and-dried" nor is the simulation's conclusion predetermined so that student's actions authentically shape its direction, what Jones called "reality of function" (Hertel and Mills 19). As Hertel and Mills emphasize, "participants must be allowed to make their own decisions to further the interests of the roles they are assigned – as they perceive them. Thus, there should be no 'canned' final solutions" (25). Thus, in educational simulations participants play a key role in

influencing the action and direction of the scene.

For students in the simulations I observed, their own participation in the simulated scene could also create a source of disruption as they struggled to negotiate aspects of the scenario and environment that called attention to its performative nature. During their orientation to the simulation room, Lee would regularly remind students to "make it real." For example, she tells them to "gel in"— apply sanitizer to their hands when they come into the room. However, she recognized that not every student would be able to fully immerse themselves in the simulation activity. As she stated, "A small percent of you will never feel like this is real, but for many of you after the first couple of minutes you will settle into the scenario and it will start to feel natural. Remember to talk to the patient." Lee also recognized that there were a number of components of the simulation that worked against students' experience of the real, including Sim Stupor, Sim Time, Simisms, and the Eye in the Sky, discussed respectively below.

Sim Stupor

One of these factors was what Lee called, "Sim Stupor," where students "go a little brain dead" once they enter into the simulation room and their focus becomes extremely narrow and often task-oriented so that they start to miss the big picture of the simulation. Lee explained: "Its like the camera lens in a movie zooms in and limits your field of view so that you can't see outside of that one area of focus. You walk in and it's a little surreal, there's lots of lights, lots of sounds. We've all done simulations ourselves and we know how it feels." In fact, Lee intentionally sent the students' clinical instructors into the simulation room to give hand-offs to the first group so that they could experience the stupor for themselves. One instructor reflected on the experience saying, "I know it's stressful. Even in giving the hand-off report, I do that

three times a week and I was still like, 'Did I forget something?!'"

During the one instance where I was asked to participate in a simulation, I also had my own encounter with Sim Stupor. Late on a Thursday afternoon when the rest of the CPL staff had already headed home, Lee asked me to be a disruptive visitor in the pediatric room. I was supposed to play the part of a distant relative to the toddler in the room, bringing him strawberries to snack on, which his white board indicated he was allergic to. However, as I came into the simulation room and introduced myself to the students, I disgruntledly told them I was the toddler's mom rather than aunt/cousin, etc. During debrief, one of the students mentioned that she did not question the snack I was bringing because she assumed that the child's mother would know what he could and could not eat. Thus, even my small error redirected the action of the simulation in an important way. In addition, I was supposed to try to pick up Eric Joslin, the student's patient. Several times, I made my way to the side of the bed, reached in and touched him, and asked if he was doing okay. But I did not ever reach in and try to pick him up. After my brief stint in the simulation room, I spent the rest of the simulation thinking about how I should have been more assertive about picking up the baby and rethinking all the ways I could have said/done it better. This affirmed for me the physical and emotional reality of Sim Stupor, and the importance that Lee put on making sure that instructors could recognize it and be sympathetic about its impacts on student performance.

Rules for Simulation

In addition to the Sim Stupor, which sometimes interfered with student's abilities to "make it real" in the simulation context, simulations were also guided by two additional "rules" that provided students with even more control of the rhetorical situation but at the same time

called attention to its constructed nature. The first was what Lee referred to as "Sim Time." As she would explain during orientation:

> You have some control over the time – you can assume real time but then if you need to fast forward twenty minutes to check the results of a medication you can do that.

Sim Time was necessitated by the constraints of timing in the sim room: each group was only given 20 minutes to provide care. It allowed students to see the results of their actions, like giving a medication, more quickly and continue a sequence of response as a result. It also created disruptions for students in keeping track of time, particularly in their charting and reporting out to the physician. As Lee indicated, students were encouraged to "assume real time," so they would use the clock on the wall to document the time a medication was given, for example, but then when they fast-forwarded time, there was not a way to account for this shift in future charting.

Students also had a resource called the "Eye in the Sky," which they could consult throughout the simulation simply by saying, "Eye in the Sky…" and posing a question. Lee would then come over the intercom system with a response. The Eye in the Sky's purpose was either to answer questions about the simulation itself or to provide information that was necessary but was not available in the simulation. For example, students would often ask the Eye in the Sky where certain objects were located in the simulation room or how to use equipment they were unfamiliar with. Sometimes, students would try to ask questions that could be answered by other hospital members, like the charge nurse or the respiratory therapist. At those points the Eye in the Sky would often respond, "Who could you ask for help with that?" requiring students to act within the reality of the simulation to find information they needed.

Fundamentally, questions to Eye in the Sky were disruptive to the simulation because they removed students from the action of the scene and called attention to its constructed-ness

and the nature of the performance. As Ryan reflected:

> Sometimes whenever we'd have to consult the Eye in the Sky, whenever certain things like, "Is—does the patient look distressed?" or if the order wasn't super specific because it's not a real order to be like "Are we doing this now?" and then the Eye in the Sky'd be like "Yes." So that's a little bit, it definitely throws off your flow, I guess because its like I have to consult the gods rather than just going on, if you have a serious question of course you page the provider or check with your charge but that wasn't really the case, I mean you could call but…

As Ryan highlighted, rather than being able to rely on visual or oral cues about the patient's condition, they often had to "consult the gods" and thus, interrupt the flow of the simulation. At the same time, the Eye in the Sky prevented minor points of confusion from stalling a simulation, allowing students to deal only briefly with a limitation of the environment or the manikin and then move quickly back into the action of the scene.

Only occasionally did the Eye in the Sky's interventions fundamentally shape or redirect student care. In one instance, while doing their assessments of the infant patient, a group of students asked the Eye in the Sky about the quality of his skin, something that could not be altered on the robotic patient but that is a fundamental part of infant assessments. Lee responded that it was "warm and moist," but immediately grimaced at her choice of the word "moist." The group took this word choice to mean that the baby was feverish and sweating, rather than simply healthy, as Lee had intended. This initiated an entire sequence of events. The group documented on the board that one of their goals was to "keep patient dry and comfortable." Later on, when they called the doctor to request medication they informed him that the patient was "sweating profusely." While Lee could have intervened again as the Eye in the Sky to correct the students' misdirection, in this instance she chose to avoid calling attention to the simulation's performance again and let the action play out. During debrief, however, she explained the confusion and pointed out to students that, in fact, newborn infants do not have fully developed sweat glands

and cannot sweat. Despite the fact that the "error" had been initiated by a misunderstanding that would not occur in a typical hospital context, Lee also called attention to the way in which that error was translated from one student to another, onto the medical chart, and eventually into a conversation with the physician. This prompted an interesting critical reflection about the chain of communication in hospitals and the ways that a small singular comment can snowball as it is passed from one participant to the next. Again, while prompted by the particular context of the simulation, this was ultimately a lesson that could transfer into student's clinical practice because it created opportunities for meta-awareness about how the chart mediated student knowledge and action. I discuss this example in more detail in Chapter 5, which considers students' embodied learning of the patient medical record during simulations.

Humor and "Success" in Simulation

While all of the students were impacted by a range of simulation-specific rules and constraints, as Lee warned them, some were simply able to immerse themselves in the action of the simulation and "make it real" better than others. Sometimes this was an individual constraint – for example, a perfectionist student who was overly preoccupied with the correctness of her care and unable to be responsive. Other times, the group as a whole was having trouble connecting to the patient or situation. During Colin and Leslie's first simulation with Eliana, they both had trouble immersing themselves in the action of the simulation and relied heavily on conversations with the Eye in the Sky. Colin, who was quite tall, was very aware of the cameras in the room and the simulation coordinator speculated it was because he could hear them moving because he was closer to the ceiling. When he and Leslie walked over to the medication cart to begin discussing their care plan, the camera on the ceiling directly behind them adjusted to focus

on his face. He looked up at it, pointed, and commented, "It's so weird," gesturing to Leslie to take a look as well. Then he waved at the camera and smiled and both he and Leslie laughed before returning to looking at the patient's chart. Thus, from the very beginning of their simulation, this team was hyper-aware of their audience. As their conversation continued, the Eye in the Sky intervened so that students in the other room would be able to hear what's going on: "Excuse me, can you guys just speak up a little bit?" At this comment, both students lifted their heads from the chart and Colin looked towards the camera that was pointing at them from across the room.

> Colin: Oh, okay. Sorry.
> Leslie: Yeah, sorry. *[She and Colin laugh. To Colin]* We're like talking to ourselves.
> Colin: *[Looking at the camera]* We're going to take vitals first so we're going to have like [*looks over to the left at the white board chart*] those out of the way. Check blood glucose [*uses right hand to make a chopping motion into his left palm*], and then depending on what that is [*makes another chopping gesture into his palm*], that will delegate our next plan of action [*moves hands back and forth and apart into a wide open gesture, as if he is holding a large ball]*. I don't know who to talk to [*Looks behind him at the camera located in the back of the room, turns back to the camera in the front of the room and points*] that one *[opens hands in a questioning gesture]*.
> Leslie: Doesn't matter [Colin: Okay] Okay, so…
> Colin: I hear them laughing over there *[Gestures to the right with his thumb. He and Leslie turn to each other and laugh]*.
> Leslie: Okay.

In this exchange, rather than simply introducing information and enabling the action to continue as normal, the Eye in the Sky's intervention caused a whole sequence of conversation that was outside the context of the simulation. Here, Colin gave a detailed explanation of their plan of care directly to the audience watching him on screen, including his peers in the other room and instructors behind the glass wall. He was acutely aware of that audience, wondering aloud which camera to speak to ("I don't know who to talk to…"). I also find his gestures in this sequence particularly interesting since he uses them to mark the different steps his team plans to take,

making a chopping motion to count off each intervention. This embodiment is operating in an explanatory mode that would be just as appropriate in a classroom, rather than immersed in the particular simulation context.

Even in his interactions with the patient, Colin's conversations emphasized the performative nature of the simulation. For example, later in the scene he offers to get her a snack to keep Eliana's blood glucose levels up after an insulin injection:

> Colin: *[From across the room, where he is rummaging in the cabinets for food]* Eliana, can you tell me what kind of snack you prefer?
> Eliana: Oh gosh, I usually try to have uh you know like some peanut butter or cheese, something with some protein, and then you know maybe a little uh some bread or something.
> Colin: Okay, looks like we have it. I think I have a whole cheese platter over here.
> Eliana: Ohhh, isn't that lovely.
> Colin: *[Places plate on patient's tray]* This is your cheese platter *[Leslie, who is prepping the insulin injection at the medicine cart laughs.]* I'll leave it right here for you *[Colin laughs.]* And I'll get you a glass of water if you'd like or would you like some juice?
> Eliana: Uhh ohh, could I get a little tea?
> Colin: A little tea? Yeah, sure, I can get you some tea.
> Eliana: Well this is a fancy establishment.
> Colin: Yeah, this is high class. This is like a five star hotel hospital. Can I use… Eye in the Sky?
> Eye in the Sky: Yeah you can use whatever you want.
> Colin: I'm going to pretend this is a glass of tea or a cup of tea. I'll leave that there *[places cup on patient's tray]*
> Eliana: Oh, thank you. That's lovely.

Beginning this scene by calling across the room to Eliana, Colin ignores the rules governing the simulation context that anytime they step away from the bed they are out of patient's earshot. This rule exists so that students can discuss patient care with one another without fear that they are being overheard, but also means Colin would have needed to inquire about food options prior to moving to the cupboards to look for food. His comments about the cheese platter, meanwhile, are comic in their exaggeration of the type and quality of food that might be available at the hospital. As a result, both he and Leslie laugh in response to this exchange, though Eliana plays

along a bit commenting, “This is a fancy establishment.” An interesting moment in this excerpt is when Colin switches from joking with the patient (“Yeah, this is high class. This is like a five star hotel hospital”) immediately into his question to the Eye in the Sky, demonstrating once again his tenuous immersion in the action of the simulation, his awareness of its performative nature, and his attention to the audience beyond the room.

It would not be difficult to read Leslie and Colin’s simulation as unsuccessful. Throughout, they struggled to immerse themselves both emotionally and physically into caring for Eliana. Rather than treating the situation with seriousness, there was a good deal of levity in their actions, from Colin playfully waving at the camera when he heard it move behind him to his exaggeration of the “high class” hospital food. Admittedly, the instructor, simulation coordinator, and I spent a good deal of time laughing behind the glass window as we watched, which at one point Colin even overheard (“I hear them laughing over there”).

However, reflecting on his own experiences of joking during a town-wide anthrax simulation in his book *Simming*, author Scott Magelsson emphasizes the productivity of these asides arguing that they can strengthen relationships for participants:

> The laughter likely fostered the kind of goodwill and camaraderie that drove home for participants how much they valued their hometowns, families, and social networks. The onus in simmings like these, it would seem, is on the event planners to leave room for self-aware levity among participants without letting it defeat the goals of the exercise. (137)

Thus, for Magelsson, flexibility and willingness to embrace the moments that step outside of the simulation scenario can help support community building and camaraderie.

Ultimately, a lot of the factors that made it difficult for students to “make it real” in the

simulation – from Simisms, to Sim Stupor, to the Eye in the Sky – also created these opportunities for "self-aware levity" to occur. In not being committed at all costs to maintaining the illusion of the simulation, the instructors created opportunities for students to step in and out of the performative exchange in occasionally humorous ways that nonetheless provide meta-awareness about the simulation situation. Towards the end of his book, Magelsson suggests that a key component of successful simulations is fostering such meta-awareness:

> Success would seem to have more to do with the way a simming engages with participants' values, and the proper degree of flexibility in its frames to allow for participants' meta-awareness of their part in the event and the meanings they are co-producing with their bodies and actions. This can include the freedom to laugh with uncertainty or discomfort at the situation without disrupting some delicate illusion. (189)

In another view then, Leslie and Colin's simulation is successful precisely because it is flexible and the students are comfortable moving fluidly between immersion in the context and negotiation of the proper approach for care. Later on, after Colin clarifies with the Eye in the Sky that they can "pretend that this is not talking in front of the patient," he and Leslie have an animated discussion about how they might get a bed pan under the patient while avoiding both her twisted ankle and her surgical wound. This type of conversation, which occurred frequently across groups and provided an opportunity for both other students and instructors to see the group thinking through difficult questions, would not be possible in a simulation that was too tied to keeping the event authentic.

However, the danger of "levity" that emerges from the disconnect between reality and the simulation context is that even as it builds camaraderie among students, it can also undermine

developing a compassionate relationship with the patient. Colin's joke about the cheese platter does not go this far and actually supports patient connection as Eliana shares in the joke. In fact, Lee was quite good at participating in student's humor so that the simulator was not the butt of the joke.

Another joking exchange at the end of a simulation reveals the potential pitfalls of this kind of humor, though. One student in the simulation, Alice, had really latched onto Jason's Chinese heritage[16] in her conversations with him. She talked about the Chinese New Year and even referenced Buddha when she was trying to calm him down during his pulmonary embolism:

> Think about... imagine that you're Buddha. You're Buddha. Imagine that you're Buddha. Imagine - you know how he stayed underneath that tree for forty-nine days? [Yeah.] Just imagine that just, channel your inner inner Buddha.

This exchange felt uncomfortable for observers because it seemed presumptuous to make assumptions about Jason's religious background and any spiritual guidance probably should have been based in images that he had already identified as comforting. That said, Alice was still actively immersed in the simulation and engaging seriously with the patient in an effort to calm him down. In the final moments of the simulation, however, after a bit of joking had ensued between the respiratory therapist (their instructor) and the Eye in the Sky, Alice left Jason with the comment, "Imagine buddha, but not too hard. Don't go to buddha." Here, the facade of the simulation had been removed and the cultural reference that had served as a point of connection between patient and nurse became a source of humor about his death. The instructor laughed and

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[16] Despite the fact that both Eliana and Jason were ethnically marked in the pictures that accompany their patient profile and their last names (Ruiz and Lee, respectively), I found that students largely ignored race in their exchanges with the patient. Similarly, Lee rarely leveraged opportunities to make race or ethnicity a point of conversation when she interacted with students in the patient role. On the other hand, she made much more of a point of encouraging students to address gender and age. Patients would make comments about being more comfortable talking to a nurse of the same gender about a catheter, for example, or older patients showed a propensity towards modesty and not complaining about pain. From my perspective, it seemed that the instructors were not clear on what they wanted students to learn about how race and ethnicity shape patient-nurse interaction, so they did not prompt conversation around the topic.

touched Alice affectionately on the shoulder at this point and it was clear that she and both students had removed themselves from the seriousness of the simulated moment.

In an interview, Kira mentioned Alice's interactions when I asked if she remembered anything about other groups' communications with Jason. She responded, "Yes. Yes. Go to Buddha," clearly indicating that this had been both a memorable and problematic moment for her across the groups. Kira attributed it to the simulation context, saying "I think they just got thrown off by the Sim and it just — it just went so bad." I did not press further into what made Kira react so strongly, but she appeared to share in my experience of these comments as jarring and inappropriate, even though we knew the group had transitioned out of the simulation exchange. The joke's cultural insensitivity coupled with the dismissiveness about death made it an upsetting moment that seemed to undermine patient-nurse relations in its humor. In his article, "The Human Simulation Lab—Dissecting Sex in the Simulator Lab: The Clinical Lacuna of Transsexed Embodiment," Ben Singer begins with a similarly troubling anecdote about a group of nursing students laughing after arranging a simulated body so that the top half was male and the bottom half was female. Singer argues, "The laughter of these students, if neither purposeful nor malicious, reveals that trans-specific embodiment is unthinkable, hence invisible, in clinical settings" (250).

Thus, humor among students as they negotiate the boundaries between the real and the simulated can be a productive disruption that fosters meta-awareness. Without the ability to move flexibly between the simulation and reflection, students would not have the space to negotiate the context or to critically problem solve. But this flexibility and levity can also be problematic when they reinforce stereotypes about non-normative body types or cultural backgrounds, as in the two examples above, and do not hold students accountable for empathetic

exchange with their patients. That is, humor and flexibility become problematic when they overshadow the important learning about communication that is a primary focus of simulations.

Conclusion

I began this chapter with two questions about clinical simulations as rhetorical contexts:

1) What is the rhetoric of patient simulation and how might this translate to rhetorics of simulation more broadly?
2) How are educational simulation environments designed to "unleash some possibilities" for rhetorical action and "foreclose others"? And what rhetorical role do the simulation space and objects play in shaping the way students come to adopt disciplinary identities?

In my view, several main themes emerged from the above analysis that can respond to these questions. I summarize them briefly below:

- *Movement between the simulation and reality:* Not surprisingly, simulations always exist in relationship to the "reality" that they represent as well as to the reality in which they are enacted. In the case of nursing simulations, this had a number of effects. First, the simulation necessitated strategies for stepping outside of itself periodically to gain additional information without disrupting the action at hand and The Eye in the Sky was the primary tool to support this work. In addition, the movement between simulation and reality created a kind of double talk between instructors and students and between groups of students, where they would try to address a problem that they knew was caused by something outside of the simulation context (ex: the simulator's internal machinery) in language that still worked within the simulation narrative. There were also moments in

the simulations when students broke the narrative by addressing the performance itself or certain groups of students who really struggled to immerse themselves. As Magelsson argues, this flexibility and ability to "step outside" the simulation can be seen as critical to its success and fundamental to its value. These moments, which are often accompanied by humor and a sense of levity, support meta-awareness and critical reflection and thus, may help students to apply learning more responsively in new situations.

- *Shared Rhetorical Agency:* As Roundtree points out, "In simulations… multiple stakeholders share rhetorical agency. Therefore, it does not suffice to say that one or the other stakeholder group in the rhetorical situation takes precedence" (12). Even though this chapter took the approach of isolating disruptions from each of these participants to more thoroughly account for their individual influences, it was clear that these actions always existed in relation to one another – prompting, cuing, engaging, responding – and that the rhetorical acts that emerged could not be attributed to a single author. In addition, recognizing simulators and the simulation environment as rhetorical actants means valuing more than just the programmed ways in which they respond to student care. Instead, I focused much of my discussion on their disruptive potential – when they over-exaggerated conditions, created ambiguity, and sometimes even acted entirely of their own accord. The less "real" rhetorical action on the part of the simulators prompted meta-awareness of how the situation would change working with patients in clinical. Meanwhile, the ambiguity and disruptive actions necessitated that students be responsive caregivers and thoughtful negotiators of conversations with the patient and their peers.

- *Empathy for the "Other":* When I asked my focal students to reflect on their experiences with "simulations of witness" (e.g. where they experienced what it was like to be old by wearing a heavy body suit, disorienting glasses, gloves, etc.), they were fairly vocal about the lack of value in this exercise. Kira talked about how she just equated the experience with other times when she was physically exhausted. In addition, she was honest that her first instinct was to "cheat" in order to eat the pudding quickly:

> I just felt like I had gone to the gym and like worked out too much or was hung over or something like it was not… like 'Oh my god this is terrible I can't feel anything' I was just kind of more like 'I'm in a weird suit wearing gloves' […] Yeah, I mean its sort of weird with the glasses but it sounds bad, not that I am a cheater, but I always find the best ways to cheat like instantly that's just what my mind goes to so like we tried on the glasses and I was like 'well I can still see out the sides!' and so that was my goal was to like eat the pudding rather than like actually experience it.

On the other hand, what came out in both student conversations during debrief and in interviews with my focal students, is that students were continuously imagining the experience of the patient throughout the simulation as they initiated both bodily and verbal interactions. Thus, the "witnessing" they were doing in these simulations seemed much more authentic to them, it was part of the way that they reflected on their simulation experience. When they spoke critically about their actions, for example, it was often in relation to negatively impacting this patient's experience, whether it was being too jargony or crowding around her bed and overwhelming her.

Overall, I see this empathy for patient experience and capacity for critical reflection as directly tied to the first two capacities. Students need the flexibility to move between the simulation context and multiple realities in order to be meta-aware of their learning. This movement could at times become problematic, when humor emerged that reinforced cultural

stereotypes, for example. However, it was also incredibly productive, enabling students to recognize when characteristics of the simulator were overly obvious, as one example, and to think specifically about how their actions would change in clinical settings. In addition, the rhetorical action of both the instructor and the simulator and environment were critical to fostering responsiveness in students. Left merely to their own devices, the simulation could quickly become a game about who can eat pudding the quickest. Disruptions from the instructor served to consistently introduce challenges and redirections while also enabling students to see a direct effect of their interventions. Meanwhile, the action of the simulator and environment supported student's embodied learning, as they practiced negotiating ambiguity and variation both physically and verbally in their care. Ultimately, by accounting for the rhetorical action of objects in clinical simulations, I am able to better respond to the critiques that simulators dehumanize student learning and lead to overly generalized care. In direct contrast, the manikins and simulation environments demanded a kind of radical responsiveness and radical situatedness in order to negotiate everything from a large manikin body that is nearly impossible to reposition in the bed to a robot baby who cannot cry.

Chapter 4

The Genre System of Patient Simulations

Midway through their simulation, Michelle and her group realize that their infant patient, Erik's, temperature is rising and make a collective decision to give him Ibuprofen. However, they struggle to figure out the correct dosage of the medication. One student consults the physician's orders and finds that the dosage is 33 milligrams per kilogram, but she asks another student, Sara, to call the physician to confirm. Meanwhile, Michelle consults an online medication database, Lexicomp, but struggles to find an Ibuprofen dosage listed for an infant under six months.

Sara walks over to the phone to confirm the dosage with the physician, physician's orders in hand. Before picking up the phone, however, she verifies assessment information with her team – were Erik's bowel sounds normal? Was his skin cyanotic (blue coloration due to lack of oxygen)? As the group confirms that Erik's bowels and skin were normal, Michelle interjects: "Um, I'm not seeing dosing for less than six months for Ibuprofen, so I think we should get it changed to Acetaminophen." However, Sara does not hear her and instead confirms the Ibuprofen dosage with the physician during her call. Ultimately, the group gives the medication to Erik, learning in debrief that the Ibuprofen order was a physician error. Like Michelle had seen in the database, infants under six months should not be given Ibuprofen.

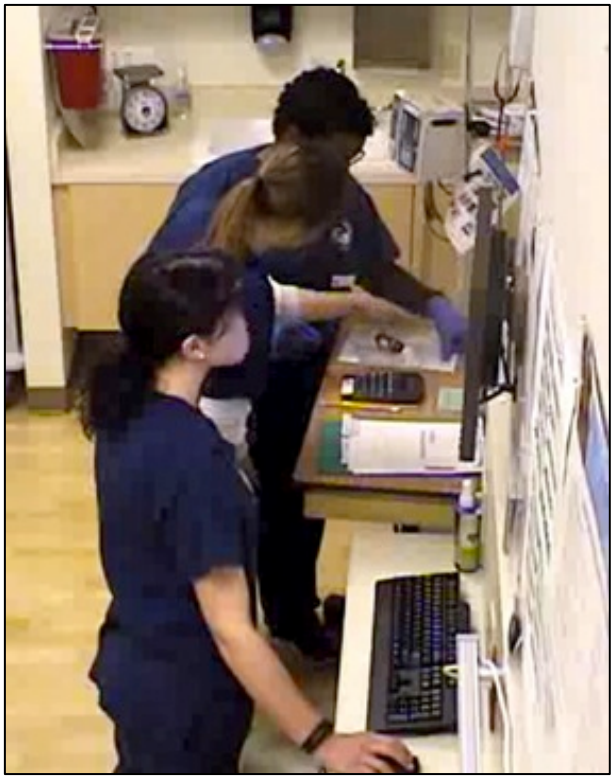

Figure 4.1: Michelle's Group Confirms a Dosage in the Physician's Orders and Online Database. Video Screenshot.

In this short excerpt three different types of clinical communication are all seen coordinating the activity of the simulation and shaping students' exchanges with each other and with the doctor. The first, the physician's orders, is the source of confusion, as the students struggle to confirm the Ibuprofen order and decide to consult the physician. The fact that the students question the orders at all, treating them as potentially fallible, is noteworthy, as this is a mode that is infused

with a lot of authority especially for newcomers in the discipline. Secondly, the physician's orders are being cross-referenced with the online medication database, which provides further evidence of a problem, but also has less authority than the physician's word. Thus, Michelle does not pursue her line of argument in favor of switching to Acetaminophen after the physician has confirmed the dosage with Sara. The last formalized type of communication is the physician phone call. Based on her limited familiarity with these phone calls, Sara anticipates that she will be asked to provide assessment information about the patient. Thus, before she makes the call, she consults with her peers to fill in the holes in her knowledge about assessment. However, both this conversation with her peers and her anxiety about the call distract Sara from Michelle's interjection and the information that has emerged from consulting the Lexicomp system.

Ultimately, this exchange demonstrates the many ways in which learning to communicate in a discipline or a professional context entails much more than learning standards for grammatical or technical correctness and much more than acquiring a repertoire of commonplace workplace communication patterns to reproduce on command. As students negotiate the interpretation of a physician's orders or prepare assessment information to begin a conversation with the physician, they are also being initiated into value systems, tacit ways of thinking and behaving, and a hierarchy of power relationships that are distributed across a number of modes of communication. And just as they have the capacity to act flexibly within these modes of communication, its texts are also acting on them — shaping their worldview and their interactions with people and things in powerful ways. Thus, learning disciplinary and professional communication is also a way of learning how to be and act within a community.

Rhetorical genre theory is one framework that attempts to capture the complexity of this inter-relationship between texts and individual identities by calling for recognition of the role

that textual forms play in mediating human and material interactions (Bawarshi and Reiff). Genre analysis is an apt framework for understanding professional initiation because it ties the writing and discourse that newcomers are learning to larger disciplinary and institutional actions, dispositions, and epistemologies. In her foundational essay "Genre as Social Action," Carolyn Miller discussed how adopting different genres is also a matter of learning social relationships and possible identities: "what we learn when we learn a genre is not just a pattern of forms or even a method of achieving our own ends. We learn, more importantly, what ends we may have" (39). In this way, genres shape the subject positions that are available to members of a community and the activities they can undertake. This is not to say that changing texts or practices is impossible, but just that such change must also involve a reimagining of the available subject positions and relationships within a community (Bawarshi; Spinuzzi).

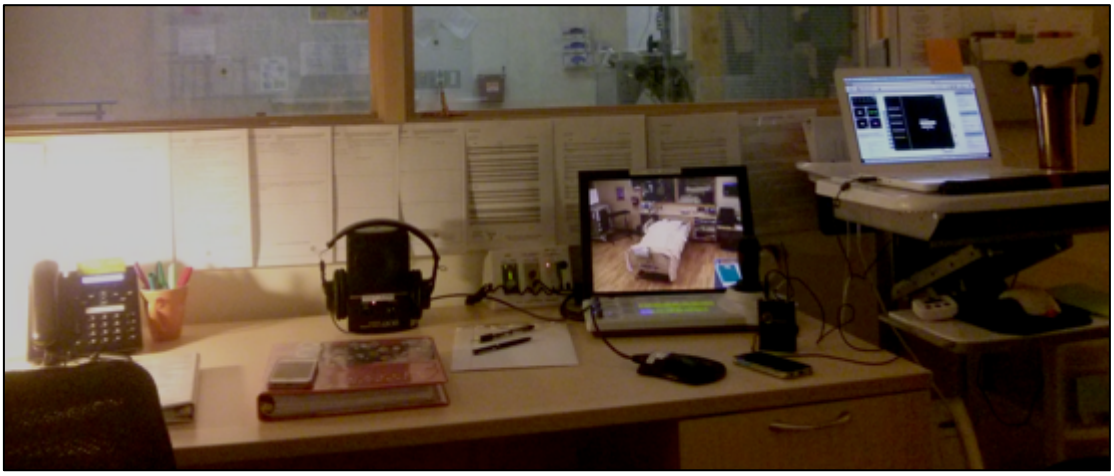

Figure 4.2: A Line Up of Documents in the Simulation Control Room. Photo by Author.

In a clinical simulation setting, much like other professional contexts, students are learning about the possible subject positions available to nurses. One mode for this learning is the wide range of genres that circulate in a given situation. In my case, students consult patient records, prioritize physician's orders, interpret lab results, and document their interventions. The image above (Figure 4.2) shows the simulation control room where the instructors and I would

sit behind a one-way window watching the simulation. The window looking into the simulation room is lined with an assortment of documents (revised physician's orders, lab orders, lab results, etc.) that may or may not be used throughout the simulation depending on the approach a group takes to care. These texts are not just derivative, designed to look like their clinical counter-parts merely for show. Instead, as the short introductory anecdote demonstrates, they operate to authentically to regulate activity, support interactions, and contribute to the nursing students' care and treatment of their patient within the simulation context.

In this chapter, then, I investigate nursing students' disciplinary learning by first considering the assignments they write for their coursework and then by analyzing three genres that circulate in the clinical simulation context – the patient preparation sheet, the physician's orders (textual genres), and the SBAR exchange (a verbal genre). Drawing on recent research on genre systems (Berkenhotter) and simulated genre pedagogies (Russell and Fisher), my analysis focuses on three key aspects: (1) intertextuality and interdiscursivity — interactions with other genres, both spoken and written; (2) chronotopic coordination in space time; and (3) mediation of power relationships between different participants.

My aim is to demonstrate the ways in which the simulation space is operating as "a dynamic, textured site of action, mediated by a range of complex written and spoken genres that constitute [nursing] positions, relations, and practices" (Bawarshi 118). This view is in line with calls in writing studies to treat our classrooms as their own rhetorical contexts where students learn strategies for approaching new writing situations that can transfer to public and professional contexts (Bawarshi; Feldman). I unpack the unique features of three simulated genres and their relationship to both their pedagogical and professional counter-parts while demonstrating how they help students better understand nursing genres as mediating

relationships to both objects and people. More importantly, I argue that classroom-based simulations, like the nursing clinical simulations that I examine, can teach students professional genres in ways that emphasize their variation, their situatedness in specific rhetorical moments, and even their fallibility. In doing so, simulations can cultivate what Wardle has called "problem solving dispositions" that support students' willingness to approach new genres with openness, flexibility, and an eye towards change.

The Challenges of Classroom-based Genre Learning and Transfer

This chapter argues that clinical simulations are valuable for teaching genres in authentic, situated contexts that encourage students to be rhetorically responsive. In other words, simulations can support the development of students' "problem solving dispositions," encouraging them to engage with new writing contexts in thoughtful and flexible ways. It is important, however, to first understand why such an approach to classroom-based genre learning is both unique and necessary. For this, I turn briefly to conversations about genre learning and transfer in writing studies.

Fundamentally, writing scholars have argued that genres function quite differently in classrooms than in the "real world." In professional and public contexts, genres always participate in complex systems and in relation to other genres, people, practices and materials to make action possible. In classrooms, however, genres are typically produced for evaluation by the instructor rather than for coordination of action. Bazerman draws on Activity Theory to address this distinction, arguing that while professionals in a workplace setting acquire genres as "tools" that support them in achieving the larger objects of their organization, genres are often treated as the "object" in classroom contexts. Similarly, Wardle describes how many of the

assignments that students produce in writing classrooms are "mutt genres" that "mimic genres that mediate activities in other activity systems, but within the [classroom] their purposes and audiences are vague or even contradictory" (774). Even when students are specifically asked to write for an imagined audience outside of the classroom, their writing is still being evaluated as the "object" by an instructor, which creates what Bazerman describes as "double binds"[17]. Thus, scholars have struggled with the question of what kinds of writing assignments will best transfer into disciplinary and professional contexts.

At the same time, students do not just have trouble transferring the types of writing they do for their classes into the workplace, their writing processes and approaches to learning new genres rarely transfer either. In "Learning to Write Professionally," Freedman and Adam describe very different genre acquisition processes in school and workplace settings. In school, guidance tends to come prior to writing, projects are completed once handed in, feedback is evaluative, and no revision is expected. In the workplace, guidance often comes after completing a draft, the project is never fully complete (past projects keep "living" even after completion since they are referenced for future writing), feedback is intended to be incorporated into revision, writing is often done collaboratively, and writing experiences, which are rarely scaffolded, emerge organically from the organization's needs. This litany of differences raises the question of how classroom assignments and activities can better prepare students for genre learning in their public and professional lives.

In response, recent research in writing studies calls for classroom-based genre teaching that emphasizes rhetorical awareness and flexibility and moves students away from merely

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[17] These contradictions can become visible in the very features of the texts students produce. For example, Samraj examined a simulated assignment in a Resource Policy course that asked students to write a "memo" to the governor advising him on a transportation plan. Some of the memos included conclusions, demonstrating attempts to negotiate between the professional purpose of the Environmental policy memo and the classroom standards (171).

reproducing certain types of texts with technical accuracy. Amy Devitt describes this as the difference between teaching for genre awareness instead of genre acquisition, focusing on both form and context as constantly intertwined and calling student attention to the importance of cultural and situational influences on genre choices. Devitt emphasizes the need to teach genres as flexible, varied, and open to creativity by showing students multiple examples of a genre, some that push the limits of the genre conventions and exemplify creativity. In addition, she argues that students, as outsiders to the discourse, have potential to view its ideological assumptions critically: "Once they are full participants in the genre, resistance becomes more difficult (some say futile) and choices become less visible (some say invisible)" (196).[18] While Devitt's suggestions have been taken up extensively in genre-based approaches to composition pedagogy, even her approach for fostering genre awareness cannot capture the complexity of genre learning in the real world. Specifically, it fails to account for advances in recent genre research that demonstrate how genres exist in relation to one another as well as how they ideologically and even physically orient individuals in the world.

No genre exists in isolation. Instead, genres always participate in complex systems and in relation to other genres, people, practices and materials to make action possible. Scholars have developed a number of metaphors to help account for this complexity from Swales' "genre chains" to Campbell and Jamieson's "genre constellations." While more recent metaphors emphasize the unofficial, improvisational, and constantly changing nature of genres, for my purposes the concept of the "genre system" aptly highlights how collections of genres "play an intermediary role between institutional structural properties and individual communicative

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[18] Similarly, Nowacek and Depalma both emphasize the importance of recognizing students' rhetorical agency in genre production. Nowacek calls for attention to students ability to both "see" (recognize connections across rhetorical contexts) and "sell" (convince readers in a new context of the value of this connection-making). Similarly, Depalma calls for researchers to take an adaptive view of transfer that can better account for students "as potential contributors to an ever-changing rhetorical context" (142).

action" (Berkehotter 329). It is precisely this intermediary role that is so difficult to capture in classrooms, even when they interface with real-world contexts through internship programs or service learning[19] (Dias and Pare; Julier).

As Berkenhotter's emphasis on the intermediary role of genres suggests, genres also play a complex part in shaping individual world-views and relationships to one another that is hard to capture in classroom contexts. Drawing on Bourdieu's theories of habitus, scholars have begun to examine the role of dispositions in genre learning and production (Driscoll and Wells). For example, Pare's study of social work students' transitions into hospital writing found that they had to learn to adapt their identities as social work students who emphasized social relationships into the more technical, scientific writing forms that were expected by a medical audience. Thus, Pare demonstrated how genres are one means by which individuals come to inhabit and embody a field or institution's dispositions and he was particularly struck by the discourse of loss that accompanied this genre learning. Meanwhile, Wardle argues that genre learning itself is a task that is complicated by an individual's disposition:

> Problem-exploring dispositions incline a person toward curiosity, reflection, consideration of multiple possibilities, a willingness to engage in a recursive process of trial and error, and toward a recognition that more than one solution can 'work'…Bourdieu argues that such dispositions are not simply cognitive orientations, but embodied ones, that dispositions are literally in the body, in what he refers to as 'bodily hexis.' (4)

[19] In her discussion of service learning pedagogies, Julier argues: "it is possible for students to experience classrooms as more authentic rhetorical environments than community agencies with which they have had limited contact or investment… producing [organizational] document requires immersing themselves in that community… in order to determine the necessary background, technical and/or institutional vocabulary, purposes, and audience needs" (173).

Here, Wardle highlights the complicated way that dispositions shape student's orientation towards genre learning in tangible, even material ways. Other scholars have similarly called for greater attention to genre's materiality and embodiment, though often with limited discussion of how a material or embodied view of genres might translate to classroom practices (Knapp; Haas and Witte; Emmons).

Overall, as writing scholars have come to recognize the immense complexity of genres and, therefore, classroom-based genre teaching, reactions have varied from radical calls for the abolition of writing courses (Smit; Crowley) to more measured discussions of ways to create classrooms that are more "authentic rhetorical environments" in and of themselves (Bawarshi; Feldman). Classroom simulations, like the ones I discuss throughout this project, offer one possibility for "teach[ing] a genre explicitly in the process of a performing a rhetorical action" (Russell and Fisher 165). Thus, on a fundamental level this chapter will demonstrate how simulation-based genre pedagogies have the potential to support a practice-based understanding of professional genres and their exigencies that can translate into clinical contexts. Given that previous work has examined computerized genre simulations (like Russell and Fisher's discussed below), another goal of this chapter is to consider the affordances of creating genre systems that exist within physical classroom spaces and can therefore support student's material as well as inter-personal interactions. This goal is taken up in greater detail in Chapter 5, where I consider student's embodied learning of the patient chart in simulation contexts. Finally, in conversation with the many perspectives on genre learning offered here, I emphasize throughout how classroom-based simulations can foster "problem solving dispositions" that position students as agential communicators in their future fields, oriented towards nursing genres as both flexible and potentially fallible.

Genres of the Nursing Classroom

Many of the limitations discussed above regarding classroom-based genre teaching broadly apply to the teaching of nursing genres as well. However, as with any discipline, nursing genres come with their own unique set of challenges tied to the community's values and practices. Specifically, given the necessity of technical correctness within the nursing profession, there is a tendency for instructors to focus on lower order concerns like formatting, citation, and grammar that would be associated with a genre acquisition framework rather than a genre awareness framework (Devitt). This section briefly overviews some of the distinct qualities of nursing writing assignments as discussed in relevant literature and by my focal students during their interviews. I demonstrate how the assignments that nursing students produce for their classes lack inter-textual connections and purpose in relation to their profession. Students then have trouble both understanding where there might be room for flexibility within their writing and imagining the role writing will play in their future careers. This provides context for the rest of the chapter and my discussion of how simulation genres position students quite differently by fostering rhetorical responsiveness and creativity.

As Giminez points out in her survey of nursing and midwifery students at a UK university, research on writing in nursing tends to focus on the experiences of post-registration nurses, with a particular emphasis on supporting graduate and professional nurses in publishing. This research is part of the burgeoning field of workplace or professional/technical writing scholarship, but results in limited documentation of the writing experiences of undergraduate nurses (152). Meanwhile, nursing students are expected to produce a lot of writing, in a wide range of different genres, throughout their undergraduate years: "Beginning in their first undergraduate semester, nurses are asked to compose a gamut of texts: from descriptions of

patients they encounter during their first experience on a hospital floor to descriptions of competing nursing theories" (Ariail and Smith 248). The students I interviewed catalogued a range of assignments in their nursing classes — summaries of their nursing philosophy, reflections on communication practices, article summaries, and clinical care plans to name a few.

Yet, both students and instructors can struggle to understand the relationship between this range of assignments and the work of professional nurses. The nursing student in Ariail and Smith's study identified one of the biggest challenges of writing assignments for students as "[not] understanding the purpose of the assignments…" (259), which they attribute to "nursing's theory-practice divide as experienced by students in many professional programs whose curricula demand writing but whose day-to-day practices do not, at least in academic forms" (259). Indeed, the students I interviewed mainly imagined themselves using writing for "documentation" in their careers. Documentation would be central to their practice and of vital importance in maintaining patient care, as Savannah explained:

> They always say 'if its not documented it didn't happen' so everything has to be documented. What you did, when you did it, and why it was done, and your patient's response to it. So we'll be doing a lot of that.

Beyond this function of documentation, the future role of writing seemed fuzzy for many. When asked, they would hypothesize about reasons that they might need to write another research paper (taking or teaching additional classes, researching diseases, creating informational pamphlets) or comment like Michelle, "I don't plan on doing a whole lot of writing as a nurse."

This focus on documentation along with the valuing of precision and concision in the field can generally lead to a heightened focus on technical aspects of structure and grammar in writing assignments in nursing courses as opposed to more conceptual concerns like context, audience awareness, organization, argument, and integration of sources. Ariail and Smith discuss

this trend as it connects to the field's worldview, more broadly:

> Nursing faculty outline structure and criteria for grading. In standardizing the genres their students produce, these health care professionals treat writing as they treat insertion of a Foley catheter. Sure, it may have a certain unpleasantness associated with it, but there is a procedure that can be followed to make it as painless as possible, for nurse and patient, for nurse writer and nurse grader. The guidelines are indeed 'helpful,' in that they provide basic structures and expectations. However, they fall short in that they do not recognize that the microcosmic guidance they give may, in fact, undercut more macrocosmic and subjective criteria like clarity, significance, or quality… In classical rhetorical terms, they sacrifice invention at the altar of arrangement and style. (258)

Here, in drawing the analogy between assignment criteria and procedures for Foley catheter insertion, the authors highlight how nurses' professional values can shape their approach to teaching writing assignments. They also observe how this can occur at the expense of understanding the relationship between conventions and the nurse's rhetorical situation. This manifested in my interviews when students discussed how the sections instructors had them use to organize their clinical write-ups sometimes did not feel closely tied to their experiences in clinicals. Savannah noted that the distinctions between subjective and objective information in the SOAP notes felt arbitrary to her, while Kira said of her clinical write-ups: "I'll typically just like go down the list and fill it out. It doesn't, like the order kind of makes sense but kind of not."

One place where this pre-occupation with the technical becomes particularly visible is in an over-emphasis on correct citation practices. In a session I attended at the International Writing Across the Curriculum conference in 2014, a panel of WAC coordinators involved in developing

writing curriculum for a nursing program joked about their faculty's obsession with APA formatting. Similarly, Kira identified one of her biggest writing weaknesses as "citing things." Insightfully, however, she recognized her instructors' focus on correct citation as representative of the field's emphasis on documentation:

> The devil's in the details obviously… you want to document the right care at the right time. I just, so I know it's important, I'd just much rather write chart notes than cite a literature paper.

As with many technical writing requirements, however, citation can easily become a decontextualized "rule" that loses its connection to the larger goals of a paper. In her research, Giminez found that students "sometimes fail to recognize the real value of referencing their work. They usually see referencing as a requirement to get a passing grade, and ask questions like 'how many references do I need to use for this assignment?' This approach to referencing may have been reinforced by most lecturers' idea that at this level they want to see if students know the mechanics of referencing" (159).

Focus on arrangement over invention can also lead students to prioritize the "correctness" of the content in their papers, a challenge for new members in any discipline. For example, Savannah compares her care plans in nursing to English papers:

> I think English is kind of cool because it's your ideas so like you develop it how you want to, but this is like more like you're still looking for the right answers even though its writing and not like a math problem, so it's kind of hard.

Thus, for her the development of ideas was not nearly as important as "right answers" in succeeding in nursing assignments. Undoubtedly, since the students were such newcomers to nursing, disciplinary knowledge was a large barrier for them in their writing. My focal participants discussed their struggle to figure out what information to foreground in their clinical write-ups, a challenge because they have not developed a disciplinary eye for relevance (Kira,

Liz). I address this specific challenge in greater detail in the next chapter, in my discussion of students' experiences learning to writing nursing care plans. Similarly, Liz mentioned "not knowing what stuff is related" and Savannah described:

> [My clinical instructor is] always like 'Well, like these three things go together so if you mention this thing you have to mention these other two things' and I was like 'Well I never knew that.'

Thus, while on the surface students might seem to be struggling with succinct wording or concision, these technical challenges run deep and exist in relation to their disciplinary understanding.

While some of the students I interviewed identified themselves as more science-minded students and thus, enjoyed the emphasis on technical correctness over invention in their writing assignments, others described a sense of loss in producing assignments that felt formulaic or primarily descriptive. For example, Liz discussed how writing had been a means for her to engage with topics she was passionate about in high school, specifically social justice. She also described her preference for assignments that gave her an opportunity to take a stance:

> I have been both able to incorporate like my perspective on it but there's also been the opposite side where it's – you have to be very just like succinct and straight to the point with really more like a neutral standpoint and that's pretty difficult for me especially if its something that I care about.

As someone who valued writing for the opportunity to work through her position on subjects and topics she cared about, Liz struggled with the neutral stance of her nursing writing and the detached perspective it imposed. Of course, there were assignments that enabled flexibility and creative engagement, like the nursing philosophy paper that she wrote as a comic strip. However, as writing assignments became more focused on students' experiences at their clinical sites opportunities like these were less frequent.

In their research, Ariail and Smith found that faculty shared in this sense of loss regarding

more creative or open-ended writing. In trying to help students learn the genres of the field with explicit assignments and writing guidelines that focus on form or structure, instructors "wonder if they are sacrificing the more humanistic, creative attributes for which the profession is valorized" (245). Of course, this is a larger tension for the genres of the field. Nursing genres exist in comprehensive genre systems and are an information source for medical professionals from a range of different backgrounds and with a wide variety of priorities. In *Writing in the Health Professions*, Heifferon advises students, "Emotion in charts is unadvisable; if you have particular difficulties with patients, it's best to air those in your team meetings with other staff members" (294). The fact-based, list-oriented genres of nursing documentation then, exist in part because of their role in inter-disciplinary communication. However, this means, "the texts that grow out of nurse-patient interactions might not be accurate depictions of the core helping relationship" (Ariail and Smith 262). Ultimately, the tension between teaching students the writing strategies they will need to communicate efficiently and effectively with other health care professionals and teaching them what it means to interact compassionately with patients and family "like a nurse" undergirds the range of assignments that nursing students encounter in their undergraduate courses.

There is also a way, however, that both nursing instructors and students may not be recognizing and valuing the opportunities for fostering rhetorical awareness and a nursing identity that exist even in less creative or open-ended assignments. For example, during one discussion Kira expressed frustration with an article summary assignment that she believed required nothing more than repeating what she had read:

> I'm like why is this, why does this matter? Like spitting out this article. I can tell you like why this article is important and I think what I'm excited about is talking about the articles in our class in a group at some point. I recognize that sometimes those papers are important because they really make you like read all the details but I think I don't know

the paper itself, I'm just going to be spitting back out information.

Kira's repetition of the idea that she is "spitting out" information and her question about the assignment's significance demonstrates her frustration with an assignment that does not seem to her like it extends beyond summary to incorporate analysis or argument. At the same time, however, most writing instructors would quickly respond with skepticism to Kira's view of the summary as straightforward or neutral. Summaries ask students to make strategic choices about which information to foreground based on their assessment of what is valued within a community. Thus, they are deeply situated and rhetorical, relying on students' burgeoning understanding of disciplinary relevance. As Kira's comments demonstrate, however, teaching summaries as flexible and situated counters students' entrenched orientation to this genre as proof that they have done the reading. Or put another way, teaching summaries rhetorically requires instructors to intentionally and explicitly teach against students' "answer-getting dispositions." As a field, nursing has tended to prioritize technical and content-based correctness in assessing writing, but there are certainly ways to approach even summary assignments to emphasize the development of disciplinary identity and the possibilities for rhetorical flexibility. As I will show, I saw these opportunities being leveraged consistently in the teaching of simulated clinical genres.

Simulating Genre Systems

With an understanding of the challenges posed by classroom-based genres broadly, and pedagogical nursing genres specifically, I turn to the genre system of the clinical nursing simulation in order to demonstrate how it supports students' situated and responsive rhetorical learning. I am certainly not the first to argue that classrooms can act as their own authentic

contexts for genre learning. Similarly, Bawarshi has stated:

> [First year writing] may be artificial when, chameleon-like, it tries to mimic public, professional or disciplinary settings, or when it tries to imagine a 'real' external audience for student writing. But the classroom in its own right is a dynamic, textured site of action, mediated by a range of complex written and spoken genres that constitute student-teacher positions, relations, and practices. As they reposition themselves within and between these genres, teachers and students acquire, negotiate and articulate different desires, which inform the choices they make as participants in the FYW course. (118)

Here, by emphasizing the ways that genres already meditate interactions with people and things in the context of the classroom, Bawarshi calls attention to an existing classroom genre system that might be leveraged by instructors.

Building off of Russell's activity system analysis of classrooms and professional contexts, Russell and Fisher have proposed computer-mediated simulations as a method for authentic classroom immersion in complex genre systems. They designed and evaluated "an electronic means to represent not only the breadth of genre in engineering communication (the genre set) but also the depth of genre (the genre system) by creating a chronotopic landscape of space and time that moved the genres from being inert to active in a systematized way" (179). Russell and Fisher's emphasis on space time (drawing on Bahktin's concept of the "chronotope") in their analysis of their simulated genre system provides useful considerations for my own evaluation of the system in clinical simulations as well. Their research suggests that computer programs might be one way to immerse students in the space time of an active genre system. However, for the many individuals whose jobs require immersion in a physical environment

daily, the online interface likely cannot capture the embodied experience of genre learning.

Thus, this section will consider the affordances of creating genre systems that exist within physical classroom spaces and support student's material as well as inter-personal interactions. First, I analyze three genres that are key to student's patient care in clinical simulations— the preparation sheet, the physician's orders, and the SBAR communication tool. Second, I discuss the relationship between their features and those of their professional counter-parts while also demonstrating the unique ways in which they support activity in the pedagogical context of the simulation. Third, I demonstrate how simulations create situated contexts that encourage students to be rhetorically responsive and foster problem-solving dispositions and flexible, agential orientations towards disciplinary genres.

The Preparation Sheet

Prior to their simulation, students receive a preparation sheet from their clinical instructor with information about the simulated patient they will be caring for. These preparation sheets include a photograph of the patient as well as their age, weight, and social/family history. They also include a brief paragraph entitled "Situation," which details their patient's medical history and context; a list of "Initial Orders," which I will discuss in detail in the next sub-section; a list of simulation objectives; and a list of preparation questions. Compared to professional genres, the early sections of the preparation sheet exist somewhere between the genre of nurse notes and the nurse hand-off report in the hospital. They share with these genres an abbreviated form (in comparison to the patient chart), the use of professional jargon, and hints on what the nurse should prioritize with the patient. That said, the preparation sheet is a distinctly pedagogical genre and differs in both the timing of its delivery and in the work it does to humanize the patient

through a personality-filled photograph. The earlier timing of the preparation sheet serves the pedagogical function of giving students an opportunity to research their patient's conditions and medications prior to the simulation. It also gives them more time to be attuned to clues for how to prioritize care, clues that they might not be prepared to recognize in the rapid hand-off alone. The photograph, meanwhile, helps students imagine a person in their conversation rather than simply a manikin.

In a hospital setting, nurses will frequently learn specifics about their patient in a brief "hand-off" with the previous nurse at the beginning of their shift. Students noted that these hand-offs must emphasize key information for the next group without elaborating on less relevant details. Savannah explained the importance of not over elaborating on evaluations during the hand-off report: "You don't tell them, 'Oh I took their blood pressure. They were sitting down. It was this…' because like you're just like, 'Their vital signs are normal.'" At many of their clinical placements, students worked on learning how to take "nursing notes," separate from the medical charting of the patient, that could be used to guide their hand-off. Liz explained how two different floors for her clinical had "different philosophies on how to write a simple note but at the same time both of them were pretty much focused on not re-writing everything that you just charted." Students would then read from their nursing notes during a hand-off to help inform the next group of nurses what to prioritize with their patient.

The summary of the patient's "situation" in the simulation preparation sheet often mimicked information that would be provided during a nurse hand-off at the hospital. For example, the preparation sheet for Jason Lee specifies that:

> *Jason Lee is a 22-year-old male being transferred to the General Surgery/Trauma Unit from SICU. He was admitted via the ED yesterday after he sustained bilateral compound femur fractures following a MVC in which he rolled his truck. On admission to the trauma center, his blood alcohol concentration (BAC) was 0.12 mg/dL. His urine and*

> *toxicology screen was negative for all other drugs. After immediate treatment in the ED, he was taken to surgery for an ORIF of both femurs. Due to prolonged anesthesia and EBL of 800 mL in surgery, he was transferred to the SICU for overnight observation. He is now stable and ready for transfer.*

Here, students are given information about pre-existing conditions and allergies, past medical history, and context on where the patient has been in the hospital and what treatments have been given. Notably, the situation summary uses jargon and abbreviations of the field without translation, much like what students would encounter during a hand-off report or in a patient chart. In this example, students are expected to understand abbreviations for hospital floors (SICU and ED) in addition to surgical procedures (ORIF - Open reduction and internal fixation) and conditions (EBL - Estimated blood loss). It is also brief, highlighting only key aspects of the patient's medical history, conditions, and time in the hospital. Students are not given a full mark-up of Jason Lee's vital signs, for example, but are simply informed "he is now stable." The preparation sheet interacts inter-discursively with the actual hand-off that students receive from their instructors at the beginning of the simulation. At this point, the instructors read off a more detailed version of the preparation sheet that provides additional information on the patient's status. However, the preparation sheet's early delivery to students allowed it to serve a unique purpose in shaping the simulation interaction.

Because students are given the chart prior to the simulation, they have an opportunity to look up information about conditions and risks and to ask follow-up questions of their clinical instructor during the pre-clinical conversation. Of course, not all of the students put equal time or effort into preparing for each simulation. Of the pediatric simulation, Savannah lamented, "I didn't study for it as much as I could have beforehand, as much as the other ones. I was just crammed with time." Depending on student preparation, the pre-clinical conversations could be quite revealing, anticipating some of the planted mis-directions in the simulation. For example,

some pre-clinical groups for the geriatric simulation asked why the order was for PR (per rectum) Tylenol instead of PO (per oral). Some MedSurg groups asked about how to "advance to regular diet as tolerated," a detail that tripped up a number of groups when Jason requested a hamburger during the simulation. Instructors then had to make decisions about how explicitly to answer these questions, as well as whether or not to call students' attention to particularities of the patient information or orders. If none of the students posed a question about an unfamiliar procedure, for example, some instructors would ask the group, "What are common complications for a post-ORIF patient?" Others would let the conversation proceed only as far as the students took it. These different approaches inevitably affected the direction of the simulation and whether groups would fall into the "traps" written into the simulation's structure or deftly avoid them, informed by the group discussion about appropriate steps.

On the other hand, some students went beyond using the information on the simulation sheet to try to decipher clues to the simulation and used it to shape their interactions with the patient. For example, under Eliana's social history, it read, "Lives alone and has no insurance." However, when I asked Liz what she was thinking about in communicating with the patient, she came back to that note and described how it had really informed her interactions with Eliana:

> So in the chart…it said that the patient was very concerned about having to take care of herself at home and I thought that that was sort of a big red flag, obviously she, I mean no one wants to be in the hospital. Like if someone's hurt they don't want to be there but if there's going to be a problem when they leave the hospital like what does that mean for the patient? There's probably going to be a lot of worries. And I wanted to try to talk to the patient and sort of ease those worries and figure out what could be the cause of it and hopefully see if we can come to an understanding in how we can make it better for her. So that was my thought process going into it, I don't know if it conveyed fully in trying to talk to her.

In fact, Liz's thought process did come through in her conversations with Eliana, particularly when she approached her during the end of the simulation, lightly touching her arm and asking

"Ms. Ruiz, can we chat for a minute?" She began by referencing the preparation sheet, "I saw on your chart that you live alone… do you have any relatives that live nearby?" As the conversation unfolded, Liz found that Eliana did have a daughter in town but only talked to her infrequently because "she's awfully busy though and I try reeeally hard not to be a burden." Liz was able to encourage her to call her daughter and let her know about the accident and in doing so, ensured more support when Eliana did leave the hospital.

Liz's reflection and the conversation that ensued demonstrates the way that a simple note in the patient preparation sheet really informed how she oriented to Eliana and her goals for their exchange. Rather than acting as a static "assignment sheet," the preparation sheet shaped the simulation exchange, cluing students into important details and potential problems, but also setting the ground-work for conversations with the patient that could help address their social and emotional needs in responsive ways.

Figure 4.3: Eliana Ruiz. Photo from CAE Healthcare.

Similarly, the image of the patient on the preparation sheet also individualizes the patient in ways that the manikin cannot (even when wigs, glasses, earrings, brassiers, etc. were added to the white male model). Comparing the images provided for Eliana and Jason helps illuminate the ways that these images provide initial cues for students into the personality of the patient. Eliana's dress is visible in an upper-body photograph of her, which shows a thick grey sweater, a crimson scarf, and a black hat. Her dress is conservative and somewhat traditional, cluing students into the fact that modesty should be prioritized during her care. Neither Eliana's dress nor her skin color call attention to the Latina heritage suggested by her name. Her description describes her as "Hispanic" but specifies that she can speak English with the nurse.

Eliana's facial features are relaxed and she is smiling slightly. This prepares students for a friendly and cooperative patient interaction.

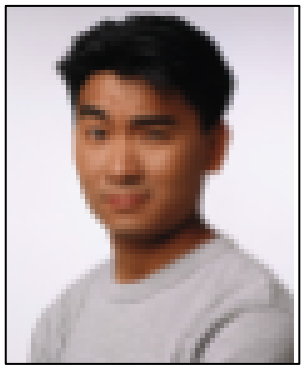


Figure 4.4: Jason Lee. Image from CAE Healthcare.

In contrast to Eliana's composed and kind image, Jason Lee's image emphasizes his immaturity, and skepticism, as well as his racial identity. He is pictured as an Asian male wearing a grey t-shirt with medium length dark, tousled hair that suggests youth. Most notably, Jason's expression is one of exaggerated skepticism. His right eyebrow is comically arched upwards, while his left eyebrow remains turned down and his left eye slightly squinted. His mouth is in a neutral position. While this image offers the possibility that Jason could be a combative patient, I found that he was played more as curious and overwhelmed by the simulation coordinator, Lee. He certainly asked a lot of questions about his treatment and care but did not challenge the nurses' actions or decisions throughout the simulation.

While a seemingly small detail in the patient record, the images play a distinctive role by personalizing patients for the simulation, something unnecessary in a traditional clinical context. Thus, certain features of the preparation sheet are designed specifically to support activity in the simulated context. In interviews, the students mentioned repeatedly that their ability to communicate with the patient effectively relied on them not seeing the patient as a manikin but as a person. As Michelle explained, "Its always weird talking to a piece of plastic because ultimately that's all he is… I kind of just take to heart the treat the manikin like you would treat a patient thing so I kind of just try to ignore the fact that it's not an actual human." Here, she references Lee's advice during room orientation to "make it real" and treat both the simulation space and the manikin as if it were a real hospital context. Ryan similarly emphasizes the

necessity of not seeing the patient as manikin, "I just talked naturally. You know I didn't have to think about how I would I talk to a manikin because it wasn't a manikin to me." Many of the focal students mentioned that having Lee's voice come from the manikin was a key component in helping them to humanize their patient. In addition, by providing an image of the patient the preparation sheet also links individualized characteristics and even a particular clothing style to a name in ways that support this individualization.

Overall, then, the patient preparation sheet played a rhetorical role in the simulation by orienting students to the patient and preparing them for patient conversation and care. It interacted inter-discursively with the nurse hand-off during the simulation, as well as with student's nursing notes and their patient charting. At the same time, its early delivery distinguished it from other clinical genres and had a pedagogical purpose, enabling students to research unfamiliar conditions prior to the simulation and come prepared with ideas for care. Finally, the patient preparation sheet's explicit attention to patient characteristics like personality, race, class, and age created opportunities for students to reflect on how these factors might influence their care prior to the simulation as well as during debriefs. Liz's discussion of her goals for her conversation with Eliana demonstrates how this information could lead to thoughtful reflection on a patient's unique positioning that could ultimately translate into responsive patient care. At the same time, there was also the possibility that this demographic information could make students feel more distanced from a patient. For example, Kira reflected on how her close proximity in age to Jason made it easier to connect with him in conversations while she struggled more to connect with Eliana:

> It definitely went better this time because I thought of [Jason] more as a person. Yeah, which I feel bad because I did think of [Eliana] as a person but like there's kind of a disconnect too with age… I feel like with [Eliana] last year there's a certain amount of like respect that you give to your elders and there's like a generation gap so it was easier

> to talk to [Jason] and pretend he was a normal person because he was our age, so it could be like a Facebook conversation or like a phone call or something.

Even Kira's recognition here that she grappled to connect with the patient because of certain demographic elements, however, demonstrates that she is actively considering the impact of these factors on her care. This kind of metacognitive thinking about one's thinking has been shown to be a key component for students to transfer their learning from one context to the next. Thus, a student's heightened awareness of the positive or negative impact of certain demographic factors on how they relate to a patient could help them to be even more aware and flexible once they move into a hospital context. Of course, only further research could bare this out, but in the final round of my interview when asked about how nurses orient to their patient, many of the focal students focused extensively on how this orientation will need to change depending on the situation and particular needs of the patient, demonstrating a rhetorically attentive approach to care. As Kira described it, "I think you always have to like read the room a little bit. Read the patient, read the people around […] Yeah so it's different with every person."

Physician's Orders

Physician's orders can vary widely in appearance depending on the clinical setting, whether orders are being submitted in paper or electronically, and hospital protocols. Regardless, orders act as a key genre for interdisciplinary collaboration. As Ehringer and Duffy argue in their call for standardizing physician order forms:

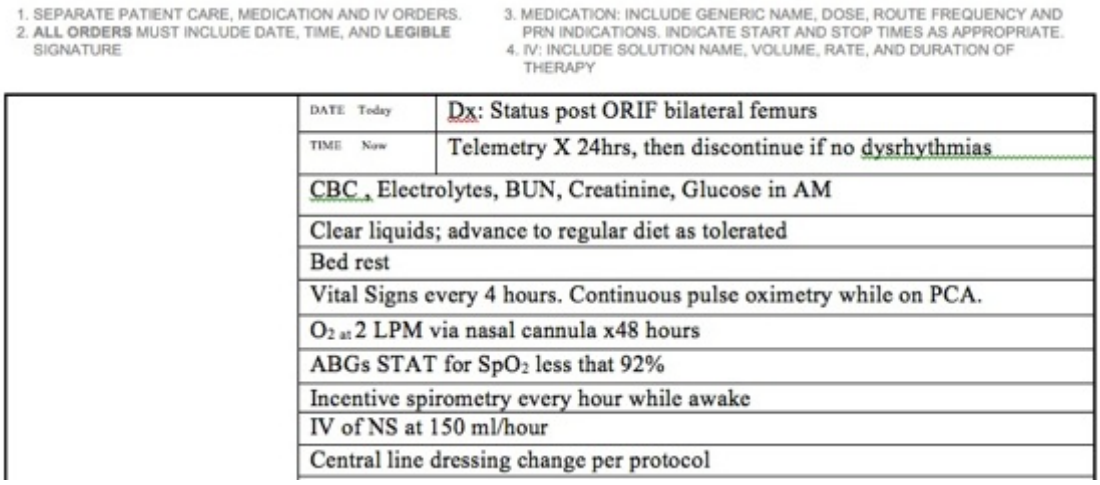
> Orders are the initial means that enable physicians to communicate with a variety of interdisciplinary hospital caregivers, and they represent the starting point for action and care. In the health care environment, nothing goes forward without calling on the assistance of and providing direction through physician orders. (2)

While Computerized Physician Order Entry (CPOE) is widespread, preprinted forms are still in use and provide guidelines for content, format, and safety recommendations.

Of course, the very use of the label "order" hints at the nature of the power relationships inscribed in this genre. In an opinion piece in the *American Journal of Nursing* in 2013, two nurses argue, "in accepting [this label], nurses condone the underlying view that nurses are subordinate to the wishes of a physician. Physician orders are inherently authoritarian" (11). Indeed, in their research on the medical case presentation Schryer, Lingard, and Spafford found that some doctors seemed to underestimate the agency that nurses could take when it came to carrying out orders. They quote one doctor as saying: "*I just worry sometimes when we order masks, if they (nursing staff) have to give them automatically. They don't think about whether or not the patient needs them. They just keep giving them" (248).* The authors claim that in this instance the doctor "is suggesting that the nursing staff might only be allowed to follow orders and therefore not attend to patient responses," which represents a real misunderstanding of the nurse's role (248). The authors of the opinion piece argue that renaming the physician's order could help remedy this kind of confusion and ultimately support a reimagining the nurse-physician relationship: "When a physician gives a prescription or a recommendation to a nurse rather than an order, it reinforces a model of partnership and collaboration in patient care" (11). While orders are still referred to as such in the simulation context, the pedagogical version of this genre is also taken up in ways that specifically support nursing students' decision-making and agency as well.

Students are given a list of physician's orders to study prior to their simulation, which is designed to help them understand the interventions they will be making with the patient throughout the simulation. Inside the simulation room, there is an updated list of doctor's orders.

Similar to Ehringer and Duffy's recommendations for standardization of the preprinted order form, these orders are typed into a standardized template that includes guidelines for formatting across the top (See Figure 1). Within these specifications, the orders themselves can vary widely from simply "bed rest" to "ABGs STAT for SpO2 less that 92%." They can also be modified throughout the simulation with verbal orders from the doctor, similar to a clinical context. Orders were frequently given on the phone and students would write them down or they were "faxed," walked into the room by the instructor or simulation coordinator, Lee.


1. SEPARATE PATIENT CARE, MEDICATION AND IV ORDERS.
2. **ALL ORDERS** MUST INCLUDE DATE, TIME, AND **LEGIBLE** SIGNATURE
3. MEDICATION: INCLUDE GENERIC NAME, DOSE, ROUTE FREQUENCY AND PRN INDICATIONS. INDICATE START AND STOP TIMES AS APPROPRIATE.
4. IV: INCLUDE SOLUTION NAME, VOLUME, RATE, AND DURATION OF THERAPY

DATE Today	Dx: Status post ORIF bilateral femurs
TIME Now	Telemetry X 24hrs, then discontinue if no dysrhythmias
CBC , Electrolytes, BUN, Creatinine, Glucose in AM	
Clear liquids; advance to regular diet as tolerated	
Bed rest	
Vital Signs every 4 hours. Continuous pulse oximetry while on PCA.	
O_2 at 2 LPM via nasal cannula x48 hours	
ABGs STAT for SpO_2 less that 92%	
Incentive spirometry every hour while awake	
IV of NS at 150 ml/hour	
Central line dressing change per protocol	

Figure 4.5: Physician's Orders for Jason Lee. Image from CAE Healthcare.

The similarity in formatting between conventional physician's orders and simulation orders taught students a number of lessons that had the potential to translate directly to their use of orders in clinical settings. For example, when one group accidentally read Eliana's PR (per rectal) Tylenol order as a PO (per oral) order, Lee reminded them that their eyes will frequently see what they are used to seeing so they need to be very careful about checking and double-checking orders. This was a lesson that emerged specifically out of students' physical interactions with the text of the simulated genre. In another instance, a student asked Jason if he would like his albuterol treatment even though this was a standing order (required) rather than a PRN (as needed) order. The group discussed the difference between these two types of orders

and how this would structure their interactions with the patient, as standing orders should be approached as though the medication will be given. Finally, in debriefs students discussed what kinds of care required doctor's orders (everything from a nasal swab to an ice pack) and the importance of writing down doctor's orders given over the phone. These conversations were tied to interactions in the simulations, from watching classmates be "chided" by the doctor for taking a nasal swab without an order to observing a nurse misremembering the orders after a phone call.

In addition, like physician's orders in the hospital, simulation orders could differ between the list students were given to study ahead of time on their preparation sheet and the version they found in the patient room. As Lee warned students during their introduction to simulation:

> Make sure that you use the work orders in the room. You can go in with your plan and notes on what to do but just like in a real hospital, you can prep the night before and then discover that once you're there everything is different.

This was an important lesson for students to learn, as many of them would cling to their preparation sheet and the notes they had taken prior to the simulation rather than utilizing the texts in the room. Liz reflected on this reliance in one of her simulations:

> I was using the paper orders that we were given, like the worksheet, instead of looking at the white board chart and the like actual record chart, so I was clutching that for dear life rather than like looking into some of the information that was already provided in the room.

Her description of "clutching for dear life" demonstrates the way that the initial orders can become a crutch when students are not comfortable readjusting their plan based on what they find in the clinical room. However, by making the two versions of simulated orders slightly different, the instructors emphasize once again rhetorical awareness and flexibility, encouraging students to engage with clinical genres while recognizing that they will encounter the unexpected and they may need to adjust their care in response. Rather than reinforcing an answer-getting disposition that would cling to the orders as a source of all the answers, the different versions of

the genre necessitate a comparative, situationally engaged approach born out by the problem-solving disposition. At the same time, students begin to practice working across genres – cross-referencing their document not only with the other sets of orders, but also with the white board chart and worksheet.

The simulation orders can also become a crutch in the room because of how they influence the students' use of the simulation space. The orders are typically placed on the medical cart towards the back of the room, which Lee tells students they can treat as the medication room: "you can huddle here with the team to work through orders." The students are instructed to think of this as a "room" so that they do not have to be concerned about the patient overhearing their conversations about how to prioritize care and will talk loudly enough so their classmates who are watching them can hear. This was a particularly difficult aspect of the simulation for students to accept, however, and they had to be frequently reminded to speak up when huddling. In addition, other students in the patient's room and the patient would often talk to students who were huddled in the "medication room," a scenario that would be physically impossible if it was in fact a separate room. The patient's ability to interact with students as they worked through orders, however, provided opportunities for him/her to prompt them to engage when they were spending too much time huddling with orders and were ignoring the patient. This was a reminder to be checking in regularly with the patient, which could translate to the clinical context as well, even though the situation was unique to the spatial layout of the simulation room. It also provided a good opportunity for the nursing students to think about how they position themselves in the space of a hospital room and how their proximity to the patient directly impacts the patient's access to their conversations.

Meanwhile, because they were created with the goal of supporting students in making

their own decisions about how to organize care, the simulation orders also had significant differences from the professional genre. They were organized differently from the kinds of orders students would encounter in hospital-based simulations for professionals, as Lee explained to students:

> We're not trying to depict exactly what you might see in a critical care setting. Simulations you do at work are very specific – this disease, this treatment, like an algorithm. You'll have sims that are very specific to a program's protocol and are exact algorithms. Here, we're looking at general concepts we want you to pick up on and learn. The sims aren't designed to mimic a particular case or hospital program of treatment. It doesn't follow an exact patient plan. That's not what we're doing here – these are designed for learning so trust your instincts, if something in the work orders seems funny, ask the question. You know more than you think you know. We want to see you thinking. We get excited to see you thinking.

Lee's use of the analogy of algorithms to describe "hospital programs of treatment" captures the extent to which physician's orders can frequently be formulaic, a specific set of steps towards care in response to a particular condition. In contrast, the order genre in simulations is both less organized and less specific because it is designed with critical thinking as a goal. Students are reminded that they will not be able to accomplish all of the orders during their simulation and thus, they need to make strategic choices as a group about how to prioritize. Lee emphasizes situational awareness ("if something in the work orders seems funny, ask the question") and encourages students to trust their instincts about because "you know more than you think you know," a focus which encourages them to be metacognitive about both their impressions and how they choose to intervene. Her comments explicitly stress the cultivation of students' problem-solving dispositions by emphasizing thinking over correct execution of a protocol.

Ultimately, the disorganized orders and Lee's focus on problem solving both lead to collaborative conversations between students in the simulation room about how to organize and coordinate their care. For example, after wrapping Eliana's twisted ankle, one group clustered

around the orders to discuss next steps:

> Sean: I started to write down what I would prioritize so... we took vitals, we took assessment, I would say meds next.
> McKenzie: But she doesn't need any meds because she already took her insulin and she doesn't
> Sean: How about…? [*Uses hand gestures towards paper, presumably to Acetaminaphin order*].
> McKenzie: Did we ask her? She's at a two [out of 10 on a pain scale]. Is that something that we ask, do we ask her if she needs, if she wants pain medication?
> Sean: Well here it says three to four hours. Oh as needed okay, so she probably...
> McKenzie: Well we should assess her dressing and if she does need a dressing change then we can give that now and then...
> April: And maybe say, maybe while I do the bandage, you can ask her about pain meds right now and then we'll move on to catheter or do we move on to...
> Sean: Yeah we would do catheter before this. I don't know why bandage, oh maybe this is. But here...
> April: I think the bandage is just a quick thing we can do with the meds, so let's start with that...
> McKenzie: Should I ask her about the pain meds? [C: Yeah. Her pain]. Cause she had a two, two and a half at both her graft site and her ankle, should I ask her if she wants to...
> April: I think we can give some Acetaminophen for that.

Here, the group is engrossed in a conversation about which orders to carry out and how to organize these orders and the order sheet plays an active role in this discussion. The students debate whether or not to give pain medication (a prn order, so optional) because the patient's pain levels are low but may rise when they go to do a dressing change. Similarly, they discuss whether to do a catheter insertion or a dressing change first, but decide to prioritize the faster procedure. The pedagogical physician's orders are designed to fuel this conversation since there is no set order for care and medications are not explicitly linked to procedures. For example, the order to insert a catheter is one of the first on the list while the Tylenol order does not specify to give prior to dressing change. Thus, while stylistically they look very similar to their professional counter-part, content differences play a significant part in shaping the direction of the simulation and providing a venue for student's to practice flexible thinking about priorities in patient care.

Not only that, but the physician's orders in the simulation also include seeds for patient conflict and occasional errors, prompting students to question and even challenge them in situations where they seem inappropriate, to trust their instincts about patient care. In the first simulation, Eliana is nervous about taking morphine, resistant to the idea of inserting a catheter, and openly rejects the PR (per rectal) order for acetaminophen, offering to take her own Tylenol from her purse instead. Students have to negotiate with her and while some defer to the doctor's authority ("*Well your doctor feels that its the best option for you to make sure that we can get that wound healing and that will help eliminate your pain"*), most will also offer their own rationales for particular procedures and ultimately advocate for her by calling the doctor to change the PR order. In the final simulation, the physician orders Acetaminophen for the infant's fever over the phone, an error because Acetaminophen should not be given to children under six months of age. When the students look up that medication to calculate dosage in the Lexicomp system, they find no listing for Ian's age, a prompt to call the doctor back and check the order. Thus, the orders interact intertextually with the online medication system, which looks much like the resources at their hospitals, to prompt further investigation for students.

The point of these planted errors is not to demonize doctors or highlight their incompetence. During debriefs, the students are asked to consider why the PR acetaminophen would have been ordered in the first place (because of the possibility that the patient would have trouble swallowing post-surgery) and the challenges for new medical residents who may not have experience prescribing medications for infants. However, the simulated orders are specifically designed to help students consider their agency in prioritizing orders, rationalizing procedures, and making the call that an order needs to be changed. They are also learning to recognize the patient's input as an important part of this prioritization and negotiation.

This is a lesson that carries into their clinical placements as well, where many of them recognized the role nurses played in keeping orders relevant for patient needs. For example, Savannah reflected on the role she saw nurses playing in revising orders at the hospital:

> I actually saw it on Tuesday that doctors have so many patients and they write the orders, which are very important, but a lot of times the orders need to be updated. So my nurse was actually really on top of that and when she saw the doctor she was like 'Oh well like can you please like change this order? Or they need an order for this…' And the doctors really trust them and they're like 'Oh okay I'll definitely change that order.'

Thus, while the label remains the same in the simulation context, physician orders are not treated as authoritarian but as flexible and fallible. Students have opportunities to recognize how their on-the-ground access to the patient's emergent experiences might necessitate changing the orders and to engage with the genre as a dynamic document. At the same time, as I discuss in the next section, they also practice negotiating difficult conversations with physicians about those orders and come to better understand how the hierarchical organization of the hospital impacts their ability to provide responsive care.

Overall, a number of similarities exist between the simulated physician's orders and their professional counter-part – their lay-out, their ability to be changed between the time a nurse prepares for care and when she encounters the patient, and their inter-discursive relationship to the medication database and verbal conversations with the physician. These similarities teach students how to interact with the physical text without "clutching for dear life," as Liz described it, and with a heightened awareness of potential challenges, like reading the order they expect rather than the one on the page. At the same time, differences in specificity and organization of the simulated orders provide opportunities for students to collaborate to make strategic choices about how to carry out care. As they do so, they are reflecting on how and why they would approach patient care in a certain way, supporting metacognition on their approach and

flexibility and responsiveness in their future care. Meanwhile, a large part of what students learn as they work through orders in the simulation context is how to negotiate the power relationships inscribed in this text, both in relation to their patient, who may challenge or refuse orders, and the physician, whose orders may need to be changed either because of errors or for patient comfort. Thus, they encounter physician's orders as a mediator of conversations with a range of different participants in the simulation and have to negotiate both its flexibility as well as its authority in relation to these different participants and their needs.

SBAR – The Genre of Nurse-Physician Exchange

Each time she showed students around the patient's room before a simulation, Lee would remind them that they could use the phone to call anyone they wanted in the hospital and that this was "a beautiful place to practice SBAR since you may not get a chance to do one in your clinicals until your senior year." In this photograph of a student calling the physician, a document spelling out the acroynym for students is visible taped to the wall next to the phone.

S= Situation (a concise statement of the problem)
B= Background (pertinent and brief information related to the situation)
A= Assessment (analysis and considerations of options — what you found/think)
R= Recommendation (action requested/recommended — what you want)

(Kaiser Permamente)

SBAR was originally developed by the U.S. Navy to support staff communications in nuclear submarines and was later adopted in

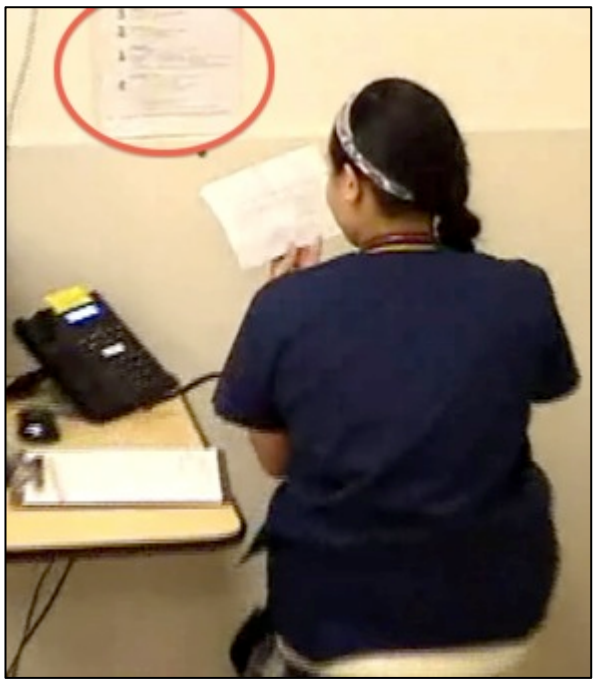


Figure 4.6: Student Calling Physician with SBAR Sign on the Wall. Video Screenshot.

aviation. The tool is designed to efficiently and effectively communicate time-sensitive data during a crisis. Following a 2000 report by the Institute of Medicine about factors obstructing patient safety, critical care providers were encouraged to use SBAR to improve interdisciplinary communication. Within nursing, educator Kathleen Bartholomew has been an advocate of implementing the SBAR tool to support improved nurse-physician communication and patient care (Dinolfo). Given that it has a prescribed structure and content as well as a fairly consistent social role communicating information from someone on the ground to someone in a decision-making capacity during a high stakes situation, I believe SBAR constitutes a unique verbal genre in the hospital workplace.

In John Dinolfo's dissertation research on an undergraduate nursing class, he offered a rhetorical interpretation of the SBAR tool:

> The SBAR communication tool is a terministic screen that conveys salient information about patient status while also deflecting other information that could enhance patient care but also could overtax the lines of communication during a fast breaking crisis. Put another way, the SBAR tool allows clinicians to triage information as they triage patient care. (35)

Indeed, the ways in which the SBAR tool deflects certain information were clearly articulated during the pediatric simulation when nursing instructor Karla had students practice a phone call to the physician during their room orientation. She would have a volunteer pretend to begin the conversation and typically, the student would start in with details about the patient's age and medical history (appendectomy). At this point, she would stop them and ask, "But what's the first thing I want the doctor to hear? That the patient has an 8 out of 10 pain scale." She reminded them that their inclination would be to tell a story, but that they needed to work on

reporting the most important information first:

> Nurses are more storytellers; doctors want you to get to the point. We're starting to see that change as we're seeing more of a gender spread in both fields.

This was a particularly interesting moment (that recurred across all 10 simulations) because it was one of the few points during simulations and debriefs where the feminized position of nurses was addressed specifically. At the same time, Karla was mapping gender onto a mode of communication (storytelling) that could instead be attributed to the nurse's access to many more specifics about the patient's experience. That is, nurses are not just storytellers because they are women, they are storytellers because their jobs keep them closely tied to the details of patient's lives and a holistic view of the patient. And doctors do not just "want you to get to the point" because they are men, but because they need to make a decision about next steps for care and much of the nurse's in-depth understanding of patient experience could be a distraction from that decision-making. In this case, attributing these goals to gender actually obscures their exigencies and relationship to the nurse's and doctor's rhetorical positioning in the hospital.

While the way in which Karla mapped the field's ideological perspective onto a gendered perspective was fascinating, even more noteworthy is her insistence that the students' communication acquiesce to the demands of the physician. That is, SBAR was not discussed as a collaborative tool that helped meld nursing and physician perspectives, even though that is the view presented in the scholarship; it was described as a method for helping nurses give doctors what they need.

Of all three of the genres discussed in this chapter, the SBAR communication tool most closely resembles its professional counter-part, with both following a systematic and formulaic organization. Karla mentioned to students that she used SBAR all of the time in her hospital position, even when emailing other nurses. Still, as Lee described, students were unlikely to have

the opportunity to practice SBAR at their clinical placements early on, since they would rarely be in conversation with doctors. Thus, the simulated SBAR provided them with an opportunity to negotiate both the mental task of figuring out what to prioritize in their conversation and the physical experience of communicating with the physician. In many cases, a call to the physician would help students to realize they had not completed a full assessment on their patient and they needed more information, thus redirecting their patient care. Meanwhile, SBAR was inter-discursive, as students cross-referenced multiple other genres in the simulation including the patient's chart and the physician's orders to prioritize information.

However, because it was taken out of the genre system of the clinic and placed into a simulated genre system, the SBAR tool also coordinated activity in slightly different ways. Primarily, it required collaboration across the entire group in the simulation because they were all contributing to patient assessment, whereas in a traditional setting a single nurse would be gathering that information independently. In addition, information that would be obvious and accessible in a traditional setting, like the room number or the doctor's name, could become a point of confusion and communicative breakdown during simulated SBAR.

First, just as the physician's orders teach students how to organize their care in the simulation, the call to the physician provides lessons in how to organize their communication to highlight key information. As Michelle explained of her first call, "I had never practiced doing SBAR before so that was just kind of, I was like wracking my brain thinking like 'Okay like what's the most relevant information that I have to give and what else do I say?'" Many times, the physician (played by either Lee, Kayla, or the student's clinical instructor) would prompt students who were launching into a patient narrative, "What is your primary concern?" or "Why are you calling?" As these conversations progressed, students would often realize that they did

not have all of the information they needed to provide an effective patient report. Michelle noted:

> I realized that we hadn't even assessed the patient yet because the doctor was like, 'Okay well have you looked at the leg yet and duh-duh-duh and what does it look like?' I'm like, 'Oh, I have no idea. Let me get back to you on that.'

In this way, SBAR could be used to call the students back to their assessment and occasionally redirect them if they were missing something important, like the patient's low glucose levels or dehydration. This was more of a pedagogical role than SBAR would typically play in the hospital, though the structure and content of the genre itself enabled students to recognize their lack of information and need for further investigation.

In addition, students were able to witness the communicative breakdowns that can occasionally happen during SBAR as well. For example, during the geriatric simulation one student called in to order a lab test for a urinary track infection because her patient was experiencing burning when she peed. At this point, the physician asked, "Doesn't she have a catheter?" and the student mistakenly reported that it was the catheter that was burning, leading the physician to prescribe Acetaminophen for the pain. The student left the conversation unsure about whether the UTI lab had been ordered at all and seemed surprised when it showed up at their door a few minutes later. During debrief, the group discussed the importance of having clear goals before calling the physician and not leaving the conversation until those goals have been accomplished. This offered a more agential view of SBAR than the initial introduction, which seemed to prioritize physician information needs over the nurse's goals for the call.

Along with practicing the mental aspects of organizing and prioritizing information into this verbal genre, the simulated SBAR also enabled students to physically experience the stress of a physician phone call. Michelle described the experience as "nerve-wracking," while a number of students mentioned during debrief that they were flustered or over-whelmed as soon

as they made the call and lost track of their goals. The instructors supported this embodied learning by remaining curt during the interaction. One instructor, who reported jokingly that she was "always mean" when she played the doctor, ended a call when it was clear the student had not completed a full assessment – "I have another patient, call back when the information is ready." Another, after checking in with Lee for confirmation that she could "be rude," told a student who wanted to know about a patient's dietary plan that that information was already in the physician's orders: "The order says increase as tolerated. The orders are pretty clear — go ahead and advance his diet." Similarly, when a group called in asking about how to increase a patient's oxygen levels, Kayla responded, "Just get the 02 levels up; its not my job to tell you how to do it." While some instructors seemed to enjoy putting on the tough doctor persona, Kayla cringed after this interaction, saying, "Ugh, I hate being the doctor. Its so out of character for me to be curt with them."

There is certainly a danger that this performance of the doctor during SBAR could perpetuate stereotypes about physicians among nursing students. Indeed, during one initial conversation with a director of nursing simulation, she reported that they never let the students play the part of the doctor in simulations because they would always perform over-the-top stereotypes of the brusk, male physician. That said, I never saw the instructors take the doctor role to this extreme, often playing her as cooperative and eager to help, if also pre-occupied. Meanwhile, from hearing and seeing how students experienced their first few attempts at simulating SBAR, it was clear the physician's role contributed to their embodied learning of the genre. Having a curt physician on the other line made the conversation feel urgent and high-stakes, which is precisely the tool's target situation. A leisurely or over-accommodating SBAR conversation, then, while it might portray the physician in good favor, would also remove the

genre from its rhetorical exigency and take away from the embodied genre learning students were experiencing.

Meanwhile, what made simulated SBAR communication quite different from its clinical counter-part was that it necessitated collaborative conversation because the work of assessment was distributed across a group of students. During her discussion of SBAR, Lee would remind students, "You'll have to pull together a team to complete the information since you're all doing different evaluations." Meanwhile, a floundering SBAR conversation could make it extremely clear that a group was struggling to coordinate, communicate, and document their patient care. For example, Kira described her experience in her pediatric simulation where her group members had taken over assessment and assigned her to chart on the white board but were not communicating their findings to her. Then, when they asked her to call the doctor, she did not have any of the information she needed:

> It was weird because they were doing vitals and then they like decided not to tell me the vitals and I'm like waiting at the board like 'I'm ready, I'm ready.' And then they were like, 'Okay call the doctor' and I was like, 'Okay, great like what do you want me to tell him?' and then they were already like off. So I was like, 'Mm okay, I'm just going to call a doctor about a baby I haven't even seen.'

In this way, Kira's experience with SBAR called attention to her group's breakdown in communication about assessment. Again, SBAR's inter-discursive relationship to the patient chart is clear, as Kira's struggle to chart her group's assessment findings contributed to her difficulty in communicating with the doctor.

Often, failed SBAR's gave instructors an opportunity to remind students to "call out" during their simulation to keep one another on the same page about the information they were gathering by revealing communicative gaps between group members. Thus, practicing the SBAR genre also taught students about collaborative communication among a team, even if the

professional genre is designed for a different kind of communication. Kira was very aware of this difference between the simulated and professional genre:

> So like in real life that would never happen because I'd never be in a team of three and someone would be like, 'Oh do SBAR' and I'd be like, 'Okay what?'. Like I would never just call a doctor and then they'd be like 'Okay, what are you calling about?…'

She recognized that as the one doing the full assessment in a clinical setting, she would have all of the information that was distributed across three group members in this context. Still, transporting the SBAR genre into the simulated context allowed for additional practice with team conversation and collaboration that added to the students' learning about the physical and mental experience of the genre.

That said, the disadvantage of moving the SBAR genre into the simulated context is that the genre necessitates certain information that was not particularly relevant to the simulation and could result in a break in communication. Room 1 was written on the white board for each group, but because there was only one simulation room, it was unimportant for the students to know the room number. Similarly, some would forget the name of their patient's doctor ("Dr. Right" was also written on the board). While it was important for students to learn to have this information on hand, it was also far less relevant in the world of the simulation, making their mistakes less likely to translate across contexts. This resonates with Russell's notion of the double-bind and Samraj's findings about how contradictions between contexts can result in bizarre genre features. Thus, particularly when professional genres are being adopted without modifications into simulated contexts, it is important to consider what kinds of discrepancies between the simulated scenario and the professional one might cause complications for students.

Overall, then, the simulated SBAR was structurally very similar to its professional counter-part, including a highly formalized organization of information for the exchange

between nurse and physician and an inter-discursive relationship to the patient chart and physician's orders. These similarities provided students with opportunities to better understand how to organize their communication, especially how to prioritize their primary concern rather than offering a full patient narrative. Within the simulation context, instructors' maintained an exigency for the genre by being curt with students, which provided opportunities for embodied genre learning as well. However, the distribution of care across a group of 2-3 nursing students was unique to the simulation context and created a slightly different role of SBAR as well as a prompt for practicing collaborative conversation and sharing of information across team members. In addition, the uniqueness of the simulation environment made certain information, including the room number and doctor's name, less relevant to students and resulted in occasional breaks in communication because of the discrepancies. As with the physician's orders, students practiced using SBAR in ways that emphasized its relational, inter-discursive, and embodied facets, acquiring much more than just a verbal form.

Conclusion

The analysis above demonstrates how simulated genre systems contain genres that exist on a spectrum, some very similar to pedagogical texts and others much closer to their professional counter-parts. From a chronotopic perspective, the early delivery of the simulated preparation sheet enabled the genre to shape students' preparation for and interactions with the patient. In addition, the physician's orders' unique positioning in the simulated space supported greater attention to patient needs even while students negotiated the orders. All three of the genres interacted inter-discursively with texts and talk such as the nurse hand-off, the online medication resource, the patient chart, and lab orders. Meanwhile, the genres also informed

students' relational positioning to the patient, to one another, and to the physician throughout the simulation. Thus, the simulated genres authentically coordinated activity in the simulation by being both similar to but also distinct from their classroom and professional counter-parts.

More importantly, while acting within the simulated genre system, students were called to be flexible and creative rhetors. They had to be aware of possible modifications across multiple versions of the same genre and adjust their text and talk to the demands of the physician, patient, and other nurses. They actively engaged in negotiating priorities for patient care using the physician's orders and organizing relevant information for the SBAR conversation. Meanwhile, they had opportunities to critically reflect on their experience communicating as nurses, considering how they adjusted their care for different demographic backgrounds and where their team's communication broke down. This ability to be metacognitive about genre use is precisely what many writing scholars argue supports transfer of communication practices into new contexts. Throughout, the simulation coordinator and instructors explicitly emphasized situational awareness and responsiveness, valuing critical thinking and engaged care over correctness and thus, prioritizing a problem-solving disposition.

In addition, maintaining a genre system that remained tied to student activity also necessitated that instructors be engaged and responsive participants. To keep the genres circulating in the simulation authentic, the coordinator would revise documents regularly based on how she saw different groups engaging with a particular simulation sequence. For example, during the second run through of the pediatric simulation, Lee printed out orders for Ibuprofen and a nasal swab, recognizing that she had not had the documentation available when the first group requested these orders. In Russell and Fisher's simulated course database, certain student texts were even preserved over the course of the semester so that the genre system continued to

grow in the number of available documents: “One effect of this circulation process was to make available to students the ‘best drafts’ of each other’s work… One result of this writing circulation was the development of an online glossary from definitions developed by each student within the Omega case” (179). This flexibility of simulated genre systems, allowing new texts to enter circulation where needed, seems particularly important in maintaining the authenticity of these systems for supporting activities and practices.

Finally, I found that the simulated genre system also had the potential to influence how instructors thought about their classroom writing assignments as well. Russell and Fisher identify instructors’ limited experience in professional contexts as a short-coming of simulation pedagogies: “The MyCase simulations required the instructor to be familiar with the roles, motives, and circulation of discourse in the activity systems represented in the simulations. Unfortunately, many academics have not (or not recently) been immersed in such environments” (186). However, my research demonstrated that simulated genre systems could actually provide instructors who may be far removed from these professional contexts with reminders about the way that texts support action in their fields of practice. After watching two groups of students move through the geriatric simulation, one instructor, Cleo, began to consider the SOAP note writing assignment (Subjective, Objective, Assessment, and Plan) she had been giving students to reflect on their clinical experience. She said that she was beginning to feel that SOAP notes, which require the separation of subjective and objective information about the patient, followed by an assessment and a plan, seemed detached from the communication students were doing on the job. She wondered if “they should move towards more SBAR writing for clinical and focus on a resident with a changing condition.” Watching students struggle through conversations with the physician in simulations actually prompted Cleo to think more strategically about the kinds

of assignments that might support learning that type of communication.

Thus, this chapter has developed a richer picture of how simulated genres exist in a state of ambiguity between their pedagogical and professional counter-part in order to authentically coordinate patient care. Through an in-depth analysis of several genres, I have worked to understand the unique ways that simulated genre systems support students in acquiring genres, disciplinary identities, and knowledges in relationship to a range of objects, spaces, and people. I have demonstrated how the simulated genre system fosters flexible communication strategies and dynamic engagement with texts and talk, enabling students to experience for themselves the strengths and limitations of a range of genres. This analysis has the potential to help support instructors who are considering creating simulated genre systems in their own classrooms. In particular, it should encourage them to reflect on how simulated genres need to be distinct in order to be responsive to the unique temporal, spatial, inter-discursive, and relational concerns of the simulated context as well as how they can be leveraged to foster students' problem solving dispositions. In the conclusion, I elaborate further on the implications of this dissertation research for writing classrooms.

In the next chapter, I continue to expand on this work with an analysis of a student-designed simulation genre, the patient chart. While it also exists between pedagogical and professional genres, the patient chart demonstrates the importance of attention to embodied genre learning in our classroom pedagogies. In addition, the simulated patient chart provides opportunities to think more about how students agentially negotiate the bounds of professional writing. Finally, in examining the relationship between patient charting in the simulation and their experience with clinical write-ups, I directly address how students transfer their practice-based understanding of simulated genres into classroom and professional contexts.

Chapter 5

Embodied Genre Learning of the Patient Medical Record

> Ryan: I'm definitely learning how to draw on others' ideas through their writing… I can look at their notes and I can kind of pull what they're trying to say better from their words. It's like when you just see words, you can't tell inflection, you can't tell what they're trying to say based on their wording but my skills are developing in that, if that makes sense.
> Lilly: Yeah, can you talk a little bit more about it?
> Ryan: Like I can tell what they're trying to say just because we're all on a collaborative mind, we're all thinking the same way now, is what's starting to develop, so I can look at the board and see like, "Oh they had calf pain and they also grouped that it was swollen at the same time. I think they're thinking a DVT [Deep Vein Thrombosis], you know I'm also thinking a DVT."
> Lilly: So sort of reading between the lines?
> Ryan: Right. Exactly. More than just the words.

During his winter interview following the medical surgical simulation unit, I asked Ryan to reflect on what he was learning from designing and using a patient medical record during simulations. His description about encountering "more than just the words" emphasized the wide range of knowledge that was captured in students' charting. This included professional knowledge, as students learned what kind of information was recognized and valued within nursing communities and thus, developed a "collaborative mind." It also included embodied knowledge—the nurse's physical experience of the swollen calf as well as a sense of the nurse's "inflection" that cannot be fully captured in charting.

Similarly, in his 2002 chapter, "Disembodied Voices," Peter Knapp called for an embodied approach to the study of genre learning that would move beyond a focus on textual forms: "If genres are ways of doing things or forms of social action, then they are performative as well as textual... When we perform day-to-day genres we are acting out social roles inscribed on our bodies and acted upon as unspoken imperatives" (290). Drawing on Bourdieu's notion of the habitus as an embodied sense for appropriate action and

response, Knapp called for "incorporating bodily techniques into writing pedagogies" that might support the acquisition of an educational habitus (293). As multi-modal pedagogies have spread, composition scholars have continued to grapple with the implications of a material and embodied view of genre for classroom practice (Devitt, Bawarshi, and Reiff). This chapter responds to these calls by exploring the affordances that simulations offer for students to experience genres as encoding and coordinating embodied actions.

In the examples of the preparation sheet, physician's orders, and SBAR communication tool in the previous chapter, moments where students actively embodied genres in the genre system of the simulation were already visible. For example, a note in the preparation sheet prompted one student to touch the patient's arm lightly while she asked about her family. Groups clumped together in a corner of the simulation room to read the physician's orders and were subsequently called over by the patient. Students felt nervous and forgetful as they reached for the phone to call the physician. However, for nurses, professional knowledge and embodied knowledge are more deeply intertwined than even these examples suggest because the information that is prioritized within nursing communities often emerges out of a nurse's direct physical and verbal engagement with the patient. In this chapter, I discuss a genre that brings to light the interrelationships between professional and embodied knowledge in nursing genres — the patient medical record.

The patient medical record can be described as an embodied genre both because it attempts to translate and encode nurses' sensory information about patient experience and because it coordinates physical actions in the clinical context. First, the medical record must capture and translate a nurses' embodied knowledge so that it can become accessible to health care providers who are often further removed from physical patient contact – the

physician, the charge nurse, the therapist. The simulation context provides students with an opportunity to negotiate this translation together, verbalizing the thinking that will eventually become tacit and individual as they transition to electronic systems in the hospital. Second, the medical record also becomes the guiding force in coordinating further interactions, helping students to carry out their interventions and organize themselves in the simulation space. In addition, because students used a whiteboard to collaboratively chart in the simulation, they have an embodied experience of deciding on the spatial organization of the chart, standing at the board charting together, and bringing the incoming group over to the board for a hand-off. These are physical experiences that do not represent the actual embodied genre encounters that students will have in clinical settings, where records are typically filled out individually in a formulaic online system. However, I argue that in supporting these unique embodied experiences, the simulated medical record teaches students more about the genre's organization and role mediating interactions with nurses, patients, and physicians than they can learn from online clinical charting alone.

Ultimately, examining students' patient medical records during clinical simulations provides an opportunity to study a phenomenon that scholars have called "genre uptake" as an embodied genre performance in a particular moment in time. Nursing genres, especially the patient medical chart, provide a particularly compelling case study for this research first because nursing practice necessitates translating embodied patient sense into a range of written and verbal communication and second because nursing genres play an active role in coordinating physical and verbal actions in the hospital. Attention to embodied genre uptake raises several key questions about nursing students' experiences designing and enacting the patient medical record in simulations:

1) Chart Design - How do different groups of students code their embodied patient knowledge for a range of audiences using the patient medical record?
2) Chart Enactment – How does the simulated patient medical record coordinate physical and verbal action during the simulation? In what ways does it support or constrain responsive and empathetic interactions and patient care?
3) Transfer – How does embodied genre learning within the simulation context inform student's interactions with classroom and professional genres in other contexts?

By keeping these questions in the forefront, this chapter will work to better understand the wide variety of ways in which newcomers to the field of nursing created, used, and reflected on the simulated patient medical chart.

Overall, through this example I demonstrate how students repurpose prior genre knowledge in ways that are attentive to the interpersonal and material constraints of the simulation context. I argue that the experience of embodying simulated genres, even when it does not recreate the exact physical experiences of using the hospital medical record system, provides students with experiential knowledge of how the genre both encodes and coordinates embodied interactions. The simulated context also provides opportunities to critically reflect on the strengths and limitations of their genre choices after students have experienced their impacts on care first-hand. Finally, I demonstrate how the shared nursing process across simulated genres and classroom writing assignments contributed to students' understanding of classwork's purpose in helping them "think like a nurse." In this way, I argue that with cuing and connection-making by instructors, simulation-based genre learning has the potential to help students better understand the exigencies of their classroom writing, in addition to supporting practice-based understandings of genres—and the dispositions,

knowledge, and actions they coordinate—that can transfer into professional contexts.

The Patient Medical Record

The patient medical record genre (or Electronic Medical Record, EMR) is a flexible one that looks quite different depending on the context, varying even within a single hospital, floor by floor and patient by patient. Most hospitals use some variation of an electronic system but many of the pages in this system look similar to paper-based patient forms: "you will still have the basic 'pages' of the chart, whether print or electronic, such as progress notes, I/O (Input/output) records, checklists for admissions and transfers, blocks or pages for narratives, nurse worksheets, and daily and patient assignment sheets" (Heifferon 104). As this list suggests, the medical record is also a cross-disciplinary text that transfers information between different health care providers to guide their collaboration around patient care. In this way, the chart is key in guiding patient treatment, interventions, and evaluation of those interventions: "the chart acts as a site for synthesis and critical thinking as well as clinical decision making" (Heifferon 96).

Medical record systems are strategically designed to guide care providers through a process of clinical decision-making. In "The Lab vs. The Clinic: Sites of Competing Genres," Schryer discusses the "Problem Oriented Medical Record" (POMR) system, which was developed in the 1960s by Dr. Lawrence Weed to replace the Source-Oriented Record system (SOR). The SOR system merely documented a complaint, reviewed symptoms, and recorded physical exam results, which Weed felt caused physicians to jump to diagnostic conclusions. In contrast, "he wanted to redesign records to mirror the medical problems solving process itself. They could become 'audits of action'. From a rhetorical perspective, we might add that

his system offers new physicians a heuristic that reflects the actual problem solving structures" (Schryer 117). In this way, the medical record moves providers through a recursive process documenting patient information, formulating interventions, and evaluating those interventions. Nurses share a similar decision-making structure, the "Nursing Process," which is guided by the acronym ADPIE: Assessment, Diagnosis, Planning, Implementation, Evaluation. ADPIE was used as a guiding framework not only during simulations but also in students' care plans for patients that they wrote for their courses. Lee was very enthusiastic about the process as problem-solving method, sharing with students that she even recommends her children use it for everyday problems. She highlighted that they could always come back to assessment when they were feeling lost:

> You may not know how the pieces of the assessment fit together but you can bring them to the doctor – like a detective bringing the clues forward.

As simulations continued over the course of the year, the nursing process was reinforced as a guiding force for chart design and organization, as well as for student care.

In the clinical simulations I observed, all charting was done on large whiteboards in the simulation room. For the most part, students would rely on one large board (approximately 4' by 6') to document patient vital signs and changes in status as well as their interventions. Occasionally a smaller board (2' x 3') was incorporated into their charting as well. Like the genres I discussed in the previous chapter, the simulated medical chart had qualities of both professional and pedagogical genres. In providing space for documenting patient assessments (like vital signs), nurse interventions, and evaluation, the genre most closely resembled the medical chart. However, it also had some qualities of the "patient whiteboard" used in some hospitals for communication across health care professionals and to support patient education. In a recent study of patient white boards at UCSF hospital,

Sehgal found that they were being used in a variety of ways by a range of providers, but some uses included documenting nurse and physician names and family contact information as well as tracking goals for the day and anticipated discharge dates (237). Thus, when students wrote their names on the simulation white board for patient reference or emphasized their goals there for the next group, the simulated medical record shared qualities with the patient white board, though its main function was still a more comprehensive documentation of patient care.

What was most unique about the simulated medical record, however, was that students were given free reign over how to organize the board and document information about their patient. After their orientation to the simulation room, Lee would direct students to take a couple of minutes to get a feel for the manikin and to decide on their template for charting. She explained to me that while originally the lack of an electronic record system had been a source of frustration for students, handing over the template design to them had helped to alleviate complaints:

> I discovered the things that they used to complain about – no electronic charting – the minute I give them the power of it, they don't complain about it. Give it to them, put responsibility on them and they take it on.

The opportunity to decide how to organize information for their patients both encouraged students to think strategically about how and why charts might be organized in particular ways and to take initiative in designing a chart layout that made sense for this patient and the simulation space. It also provided opportunities for them to see how the choices they made in designing their templates shaped interactions and patient care during the simulation. Templates varied widely, with some groups choosing to lay out their boards to emphasize the three groups moving through the simulation and others clustering information around

categories like “vitals” and “interventions.”

Much like the SBAR communication tool, the genre of the patient medical record tends to prioritize information like the patient’s physical symptoms, with less demand for information about what nurse’s call their “psycho-social” condition. This was visible in student charting as well, where categories like patient vitals, medications/interventions, and physical assessments were often given prominence. Notes about patients’ affective experiences or concerns about family members rarely had their own designated spot on the board and were often relegated to a corner. For example, both instructors and students

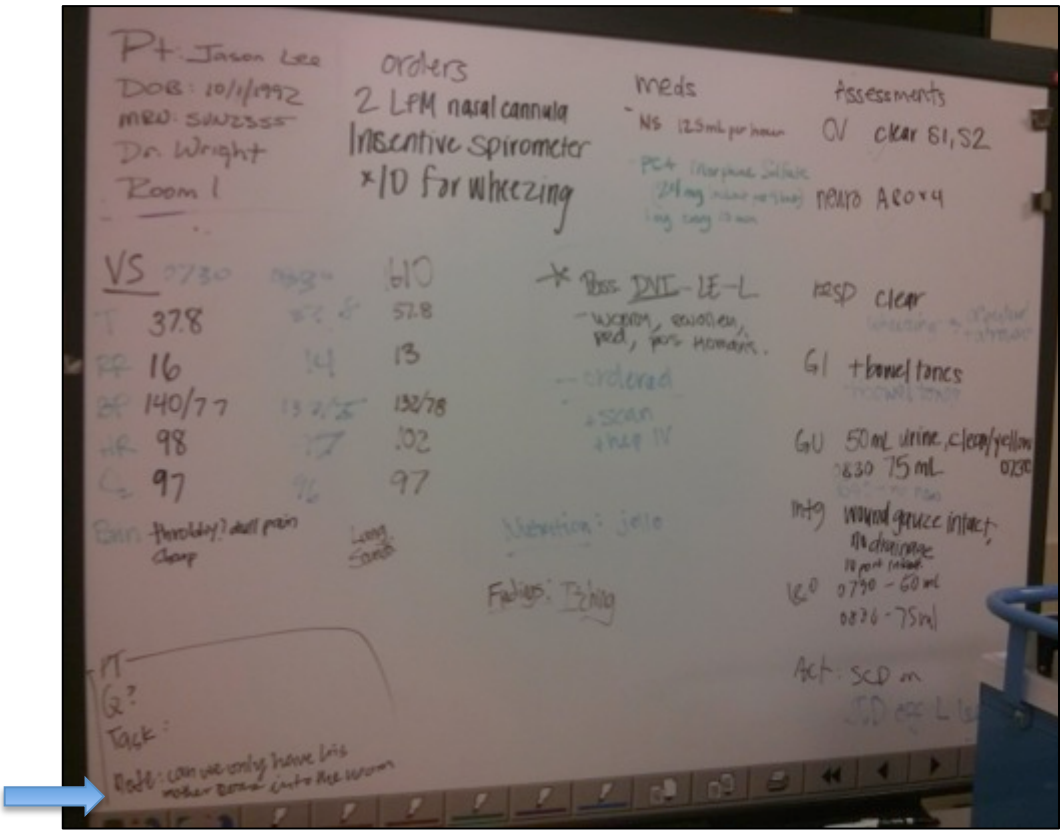


Figure 5.1: White Board Chart with Psycho-social Information. Photo by Author.

praised the chart above (from simulation #2) during debrief for its streamlined presentation of information. Their instructor specifically called out the effective organization of assessments into “systems” in the right-hand column (neurological, respiratory, gastro-

intestinal, etc.), which would help students to visualize patterns in patient complications.

However, when Jason Lee called the nurses over to request that they let him talk to his mom before his dad about the accident because he was nervous his dad would be upset, it was hard to accommodate this information on the board. One student opted to draw a small box in the left-hand corner of the board labeled "Pt" (presumably standing for "patient," but I cannot be sure) that included the categories "Q?" [Question], "Task:" and "Note:" Under "Note" she wrote: "Can we only have his mother come into the room." The fact that this information even made it into the chart was notable, since many groups had this conversation with Jason but did not document it on the board at all. Some would still remember to mention it to the next group of nurses during their hand-off, but others would drop the information altogether after the conversation. Still, this group's chart layout does not provide the space or appropriate category to expand on the comment with the kind of context that would help another nurse to respond appropriately when the parents do show up. While this is a limitation of their chart design, specifically, it is also a greater limitation of the genre, both how patient charts are organized and the information they prioritize for care.

Similarly, in his discussion of how genres mediate inter-personal relationships, Bawarshi uses the example of the Patient Medical History Form arguing that, "the genre supports and enacts a separation between the mind and the body in treating disease, constructing the patient as an embodied object. It is mainly rhetorically concerned with a patient's physical symptoms suggesting that we can treat the body separately from the mind" (74). He goes on to describe how the PMHF's focus on physical symptoms also shapes the encounter between physician and patient, causing the doctor to "treat the patient as a synecdoche of his or her physical symptoms" (74). Similarly, a nursing faculty in Ariail and

Smith's study expressed concern that the formulaic nature of the medical record might prevent their students from documenting vital patient information. The faculty member: "gave the example of a nurse admitting an elderly, frail patient and only listing weight and height, but neglecting to include any discussion of psychosocial issues that impact eating habits of the patient" (247). Therefore, scholars have found that the sections and categories that organize patient medical records can result in a less than complete picture of patient health when they are treated formulaically or filled in like a list.

While the medical record itself may not be designed to prioritize psycho-social patient information, there are still ways to work within these systems to document patient information beyond physical symptoms. As students design their own record templates during simulations, they are able to see first hand which information is prioritized and where the gaps exist between their embodied patient knowledge and what gets documented for other providers. At the same time, they come to recognize that the medical record can be flexible and responsive, rather than static and authoritative. Thus, while further research would be needed, there is potential that these simulation experiences support students in acting flexibly within the limitations of the patient medical record in the hospital as well.

Embodied Disciplinary Learning and Genre Uptake

Much of the writing in nursing emerges in relation to the nurse's physical and verbal interactions with the patient – his or her on-the-ground understanding and interpretation of patient experience. Sometimes, other technologies like the stethoscope or the syringe act as intermediaries to translate this information between patient and nurse. However, Lee's instruction to always have "hands on, ears on, eyes on the patient" emphasizes the extent to

which the nurse's body plays an active role in the collection of patient information. In this way, nursing knowledge has parallels with what Beverly Sauer dubbed in her research on miners' embodied sensory knowledge "pit sense… direct physical sensations felt or perceived in highly specific local environments" (134). For my purposes, I will use the term "patient sense" to describe the embodied sensory knowledge that nurses gain from physical presence alongside and often in contact with the patient.

Patient sense can include everything from the tactile feeling of the warm, prominent protrusion of Jason's blood clot while palpating his left leg to having a gut sense that something is not right with the patient. Lee prompted students to pay attention to these more subtle moments of patient sense at the beginning of every simulation, telling them to "trust their instincts." At times, she and I could actually see students working through their patient sense and deciding how it would impact care. For example, during one debrief Lee said to a student that she could see that he had heard something when he was listening to infant Erik's lungs and he had the instinct that something was wrong, so he just needed to learn to trust it.

Sauer emphasizes the tacit aspects of pit sense that make it nearly impossible to describe. She also describes two additional modes of knowing:

- "Engineering experience: physical signs or indexes embodied in objects and materials. Engineers observe and record this information as the material history of particular sites."
- "Scientific or invisible knowledge: physical forces, particles, materials, and interactions that are sensed or perceived as data in language, physical tracings, and inscriptions. Scientists read and interpret data to formulate knowledge that is literally invisible to the physical senses" (134)

Professional nurses must work across all three of these ways of knowing: patient sense, nursing experience, and scientific knowledge. They rely on intuitive, physical experiences in the room with the patient – a certain kind of smell, a physical feature that does not look or feel quite right, an off-hand comment that is an indicator of a much larger problem. This patient sense, which is acquired through their physical presence in the room with the patient, is what makes their role so critical in the hospital because many other providers do not have the sustained contact with patients to acquire it. That said, nurses also rely on "nursing experience" embodied in objects and materials: interpretation of the various tools in the hospital room that mediate their patient interactions from the stethoscope to the thermometer. And they rely on "scientific knowledge": the patient data that comes to them from telemetry machines and the reports received from ultra-sounds or blood tests. The boundaries between these different modes of knowing are not easily drawn but all three come into play as nurses negotiate the process of organizing information into the patient medical record.

Sauer notes that given its tacit nature, pit sense is not accounted for in any of the technical documents at the mine in part because miners do not "record their reactions in written communication" (159). In contrast, nurses need to translate their patient sense so that it will be legible to other health care providers. They need to develop a nurse's gaze, to return to Foucault's concept, that helps them to organize, prioritize, and translate their embodied and experiential patient knowledge. Goodwin's concept of "professional vision" similarly describes, "socially organized ways of seeing and understanding events that are answerable to the distinctive interests of a particular social group" (606). Professional vision necessitates that newcomers learn how to communicate their experiences within a community's modes of understanding. The emphasis on vision here should not be taken to mean that Goodwin is

discounting the physical or material, however, because much of what he is interested in is how experiential encounters are transformed into professional knowledge. In his example of archaeology students learning how to track different kinds of dirt he notes: "Talk between coworkers, the lines they are drawing, measurement tools, and the ability to see relevant events in the dirt all manually inform each other within a single coherent activity" (626). Similar to the dirt chart that Goodwin is describing, the patient medical record becomes a means for organizing nurse's idiosyncratic, embodied patient knowledge so that it can be acted upon by a range of participants in the hospital – other nurses, physician's, social workers, and even the patient or his family members.

When students design their own version of the patient medical record for simulations, they draw on their prior knowledge about how nurses organize information while also making strategic rhetorical choices about how to design the genre to work in the simulation context specifically. This includes decisions about "coding, which transforms phenomena observed in a specific setting into the objects of knowledge" and "highlighting, which makes specific phenomena… salient by marking them in some fashion" (Goodwin 606). Of course, these decisions are not made alone but collaboratively with other novices and by drawing on a wide range of prior genre knowledge from the classroom and the clinic. As they decide on initial categories of information, attempt to fit their patient sense into these categories, and decide which information to highlight for physicians and other nurses, they are learning together how to "see" like a nurse or as nursing student Ryan described it "to have a collaborative mind." At the same time, they are actively experiencing the limitations of their coding and highlighting choices, particularly when it comes to fully accounting for patient sense. Thus, simulations provide a particularly interesting context to study genre learning,

and specifically a phenomenon that scholars have referred to as "genre uptake."

Aviva Freedman, drawing on Bahktin's notion of addressivity and Austin's speech act theory, was one of the first to call attention to uptake, or the generic response to particular situations. Since then, however, scholars have begun to recognize theories of uptake as one means for expanding our view of genres beyond textual objects of interest: "uptake challenges us to consider history, materiality, embodiment, improvisations, emotion, and other *agentive* factors that genre studies has tended to overlook in its focus on genres as objects, artifacts, sites, and meditational tools" (Bawarshi 3). Meanwhile, in calling attention to this range of impacts on genre performances, notions of uptake recognize that student's genre knowledge is just one small component of understanding the larger picture of genre uptake: "while genre uptake is informed by genre knowledge, it is also informed by one's sense of self, one's memory of prior uptakes, the timing and stakes of a discursive event and its participants (Freedman, "The Trap"), as well as by other affective and material factors that make uptakes, while to some extent habitual, also momentary, unpredictable, and subject to relations of power" (Bawarshi 4). Thus, in attending to uptake, we pay greater attention to the historical-material conditions of genre and are able to recognize how genre performances can be individual and idiosyncratic while at the same time participating in a communal vision.

A number of recent studies bring to light the affordances of considering embodied genre uptake, specifically. Haas and Witte's article, "Writing as Embodied Practice," for example, looks at a collaboration between city officials and engineers to revise a visual/verbal document and finds that gesture plays a vital role in the exchange: "Our analysis of the deictic gestures, when set alongside the revisions that the engineering consultants made to the original spec and drawing… strongly points to the facilitative role

that gesture, as well as words, played in distributing some components of embodied knowledge across all members of the working group" (444). Meanwhile, Kimberly Emmons' research on embodied uptake of depression discourse demonstrates how the list of symptoms in depression advertisements come to shape readers' physical experiences of illness: "language manifests itself within the body via a series of intergeneric translations" (136).

In line with this recent research, then, this chapter considers how nursing students negotiate the inter-relationships between embodied and professional nursing knowledge through simulated genre design and use. Thus, this chapter aims to respond to the call for greater research on embodied genre uptake that can help the field begin to "get at some of the learned, embodied inclinations as well as the material conditions that guide our and our students' encounters with and performances of genre" (Bawarshi 17).

Limitations of Electronic Simulations for Embodied Learning

Russell and Fisher's research suggests that computer programs might be one way to immerse students in the space and time of an active genre system. They point out that with the wide range of jobs that can now be done online from any location, a virtual work environment accurately reflects the spatial and temporal experiences of many workers: "In the experience of students working/learning/playing on the fictional Omega Molecular intranet, school is and is not work, just as for the telecommuter opening a company intranet site, work is and is not home" (188). However, for the many individuals whose jobs require immersion in a very particular kind of physical environment daily, the online interface might not be able to capture the embodied experience of genre learning. For example, before the pediatric simulation I observed, the students were asked to participate in an online simulation

of a pediatric ward through a program called "Virtual Clinical Excursions," or VCE, produced by Science Textbook publisher Elselvier. Their instructor Karla explained to them:

> I know you could have just [answered the questions] in your workbooks but the goal was to create the muscle memory of having to hunt and peck for information in the chart, walk to the med cart, be frustrated, like you would in a new hospital.

Karla's emphasis on muscle memory here demonstrates the way that she envisioned students' actions within the virtual clinical space as directly translatable to embodied clinical practice. Even though students would be clicking their way through the interface to "hunt and peck" or "walk to the med cart" she believed that their movement in the virtual space could create bodily memories of the various layers of physical action they would need to undertake within the clinic. In a later conversation, she told me that her son was recently diagnosed with dyslexia and his new school really emphasizes learning in a bodily way, which has gotten her thinking about helping her nursing students to take advantage of embodied learning beyond the visual and auditory in simulation contexts. Thus, her emphasis on "muscle memory" in the virtual clinical experiences was emerging out of a recent recognition that education could provide physical training and opportunities to practice a range of embodiments. In students' experiences, however, this physical learning proved much more effective within the simulation space than in the virtual space of the VCE's.

Karla asked students for feedback on their experience with their computer programs during their introductions to the pediatric simulation. Overall, students agreed that they did acquire some muscle memory of moving around the room and finding information. One focal student, Liz, described to me during an interview that:

> I thought it was interesting because of where things were located. So you had to like back out of the patient's room to go to the med room and then go back out and then find the chart in the nurse's station so it was realistic, which I liked.

Because simulations are confined to a single classroom, students do not have the opportunity to move in and out of the different spaces Liz describes (the patient's room, the med room, the nurse's station). Thus, virtual simulations can provide opportunities for moving through much larger and more comprehensive spaces.

However, students also felt that the time spent adapting to the spatial constraints of the online simulation was not worth the investment since it was organized so differently from their clinical rooms. As focal student Ryan explained, he felt the virtual hospital room was extremely outdated compared to the systems he was used to:

> I have to sign into this virtual hospital, which is a real pain. And then go into the paper chart, which no one uses anymore, so I have to go into this paper chart on the computer system, go to the emergency department and like scroll through. And its not at all organized in a good manner like you wouldn't expect things to be where they are. Like it took me thirty minutes to figure out a baby's height and its like that's not how it should be. So the system, I described it to a colleague the other day, the system feels like I'm in 1998.

Ryan's comment that the paper chart is something "no one uses anymore," and his complaint that the chart is organized such that "you wouldn't expect things to be where they are" captures frustration with wasting time to learn a system that has little resemblance to a professional context. This is particularly maddening when the differences make the electronic system appear archaic, which a real danger since technology changes so rapidly.

Students were also frustrated by the system's timing which would periodically log them off and was often unclear about how much time had passed between medication administrations. Thus, for them the spatial and temporal constraints of the program outweighed the possible benefits of learning the "muscle memory" of searching for information. This could be improved, of course, by revising the program to be a more accurate chronotopic representation of a hospital room. However, I also argue with the

example of patient charting that classroom-based simulations offer a unique environment for learning genres in embodied ways. In embodying patient charting, students have to repurpose their prior genre knowledge in ways that reflect the inter-personal and material conditions of the simulation context and space. In doing so, they do not just learn to navigate one particular system that is identical to their future workplace, but they learn how to be spatially and physically aware and responsive to a variety of surroundings. As discussed in the previous chapter, writing scholarship tells us that this kind of situated rhetorical action, especially when coupled with opportunities to reflect on the strengths and weaknesses of their choices, is much more likely to transfer effectively into a range of future contexts.

Nursing Students' Prior Genre Knowledge

As their experiences with the VCE program suggest, students' encounters with charting in simulations occurred after they had already had experiences with electronic charting in their courses and during their clinicals. Over the course of the year, students gained extensive experience charting in clinicals and had the opportunity to work with a number of different electronic systems. Thus, their workplace genre knowledge was continuously developing and impacting how they imagined the possibilities for the simulated patient medical record. In addition, they continued to draw on genre learning from their classroom encounters as well as framing provided during the simulation. Table 5.1 lists some of the other genres and resources that focal students described as informing the design of their simulated patient medical chart during their interviews.

Before delving into an analysis of students' simulated medical charts, then, it is important to provide a brief picture of the range of prior genre experiences that were

influencing students' rhetorical choices. In this section, I draw on an extended conversation with nursing student Liz about her chart design to demonstrate how classroom learning, simulation framing, and experiences in her clinical all shaped her design.

Class Experiences	**Simulation Context**	**Clinical Experiences**
- Textbook Readings - Writing Assignments - Note-taking Strategies	- Patient Information Sheet - Simulation Orientation - Other Students' Templates	- Observing Nurses - Electronic Medical Records - Nurse's Notes

Table 5.1: Sources of Prior Genre Knowledge

Even though students all had access to similar resources in their classrooms, simulations, and clinical placements throughout the year, they still designed and utilized their white board charts in very different ways. As Russell and Fisher noted in their own study of simulated classroom genre use: "different students with different histories noticed and emphasized different potentials in taking action within the classrooms in which this simulation was deployed" (181). Students' genre performances were also impacted by affective and relational factors like their confidence, their relationships with their team members, and how their instructors framed charting for them.

A conversation with Liz about her group's chart during the second simulation offers a number of insights into the wide range of resources that students drew on as they collaboratively took up the medical record genre for a simulated context[20]. Liz articulated connections between her charting in simulation and genres she was learning at the hospital.

[20] Even though I watched each group decide on the layouts for their templates together at the beginning of their simulation, there was rarely an articulation of why they wanted to use particular categories or organizations or where these ideas had come from. Most often, one student would take up a marker and start writing categories, with a few other students chiming in about categories to add, or new ways to organize information more effectively. Thus, my best resource for understanding students' genre uptake was insights from my focal students during the interviews that followed each simulation.

However, rather than just drawing the connections between the patient medical record and the simulated record, Liz also made connections to the less formalized note-taking genres that she was learning:

> This is something that I did at clinical. I was taught how to do it by my nurse preceptor actually. It may or may not have been kind [*laughs*], I can't tell, but it definitely resonated with me because like you can't really just go in without a plan, you know, you have to—like what I ended up doing towards the end of clinical was I wrote down 'Okay, eight am, nine am, twelve pm, two pm' and then I would write down all of the things that I needed to have accomplished by those times and then I would have a checkbox next to them so that way I would just check, 'Okay, assessment, done.' 'Insulin check, done.'

Liz's uptake of the patient medical chart, then, was informed by a personal system for note taking that she had designed to keep track of her interventions at clinical. This genre also carried the embodied baggage of Liz's relationship with her nurse preceptor who "may or may not have been kind…I can't tell" when she directed Liz to use the note-taking form. In other points in this interview, Liz discussed tensions between her and her preceptor:

> There have been times where if I was like, 'I don't know how to do this' or 'I've had very little experience'… and the nurse preceptor would be like, 'Really?! Okay…'

In contrast to her experiences at clinical, where she felt that admitting her lack of knowledge could cause derision or frustration, Liz said that she appreciated the simulation setting because:

> If someone didn't know something or someone was confused, no one overpowered anyone else and no one sort demeaned anyone else either.

Clearly, then, Liz's note-taking system at her clinical site was mediating the relational dynamics of her interactions with her nurse preceptor. When she carries it into the simulation context, it comes with some of these associations of accountability and fear, but also in a space where Liz feels more empowered because "we're all learning."

In addition, Liz noted that in designing her group's template for charting she had been thinking about coordinator Lee's warning about "sim-stupor":

> I just remember thinking of [our template] as I was going but also [Lee] kept telling us like 'Oh you know, like simu-sim psychosis exists' or whatever she phrases it as, just like going into the room and completely forgetting what you're supposed to do.

In this way, she was thinking about the specific embodied experience of the simulation room as one motivating factor for structuring her charting. In addition, Liz described the challenge of coordinating care across a group of students during simulations and attributed this as another factor in their genre's design:

> Another thing is like because there are so many people in the room there's always one person that's just kind of like 'Ohhh where do I go? I'm just going to stand off to the side for a bit.' So, it really I don't know it sort of like helped us just check back and see like 'Okay, person A is doing this, person B is doing this. Here are other tasks that still need to be done.' So that way everyone can still be involved um without having to be stuck on one task for the twenty minutes.

Thinking back to her initial experience in simulation and the challenge of figuring out how to keep everyone busy, Liz designed her chart to organize and coordinate care and keep all of the group members informed. Thus, Liz's particular performance of the medical record drew on prior experiences in simulation but also at her clinical placement and was informed by the emotional relationships with her preceptors and peers as well as her knowledge of note-taking genres in nursing. Similarly, for each student a combination of prior genre experiences and affective and relational knowledge informs the choices they make in designing their charts as well as their enactment of the genre during simulations.

Formulaic Charting: Importing Hospital Templates

Of course, looking back at Table 5.1 and the list of students' prior genre knowledge, one of the most influential columns for informing students' simulated charting was the "Clinical Experiences" column. Some groups, when faced with the task of designing a template for charting in simulations, designed their board to mimic EMR systems they had

worked with or nursing note systems. For example, Kira described one of her groups' charts as a dumbed down version of the EMR:

> So our charting, we basically all said, 'We're just going to do the format that like the electronic chart has' but like a way way way dumbed down because like so for each basically body system you have a whole drop down menu.

Here, Kira recognizes the discrepancies between the functionality of the online system, which has a drop down menu for every bodily system, and the space constraints of the board. However, she still understands the template her group created as a derivative version of the EMR system rather than a genre that was strategically designed for the simulation setting. The limitation of this approach is that by importing a professional system of coding and highlighting, students are less able to capture the particularities of the embodied simulation experience or to leverage the physical affordances of white board charting. In addition, they lose the opportunity to practice transforming a genre for a new situation, a skill that when paired with critical reflection can help students develop the thinking strategies to transfer writing knowledge across a range of contexts (Devitt; Wardle).

To demonstrate how these limitations played out more specifically, I will examine a full groups' charting experiences during their second simulation with Jason Lee, the post-operative patient with a growing blood clot in his leg that will move to his chest over the course of the simulation. During her follow-up interview, Savannah described how her group chose to design their template based on note-taking sheets they received in clinicals:

> We get these charts, these papers in clinical that's basically what the nurses use to take their own notes and to do the hand-off report and so we suggested like, 'Oh we should read off of that and take like the main points from that.' So that's what we did to make our chart and I thought it was really useful.

However, in looking at the chart that developed over the course of the three groups' care, it is clear that the template was not well-suited to the simulation context or the particular patient.

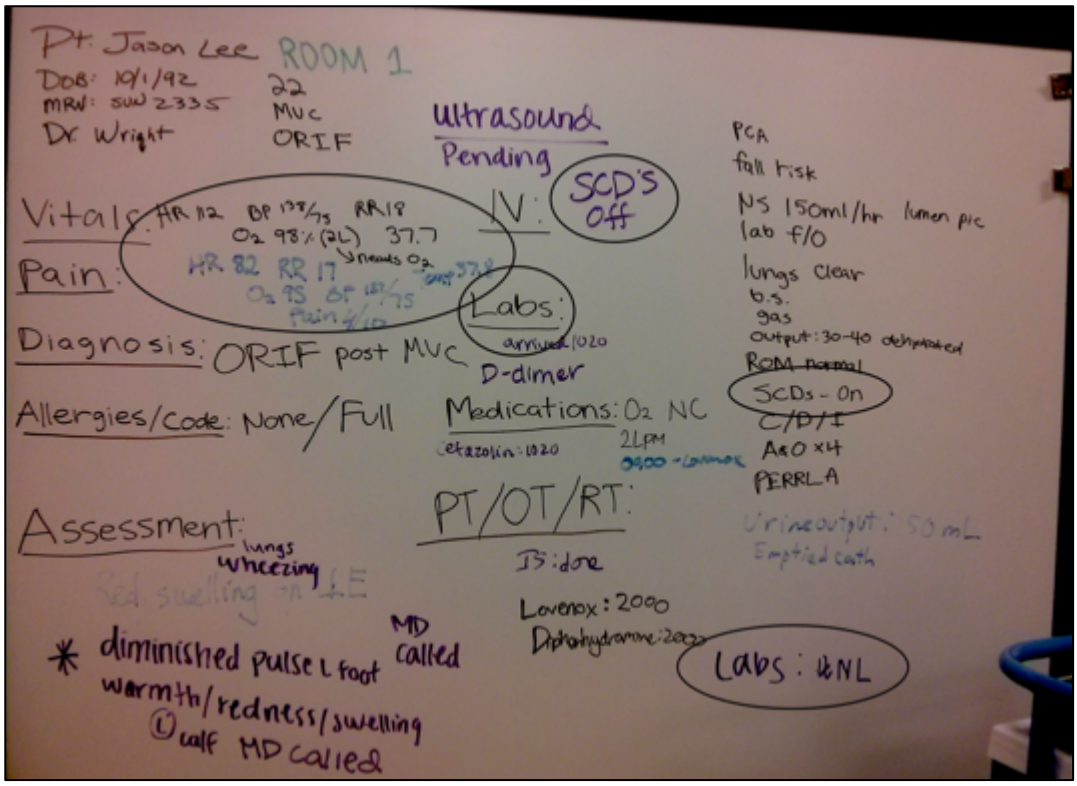


Figure 5.2: White Board Chart with Imported Layout. Photo by Author.

Figure 5.2 shows a photograph of the white board chart at the end of this simulation, after all three groups have made interventions and documented their care. I have added black circles to call attention to specific aspects of the documentation. The first visible limitation of this record is the lack of space in sections where the group could have anticipated more elaboration would be necessary to account for changes in the patient's condition. For example, "Diagnosis" and "Allergies/Codes" are both given substantial board space, despite the fact that these are categories that would be unlikely to change over the course of the simulation. Meanwhile, "Vitals" are given very little space even though each group should be tracking vitals to account for changes with each shift. As Heifferon explains, charting for patients whose progress is being tracked over time should visibly document changes: "Any progress records will include vital signs, and… provide a continuum of results for quick evaluation purposes" (131). Although the teams used different color markers for charting, so

that it is somewhat visible on the board which information came at which time, the crunched list still makes comparison across teams particularly challenging. Meanwhile, interventions like the sequential compression devices (SCD's) being taken on and off the patient's legs or labs being ordered and lab results being returned are documented in different places on the board, again making it very difficult to visually take in patient progress over time.

Clearly, then, the group did not fully leverage the physical space of the white board in the design of their coding scheme or in highlighting particular information. The question then becomes, how did the imported chart coordinate physical and verbal action within the simulation scenario? Overall, the template chart did not derail any of the students in this simulation and the three groups were quite effective in their care.[21] That said, as the simulation came to a close and the final group did a hand off to the rapid response team (played by their instructor), the limitations of their documentation were enacted in the group's lack of physical engagement with their chart as they shared patient information. As previously described, in hospital contexts the chart is often the primary text for coordinating communication across health care providers. In this simulation, however, students had not coded their physical or verbal encounters with the patient in ways that were legible to them in the chart during the hand-off.

Rather than positioning themselves at the chart, the two students doing the hand-off stood closer to the telemetry machine that regularly updates Jason's vitals. During their orientation to the simulation room, students were told not to rely on the telemetry machine for accurate information and Lee instead called for "eyes on, ears on, hands on the patient."

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[21] For example, the first group put Jason on oxygen almost immediately and the second group asked specific questions about his pain level and location that helped them to locate the clot early on and order labs for it. In fact, Lee ended up adding a side effect to the morphine, itching, for the last group to negotiate because the simulation was moving so quickly.

A successful chart would have coded their patient sense in a way that made it accessible for students during their conversation with the rapid response team. However, this group found themselves relying on patient information from electronic systems, instead of a professional vision developed out of their patient sense.

In fact, one key piece of patient sense *was* highlighted on the group's chart – the blood clot in Jason's left leg. Having physically encountered the warm rice pack that Lee placed on the simulator's leg, one group in this simulation sequence designed a way to highlight that important experiential knowledge by writing in rather large letters "diminished pulse left foot warmth/ redness/ swelling" and marking this assessment with a star. However, since the group giving the hand off was not engaging directly with the chart, they started in with specifics about the patient's oxygen levels gathered from the telemetry machine rather than the big picture information about the cause of dropping levels – the clot that had moved to Jason's lungs. While it was common across groups for students to become pre-occupied with specifics like oxygen levels, in this case the group's lack of engagement with the medical record impacted their ability to highlight appropriate information for the rapid response team and successfully participate in translating a shared professional vision.

As the conversation with rapid response continued, the students also struggled to remember that the patient was on an IV pump with pain medication, causing rapid response to ask twice "So he's not on any pain medication?" before she ultimately pointed the IV pump out to them. "PCA" [Patient Controlled Analgesia Pump] is only a small note on the chart, part of a long list of incoming information that Savannah documented during their initial hand-off. For the last group, then, who did not change the pain medication because they had more pressing concerns, this was difficult to remember. At the same time,

administering his own pain medications was a source of anxiety for Jason early on and he had had a long conversation with the first group regarding concerns about becoming addicted to the morphine. Thus, one group's patient sense about Jason's affective state was not coded as part of their charting scheme, even though it could have been an indication that he needed to be encouraged to press his button for medication periodically and thus, highly relevant for the teams that followed. Thinking back to claims about the invisibility of psycho-social information in traditional patient charting, this is certainly not surprising, since many groups struggled to create a space for patient sense in their coding. In general, the medical record genre is not designed to capture this information. Still, it clearly impacted how effectively the final group was able to communicate patient information to rapid response.

Thus, the final group struggled to create a shared professional vision about the patient's condition that would effectively translate their patient sense to the rapid response team. They failed to emphasize some of the key information that had been gathered from verbal and physical interactions with the patient, including his blood clot and his fear of the PCA pump. In one case, this was caused by a lack of engagement with the chart, which other students had designed to highlight the patient sense about the clot. In the other, the chart's design itself prevented thorough documentation of experiential patient knowledge.

Of course, having an improved charting template is no guarantee that these students would have made use of the board more extensively or that it would have better supported communication during the hand-off. However, as students participated in the patient hand-off they were negotiating how to translate their patient sense in accessible ways for new audiences. Or, as Goodwin describes it, they were making decisions about "how to code a relevant perceptual field in terms of categories that are consequential for [their] work" (614).

This was also work that the patient chart was designed to do—code and highlight consequential patient information. Thus, if the chart had been designed to be rhetorically situated and responsive to the simulation context, it could have been a valuable resource for students to access previous patient sense and translate that knowledge during the hand off conversation.

The finding that early writers are prone to treating genres as templates rather than approaching them as flexible, contextualized mediators of activity is well-documented (Bawarshi and Reiff). Looking back at Kira and Savannah's comments, it is clear that the genres novice nursing students encounter in the hospital convey a great deal of legitimacy and thus, power. From the nurse note-taking sheets to the EMR's, it is not all that surprising that students thought that the "best" template that they could create would approximate these institutionally sanctioned genres the most closely, even if they had to be, as Kira described it, "way way way dumbed down." However, in instances where students tried to import templates from charts they were using at their clinical placements, conflicts between the simulated context and the professional context were quite visible in both their charting and their enactment of the chart. Thus, many groups did not merely import the organization of their chart from clinical documents, despite the power of these documents as models, but instead made contextual and strategic decisions about the organization of their templates that could better capture their patient sense and coordinate their care.

Embodied Genre Learning: Charting for the Simulation Context

In this section, I examine how student groups designed and enacted more situated versions of the patient chart during simulations – drawing on their knowledge about the

temporal, material, and inter-personal constraints of the simulation context. First, I discuss some of the general strategies that groups used to transform the genre of the medical chart for this new context and then I move into a more extended discussion of two group's approaches. Overall, I argue that the simulation context provided an affordance for situated and responsive repurposing of prior genre knowledge. It both provided students with experience designing ways to code and highlight their patient sense and enabled the to see how their design impacted a range of inter-personal and material interactions as the simulation unfolded.

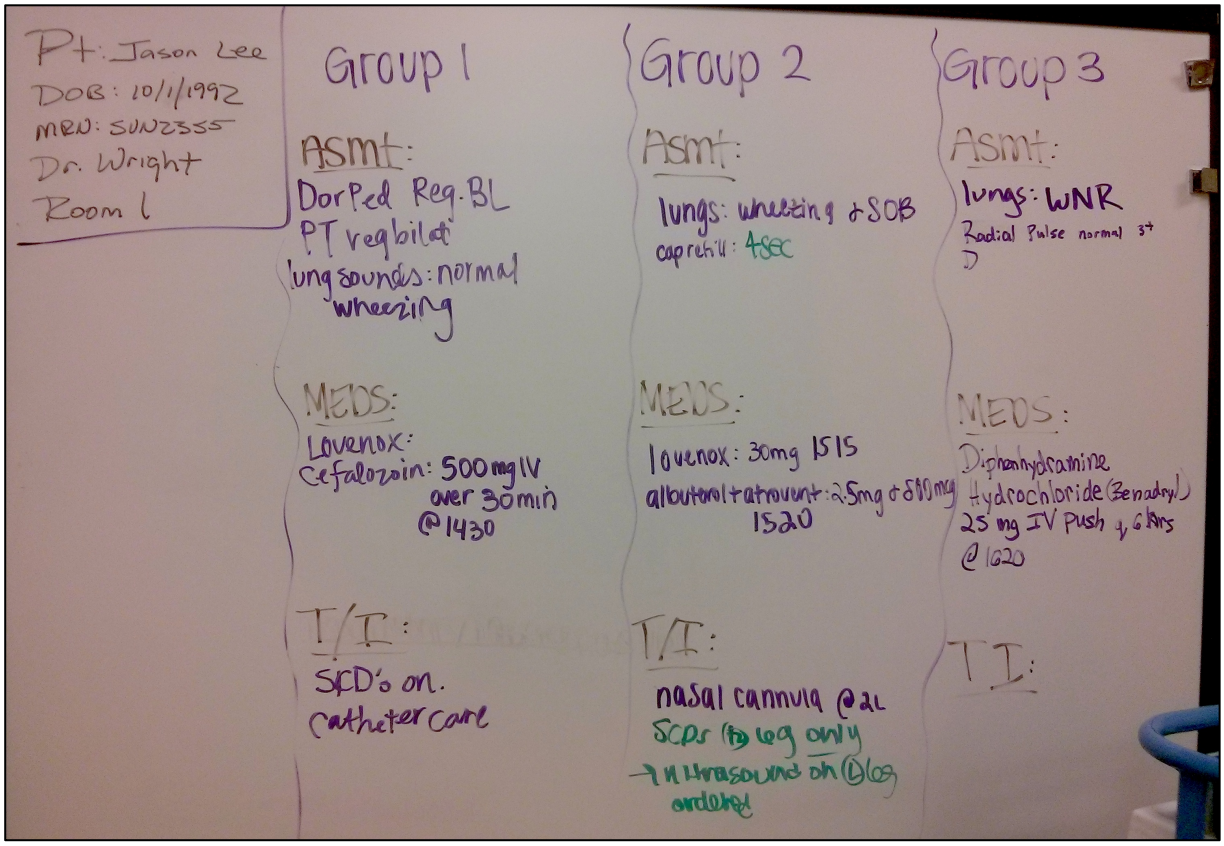

Figure 5.3: White Board Chart Organized by Three Groups. Photo by Author.

Groups that designed a more situated chart template for the simulation took into consideration both temporal and spatial constraints of the context in their design. Temporally, specific times had less import in simulation than the movement of care across the three groups of students. In

general, students were told to use "real time" but could also fast forward or slow down timing in order to provide continuous care. For example, they would not need to wait 15 minutes after giving a patient food to test their blood glucose levels because at that point their "shift" would have ended (See Chapter 3 for more discussion of "Sim-time"). Thus, groups came up with a number of templates that would enable them to track patient care across groups instead. In the two examples of boards from the pediatric simulation below, one group used a set of three columns to track documentation over time, while the other group used different color markers (purple, blue, and green) for different groups. Notably, the group that used columns to track care over time was then able to leverage the colored markers in a different way. In the second column they used a green marker to document that Jason's capillary refill on his left leg was four seconds, suggesting a problem with blood flow.

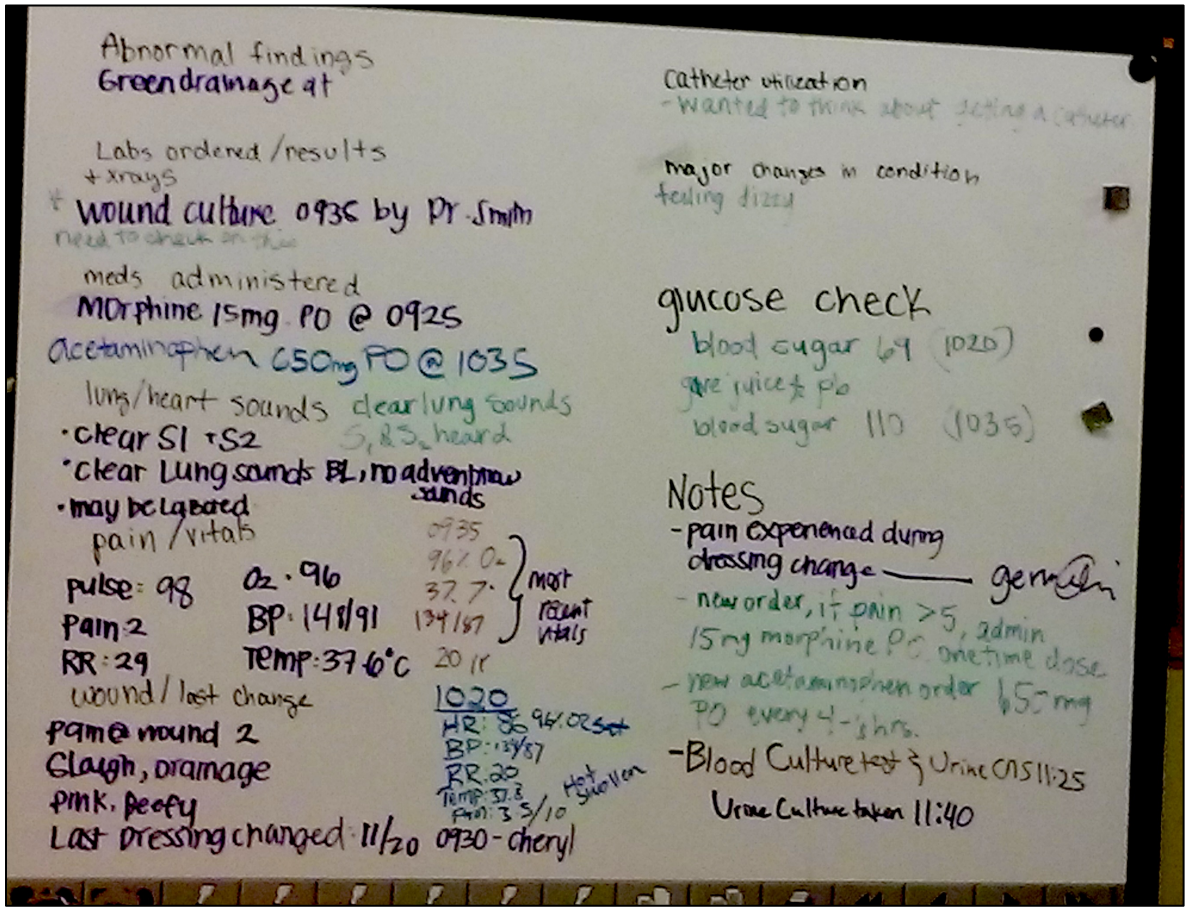

Figure 5.4: White Board Chart Organized with Color Coding. Photo by Author.

They also used green to note that the compression device on his left leg had been removed and an ultra-sound of the clot had been ordered. In this way, they used color choices to highlight what they believe is the most important information about Jason's care thus far.

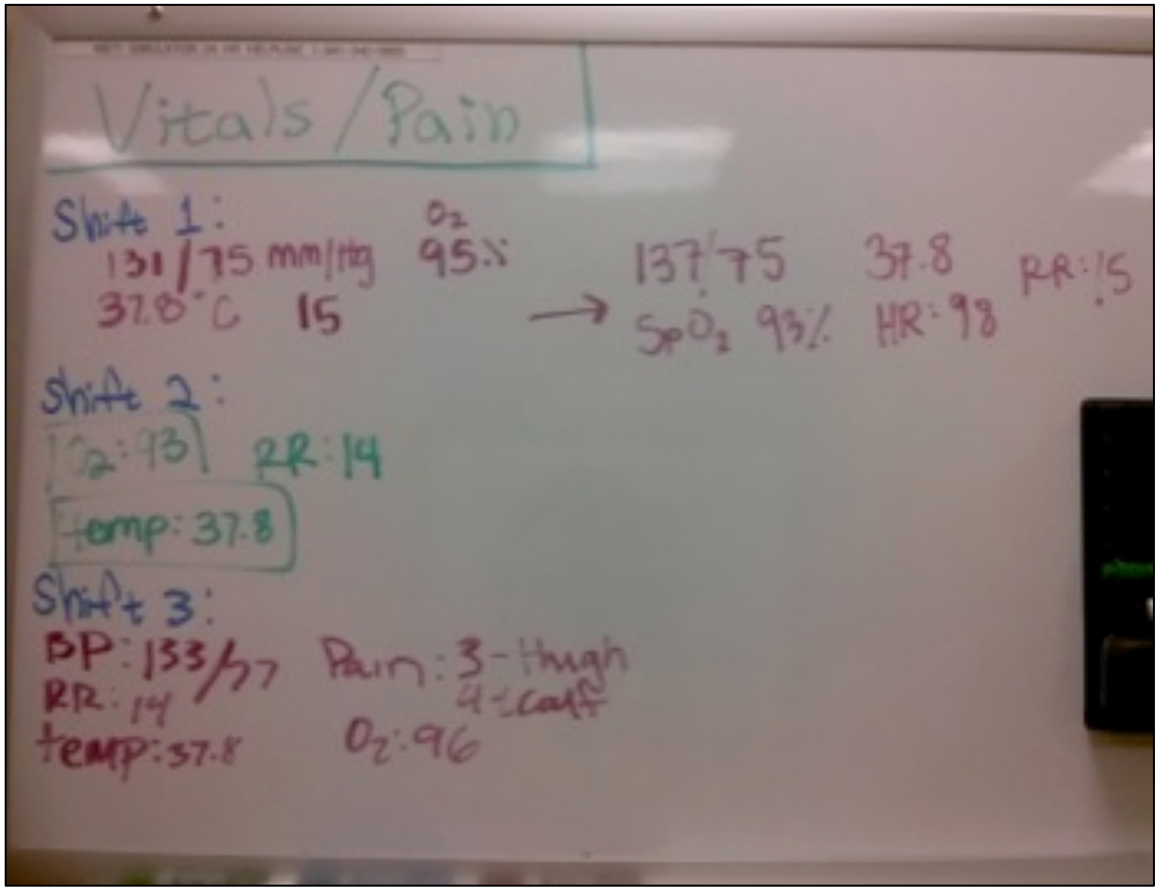

Figure 5.5: Small White Board Chart with Vital Signs. Photo by Author.

Spatially, responsive groups were more likely to recognize the availability of additional white boards in the room and think strategically about how to split up information to take full advantage of the available space for documentation. Some groups, for example, would write the names of the nurses on the smaller board so that the patient had them visible, drawing on the genre of the patient white board in thinking about how charting could support patient communication. This recognized the fact that the small board was nearby the head of

the patient's bed and also took into account the unique inter-personal challenge for the patient of remembering 9-10 different nurse names over the course of the hour. Other groups, recognizing that they would need a lot of space to document vital signs, used the smaller board to track vitals, so they would not become crunched or overtake other sections like we saw in the previous example.

Tracking vitals on the small white board allowed ample room for additional documentation, like Shift 3's note that Jason had two different pain levels, a 3 in his thigh and a 4 in his calf. It also made clear visual distinctions across shifts so that groups could compare and track progress. The first group even used an arrow to track changes in vitals over the course of just their shift. Other uses of the smaller board included tracking medications given or tracking nursing interventions in order to highlight important information about patient care so that it was not lost in patient record on the large board. Overall, by designing their boards to be responsive to the spatial and temporal constraints of the simulation, students needed to think critically about how the genre of the patient chart guides practice and care and mediates relationships. From using three columns to make the transitions between groups more easily visible to writing their names on the small board to support patient-nurse interaction, students' charting was designed in situated and rhetorically responsive ways that brilliantly accounted for the particularities of the simulation context.

In addition to adapting their board design to the material and spatial conditions of the simulation room, groups were able to physically experience how charting coordinated their conversations and interactions with the patient, other nurses, and other health care members. The medical record supported groups in prioritizing their care and talking to both the patient and one another. Physical experiences like standing at the board charting together and

pointing out specific areas on the chart during a hand-off were not representative of the actual embodiment of the medical record in clinical settings. That said, these unique embodied experiences helped students to better understand the genre's role in mediating material and interpersonal relationships. Students were able to embody in physical spaces and actual conversations the kinds of interactions that are often virtually facilitated by the medical chart. Rather than entering patient information into a static form and never knowing how it is taken up by other providers, students watched their documentation act as an affordance for a physician conversation or a limitation in providing responsive patient care. They were able to see how their chart design coordinated their own actions and those of their fellow students in both successful and problematic ways and in doing so, they moved beyond considerations of genre design to evaluating the genre's implementation and (in)effectiveness.

In the next two sections, I examine two examples of how groups made situated decisions about how to code and highlight their patient sense, acting strategically within their medical record template to prioritize tasks and communicate a shared professional vision to other groups and providers. Within these two examples, I demonstrate how students' uptake of the simulated chart responds directly to their needs and the mediated activities within the simulation, while also creating limitations for patient care.

Charting to Coordinate Group Activity: The "To-Do List"

After a hand-off, many groups began their simulation in a "huddle" at the medicine cart looking through the physician's orders and discussing how to prioritize their care. The medicine cart was also positioned close to the largest white board, where they could reference points that

the previous group had called attention to in their charting. For some groups, then, the huddle became an opportunity to chart for themselves their plan for coordinating care during their shift. In Liz's second simulation, her group extended a "To do" list that was started by the previous group to map out their plan together:

> Liz: My group really right off the bat just like bam bam bam like we know we have to do, let's get these things done um let's prioritize, have interventions that need to be done, and figure out the rest from there.
> Lilly: Yeah, so what helped your group do that?
> Liz: Um we had the white board available so as we were looking it up we were like, 'Okay, here are the orders, here's what we should do first.'

Here, Liz notes how the white board became a resource for her group to document their plan and prioritize so that they could move through orders quickly. Notably, she is not calling it the "chart," but instead the "white board," which identifies it as a documenting resource specific to the simulation context.

Figure 5.6: Liz's Group Charting the "To Do" List. Video Screenshot.

Much like the group in the previous chapter, Liz's group engaged in an active negotiation of the physician's orders as they cared for the post-operative patient, Jason Lee. This conversation began with all of them behind the medicine cart, but one of the students, Carl, quickly moved around the cart to stand at the board and document as they talked (see image above). After they had a list of tasks, they negotiated how to order them, writing numbers next to them on the board:

> Liz: Do you want to do the assessment before we give food?
> Carl: Yeah, let's do this – one. [*Starts numbering items on the board*]
> Liz: Nasal would be one and then…
> Carl: Okay, one. Two.
> Sue: We can like multi-task.
> Carl: Yeah multi-task in there and then some food and then the labs and then.
> Sue: Should we do meds before the food?
> Liz: Um are any of them, need to go with a meal?
> Carl: No, he needs to do Lovenox [anti-coagulant medication].

In this way, the group translated the physician's orders into an organized list to guide their care, which they documented on the simulated chart. They also were able to physically enact together, huddled at the medical cart, a negotiation of the physician's orders that would often occur only in a nurse's mind. From there, they decided which information to prioritize and highlighted this information with a numbering system designed in the moment to help coordinate their care. Collaboratively, then, the group articulated and documented a professional vision of their patient and his needs that drew on information from other providers – the physician's orders and previous group's charting. Once the collaborative vision was established, they moved into enacting it verbally and physically in their coordinated patient care.

The advantage of this documentation was easily apparent in this group's interactions with the patient and with one another throughout their simulation. They moved rapidly through orders, administering oxygen, giving two medications in rapid succession, providing food, and

ordering an ultra-sound for the patient's swollen leg. Not only that, but they were able to easily coordinate care across the members so that everyone was kept busy. Even when the simulation became more stressful as they discovered that the patient had a blood clot, Nick was able to direct Liz and Sue to give the patient lunch while he made a call to the doctor to order an ultrasound: "One of you guys want to help him get situated and eat the food and I'm going to call the doc?" Thus, the student-designed "To do" list chart effectively supported inter-personal and material interactions throughout the sequence, helping students to work through feelings of anxiety, take up activities in different areas of the room to avoid crowding the patient, and overall move and talk in concert with one another. Even in the observation room, Lee, the instructor, and I could feel the difference with groups like this, where care felt seamlessly sequenced. Lee described another group who was similarly well-coordinated as "dancing" during their debrief, saying, "You guys were quiet but you danced. You moved into place and got things done." This metaphor speaks to the way that instructors and students alike could feel the rhythm of an effectively designed chart as it enabled students to move efficiently through the simulation space and to expertly sequence patient care.

That said, the chart's limitation was that its task-focused orientation allowed less for flexibility in responding to the patient's needs as they emerged organically over the course of the simulation. The group took a long time to discover Jason's blood clot in his left leg and needed multiple promptings from instructor Lee (playing Jason), both because they were busy moving through other tasks on their list and because they wanted to keep the compression devices on his legs on to keep this item "checked" off their list. In most groups for this simulation, Jason would mention of pain in his left leg early and this was enough of a prompt for a student to take off the compression device to investigate the leg much more closely. In this group, however, Jason's

mention of pain led to a longer exchange:

> Jason: Can I ask you something though? [Carl: Yeah] Can we take that squeezey thing off my leg? Its kind of bugging me...
> Carl: The SCD's? [Jason: Yeah] Well we just turned them on and they are, they're for your— [*Walks around from the right-hand foot of the bed where he has been looking at the catheter bag to the left hand head of the bed so he can talk to directly to the patient. Liz comes over on the right-hand side with her head turned towards the patient, listening in*] we're trying to prevent a blood clot from happening in your body and like after a post-op one of the common problems [*Uses both hands to gesture back to Jason's left leg, periodically looks down at left leg*] is developing a blood clot in your lower extremities especially if you have trauma to your legs, which you have [Jason: Okay] So its really really preventative because if it causes a blood clot that can get really scary, its really dangerous and so its really, its a really important preventative measure. [Jason: Ohhh] And so we want to keep them on as often as we can [Jason: Okay] so I know that they are a little bit uncomfortable but we could do periodic breaks with them.
> Jason: Okay, can I just take one break on my, just my left, you can leave on the other one it's just...
> Carl: The left one? [Jason: Yeah] Okay. [To Liz] How long do you think we could do a break on one of those?
> Liz: Um, I don't know.
> Jason: I mean I guess if it's a big deal I can deal with it.
> Carl: Okay, well are you in pain with it? Is it causing you pain or is it just discomfort?
> Jason: Yeah, it's kind of hurting but I'll just -- I'll push my button and see if that helps.
> Carl: Okay, okay. If it gets, if it increases then we'll definitely take it off, okay? Just keep - just let us know. [*Walks away from the bed*.]

Notably, Carl did not just dismiss Jason's complaint but instead offered a thorough explanation of the rationale behind the compression devices and their necessity given Jason's recent operation. By the end of his explanation he even offers Jason a "break" from the devices, checking in with another student about how long they could take them off for, which they do not have information about in the physician's orders. However, he does not ask Jason about specifics of the pain (what level it is, what it feels like), nor does he use the complaint as a prompt to physically investigate the leg further. When Jason offers to keep enduring the pain, Carl is quick to move on to the next tasks on their list. It is not until Jason starts moaning softly several minutes later that the group takes off the compression device and discovers the blood clot.

This task-oriented approach to care was extremely common across groups, and as Lee explained to me, is a frequent challenge for new nurses. She even warned students about the likelihood of getting "tunnel vision" in Sim and encouraged them to take a step back when they felt they were getting bogged down in details so that they could take in the "big picture." For this group, their chart design supported this task-based approach to care, as they were inclined to move through tasks in an orderly fashion and could encounter a patient complaint as a distraction rather than a prompt to re-prioritize their list of tasks. If their record had been organized around assessments of different systems, pain in the left leg could have prompted further investigation so that they could include notes about the type of pain, level, and additional symptoms in the patient's chart.

Of course, as the patient's pain increased they became much more receptive to his complaints and were able to redirect their care to address the clot. Liz explained how her group worked to move between patient needs and their to do list: "If the patient complains of something then we would sort of look back at what we had and hadn't done and see if whatever the patient was complaining of was related to those things, so we didn't get stuck in a task." Her comment, and this example more broadly, demonstrate how the design and implementation of their patient chart in simulations was not static for students. Even a chart that was designed to be responsive to the simulated context and beautifully coordinated student action was not always going to be able to capture emergent knowledge and circumstances effectively. And, in fact, this very chart could act as an impediment to acquiring additional patient sense. It could keep students moving forward rather than encouraging them to take off the compression cuff, touch the leg, feel the warmth of the blood clot, and revise their care (and maybe even their charting), accordingly. To successfully work with and enact their simulated charts, students needed to keep

moving between their prior genre knowledge about what worked in the past and their constantly changing embodied knowledge of the simulation context and patient sense. They needed to be prepared to revise, modify, or even transform their codes for the chart as the situation necessitated new kinds of information or highlighting. In this way, the simulation context encouraged students to think of the chart as a dynamic and responsive text that was designed for effective communication of a shared professional vision rather than a form designed simply for slotting information into prescribed categories.

Charting to Communicate Information: Focus on the Hand-off

While the design of the "To Do" List coordinated activity within a single group, charting on the white board also called students' attention to the medical record's role in transmitting information between nurses across shifts and enabling coordinated patient care. Simulations would often end with a group of students gathered around the board, documenting their care and figuring out ways to highlight key information for the following group. In these moments, they decided together how to code their idiosyncratic patient sense into a collaborative professional vision that would be legible for an incoming group of nurses. This not only provided them with an opportunity to check in about what each of them had experienced in their embodied patient encounters, but also involved discussions of which information to prioritize and key next steps. When a second group came in for the hand-off, all of the students would gather around and reference the board as a mediating object in translating this professional vision. During that conversation, the outgoing group was able to receive first hand feedback from the incoming group about where their coding and highlighting of information was too limited and to revise their shared nursing knowledge together.

The simulated patient medical record, then, enabled outgoing students to collaboratively negotiate how to best translate their embodied patient sense for a new audience. At the same time, it provided incoming students with an opportunity to question the professional vision that was being conveyed and call attention to its potential gaps or limitations. In Figure 5.7 below, two groups of students gather around the chart for a hand-off, using the board to guide their conversation. One student can even be seen adding a note to the medical record as their conversation unfolds, revising it in response to the group's negotiation of their professional vision. The medical record's large size and the way it could be visually accessible to an entire outgoing and incoming group during the course of the conversation is key to its effectiveness in this exchange. A closer examination of the medical patient record's mediating role at the end of one group's shift and the beginning of the next group's can help further elucidate how it was a site for collaborative translation and negotiation of patient sense into nursing knowledge.

Figure 5.7: Two Groups Gather Around the White Board Chart During a Hand-off. Video Screenshot.

At the end of one group's geriatric shift, they gathered together to document care for the following group. This group had not done much charting throughout their shift and had struggled to prioritize some of the physician's orders. They administered morphine so that they could do a wound change and catheterization but then when they went to wrap the patient's ankle, they realized they needed to call for an x-ray first. Calling for the x-ray and attempting to properly use the SBAR genre of physician-nurse exchange prompted them to recognize that they had not done much of an assessment on the patient at all. However, as they stood at the board deciding on priorities for the next group, they were able to check in about embodied patient knowledge that each of them had gained over the course of the simulation and to decide on next steps together. Becky documented while the other group members stood next to her at the board discussing (emphasis added):

> Christian: Did you assess her vitals yet, after we administered the medication?
> Mia: No I was only able to get her pain levels.
> Christian: Okay we gotta, *so for the next people, assess her blood pressure***.**
> Becky: But we didn't get, *oh for the next group we definitely need to have them do the dressing change or they…*
> Christian: Yeah, yeah so we gave the morphine but um also to assess her blood pressure and her respiratory as well because we gave her morphine and also her pain level once before they do the dressing change and the catherization.
> Becky: *So monitor for side effects from morphine?*
> Christian: Yeah, like really low blood pressure…

Like the previous group with the "to do" list, these students are negotiating priorities. However, their resource for this negotiation is not only the physician's orders but also their physical and verbal encounters with the patient throughout their simulation. They are able to account for the information that has been gathered through these patient encounters – pain levels – and the interventions that have been made in response – administering morphine. At the same time, they recognize the gaps in their care and the need for further patient information, particularly in regards to blood pressure rates and respiratory rates that may

have been altered by the morphine. In addition, drawing on Becky's verbal interactions with the patient during which she admitted to dribbling on her dressing wound, they collaboratively prioritize dressing change and catheterization. On their board, this group's conversation is visible in the notes for the following group. In addition to charting their administration of the morphine, under interventions they noted, "premedicated for dressing" and bolded the note to "change." Under "Additional Info" they indicated that the group should "monitor for side effects from morphine."

Once the group has translated their patient sense gathered over the course of the simulation into a professional vision on the patient medical record, the record becomes a primary object of reference in the hand-off to the following group. Both groups gather near the board, with the incoming nurses facing with their backs to the board, and the nurses who had just charted facing the board (emphasis added):

Becky: Oh yeah, so anyway she's post-op two weeks, right, from her pem-pempop [*group laughs as she struggles to pronounce the surgery's name*]. As she came in this morning, she also hurt her left ankle. We ordered an x-ray for it because the doc wants us-- she said that they did not evaluate in the ED and the doc wants us to wrap it. Just wanted to make sure nothing's broken.

Mia: Um we administered morphine about an hour ago and in about an hour or two if you guys want to do a catheritization because she is incontinent and we want to do a dressing change in a few hours, after - like an hour after that *just so the incontinence doesn't leak into her wound while we are changing it.*

Christian: Also we just want to asses her pain and um after we administered the morphine we didn't really check about like um the effects afterward so please check her blood pressure, for any respiratory depression, and just like you know like *how conscious she is and stuff* so yeah please check for that as well, *make sure she's good...*

Becky: [*One of the students in the incoming group turns around to look at the board. Becky gestures towards the board and other two incoming students turn to look as well*.] And then her last set of vitals are on the board there so... [Ok great].

Mia: And she is also diabetic and she took her insulin this morning and she had a...

Michelle: *Have you guys taken her blood sugar after that since she's been here?*

Becky: No, she hasn't eaten yet. She... did you assess her lungs?

Mia: Yeah, she had wheezing in her lungs last time I checked, which was about an hour ago and yeah...

Michelle: Okay great [*two incoming students turn to look at the board again*] Alright

great, thank you for the information guys.

During this conversation, the outgoing group is seen elaborating on their charting in the medical record to call attention to aspects of the patient's condition that will be particularly relevant for incoming nurses. They emphasize specific physical phenomenon that incoming nurses should be aware of – the leaking of urine into a newly changed wound dressing. They also emphasize a less tangible sense of the patient's well being: "how conscious she is and stuff… make sure she's good." In this way, the professional vision that is being communicated across the group of nurses shapes the patient sense of the incoming nurses, alerting them to embodied patient knowledge that they will want to acquire during their shift by verbal or physical means. Some of this information is written into the student's medical record, but the narration by outgoing nurses also emphasizes what is "beyond the words" to return to Ryan's phrase. Thus, the nursing students have to practice rationalizing their coding and highlighting choices and the means for this rationalization often brings them back to their embodied patient encounters. As I will discuss later on, this elaboration on the necessity of interventions with specific reference to patient sense was a rhetorical move that translated into students' writing in their care plans

At the same time, as the incoming nurses take in the professional vision they are thinking through its implications and possibilities, questioning for their own purposes where they will need to have heightened attention or awareness. Michelle's question about blood pressure is a clear indication of this thought process in action. With knowledge that the patient is diabetic, Michelle is already thinking about the questions she will ask and patient sense she will seek, drawing on an intuition about patient needs that occurs even prior to physical or verbal interaction. Her question calls attention to an aspect of patient care that the previous group has failed to account for in their charting and explicitly identifies a gap in the professional vision

they are offering about the patient. Interestingly, even though Michelle was able to recognize this gap during the hand-off, her group still jumped into a series of interventions at the beginning of their simulation – catheter insertion, assessing respiration and blood pressure, and wound changes – and it was not until the patient complained of a headache that they were prompted to test her blood and provide food. Again, this demonstrates what a challenge it was for students to stay focused on the big picture of patient care rather than becoming too task-focused.

Interestingly, when miscommunications happened in simulation, the medical record could also become a site where errors in patient sense were carried from one group to the next. For example, during a pediatric simulation one group asked about Eric's skin. Lee responded that it was "warm and moist," intending to indicate that it was normal, but the students misinterpreted this response to mean that the baby was sweating. This was an instance, in fact, where the artificiality of the simulation context (the robot's inability to sweat) interrupted students from having an embodied interaction with the patient that would have provided them with the physical sense that he was healthy. These students later determined that his blanket felt wet as well and during a phone call to the physician described Eric as "sweating profusely." Their decision to prioritize keeping the baby dry showed next to "Skin" on the board with the note "Warm/Moist," and also listed under "Plan," "Keep pt dry and comfortable." During their debrief, Kayla clarified that the baby was not, in fact, sweating but his blanket was just moist from coughing up formula, so ultimately this information was not passed onto the following group during the hand-off. However, its focal point on the board as one of two plans that were listed (along with "clear secretions") likely would have made it a focus of the following hand-off without this clarification. In this instance, students' misinterpretations of embodied patient interactions were coded and

highlighted in the medical chart much like they could be in a clinical context. The debrief, however, provided students and instructors an opportunity to both recognize those misinterpretations and also become aware of the processes by which they could become crystallized into the patient's record, part of the nurse's knowledge about the patient that is communicated to the physician and other nurses rather than just a sensory experience.

Across these examples, the simulated patient medical record is a site for collaborative translation and negotiation of patient sense into professional nursing knowledge. The chart's size and visibility on the white board provides material affordances for its role as mediator in many of these conversations. Meanwhile, as groups of students stand around the board providing rationales for their care and filling in gaps in knowledge, they embody the inter-personal role of the medical record. In this way, the simulated medical record creates unique experiences of genre embodiment that do not mimic those of the hospital, but have direct connections to the way that medical records mediate relationships between people and things in a hospital contexts as well. At the same time, the process of translating patient sense into professional knowledge that students are negotiating together at the board is precisely the same rationalizing, organizing, and prioritizing they will have to work through when they transition into electronic charting as well. Not only that, but it has direct connections back to one of the most challenging writing assignments that students described in their courses – the clinical write-up.

Charting and Clinical Write-Ups: Learning the Nursing Process

"Clinical write-ups" or "care plans" are genres used by nursing instructors to teach students to think about patients through the framework of the nursing process. Students

described these assignments as a distinctly challenging classroom genre, complicated by their limited disciplinary knowledge. My focal students all participated in a document-based interview where they discussed with me their process for writing a care plan and some of their biggest challenges. Overall, they struggled with making strategic choices about what conditions to focus their attention on and how to best intervene with those conditions. This carried through each section of the clinical write-up (and subsequently the nursing process), so that they described the challenge of figuring out in the patient's chart which diagnoses were causing the most problems, identifying the appropriate name for those diagnoses, deciding on feasible interventions and outcomes, and providing rationales for those interventions. Their challenges with the care plan then, were not all that different from the struggle to code patient sense into a professional vision during simulated charting. In fact, students were able to recognize and value the clinical write-ups for teaching them a way of thinking through care that will guide their practice. Their experiences working through the nursing process in simulation supported them in recognizing the assignment's goals and values.

While instructor expectations varied slightly for the "clinical write-up" or "care plan," the writing assignment typically involved focusing on one patient who was under students' care at their clinical placement, choosing a couple of conditions to focus in on and then describing the pathophysiology of those conditions, a plan of care, interventions, and assessment of those interventions. Essentially then, the care plan asked students to track the nursing process across one or two conditions for a single patient. For the most part, students were well aware that the genre of care plans would not translate directly into their future professional writing as nurses. As Ryan stated:

> It's kind of discouraging because every time I talk about a care plan when I'm in the hospital setting, the nurse that I'm working with is like, 'Oh I've never used those!' There is a portion in the chart that says 'Nursing Care Plan' or in most systems it says 'Nursing Care Plan' and it has some of these diagnoses that we work on…

Even though Ryan recognized he would not be asked to write care plans on the job, he and the other focal students that I interviewed recognized the value of the care plan for its epistemic function – teaching them how to think like nurses. I also found that students' experiences in simulation reinforced this valuing of the care plan assignment by providing opportunities to see how the nursing process guided their care and supported their charting and hand-offs, helping them move from patient sense and experience to professional nursing knowledge.

One of the main challenges of the clinical write-up was figuring out which information was the most important, which conditions they should choose to track for their assignment. For example, Kira described her struggle with interpreting one patient's chart and reading "beyond the words" to determine what the real problem was:

> I looked it up and I was like, 'Oh, backache like that's why you're here? Main problem – backache?' And it wasn't until I looked up like a physical therapy note that they were like, 'Oh yeah, he has spastic tetrapalegic cerebal palsy' and I was like, 'Really? Of course his back hurts! He just had a reconstructive surgery for cerebal palsy!'

Kira's lack of familiarity with the medical chart at her hospital made it extremely difficult for her to know where to find highlighted information and thus, make an appropriate decision about what condition to prioritize in her write-up. Notably, she had no physical interactions with the patient; these would have quickly alerted her to his condition and the cause of pain. In contrast, in simulations students worked together to decide what embodied patient sense and experience should be coded, highlighted, and prioritized in their charting. They often used situated and immersive means to do highlighting work – stars, different colored markers, etc. As Ryan explained, the medical record in simulations was much easier to look

at and take away key information, especially the main diagnosis and interventions, than the multiple sections of the EMR:

> On the white board it was, I looked and then everything they thought was pertinent was already on the board or what we described as a group was pertinent was on the board. So it was kind of easier because I could be working with the patient and then I was like 'Okay I'm going to go look' so I would step over and then look at the board and I saw what the other people wrote down and what they thought was important for me and I can kind of see the highlights whereas in digital charting you can't see what someone else thought was important because its just like a little note on your screen.

Thus, students designed the templates for their simulated charting to be responsive to their physical patient interactions and in doing so, they found ways to highlight for themselves and one another the most important information. Of course, this also meant that during their simulations they negotiated these decisions together and designed ways to code them. This provided an opportunity for the full group to take stock of what patient information had been gathered from students' embodied and verbal interactions and to talk through how this nursing knowledge might impact next steps. In this way, the simulated context provided students with opportunities to embody the process of translating embodied patient encounters into nursing knowledge, a process that will eventually be internalized and routinized as they become professional nurses.

Meanwhile, a challenge for students working on clinical write-ups was rationalizing their interventions for a particular patient and situation. Liz described her instructor's insistence that interventions be accompanied by an explanation that closely tied them back to the patient's situation:

> So before I would say like, 'Oh kidney failure, you know, like monitor intake and output' and that would be it and she would be like, 'Well why would you do that?' you know, and so you have to really go down into the patho and then how your patient's presenting and explain why that's an important intervention.

For her and others, moving from the book's description a diagnosis and intervention, to the particulars of the patient was quite challenging. However, in their experiences doing hand-offs during simulations, students practiced this very kind of rationalization – elaborating upon the information they had coded with the patient sense that had prompted it. Kira was able to make a direct connection between the rationalization work that is happening in clinical write-ups to the kinds of explanations that nurses need to offer when doing a hand-off to one another:

> If you say like, 'Hey, like keep an eye on… like room twenty, they're super fidgety' then obviously they'd be like, 'Okay, why do you think they're fidgety? What do I have to look out for? What are you sending me into?'

Thus, for her these rationales in clinical write-ups modeled the kinds of conversations she would be having with nurses in the future and ones she was already practicing in simulations.

Overall, many of my focal students were able to articulate clearly how clinical write-ups contributed to helping them "think like a nurse," indicating that the goals of the assignment were quite clear to them even though they knew they would not be doing such extensive writing on the job.

- Kira: "I think its good because this, you're like writing out on paper what they want you to do in your head if that makes sense."
- Michelle: "This is just kind of like getting us used to the thought process and figuring out what's important and what kind of things you can do."
- Ryan: "Just everything is teaching us how to think logically and it's structuring our thought process around how we're going to approach a problem and then how we're going to write about it to another."

The two aspects that Ryan mentions in his discussion of the clinical write-up – approaching a problem and communicating it to another – connect back to the genre learning that happens as students organize and prioritize patient sense within their simulation and collectively pass on information to another group, exemplified by the "To Do" list and the hand-off.

In a recent essay entitled "Para-Expertise, Tacit Knowledge, and Writing Problems," Jenny Rice argues that one of the ways in which writing teachers might be able to help novice writers to enter into disciplinary conversations is by encouraging them to draw on para-expertise as a resource for problem posing. Rice's definition of para-expertise as "the experiential, embodied, and tacit knowledge that does not translate into the vocabulary or skills of disciplinary expertise" has definite resonances with Sauer's concept of pit sense (119). While Rice similarly sees the tacit knowledge of para-expertise as "fall[ing] outside of simple articulation" she also sees it as a starting point for student writing (126). She argues:

> Experiential and embodied knowledge allows individuals to articulate exigencies by validating real needs, problems, and experiences. Once a problem has been articulated, para-experts may pursue alliances with interactional experts who can, in turn, create opportunity for the kind of exchanges necessary to address the problem. (131).

In the case of nursing students, they are all semi-experts, possessing some of the knowledge of the field but still struggling to identify which information should be prioritized for writing assignments. Similar to Rice's argument, however, within simulations students' embodied para-expertise or patient sense creates real needs, problems, and experiences that motivate the translation of this embodied knowledge into written and verbal forms and motivate action. Even more interesting is that this active engagement with their para-expertise through the nursing process in simulated contexts helps students to reflect on the usefulness of applying the nursing process for their written classroom assignments as well, even when they lack the same physical knowledge as a resource. Kira was so physically detached from the patient that is the subject of her clinical write-up, that she is not aware he has cerebal palsy.

Still, she is able to value the exercise for helping her work through a mental process of negotiating and prioritizing patient knowledge. Overall, students' ability to value clinical care plans in relation to their learning experiences in clinical simulations suggests that even when students are translating para-expertise into professional knowledge in other contexts, this can still inform their work in writing classrooms. This has implications particularly for writing courses that are linked to other disciplinary contexts where students may be learning to code embodied knowledge (results from labs, for example) to create professional visions. This research suggests that writing instructors might be able to leverage that external para-expertise to give their writing assignments purpose and value.

Conclusion

In the final round of simulations for the year, instructor Kayla started moving towards a more template-based model for student charting on the board. She and the coordinator, Lee, were impressed when two initial groups decided to design their board to specifically reflect the nursing process, presumably drawing on Kayla's discussion earlier in the day. When asked, students also attributed this design to a note form that they had been using at their clinical sites as well. These groups put vital signs and systems (like skin, neurological, developmental, family, etc.) down the left side of the board and Assessment, Plan, and Interventions across the top. Both Lee and Kayla were very enthusiastic about this layout, noting that it seemed to help students organize themselves in the simulation and prioritize tasks more quickly. Thus, the following day, Kayla started explicitly recommending this organization to students during her conversation about the nursing process. She also began encouraging groups to "do their own charting," and erase information that they did not need from the previous group. Part of this was out of

necessity, since the white board in the pediatric simulation room was much smaller than the board in the adult simulation room. However, it also meant that students lost the ability to track patient progress across all three groups, which had been a priority for them in many of their early medical record designs.

Students were willing to take up Kayla's suggested template with very few modifications. Once they were given this outline, many of them did not bother to discuss or even write up a template during their planning time before the simulation began. Focal students noted the convenience of not having to negotiate different individual's charting choices. Michelle was pleased with the uniformity provided by Kayla's template saying she was "really into organization and structure." She elaborated:

> When its just a blank board and I'm just supposed to write down important information its kind of like 'Okay, well what's exactly the important information?' but with that it was like you knew exactly like 'Okay, this is what's going on, this is what we need to do, and this is how we evaluate it.' So it made it a lot easier in that sense.

The ability to negotiate together "what's exactly the important information," however, was precisely what was lost in providing a template for the board. Students no longer had sustained conversations about what categories to include for this particular patient and instead, the chart was typically jotted up on the board by someone at the very beginning of the simulation.

In addition, students lost the opportunity to imagine different possibilities for charting and see how these possibilities coordinated activity in the simulation. For Ryan, the lack of a formulaic outline for the board during earlier simulations was a source of frustration:

> So we have this whole database and you go in […] and everyone else can see it and it's in this uniform format that already kind of works because the hospital wouldn't put it in if it didn't work. So then we have the board and everyone likes to see things their own way and then if someone else is doing the board, its hard for me to follow, and we haven't really expressed a uniform way to do the board so sometimes its just hard to look and really know what's going on.

The hospital databases neither provided Ryan with an opportunity to negotiate individual differences when charting, nor did they fuel rhetorical considerations about its structure or design. Instead, Ryan dismisses any critique of the system with the argument "the hospital wouldn't put it in if it didn't work." In contrast, when students were given the chance to design a charting system for themselves, these charts were considerably more fallible than the hospital's system, and thus, more open to critique.

Surprisingly, however, the medical record was given very little attention in either student or instructor feedback during their debrief conversations following simulations. This was particularly strange given that instructor Lee would typically end her filming of the simulation by holding the camera on the previous group's white board, so that all throughout the debrief conversation it would remain projected on the classroom wall. That said, student medical records were mentioned the most in the final round of simulations, after students had been given a template for their charting. From what I observed, it seemed that only once there was an authoritative "structure" for the chart in place did students feel empowered to offer feedback on one another's charting. Even still, much of this feedback was complementary, with students gushing over one student's "beautiful hand-writing" and mentioning that others had documented their care thoroughly. One student did offer critical feedback to a group suggesting that they should track more of their interventions on the board as well as follow-up evaluations. She observed that this was a problem across all of the groups and that "none of us did that."

The question, then, of how to guide students in providing constructive feedback on one another's self-designed genres remains. Students will likely feel most comfortable identifying a genre's deviation from a set structure and we see this kind of feedback in peer review all of the time. Helping students to critique genres on a rhetorical level will likely

require prompting from instructors, though the simulation space provides real opportunities for students to physically embody what may be working better or worse for them about a genre – to feel whether their chart helps them to "dance" through patient care or encourages them to overlook patient sense in favor of following the physician's orders.

Whenever a student had to call the physician and practice the SBAR exchange model, Lee would ask them in debrief, "How did that feel?" A similar question to students about their documentation could be very valuable, as it could provide an opportunity to reflect on how the medical record translated their physical sense of patient experience and coordinated their activities as a team. As Kayla said in her discussion of charting, "The board is your map. You should just be looking at it and seeing vital signs, but where you've been and where you're going." Using the board as map metaphor, students could be asked to think together about how well their map helped their team and other groups to move through their simulation and what they might change next time for smoother navigation.

Providing students with the opportunity to design their own templates for charting is necessary, however, for them to be able to talk through the affordances and limitations of different organizations and content. Using ADPIE as a guiding heuristic in simulations supported students in valuing their classroom writing assignment as well, helping them to recognize how their negotiation and translation of patient information would translate to their clinical work. When the nursing process was translated into a template for charting, student engagement with designing the chart lessoned.

Ultimately, in designing their simulated medical record, students collaboratively negotiated the process of coding and highlighting their patient sense and then were given an opportunity to embody the text as it mediated the actions of the simulation. This is a

powerful experience that helped them to better understand the medical record's role in supporting interactions with patients, other nurses, and the doctor. It also helped call attention to the medical record as a collaborative text, as students stood together at the board, adding notes to one another's documentation and building upon the text of the groups that came before them. Finally, it enabled students to recognize documentation as potentially fallible, capable of causing them to over-emphasize tasks rather than responding to patient needs, for example, or leave out key aspects of the professional vision for care. Providing students with a space to explicitly reflect on how their charting both supports and detracts from their care would only enhance this learning further, by creating an opportunity for metacognitive reflection on their embodied experience of the genre. As they move into electronic charting within prescribed systems, the ways in which the chart encodes embodied patient knowledge and mediates material and inter-personal interactions will become less visible for students. That makes this moment where they are actively embodying the medical record's intermediary role one that has rich potential for critical reflection.

Broadly, this chapter demonstrates the effectiveness of asking students in disciplinary writing courses to draw on their prior genre knowledge and design texts that coordinate classroom activities or immersive scenarios in authentic ways. This embedded genre production is ideal because students can tangibly experience the impacts of their rhetorical choices on their actions and on an audience of their peers. Meanwhile, writing instructors can leverage this rhetorical learning by providing explicit opportunities to reflect on what worked more or less effectively about the genres students design and by calling for connection-making to other classwork. In the conclusion, I elaborate on implications from this chapter and the rest of the dissertation for the teaching of disciplinary and professional writing.

Conclusion

Pedagogical Implications for Writing Classrooms

> *"Setting is not merely the inert backdrop or location within which learning takes place, but interacts with knowledge and learner in a dynamic though not always synergistic relationship. As a result, school-based simulations, no matter how detailed, cannot replace the workplace context, because what is learned in context is the context."*
> - Dias and Pare*, Transitions: Writing in Academic and Workplace Settings*

> *"While some argue that what is needed is an authentic situation for writing, which can only occur outside of the first-year writing classroom, I argue that whenever we write we are writing out of a particular subject position, driven by our desires, and compelled to locate this particular self at the intersection of our desire and the structures of institutions and genres. This rhetorical space constitutes what might be called the 'liminal classroom' in which students are freed from 'doing school' to see how writing is always a communicative act that evokes the possibilities of genre within existing social structures."*
> - Feldman, *Making Writing Matter*

I begin with these quotations because they highlight multiple perspectives on a key debate in writing studies about where and how writing is learned, a debate to which my research on simulation can contribute. While writing courses began under the premise that there were generalizable and transferable writing skills that could be taught in isolation, composition studies has since come to recognize the powerful role that material contexts play in shaping writing practices. One result has been an increase in research on writing across the curriculum (WAC), writing in the disciplines (WID), and professional and technical writing (Artemeva; Thaiss and Zawacki). However, as scholars have developed a richer and more situated view of writing, the field has also called into question the feasibility of transferring knowledge about disciplinary or professional genres from writing classrooms to new contexts, as Dias and Pare's quote indicates. Some scholars have gone as far as to call for the abolition of writing courses based on the assertion that authentic writing practices cannot be learned outside of communities of practice

(Crowley; Smit). In response, others argue that we can create a writing classroom that is its own rhetorical space, but one that comes with the benefit of opportunities for metacognitive reflection and critique (Julier; Feldman).

As I have asserted throughout this dissertation, clinical nursing simulations can also be seen as their own rhetorical situations where students are learning to take on professional roles and experiencing how genres mediate action in immediate and embodied ways. I have demonstrated how simulations teach nursing students flexible and responsive patient care and communication while fostering meta-awareness through opportunities for critical reflection. Thus, in this conclusion, I will flesh out some of the connections between my research findings and current work in writing pedagogy that I have alluded to throughout this project. Specifically, I will discuss how my findings might inform the research that students conduct for writing courses, the kinds of writing they produce, and our classroom activities. Throughout, I work to respond to the question that drives both of the quotations above – what is the best context for students to acquire transferable genre knowledge?

Research Methods

One important facet of the simulation experience was that while they were doing simulations during their junior year, students were also participating in a range of clinical placements where they were beginning to see how nursing professionals coordinated their care. These encounters with real-world professional communication practices informed students' valuing of their simulation experiences because they could begin to recognize and articulate how simulated writing and talk would translate to professional contexts. It also helped them to identify the discrepancies between the simulated and the real context and to be reflective about

how their practices need to be modified or transformed for new contexts. Not every writing class can provide students with an opportunity for immersion in professional contexts in the sustained way that nursing curriculum enables, though writing courses tied to service learning or internship components are not unusual. Still, instructors can also leverage the experiential and embodied rhetorical knowledge that students gain from participating in real world communication practices by incorporating field research and ethnographic methods into their coursework.

In "Mediating Materiality and Discursivity: Critical Ethnography as Meta-generic Learning," Mary Jo Reiff describes how when we view genres as socio-rhetorical, we come to recognize them as a very relevant source of cultural information for ethnographers:

> Genres, as social actions, give shape and substance to cultural sites and in turn enable and enhance the communicative actions of the participants in that site. This reciprocity enables ethnographers to gain access to material sites of cultural interactions as well as to the cultural beliefs and ideologies reproduced in these sites of generic interaction. (38)

Similarly, I see genre-based fieldwork as a valuable complement to in-class simulation activities because it can begin to provide students with a view of genres as "material sites of cultural interactions" that mediate physical and verbal action and inscribe power relationships. As I discuss in Chapter 2, by placing the researcher's body at sites of investigation, ethnographic methods provide opportunities for them to access affective and embodied aspects of communication that are not visible simply through textual analysis. Bringing their observations back into the classroom in conversations or writing assignments also creates opportunities for students to critically reflect on the possibilities for change within these genres, by both noticing and beginning to question the "cultural beliefs and ideologies" that they reproduce.

Describing a "post-techne" approach that draws on Jim Henry's model for researching workplace writing, Byron Hawk proposes a four-step process for ethnographic classroom assignments: "(1) map the institutional dig, (2) uncover discursive shards, (3) link to other shards and sites and (4) intervene in and reform discursive formation" (386). Thus, he recommends moving students through a process of planning their investigation using theories and frameworks about community writing that emerge from the course content, uncovering all of the various writing practices and positions visible at their site, connecting these micro-level practices back to larger epistemologies and institutional structures (again returning to the theoretical frameworks from the course), and then designing a means for intervention to create change. I have used a similar assignment sequence in my own writing courses that begins with a theoretically informed research proposal, continues to collection of field research in the form of field notes, transcribed interviews, survey summaries, etc., and then moves into presentation of findings and design of an artifact to intervene at the field site[22].

Ultimately, though, I do not think that ethnographies of community writing practices should be seen as merely a methodology that can complement in-class simulations. Instead, when we ask students to do ethnographic research, we should also recognize that we are asking them to simulate the positioning of an ethnographer as they approach their field site, collect their research, and translate it to new audiences. This is a particularly valuable position for early writers to take on because it enables them to participate in the authentic collection of information that will allow them to be experts on a particular community and its communication practices. In

[22] A recent article by Sommers proposes a virtual workplace ethnography as a possible substitute or pre-cursor to community ethnography for writing courses. Here, students go through a similar ethnographic process but take field notes on workplace writing practices in television shows like *The Office.* Given the extent to which I believe immersion in the physical context of the site is key to helping students understand the intangible aspects of genres, I remain somewhat skeptical of this proposal, but think it could provide another dimension for students' genre research in contexts where full-scale fieldwork is not an option.

communicating their findings students are no longer participating in the "pseudo-transactional" writing that typifies coursework "solely intended to meet teacher expectations rather than engage in a transference of information for the purposes of informing the uninformed or demonstrating mastery over context" (Petraglia 21). Instead, their writing will have the authentic exigency of sharing new knowledge "because [ethnographic assignments] shift the students' activities from *receiving* knowledge to *discovering* it" (Sommers 1).

In addition, ethnographic assignments can give students the opportunity to work flexibly within a tradition of ethnographic genres to design modes that most effectively communicate their research. As Reiff explains, "Ethnographies can take the form of narratives, research reports, memoirs, or even poetry—or they can be multigenre texts that combine various traits of these genres. As a dynamic, shifting genre, ethnography resists calcification in the classroom and challenges the notion that there is one correct way to compose ethnographies" (44). Thus, students are able to take up ethnographic genres in ways that make the most sense for their unique content and goals. In using this genre to share information with their instructor, classmates, and possibly even those at their field sites, they can receive audience feedback about the effectiveness of their rhetorical choices as well. This brief discussion leads into my next area of consideration, on what kinds of genres my research suggests we might ask students to write.

Writing Assignments

As composition has undergone a "public" turn and technical and professional communication programs have continued to grow, instructors have increasingly incorporated assignments that ask students to reproduce genres from workplace and public contexts for their course, what one might call "simulated" writing assignments. Students are asked to write

business memos, research proposals, newspaper editorials, and more. The best versions of these assignments will couple them with genre analysis of multiple, varied samples that help students collaboratively determine both conventions and room for flexibility within these genres. Still, if and when we ask students to shift to their own genre production, the assumption is that they will take on not just the conventions but also the audiences and rhetorical exigencies of their chosen genre. This is particularly challenging when their only access to these audiences, exigencies, and often the genre's context, has been through textual analysis.

At the same time, students have to perform for those audiences while knowing that their *real* audience is their instructor and their *real* exigency is getting a good grade in this course. Writing scholars have described both this challenge ("double-binds," Bazerman) and its generic consequences ("mutt genres," Wardle) in great detail and have also come up with a range of ways to address it. Wardle's "Writing about Writing" curriculum (WAW), for example, calls on students to simulate the roles of researchers of writing practice using the theories and conventions of the field of rhetoric and composition. This, she argues, removes the impetus for writing instructors to become experts in genres and modes outside of their own field, as they can teach students as apprentices into rhetoric and composition. Like my own research sequence described above, Wardle's course asks students to design a research a writing-related topic of relevance to their lives, write a formal research proposal, conduct fieldwork research, and share that information with the authentic audience of other students in their course through research presentations.

What Wardle's approach gets right is that it focuses on providing students with authentic exigencies for their research and authentic audiences for their findings, all which enable the classroom to become it own rhetorical context. However, because she is drawing on specific

rhetoric and composition genres, there is still some mimicry involved in Wardle's assignment design. Both the research proposal and the conference presentation are simulated genres and as such, they share some of the typical limitations that Aimee Roundtree describes at the end of her book on scientific computer simulations: "1) they neglect to identify and isolate the essential differences between the workplace activity they mean to simulate and 2) they do not fully factor those differences when making eliminations, additions, initial parameters, and other ad hoc decisions necessary for building simulations" (114). One of the big "essential differences" I see is that conferences are designed to provide Rhetoric and Composition scholars with an audience of the individuals for whom their research is intended. But are fellow composition students really the most authentic audience for a research project on, say, how writing works in biology labs? Similarly, the research proposal is going to need to include new "eliminations, additions, [and] initial parameters" to cater to an instructor audience instead of, say, a funding committee. Instead, my research on simulation suggests that there could be more flexibility in assignment design to enable students to decide how and to whom they want to communicate their research plan and findings and to be attentive to the intermediary genres they use to coordinate that work.

As my research on the genres of patient simulations demonstrates, while simulated genres like the patient preparation sheet, the physician's orders, and the patient medical record all shared certain features with their professional counter-parts, they were also unique in important ways – tailored to the particular rhetorical situation of the simulation context. The implication of this finding for our writing classroom practices is that we need to think carefully about how we can empower students to design genres that authentically coordinate classroom activities and practices, rather than simply telling them to mimic professional genres in the world. Of course, their decisions should still be based on comparative analysis of real-world genres (and ideally

fieldwork), but they should also be responding to the particular rhetorical situation and exigencies of the classroom. For example, in describing a more authentic simulated classroom genre, Roundtree proposes "an instructor might construct a memo assignment by which students must relay data to one another for completing the next major assignment or another course in the degree plan. In this way, the memo serves another end—namely helping finish another assignment" (114). I would put even more emphasis on student agency with this assignment ("an instructor might ask students to research the memo genre and then design a memo that…"), but her connection between the assignment and the "ends" of the classroom is precisely what I want to emphasize.

The research proposal assignment could be revised to operate more authentically within the classroom context if instructors asked a group to design a proposal for their research that would help them to coordinate research activities across members (including aspects like a timeline, each member's area of focus, when and how they will combine findings, etc.). I also frequently ask students to take up genres that will share their findings from fieldwork *back* to the community they researched and modify those genres as they see fit for their aims. For example, my service learning composition course, students did field research on literacy learning in classrooms and afterschool programs, and designed a range of artifacts including a PowerPoint for staff on how to encourage diverse literacies across gender lines, a brochure for multi-lingual parents with guidelines for supporting reading at home, and a classroom activity to guide students through writing and designing books about their family's history. As another example, one of my colleagues had students in their writing course linked to a biology course collaboratively design study guides for an upcoming test with attention to a range of visual and spatial rhetorical elements and even had the class vote on the best guide.

Notably, the assignments I mentioned above both come from writing courses that are linked to other contexts (internships, service learning, or disciplinary courses) so that students have a shared exigency for their work. From my own experience, I have found that it is easier to ask students to design rhetorically situated genres for the classroom when I can draw on these external shared exigencies. I think this speaks to the value of designing more models for linked writing coursework that help students to recognize in very tangible ways the relevance of their rhetorical learning and provides a range of opportunities for genres designed with clear purposes. That said, I do think it is possible for writing classes to create their own rhetorical exigencies for students as well. A good example of this is a pre-fall "Writing Ready" course that I have taught a number of times that has content focused on the cognitive science of learning. Assignments ask students to explore and unpack their identities as learners and eventually, to engage in a group research project about a topic related to learning that is presented to peers a conference-style presentation. As students that self-identify as struggling academically and are just beginning their academic careers, gaining strategies to help themselves to be effective and efficient learners is an extremely pressing concern and thus, students' research and writing has an immediate and felt exigency. In the future, my dissertation research would point towards shifting curriculum a bit, however, to allow for more rhetorical creativity beyond the standard Powerpoint presentation in how students translate findings to one another.

In addition, a lot of the assignments I have proposed above involve group writing and this is not a coincidence. Collaboration was certainly key to learning about communication in the nursing simulations I observed. Students decided together how to design their patient medical record drawing on their shared as well as idiosyncratic genre knowledge. Then, they collaboratively negotiated that genre, as well as many others, experiencing first hand how these

texts coordinated their group's care and aided in translating information to other students, the physician, and the patient. As Bruffee argued many years ago, for novice writers who are finding their way into new academic discourse communities, there is real value in negotiating those writing experiences together. Bruffee's description of classrooms as "transition communities" is, in fact, making a similar claim that classrooms should be conceived as authentic rhetorical contexts. Bruffee also highlights the importance of creating space for intermediary genres within those contexts:

> In collaborative learning the route to fluency in the language of a new community is paved with ad hoc intermediary languages that students devise themselves to serve their own purposes as they work through the assigned task… non-foundational teaching will almost certainly teach students to quack. But on the way they will also learn to gobble, honk, peep, and squawk. (77)

What is visibly lacking in many of the simulated assignments we bring into our writing classrooms is this capacity to "gobble, honk, peep, and squawk" and with it, there is a risk that students will learn to quack in static, non-critical ways. Group dynamics bring in a range of prior genre knowledge, creativity, and possibility that can help to challenge the simplicity of the quack as they work together to learn new modes of communication. At the same time, we can support students in critically reflecting on their genre design by creating classroom activities that leverage peers as a source of audience response and feedback.

Classroom Practices

While sharing findings from my dissertation with a group of English professors at another university, one of them posed a question in response to my claim that simulations can

inform the work we do in our writing classrooms. "I've tried doing role-playing in my classes before," she said, "But it always ends up feeling so hokey. How do you use simulations in ways that don't end up becoming a joke for students?" Her question points to the most common connection that people tend to make between simulation and writing classroom practices – the possibility of using role-playing to teach students rhetorical awareness and facilitate situated rhetorical action. In response, I called back to my argument that we should not be thinking of simulations as simply a reproduction of some other situation. If they exist only in relation to the "real," they will, of course, always fall short and often their shortcomings will be quite humorous for our students[23]. Instead, we should be thinking about simulations that leverage the rhetorical situations of our classrooms by engaging with their unique physical, temporal, and inter-personal affordances.

Looking back on our exchange, however, I realized just how ironic it was that this particular professor had posed the question. During a class of hers that I had observed earlier that day designed to prepare students to tutor in a campus-wide writing center, her students had all brought in their latest assignment for the class and practiced "tutoring" one another on the assignment. In essence, then, she had organized a tutoring simulation. The writing that students were giving one another feedback on was pressing and students were eager to get another reader's perspective before handing it in for a grade, so this assignment met many of the suggestions I describe above for operating authentically within the classroom's rhetorical situation. At the same time, students were given an opportunity to perform verbal tutoring exchanges and to receive peer feedback on their performances, leveraging the unique affordance

[23] Calling back to my findings about how humor playing a critical role in supporting students' critical engagement and reflection, I am also wary of dismissing humor at face value as the sign of a failed classroom simulation.

that classrooms provide in offering access to audience response and opportunities for reflection and critique.

I suspect, however, that the word "simulation" and the many connotations it brings of complex virtual spaces or heavily costumed role-playing might cause many instructors to over-estimate the complexity of what "counts" as a classroom simulation. Instead of asking how we can best simulate professional workplaces in our classrooms, however, I think the better question might be how can we leverage our classroom space and the relationships that already exist within it to create opportunities for students to engage in embodied genre performances for responsive audiences? When it comes to facilitating these kinds of effective genre performances, I am not yet at the point where I feel ready to make recommendations. I also think that all of my research points to the deeply situated nature of simulations within the curriculum of a course and even a classroom space. That said, I want to call attention to several threads from my research that point to key considerations for simulated classroom activities:

Embodying Genre Production

The very act of writing is always an embodied act, or as Haas and Witte describe it: "acts of situated writing clearly entail bodily performances of many kinds: the manipulation of fingers, hands, arms; the orientation or positioning of the body; the use of visual, aural, and tactile senses" (414). However, we rarely account for these physical writing experiences in our classrooms. In my research, the nursing students use of the white board medical record during simulations called my attention to the fact that classroom writing can do more than just mimic embodiment of professional writing, like Fisher and Russell's engineering database. Instead, we can leverage the environmental affordances of our classrooms to create ways to over-embody genre production and in doing so call attention to genre's inter-personal and material roles.

Board space, carpet space, hallways, and classroom walls can all become spaces for negotiating different kinds of information and coordinating genre activity. We could ask students to do hand-offs of information that they track on the board or to physically try out different lay-outs for a document by moving print-outs of different pieces around on a wall. One of the most exciting aspects to me of the recent "maker" movement in composition studies is that it transforms the classroom into an active maker space where students are physically involved in the production of three-dimensional texts. Even when the texts our students are producing might look more traditional, I think we should still be creating opportunities to support embodied writing practices that immerse students in the many physical possibilities of our classroom space.

The Role of Technology

One of the more unexpected things that this research helped me to recognize was that simulations can be quite low-tech and still help students to better understand the affective, relational, and embodied nature of professional communication. I expected to find that the high-tech nature of nursing simulations were key to their success – that simulated learning necessitated an advanced robotic manikin, up-to date tools for patient assessment, and complex computerized systems of information and documentation. As my discussion of the patient medical chart in Chapter 5 demonstrates, however, I came to see technology as one affordance for encouraging students to have situated and responsive communication within a simulation, but not the only one. This is important because much of the research on simulation in writing classrooms currently focuses on computer programs that teach students professional writing skills (Fisher; Sheridan and Hart-Davidson).

Ultimately, I believe that technological resources can and should be leveraged to support experiential classroom learning. For example, online discussion spaces are great forums for

students to build rapport and continue the work of negotiating new writing expectations outside of the classroom. Thinking back to some of my earlier claims about incorporating fieldwork, technological resources can support students in visualizing and mapping genre use within discourse communities, designing unique genres for their aims, and reaching new audiences. However, I also want to recognize that some of the most valuable learning that nursing students gained from simulations emerged out of affective, relational, material, and embodied encounters. Thus, I want writing scholars to keep in the forefront the question of how simulated computer programs risk sacrificing often intangible aspects of the rhetorical situation, that are non-the-less incredibly critical to student learning.

The Role of Role-play

As I mentioned above, the idea of bringing simulation practices into the classroom almost always leads instructors to focus on role-play. In addition, a number of writing scholars have recently been calling for more opportunities for students to perform readings to better understand the author's unique positioning. For example, Madison describes a method of "reflective reenactment" for performing texts and Micciche recommends physically embodying an author's emotions to better understand and empathize with their worldview: "This physical embodiment can augment, expand, and even transform understandings of what is behind textual representations of emotion, granting students access to emotioned investments that underwrite the surface of language" (56). Empathy itself is a tricky business, however, because it can easily stray into identification that overlooks important differences in experience (Hesford; Ratcliffe).

In addition, these are risky calls — asking students to perform another's perspective can easily turn into an inauthentic appropriation or worse, a comedic endeavor. As an example, during one of my observations of a first year writing course, a group of students were asked to

perform the roles of different stakeholders responding to the Black Panther Party's 10 Point Plan. The first group to share their performance with the class had all decided to play people radically opposite from their own positionality – the white male student playing an Asian female, for example – and the scene quickly devolved into a series of fairly offensive stereotypes that students embodied down to mock-flipping their hair over their shoulder after making a comment. This classroom observation occurred early on in my thinking about simulation's role in the classroom and made me, and the instructor who debriefed with me after class, deeply uncomfortable. It left me wondering if it was possible to support students in performing roles outside of their own without devolving into stereotypes.

One simulation director's comments that they do not let students play the doctor because they will typically play it as a stereo-typical brusk male also demonstrates that nursing instructors were quite strategic about which roles students could or could not play. I think we need to be similarly strategic about the roles we ask students to take on both in their genre performances and as audience members responding to these performances. Research being done on Pedagogy and Theater of the Oppressed has a wealth of resources to inform this decision-making and for designing role playing that explicitly addresses power relationships in situated and thoughtful ways. Key questions for instructors should include:

- Are these roles representing perspectives our students will have had access to and be able to envision and understand? What kinds of resources have we provided to support their understanding of these perspectives?
- What are the power dynamics of these different positions? What kinds of stereotypes might be amplified and what would be the consequences of that amplification?

- How have we built in opportunities for students to critically reflect on their role-plays? How will problematic exchanges be addressed by instructors and other students?

Another suggestion coming from my findings is that we might put less emphasis on the roles of the students producing a certain genre and more emphasis on the roles their classmates as audience members take on. In chapter 3, I discussed how the students I interviewed struggled to take seriously an activity where they were asked to put on a weighted suit and wear vision-distorting glasses in order to simulate the experience of an elderly person in the world. In contrast, they described a great deal of empathy for the patient they were caring for in the simulation. My focal student Michelle's reflection in response to a question I asked about how she was orienting to her patient during the simulation was indicative:

> I mean I was just kind of thinking about how would I want to be treated if I'm in that position you know I want to make sure, or I would want the nurses to be communicating with me, letting me know what's going on um if they go and huddle in the corner to talk about what they're going to do, I'd want to know what they're talking about and not feel like they're like talking about me or anything bad. And that's kind of the same the practice that we try to implement in our clinicals too is just to maintain that sense of empathy and caring, even if we're not wearing a weighted suit so having that empathy, you know.

What Michelle's response seems to indicate is that students' empathy developed not out of embodying the experiences of the patient but in seeing very tangibly how their actions impacted a patient – having direct access to embodied audience response.

When students are designing texts to share information with their peers, classmates can provide a very authentic audience without any need for performance at all. Genre performances like the collaborative research proposal just require that students be themselves and be open about what aspects of the genre are helping them to collaborate effectively and where there are limitations. Genres that students create for outside audiences in field sites or other departments can also be run by peer audiences who are "playing" the intended audience, as long as peers have

enough knowledge to take on that role. Part of preparing for this kind of performance might even be that the students who produced the genre create a role sheet for their audience, helping them to understand their particular perspective and concerns so that their peers can provide better feedback. This is not far afield from a common classroom genre, the writer's memo, in which writer's describe to their instructor aspects about their writing process, concerns, and plans for revision. At the same time, it asks authors to have a very clear articulation of the multiple dimensions of their audience, which can foster rhetorical meta-awareness in and of itself. Finally, the classroom environment should also be leveraged to best position peers in this role – if they are pretending to be students listening to a storybook they could sit in the circle on the floor, if they are pretending to be a business team interacting with a design proposal chairs and tables could be rearranged to mimic a circular office table.

Overall, one key role I see for role playing in the writing classroom is to help authors better understand how their writing and communication practices will evoke responses in certain readers. This goal is really no different from how many writing teachers understand their feedback on student work (hence the name "reader response") or how we often position students during peer review. However, asking classmates to embody and role play a particular audience and offer firsthand feedback on genre's effects could offer more immediate and impactful feedback. My research suggests that this kind of immediate feedback has more potential for fostering empathy for audience experience than merely asking student's to perform another perspective, like Micciche and Madison suggest. At the same time, preparing students to be the best audience members they can be for one another's work requires that we ask ourselves and our students to get more specific about who we imagine the audience to be, which I would also argue is highly valuable work for developing student's rhetorical awareness.

All in all, these recommendations may seem rather modest. I am not suggesting that writing instructors need to bring robots into the writing classroom (though they might) nor that they have to design quarter-long professional writing simulations that immerse students in complex plot lines. Certainly, either of these options might create affordances for helping students to learn genres and communication strategies in rhetorically situated and responsive ways. However, it would be up to the instructor, the students, the specific environment, and the material objects to foster this learning. As I emphasized in Chapter 3 – all four of these actants have a rhetorical role to play in creating an occasion for learning that emphasizes flexibility and situational attunement. In addition, as Lee's critical role in nursing simulations demonstrated, the instructor is a key facilitator of this learning occasion.

Lee's in-depth understanding of the simulation context enabled her to provide opportunities for student agency in genre design and distribution, support students' situated rhetorical action, and foster students' meta-awareness of the effectiveness of their rhetorical choices. Lee was a fundamental part of the simulation's success, not just in facilitating action but also in cuing students' connection making to the professional world and calling their attention to the multiplicity of possibilities for action. Similarly, writing instructors have a critical role to play in cuing students to recognize the wide range of prior genres they can use as resources for class writing and helping them draw connections to future writing situations. Instructors can create an environment in which students are able to position themselves within the classroom's rhetorical context and leverage its wide range of affordances for situated, responsive, and critical genre learning. This research certainly demonstrates that the classroom *can* be a space for experiential rhetorical learning and one that offers additional opportunities for reflection, meta-awareness, and even critique that is often not possible in professional writing contexts.

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Appendix 1: Descriptions of the Three Simulation Scenarios

Geriatric Sim – Eliana Ruiz, General Skills

Geriatric simulations are fairly new at the Clinical Performance Lab so their main goal is to get students involved in high-fidelity simulations earlier than before and to acclimate them to the simulation space and experience. Their geriatric patient, Eliana Ruiz, an 86 year old female who was in the hospital for surgery on her right leg two weeks ago. She has a history of diabetes and took insulin that morning but failed to eat breakfast. She noted drainage at her wound site and came to the hospital to have it monitored. On her way into the hospital, she tripped on a curb and hurt her left ankle. Eliana is somewhat distraught about being in the hospital but, overall, Lee played her as kind and responsive to students.

The main focus for this simulation is helping students adjust to the simulation experience and space, so it does not escalate in the way that later simulations do. There are a lot of tasks to be accomplished – blood glucose testing, giving food to address low blood sugar, bandaging Eliana's sprained ankle, cleaning her wound and replacing her bandages, inserting a catheter to prevent urine from soaking her leg bandage, and administering morphine and/or acetaminophen for her pain. Each group is expected to make decisions about how to prioritize these tasks and, ideally, those decisions will be informed by their conversations with the patient including checking in with her about her pain levels, wound care, and general experience.

In this way, therapeutic communication is a larger goal of this simulation as well. Eliana (played by Lee) will frequently comment that she "doesn't want to be a bother" and requires further prompting to reveal details about how she is feeling and what she needs. If prompted, however, Eliana will reveal that she is feeling light-headed and sweaty (cuing students to test blood sugar), that she has been experiencing unusual incontinence recently (cuing students to test

for a UTI), and that she has a daughter who lives nearby, who does not know she is in the hospital (cuing students to contact her daughter). In addition, Eliana is fairly resistant to some of the interventions students want to make including questioning the necessity of a catheter, resisting the morphine (which she claims made her loopy during her surgery), and refusing the doctor's order for rectal acetaminophen. Thus, students are given practice discussing the advantages and disadvantages of different interventions with the patient as well as practicing patient advocacy by calling the doctor to ask for a change to oral acetaminophen. Overall, then, the Eliana simulation highlights communication, easing students into the simulation experience and emphasizing the ways their prioritization of interventions will be guided by patient conversation.

Medical Surgical Simulation – Jason Lee, Postoperative Pulmonary Embolism

The second simulation of the year is focused on caring for patients coming out of surgery and again emphasizes task prioritization and communication but in an escalating situation. Jason Lee is a 22-year-old male enrolled at a local college who fractured both of his femurs in a car accident the previous evening. In General Surgery, he had a metal plate inserted on each femur and is now under the students' observation and care. He needs regular treatment to keep his lungs clear of fluids, medications for pain and to prevent blood clotting, compression devices on his legs to prevent clotting, catheter and IV care, and gradual adjustment back to regular food. In addition, Jason was drinking prior to the accident and has a number of concerns to discuss with the students including anxiety about his dad's reaction to the totaled car and concern about missing school.

As groups move through this simulation, working together to prioritize the long list of

orders for the patient, Jason's condition worsens. Between the first and second group, he develops a clot in his left leg, which students find more quickly if they are checking in regularly about how he's feeling (he will complain about pain in the leg when asked). At the end of the third group's shift, this clot moves to Jason's lungs and becomes a pulmonary embolism, which requires the students to transfer him to the Intensive Care Unit.

This simulation gives students an opportunity to try out a number of devices they have never used before. They have the patient breathe through an incentive spirometer, which has a little ball that moves when the patient inhales and encourages him to breath deeply and open up alveoli in his lungs. Students often misdirect the patient with the spirometer, thinking the ball will move when he exhales (it is slightly counter-intuitive). They also get to practice using a nebulizer to administer medication to help clear Jason's lungs and flushing IV lines with saline, during which the patient will complain of a metallic taste in his mouth (apparently a fairly common experience but not one that students are familiar with).

Meanwhile, Jason is curious about the measures being taken and asks a lot of questions about the care, giving students an opportunity to translate their medical knowledge into layman's terms. For example, he wants to know how frequently he should push his button for morphine and whether he can become addicted to the pain medication, why he needs a catheter and how much longer it will be in for, and when he can eat real food. In addition, throughout treatments students use conversation with the patient to distract him from discomfort and to find out more about how he is handling the situation. Thus, the students negotiate Jason's medical questions along with his concerns about his parents and school, continuing the focus on therapeutic communication from the first simulation.

Pediatric Simulation – Eric Joslin, Infant with Respiratory Distress

The final simulation of the year is aimed at acclimating students to the unique expectations of pediatric care. Lee works to schedule pediatric simulations early in the quarter so that students who may not have any experience with children can have a chance to hold the infant simulator before holding a real baby ("we still care if you drop it because its expensive, but we don't care as much," she jokes with students during their orientation). The pediatric simulation also has a dedicated faculty member, Karen. Thus, student's pediatric clinical instructors do not attend and Lee has much more support with leading the orientation, answering the phone as the doctor, and debriefing with students.

The pediatric patient, Eric Joslin, is an 8 week old male, born prematurely at 34 weeks, who was brought to the hospital for coughing, sneezing, and airway congestion. The first group of students focuses mainly on assessment, calming the baby by holding him and feeding him, clearing out his airways with suctioning, and utilizing a range of infant oxygen masks. During assessment, they find wheezing in his chest. Eric's respiratory rate is too high to eat, so he becomes increasingly dehydrated throughout the simulation if students fail to put him on IV fluids. This dehydration also thickens the mucus in his nose and throat, making suctioning less effective.

When the second group of students moves into the simulation, the situation becomes increasingly chaotic. As Karen explains, "We want them to feel the stimulus, the increase in sound and movement, of having a lot of people in the room." Another patient sharing the room with Erik, Dylan (a simulator of a young child), requests that the nurses feed him and play with him. Notes on his board indicate that he is awaiting surgery and cannot eat and also that he has a strawberry allergy. Meanwhile, a parent of Eric's (mother or father depending on available staff at the CPL) comes in with his twin brother and passes the second baby off to a nurse while

he/she "goes to the bathroom." They wait about 5 minutes to come back, leaving the nurse with the second baby unable to provide much assistance. When the parent does come back, they sit on Dylan's bed and offer him strawberries.

Meanwhile, students are continuing to suction Eric, provide oxygen, and most groups will have decided to order lab tests for a respiratory infection. Eric's temperature is rising and they call the doctor to order medication for the fever and the doctor orders oral Ibuprofen. The baby's respiratory rate is too high to swallow Ibuprofen and when students look up the dosage in the Lexicomp system they find that there is not dosage listed for infants less than six months. This is because infants less than 6 months are too young to take Ibuprofen. The goal here is to prompt students to be critical of medication orders from doctors, who they are reminded may be residents with little pediatric experience, and to trust their intuition in questioning orders. By the end of this group's time, Eric will be confirmed for an RSV (Respiratory Syncytial Virus).

The third group continues to suction, provide oxygen, and soothe the baby. Most will have received an order for rectal Tylenol from the doctor and need to call the pharmacy to figure out how to administer the correct dosage (they ultimately cut the medication with a scalpel). Eric's condition worsens and he begins grunting. As the simulation ends, he will stop breathing, at which point most students call a code. Karen comes in as the charge nurse to show them how to breath for Eric using an ambu bag. When his heart stops, she shows them how to do CPR. All of the students are called into the room and given an opportunity to pump air with the ambu bag and practice compressions. Thus, much of the learning in the pediatric simulation is about adjusting the unfamiliar environment including new equipment and the dynamic of having parents and siblings in the room. As Karen says during orientation, "Peds is a world unto itself – a lot of the things you encounter here you wouldn't encounter anywhere else."

Appendix 2: Descriptions of the Five Focal Students

Kira – Kira grew up locally and chose Northwest University's nursing program both for the smaller class size and its location in an area of high need ("pill hill"). She described having a life-long interest in the body, fueled by conversations with an uncle who was a heart surgeon. Kira earned her CNA license (Certified Nursing Assistant) as part of a high school training program and worked as a CNA for a summer at an understaffed facility with advanced stage autism elderly patients. This was a stressful position, but also one that gave Kira extensive experience with patient care. I found that even in her first interview, she positioned herself as more of an expert nurse, with comments such as, "When I was first starting out, I made so many mistakes…" Drawing on these experiences, she also made specific comparisons between simulations and the "real world" during our conversations.

In addition to her experience and general confidence with patient care, Kira had an outgoing personality and was a strong student. Thus, she tended to take leadership roles in her groups but as a self-described perfectionist she struggled with delegating. She attributed her trouble with distributing work across a group of nurses in the simulation to her experience being the only caregiver at an understaffed facility. After the second simulation as the lead nurse, Kira mentioned she wanted a more secondary role in the third simulation, which she hoped would challenge her to step back. Ultimately, she was given the role as documenter but was frustrated by group members who did not communicate their assessments to her at the board.

Overall, Kira described her strengths as being able to build connections and relationships with patients. She recognized that there was a performative aspect to this, "being who the patients wanted me to be." As an example, she described an older patient at her CNA job who would not get out of bed unless she talked to her in a Southern accent. This played out in

simulations as well, with Kira being very attentive and responsive to patient concerns during her care. Meanwhile, Kira said her weaknesses were the detail-oriented work of nursing—providing thorough and comprehensive documentation.

Liz – Liz grew up in Seattle and was part of a rigorous academic program for high school students from under-represented groups, Rainier Scholars. She discovered Northwest University and decided to apply to their nursing program when Rainier Scholars held an event on campus and she had an opportunity to meet and talk to a number of faculty and staff. She is also a year-round athlete, competing for the University Cross Country and Track and Field teams.

Both Liz's parents are nurses and she said she was ultimately drawn to the field as a place where she could live out her social justice values by helping those who do not initially try to access health care. Along these lines, Liz preferred assignments that allowed more room for her perspective and opportunity to reflect on her experiences. She struggled with patient notes (described in more detail in Chpt 5) because they did not enable her to connect what she was seeing to larger concerns in the field. During winter quarter, Liz had to adjust her clinical writing practices to the demands of a rigorous preceptor at her clinical placement. She learned to use organized lists to prioritize care and ended up applying this approach to her work in simulations.

Despite being raised by two nurses, Liz had no previous hospital experience and oriented to the field as a beginner, saying early in the year that she was hoping to learn "everything" this year – from how to interact with patients to how to carry out procedures. This novice stance combined with a friendly personality made her an effective collaborator with other group members in simulations. She was also very responsive to patient concerns in conversation and was often praised during debriefs for successful therapeutic communication.

Michelle – Michelle also grew up in the Seattle area and participated in CNA training in high school, though she had never worked as a CNA. She decided to study nursing because of an interest in science in school and a dislike for writing and math. Overall, she described herself as a good student – "handing things in on time," "doing the work." She chose Northwest University in part because of its religious orientation and focus on "the whole person" in education.

Michelle also positioned herself as a beginner (despite her CNA training), but she took up this positioning in a way that made her less willing to speculate about her future role as a nurse than Liz. When asked about how she imagined her role specifically or the field in general, she would often answer that she did not know. In general, Michelle was a little less comfortable speaking off the cuff about her thoughts, especially during the first interview where I posed a lot of general questions about her views. She also was the most aware of the tape recorder and found that it got in the way of her responses. During the first interview, she commented at one point, "I don't know, I can't put my words like together right now um… I think it's the audio-tape. I thought it would be fine but now I'm like 'Ahh I'm being recorded!'" In later interviews, Michelle seemed to get more comfortable with the device and with her perspectives on nursing. She discussed how she preferred being able to talk about the specifics of the simulation experience to answering generalized questions about nursing.

Michelle was an effective communicator with both patients and other student nurses, appearing to be very immersed in the action during her simulations. However, during interviews she would often refer to "the manikin" or "the sim" rather than "the patient," showing that on some level she was still thinking of it as performative and bracketing it from real care. Just as she noted the tape recorder's influence on her interviews, she was also very aware of the multiple audiences and sources of intervention in the simulation, recognizing, for example, the ways that

the manikins reactions would prompt her to correct mistakes she had made in care.

Ryan – Ryan grew up in a military family and moved around a lot as a child. He was in the Reserve Officers' Training Corps (ROTC) and chose Northwest University because they gave him a full scholarship through that program. He chose nursing, specifically, for the potential to work as a nurse in the army, "helping the ones who help us." His aunt was also a nurse practitioner and he had experience working in her family practice clinic last summer as a medical assistant, helping with assessments and general support to the staff.

Ryan was aware of the feminized nature of nursing work and observed that while he had been drawn the field because of the "science of nursing," many of his female peers were much more drawn to compassionate patient care:

> "I mean I don't want to blame it on sex but as a male I find it's harder for me to be as compassionate as some of my peers. So like a lot of the girls are like 'Ohhh' there's the love and everything in the room and then I don't feel that way a lot of the time so… that's something I kind of struggle with especially in the clinical setting […] Because they're like, 'why do you want to be a nurse?' and I was like, 'Well, science and puzzles,' you know, and they're like 'care.'"

Ryan continued to negotiate his role as a male in a female-dominated field throughout the year. He particularly appreciated the moments where it became an advantage – when male patients wanted to discuss their catheter with him, for example.

Ryan was the most astute of my focal students at making connections between classroom learning, simulations, and his clinical experiences. Even in his first interview, he talked about how his writing assignments for classes were helping him to "think like a nurse," and he saw the

nursing process as a uniting factor across all three contexts. He also talked in complex ways about the nurse's role communicating with other providers, including doctors and assistants, and even had a habit of translating jargon for me during interviews. Within simulations, he was similarly focused on accessible communication with the patient, though like Kira, he often seemed acutely aware of the differences between the simulation patient and clinical care.

Savannah – Savannah also grew up in the Seattle area and had participated in CNA training during her freshman year though, like Michelle, she had never worked as a CNA. She had developed an interest in medicine during a sports biology course in high school but chose nursing because she did not want the specialized skill set that would come with sports medicine, but instead wanted to be able to "help everyone." She had also chosen the field for the clarity of the career path, saying that she admired friends who were earning degrees that did not correlate to a specific job, but could not imagine taking on that level of ambiguity or uncertainty in her own studies. Along similar lines, Savannah chose Northwest University because she could be accepted directly into the nursing program as a freshman, rather than having to apply as a sophomore (this was not the case in the local public university's program).

I found Savannah to be the most "by the books" of my focal students. A lot of her responses during the first interview, which was oriented to getting a sense of her view of the field, came directly from things she had learned in her courses – either in her current geriatrics course or in her Foundations of Nursing course last spring. This carried out into later interviews as well, where she would often reference things they were learning in specific classes as they connected to the simulation. She also frequently described herself as a novice, recognizing that she was still figuring out how to balance compassion with information in talking to patients –

saying this was a “skill I need to work on.”

Within simulations, Savannah was most confident and effective when she had familiarity with the tasks at hand and was well-prepared for the simulation with appropriate readings and contextual knowledge. For example, in regards to the last pediatric simulation, she described herself as less comfortable because “I didn’t study for it as much as I could have beforehand, as much as the other ones” and “I never really got a muscle memory for like suctioning or like any of those things so I was more uncomfortable for that.” Savannah also showed less flexibility in her charting than other groups, opting to import a format her team had learned in clinicals for nursing notes, rather than deciding on appropriate categories together to use on their white board. Relatedly, Savannah was quite aware of the instructor’s presence in playing the role of the patient in her reflections back on her simulation experiences.

Appendix 3: Student Participant Consent Form

Nursing Simulations and Disciplinary Learning:
A Rhetorical Case Study of Embodied Education

Researcher:
Lillian Campbell, Ph.D. Candidate in English | lcampb@uw.edu | 203-305-8833

Please note that I cannot guarantee the confidentiality of information sent by e-mail.

Researchers' statement

I am asking you to be in a research study. The purpose of this consent form is to give you the information you will need to help you decide whether to be in the study or not. Please read the form carefully. You may ask questions about the purpose of the research, what I would ask you to do, the possible risks and benefits, your rights as a volunteer, and anything else about the research or this form that is not clear. When I have answered all your questions, you can decide if you want to be in the study or not. This process is called "informed consent."

PURPOSE OF THE STUDY

This study investigates the embodied language and communication practices that nursing students acquire through participation in clinical simulations. I am also interested in the role simulations can play in helping students develop ethical relationships to patients and colleagues. This research can offer insights into the importance of experiential learning and contribute to practical activities such as writing instruction, teacher training, and curriculum development. It will inform a growing body of research on professional and disciplinary writing instruction and discourse acquisition.

STUDY PROCEDURES

With your permission, I would like to obtain video recordings of simulation scenarios and digitally audio record simulation debriefs and occasional classroom sessions focused on writing or communication in the field. I will transcribe the class sessions, assign fake names to the transcript, and destroy the recording within one year of the recording date. Video recordings will be kept for up to 5 years but these are already part of Seattle University's departmental records. Please indicate below whether or not you give your permission for me to include your data from video recordings and digitally audio-record the classroom sessions. If not all students consent, I will omit data from non-consenting students in video recordings of simulations and take field notes during classroom debriefs

RISKS, STRESS, OR DISCOMFORT

Some people feel uncomfortable being observed or audio-recorded. I will keep all of your information confidential, but there is a small chance that someone might recognize you from comments you make in the classroom.

BENEFITS OF THE STUDY

Your participation in this study will help me learn about the role that experiential learning can play in professional and disciplinary writing instruction and discourse acquisition. You will not directly benefit from taking part in this study.

OTHER INFORMATION

All information about you will be kept confidential. I will code the study data by assigning pseudonyms to students and instructors and store the reference document linking pseudonyms to identifying information in a separate, secure location from the rest of my data. I will destroy the link between your data and your name in June of 2021 but I will keep the study data indefinitely. Your name will not be used in publications or presentations of my results.

Your participation in the study is voluntary and you may decline to participate without penalty. If you decide to participate you may withdraw from the study at any time without any penalty. Your decision will not affect your standing in Seattle University's nursing program. Your instructor will not be informed about your participation in the study and will not have access to any of the data collected.

Government or university staffs sometimes review studies such as this one to make sure they are being done safely and legally. If a review of this study takes place, your records may be examined. The reviewers will protect your privacy. The study records will not be used to put you at legal risk of harm.

Lillian Campbell

Printed name of investigator Signature Date

Subject's statement

This study has been explained to me. I volunteer to take part in this research. I have had a chance to ask questions. If I have questions later about the research, I can ask one of the researchers listed above. If I have questions about my rights as a research subject, I can call the Human Subjects Division at (206) 543-0098. I will receive a copy of this consent form.

_____ I am 18 or over and am therefore eligible to participate in this study.

_____I give my permission for the researcher to obtain video records of my clinical simulations and to audio-record simulation debriefs and classroom sessions.

_____ I do NOT give my permission for the researcher to obtain video records of my clinical simulations and to audio-record simulation debriefs and classroom sessions.

_____I am interested in participating as a focal student in this study. My email is _____

_____I give my permission for the researcher to re-contact me about future related research.

_____I do NOT give my permission for the researcher to re-contact me about future related research.

Printed name of subject Signature of subject Date

Appendix 4: Observation Guide: Simulations

Discursive Learning

- Language used to talk to the patient about their illness experience
- Language used to talk to the patient about illness treatment or a course of action
- Balance of scientific jargon and conversational language in nurse-patient exchange
- Language used to direct or take direction from peers in the simulation scenario
- Discursive correctives: interventions by peers during the simulation into the nurse's language choices or communication strategies

Embodied Learning

- Physical interactions with the simulator
- Moments of physical interference/re-direction because of simulator design
- Physical interactions with peers in the simulation scenario
- Bodily correctives: interventions by peers during the simulation into the nurse's movements, gestures, or physical actions

Relational Learning

- References to the patient and peers, with attention to use of nouns and pronouns
- Tone in nurse-patient exchange and peer to peer exchange
- Descriptions of the patient (simulator) body and condition
- Comments to peers (asides) about the patient's condition
- Relational correctives: interventions by peers during the simulation into the nurse's attitude or tone towards them or the patient

Other

- Moments when participants break character during the simulation

Moments when joking/laughing happens during the simulation that breaks narrative

Appendix 5: Focal Student Interview Protocol

General Background:

- In your understanding, what were the learning goals of this particular simulation?
    - What connections did you see between what you're learning in class or in your clinical placement and the learning goals of the simulation?
- Can you tell me a little bit about your experience with the simulation in general?
    - What felt like it went well to you? What didn't?
    - What did you learn from your own simulation and from watching your peers?
    - If you were to do the simulation again, what would you do differently?

Discursive Learning

- What did you learn about nursing "talk" or writing from this simulation?
- What strategies did you use to communicate with the simulator during the scenario?
    - What worked well about your communication?
    - What would you do differently in the future?
    - What did you learn from watching peers communicate with the simulator?
- What strategies did you use to communicate with your peers during the scenario?
    - What worked well about your communication?
    - What would you do differently in the future?
    - What did you learn from watching peers communicate with each other?
- Do you see connections between what you learned about nursing talk in the scenario and the writing you're doing in your nursing classes or clinical placements?
- Do you see yourself using what you've learning about communication from this scenario in the future? In what ways?

Embodied Learning

- What did you learn about the physical movements, gestures or actions of nursing from this simulation?
- In what ways did you physically interact with the simulator during the scenario?
    - What worked well about that interaction?
    - What would you do differently in the future?
    - What did you learn from watching peers physically interact with the simulator?
- In what ways did you physically interact with your peers during the scenario?
    - What worked well about that interaction?
    - What would you do differently in the future?
    - What did you learn from watching peers physically interact with each other?
- Do you see yourself using what you've learning about the physical movements, actions, or gestures of nursing from this scenario in the future? In what ways?

Relational Learning

- What did you learn about nurse's orientations towards patients and others in the hospital or clinic (doctors, assistants, other nurses, etc.) from this simulation?
- What was your attitude towards the patient (simulator) during the scenario? Why?

  - Do you feel that it was the right attitude/orientation to have? Why or why not?
  - Do you think you would feel differently towards a patient with in a similar situation in the future? Why or why not?
  - What did you learn from watching peers' attitudes towards the simulator?
- What was your attitude towards your peers during the scenario? Why?
  - Do you feel that it was the right attitude/orientation to have? Why or why not?
  - Do you think you would feel differently towards a colleague in a similar situation in the future? Why or why not?
  - What did you learn from watching peers' attitudes towards each other?
- Do you see yourself using what you've learning about nurse's orientations towards patients and others from this scenario in the future? In what ways?