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Simulation Genres and Student Uptake: The Patient Health Record in Clinical Nursing Simulations

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Drawing on fieldwork, this article examines nursing students' design and use of a patient health record during clinical simulations, where small teams of students provide nursing care for a robotic patient. The student-designed patient health record provides a compelling example of how simulation genres can both authentically coordinate action within a classroom simulation and support professional genre uptake. First, the range of rhetorical choices available to students in designing their simulation health records are discussed. Then, the article draws on an extended example of how student uptake of the patient health record within a clinical simulation emphasized its intertextual relationship to other genres, its role mediating social interactions with the patient and other providers, and its coordination of embodied actions. Connections to students' experiences with professional genres are addressed throughout. The article concludes by considering initial implications of this research for disciplinary and professional writing courses.

Keywords: workplace writing, writing in the disciplines, medical rhetoric, rhetorical genre studies, simulation

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When students leave the writing classroom and enter professional contexts, they

encounter a range of new genres that necessitate leveraging their previous writing

experiences in flexible and rhetorically situated ways. Writing scholars have long debated

what kinds of classroom assignments might best support this professional genre uptake.

This article investigates the pedagogical potential of simulation-based genre learning,

which has previously been dismissed for its inability to capture the complexity of

workplace writing situations (Freedman, Adam, & Smart, 1994). Drawing on the

example of clinical nursing simulations, I argue that simulation genres can both

authentically coordinate action within a classroom simulation and support professional

genre uptake through their emphasis on the intertextual, social, and embodied aspects of

genre performances. In the clinical nursing simulations that were the focus of this year-

long qualitative study, a team of two to four nursing students would document their care

of a robotic patient on a large white board in the center of a simulation suite. While the

simulation patient health record[1] did not replicate the complex electronic charting

systems that students would encounter at hospitals, I demonstrate how it offered unique

affordances for learning clinical documentation.

While nursing has a long history of incorporating apprenticeships, role-play, and

simulation into their pedagogy, high fidelity simulations like the ones that are the focus

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[1] This genre has a number of names that are used interchangeably within clinical practice –
patient medical record, patient health record, and patient medical/health chart. In this article, I
refer to it as the "patient health record" or "patient health chart" because I received feedback from
nursing professionals that they prefer terminology that does not foreground medicine, and
subsequently physicians.

of this study became widespread around 2000. As technology companies began

producing the first affordable robotic patient simulators, there was a rapid rise in their use

to train nurses, doctors, anesthesiologists and others (Rosen, 2008, p. 162).

Anthropological research on medical simulations has found them to be compelling sites

for healthcare providers' technical, ethical, and affective formation. For example Prentice

(2013) discusses how interactions with robotic simulators remake a surgeon's body,

shaping their actions, relationships to others, and even disciplinary beliefs. Despite the

rhetorical nature of these transformations, however, clinical simulations have been

overlooked by writing and rhetoric scholars, even as research on the rhetoric of health

and medicine is growing (Scott, Segal, & Keranen, 2013).

This article begins with a review of scholarship on genre uptake, classroom-based

genre learning, and simulation; context on my specific research site and the simulation

patient health record; and a discussion of my coding methods. The first analysis section

unpacks the range of rhetorical choices available to different teams of students as they

design their patient health records and considers how these choices engage not just with

the formal constraints of the genre but also with its social role. The research question

informing this section is: How do students design and enact simulation genres to

resemble their professional counter-parts and to reflect the unique rhetorical context of

the simulation? This section argues that students' simulation charts exist on a spectrum

from mimicking features of the professional genre to reflecting the simulation's unique

context. Across this spectrum, however, students have opportunities to experience how

the genre's form mediates social action.

Through designing and enacting their simulation chart students experience first-

hand the intertextual, social, and embodied aspects of genre use and recognize connections between simulation charting and charting at their hospital sites. The second analysis section delves into a detailed example of a simulation sequence to address each of these features in turn and to consider the connections students drew to professional contexts during interviews with me. The research questions guiding this section are: How does engagement with a simulation genre expose students to intertextual, social, and embodied aspects of genre uptake? and How does this uptake interact with students' prior and future experiences with professional genres? Overall, this analysis demonstrates the potential for students to authentically experience genre uptake within simulation contexts. These experiences are both informed by students' prior knowledge of professional genres but also inform their future professional genre use through critical reflection on a genre's possibilities and limitations. In the conclusion, I address the implications of this research for disciplinary and professional writing courses.

Related Research on Genre Uptake, Genre Pedagogies, and Simulation

 To situate my analysis of the pedagogical potential of simulation-based genres, this section synthesizes recent research in writing studies on genre uptake and classroom-based genre learning as well as theoretical work on the rhetoric of simulation.

Genre Uptake as Intertextual, Social, and Embodied

 Conventionally, the term *genre* is used to describe formalized modes of communication – like the business memo or the patient health form – and genres are categorized by features such as their organization, word choice, and format. Rhetorical

genre theory, however, offers a theoretical framework for understanding how genres emerge out of specific social contexts (Bawarshi & Reiff, 2010). This perspective shifts attention away from formal features and towards a view of genres as social action, closely connected to the values, beliefs, and aims of particular communities (Miller, 1984, p. 39). This social turn in genre studies has led to an emphasis on genre performances – how individuals compose and mobilize genres in specific social and historical moments – often discussed using the concept of genre uptake.

Freadman's (1994) initial theorization of genre uptake emphasized both its role in social coordination as well as its intertextual nature. Using the metaphor of a game of tennis, she described uptake as a returning of the ball, which highlighted the partner across the net who both initiates and receives the response, as well as the importance of the game's rules and boundaries (the social and historical context). In addition, she understood uptake "as a deeply intertextual space that not only translates new genres from memories and repertoires of genre knowledge, but also folds that translation into what is meaningful within that current repertoire" (Rounsaville, 2012, p. 8). This is in line with work in genre studies that similarly underscores how genres mediate relationships among a wide range of individuals and participate within a complex system of texts (Berkenkotter, 2001; Spinuzzi, 2003; Swales, 2004).

Recent genre research also recognizes the impact of materiality – the way that genres can both participate in and shape physical environments and embodied experiences (Devitt, Bawarshi, & Reiff, 2003; Haas & Witte, 2001; Knapp, 2002). Bawarshi (2016b) has argued that inherent in the definition of genre uptake is a focus on embodiment: "there is a body in motion and time that takes up an utterance, and that

uptake is subject to a complex set of conditions that inform its movement" (p. 45).

Emmons' (2009) research on depression discourse analyzes embodied genre uptake of a

list of symptoms in depression advertisements that shape readers' physical experiences of

illness (p. 136). Taken together, these theories highlight how genre performances often

engage with individuals' social positioning and relationships to others, their intergeneric

memories of past and present genres, and their embodied experiences. My coding scheme

discussed below is grounded in these theories through its emphasis on the intertextual,

social, and embodied aspects of genre uptake.

Challenges of Classroom-based Genre Learning

Given the numerous layers of community knowledge involved in effective genre

performances, it is not surprising that writing scholars have struggled with the question of

how to best teach genres in the classroom. Research has demonstrated that numerous

barriers exist for students who try to transfer knowledge from classroom genre learning

into professional writing contexts (Beaufort, 1999; Schneider & Andre, 2005; Smart &

Brown, 2002). Despite these challenges, there is some consensus among rhetorical genre

theorists that classroom-based genre teaching should focus on genre awareness, moving

students away from an acquisition framework that focuses on reproducing certain types

of texts with technical accuracy (Devitt, 2004). A genre awareness curriculum aims to

incorporate focus on both form and context as constantly intertwined and teaches genres

as flexible, showing multiple examples including some that push the limits of

conventions and exemplify creativity. If scholars recognizes the value of teaching genre

awareness, however, there is much less consensus about what types of genres should be

taught to support student transfer of writing skills across contexts.

One possibility is what Winzenried (2016) refers to as derivative genres – genres designed for a particular classroom context that focus on scaffolding the field's ways of seeing with little investment in resembling professional texts. Winzenried gives the example of a formal analysis of artwork, which "allowed students to gain practice in the systematic ways of looking, interpreting, and arguing in art history." Derivative genres emerge authentically out of a specific microcosm of a field and are designed to scaffold students' understanding of the discipline's social action. The challenge, however, is that these disciplinary practices remain detached from the formal constraints of the field's typified modes of communication. Students are learning to think and act like professionals, but not necessarily to write like them.

In contrast, in professional majors where recent graduates are expected to produce field specific writing, students' assignments often formally resemble academic or professional texts – i.e. business memos or case study reports. However, research has shown that these mutt genres can be problematic for student learning because they replicate a genre's features but not its role or goals within the real-world activity system (Russell, 1997; Wardle, 2009, p. 774). Because of their emphasis on looking like professional texts in contexts that are removed from the workplace, mutt genres risk emphasizing formalism over social action and in doing so, aligning with a genre acquisition framework. In this case, students are learning to write like professionals, but not necessarily to think and act like them. Ideally, to mediate between these two choices instructors need to find ways for classroom-based genres to be more connected to the social action of a field. Internships and service learning have offered outward-facing

options for better connecting student writing to professional contexts, while simulations

provide an opportunity to make the classroom itself a site for authentic social action.

Simulations and Genre Uptake

Fundamentally, most theorists agree that simulations do more than just replicate

the real (Magelssen, 2014; Roundtree, 2014). Goffman (1974) described keying, a subset

of simulation, as "the set of conventions by which a given activity […] is transformed

into something patterned on this activity but seen by the participants to be something

quite else" (p. 44). Goffman emphasizes that participants in a simulation are immersed in

a transformation of a primary framework rather than a simple repetition of it. Crocco

(2015) elaborates on the potential for this transformation in his definition of critical

simulations. Crocco argues that critical simulations produce cognitive dissonance for

participants between their assumptions about a specific context and their experience of

that context in a simulation. In this way, critical simulations can challenge participant's

worldviews and with proper opportunities for critical reflection, this cognitive dissonance

can serve as a catalyst for changing practices.

Therefore, research on the rhetoric of simulation suggests that a true simulation

genre would not just mimic outside texts; it would be purposeful within the simulated

framework and play a role in coordinating activities. Genres that are part of a simulation

but function primarily as course assignments instead of supporting student action will still

have the limitations that scholars attribute to mutt genres. For example, in "Wearing Suits

to Class," Freedman, Adam, and Smart (1994) demonstrate how despite a professor's

efforts to create a simulation where students performed like financial advisers, the

students' case study reports were still constrained by the classroom space and evaluation methods. They argue that newcomers in a community "need to sense from the inside the nature of the social action entailed by these new genres" and that this knowledge is not be accessible to students through simulations regardless of how realistic or detailed they are (p. 221). I fully agree with the authors' claim that students must learn to sense a genre's social action "from the inside," but am critical of their suggestion that simulations can never offer access to any of this complex knowledge. Precisely because simulations are designed not just to replicate the real but to function as unique contexts for action, students could experience firsthand within a simulation how genres coordinate activity. Meanwhile, a critical simulation context might even provide opportunities for students to reflect on what simulation genres can teach them about limitations of writing in professional contexts.

Recognizing the potential value of using simulation to teach genre acquisition, a number of writing scholars have begun to design rhetorical computer simulations that aim to immerse students in complex simulation genre systems (Balzotti & Rawlins, 2016; Fisher, 2007; Matteo, 2007). Russell and Fisher (2007) designed and evaluated a virtual genre system that emphasized both breadth and depth of genre relationships, making student writing active within a complex set of professional engineering texts. Their research demonstrates how computer programs provide one method for teaching professional genres by immersing students in a virtual genre system. The challenge, however, is that not all professional contexts lend themselves to virtual simulations. Nursing genres are deeply embodied both because they encode nurses' sensory information about patient experience and because they coordinate physical actions in the

clinical context. To design virtual simulation genres, Russell and Fisher (2007) relied primarily on theories of genre systems and the chronotope. Adding to this theoretical landscape the notion of genre uptake, however, can better account for the embodied components of genre performances that are so critical in a number of workplace contexts, including nursing.

Overall, by examining clinical simulations as a site for genre uptake, this article begins the project of understanding how a classroom-based simulation can function as "a dynamic, textured site of action, mediated by a range of complex written and spoken genres that constitute student-teacher positions, relations, and practices" (Bawarshi, p.118). In sum, this scholarship points to the potential for simulation genres to provide students with opportunities to "sense from the inside" new genres and to scaffold critical engagement with professional genres as well.

Field Context

This research is grounded in a year-long qualitative case study of approximately 80 third-year nursing students during thirty discrete clinical simulations at a mid-sized private university in the Northwest. The simulations I researched were "sequential decision-making classroom events" (Hertel & Millis, 2002, p. 15) and involved high-tech robotic manikins that responded to care both physically and verbally. The manikins were operated by the simulation coordinator, Maura[2], who controlled all of the vital signs from a computer in another room (heartbeat, breath sounds, temperature, etc.) and had a microphone connected to the manikin's speaker box. All simulation suites also included

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[2] All study participants have been given pseudonyms to protect their anonymity.

most supplies needed for care: gloves, oxygen, catheters, etc. Students had a computer to look up dosages, a phone to call another provider, a wheeled cart with medications, and most importantly for this study, a large white board for charting patient care.

Over the course of the 2014-15 academic year, I observed a total of three simulation narratives, each performed by ten different groups in rotating teams of two to four students: one with an elderly diabetic female patient, one with a young post-operative male patient, and one with an infant male patient with a respiratory infection. They all followed a fairly set organization – after the full group oriented to the suite and equipment, three teams of two to four students cared for the patient, each for about twenty minutes, often while the patient's condition worsened. Meanwhile, the two other teams sat in a nearby classroom watching a live stream of the simulation. When one team's turn ended, the coordinator facilitated a debrief conversation with the full group, encouraging critical reflection on the team's strengths and weaknesses, and then a new team took over care.

During their time in the simulation, students work with their team members to prioritize interventions, delegate responsibilities, and assess the patient's condition physically and verbally. They also use a number of written genres to support this work – consulting patient records, interpreting lab results, and documenting interventions in the patient health record that is the focus of this study.

The Simulation Patient Health Record

In clinical contexts, the patient health record (or Electronic Health Record, EHR) is a flexible genre that varies within a single hospital, floor by floor and patient

by patient. Pages in the hospital charts frequently include "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, 2005, p. 104). Health record systems are also designed to guide providers through clinical decision-making, a recursive process of documenting patient information, formulating interventions, and evaluation (Schryer, 1994).

While a number of the nursing faculty I talked to would prefer to have EHR systems in simulations, there are financial and logistical obstacles to implementing computer programs that resemble hospital interfaces. Thus, simulation labs have developed a range of work-arounds, from preformatted Excel sheets to the large whiteboards used at my field site. In my research, students relied on one large board (approximately 4' by 6') to document patient vital signs and changes in status as well as interventions. Occasionally a smaller board (2' x 3') was also used for charting.

What was unique about the simulation health record in this case was that students designed the layout of their board. After their orientation to the suite, Maura would direct students to take a couple of minutes to decide on their template for charting. She explained to me that while originally the lack of an EHR system in simulations had been a source of frustration for students, handing over chart design had alleviated 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.

This flexibility with the simulation patient chart meant that students made strategic

choices about how to design a layout that made sense for their simulated patient and the simulation space. The various approaches they took and how their chart designs shaped their communication and care is discussed in the analysis sections below.

Methods

Research for this article utilized a rhetorical field methods approach to understand how students designed and enacted simulation genres within the specific rhetorical context of the clinical nursing simulation (Endres et. al., 2016; Rai, 2016). I attended and took field notes during all thirty clinical simulations and the range of activities that surrounded them – including room orientations and debriefs. I also collected video recordings of the simulations, totaling approximately thirty hours of video data. While reviewing video recordings during analysis allowed me to get specific about students' gestures, interactions with objects, and movements in the simulation environment, much of the dynamism of the simulation experience would have been lost by working with recordings alone. Physical immersion in the simulation environment enabled me to experience alongside the students and instructors the unique affective, physical, and interpersonal qualities of simulations and to better account for these qualities in field notes and analysis.

In addition to observations, data collection included four rounds of interviews and collection of a class writing assignment (a case report) from five focal students who opted for more extensive participation in the study during the initial consent phase. I also took photographs of the white board charts at the end of every simulation and collected texts that circulated during the simulation including preparation sheets, physicians' orders, and

lab results. The research was exempted by the human subjects review board at my home institution and the institution where research took place on the grounds that the activities the researcher was observing and documenting were typical classroom practices. Even video recording simulations is part of normal classroom procedure in the simulation suite.

My coding scheme for field notes and interviews was based on the theories of genre discussed above and their emphasis on the intertextual, social, and embodied nature of genre uptake. Initial coding for this project included identifying moments where:

1) Writing or engagement with written texts influenced action ("write");

2) Verbal communication between student and patient, multiple students, or student and another provider influenced action ("comm"), with attention to communication breakdowns

3) Physical encounters with the patient or environment influenced action ("material"), with focus on physical disruptions or redirections

In all three cases, I was attentive to the impact that texts, talk, and physical action had on the evolving narrative of the simulation. For example, noting moments where a verbal exchange redirected action, rather than verbal communication broadly, helped me to hone in on critical interpersonal moments. For the purposes of this article, my coding enabled me to identify rich excerpts in the simulations by looking for code clusters – intervals of time where multiple codes were impacting action frequently and/or simultaneously.

Moving from general research codes to answering the specific research questions for this article, my analysis began with categorizing the photographs of simulation patient health charts using the following questions: How is the space of the white board(s) used to organize patient information? How are key findings highlighted? and How do students

differentiate information gathered over time or by different teams? This provided the

means for choosing examples for the first analysis section below as well as returning to

the codes in my field notes and video recordings to analyze how formal features in

specific health records were connected to the social action of a simulation.

In the process of cross-referencing photographs of the simulation charts with my

code clusters, I also identified the extended example that became the grounds for the

second analysis section. This example was exemplary because of the visibility of all three

codes – intertextual, social, and embodied action – in students' uptake of the chart.

Choosing an example that exemplified the opportunities for genre uptake in simulation

contexts is in line with my research questions for this article, which aim to understand the

possibilities of simulation genres but not necessarily to document or tabulate the full

range of possible uptakes. Future analysis will likely aim for a more comprehensive

accounting of the range and frequency of different genre uptakes visible in my data set.

From Mimickry to Situated Design: Students' Simulation Health Records

During uptake of a professional genre, writers participate in a complex set of

conscious and unconscious decisions about the form and delivery of their

communicative action. Nursing students' uptake of the simulation patient health

record during clinical simulations is similarly complex. Thus, this section analyzes

the range of student-designed simulation health charts during the thirty simulations I

observed, arguing that the charts exist on a spectrum from those that most closely

resemble hospital patient charts to those that are most rhetorically situated in the

simulation context itself. Across this spectrum, however, students' designs are

informed not only by the formal textual features of the professional patient health

record, but also by the complex social actions that it mediates.

Importing Hospital Genres

The genres that novice nursing students encounter in the hospital have a great deal

of legitimacy and thus, power. Therefore, it is not surprising that some groups mimicked

EHR or nursing note forms when designing their charting templates. For example,

Savannah described how her group chose to design their chart for post-operative patient

Jason Lee based on note-taking sheets they received during their hospital clinical

placements:

> We get […] 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, groups that attempted to import hospital genres while designing their

simulation patient health record encountered challenges in adapting this form to the

unique simulation context and in enacting the genre to support patient care. Figure 1

shows a photograph of the white board at the end of Savannah's simulation, after all three

teams have made interventions and documented care. I have added ovals to call attention

to specific aspects of the documentation. The first visible limitation is poorly distributed

space for different categories. For example, Diagnosis and Allergies/Codes are both

given substantial board space, despite the fact that these categories are unlikely to

change. Meanwhile, Vitals are given very little space even though each team should be

tracking vital signs to account for changes. The teams did use different color markers for charting, so a reader can distinguish which information came at which time, but the crunched list makes comparisons challenging. Meanwhile, interventions like the sequential compression devices (SCD's) being taken on and off the patient's legs or labs being ordered and returned are documented in different places on the board, again making it difficult to visually ascertain patient progress over time.
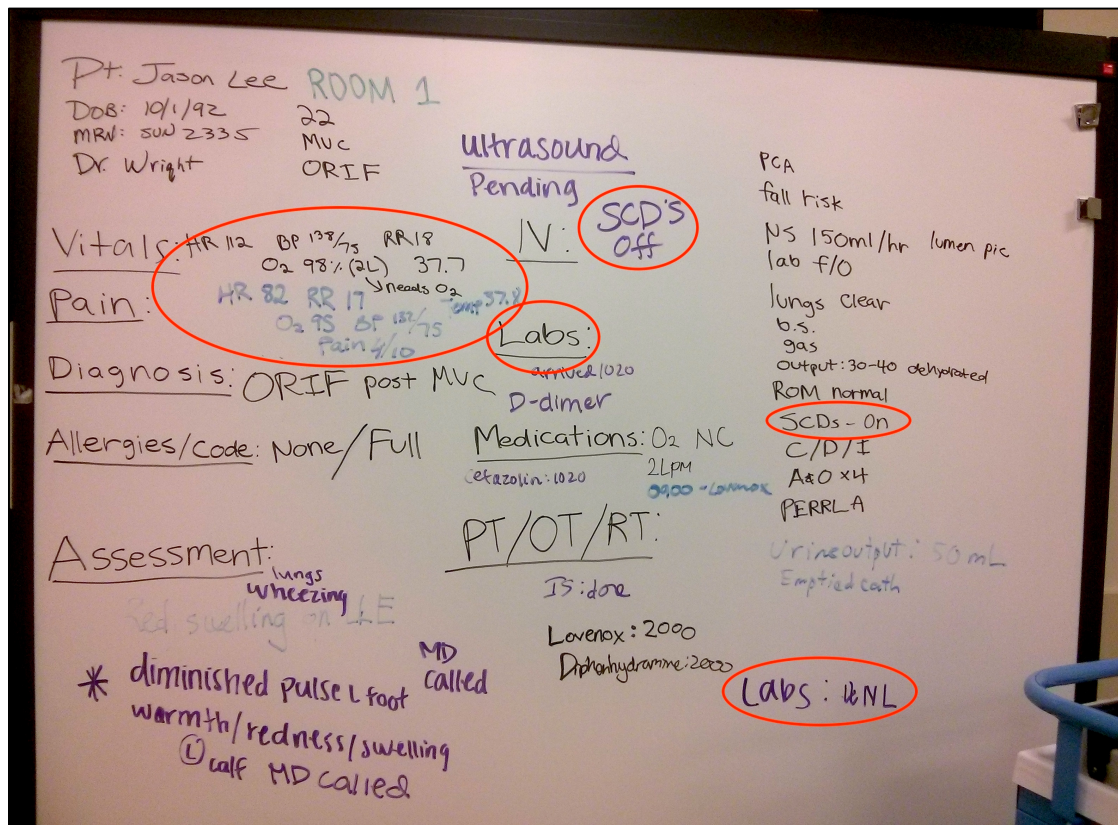

Figure 1: White Board Chart with Imported Layout. Photo by Author.

As this simulation came to a close and the final team did a hand off to the rapid response team, the limitations of their documentation were enacted as the formal aspects of their text mediated their social actions. Rather than relying on the chart to report vital signs, they used the real-time telemetry machine at the patient's bedside and were thus unable to account for changes over time. They also began the conversation with specifics

about the patient's oxygen levels gathered from the telemetry machine rather than highlighting the cause of dropping levels – the blood clot that had moved to Jason's lungs. Similarly, they struggled to remember that the patient was on an IV pump with pain medication. PCA [Patient Controlled Analgesia Pump] is only a small note on the chart, part of a long list of incoming information. Thus, the final team failed to emphasize key information that had been gathered during the three simulations in their final hand-off. Importing the genre of their nursing notes in designing their simulation patient health record made it difficult for students to find important information and appropriately describe the patient's condition. For groups that designed their charts to mimic professional genres, conflicts between the simulated context and the professional context were visible in both the textual features of their chart and in the ways that their chart supported social action.

Situated Genre Design

In contrast, groups that designed a more situated simulation health record took into consideration both temporal and spatial constraints of the simulation context. Temporally, specific times had less import than the movement of care across the three teams of students. In the two examples of boards from the pediatric simulation below (Figure 2), one group used a set of three columns to track documentation across teams, while the other group used different colors. Spatially, responsive groups were more likely to split up information between the multiple white boards in the room. For example, some groups used the smaller board to document vital signs, so that they would not become crunched and groups could clearly track progress over time.
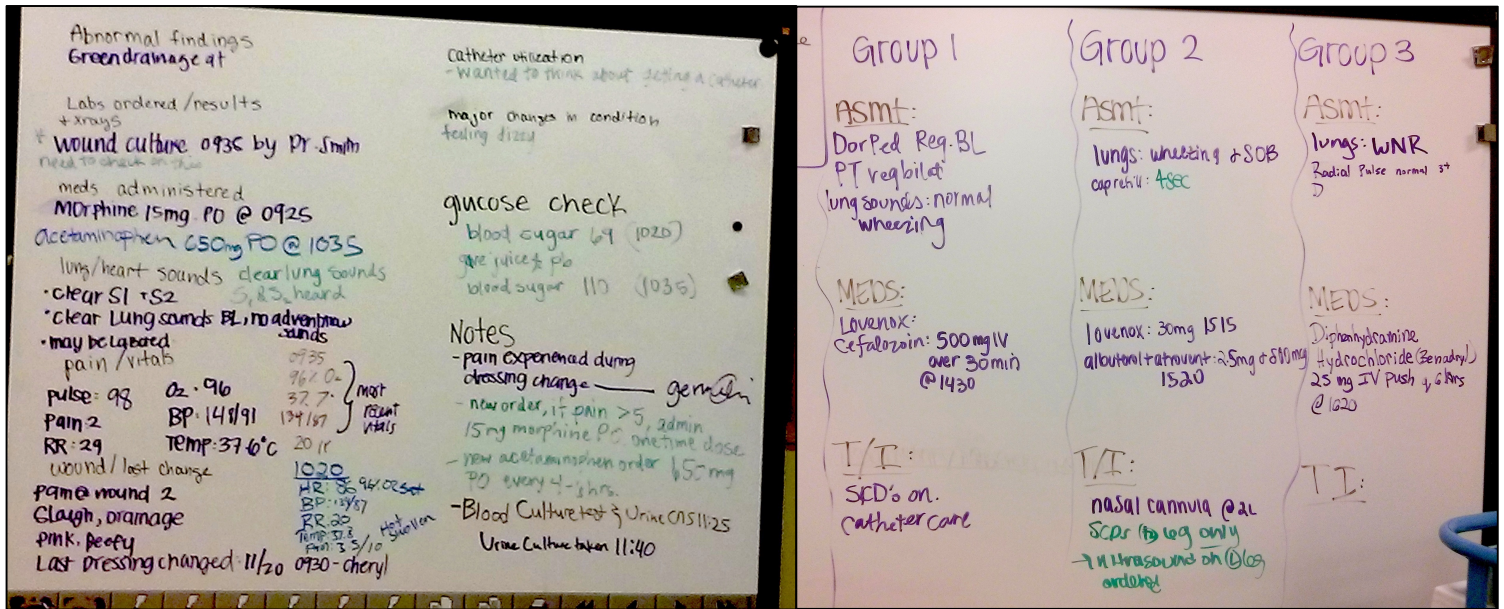
Figure 2: Two Variations on White Board Charting. Photos by Author.

Even groups that designed their charts in rhetorically situated ways, however,

tended to prioritize information about the patient's physical symptoms, with less room to

document what nurses call their psycho-social condition. Categories like vital signs,

medications, and physical assessments were given prominence while notes about

patients' affective experiences or concerns rarely had a designated place.

For example, both instructors and students praised the chart in Figure 3 during

debrief for its streamlined presentation of information. Their instructor specifically

lauded the organization of assessments into systems in the right-hand column

(neurological, respiratory, etc.), which would help students to see patterns in patient

complications. However, when the patient, Jason Lee, called the nurses over to request

that they let him talk to his mom before his dad about his car accident it was hard to

accommodate this information on the board. One student drew a small box in the left-

hand corner of the board labeled Pt [Patient] that included the categories Q? [Question],

Task and Note. Under Note she wrote: "Can we only have his mother come into the
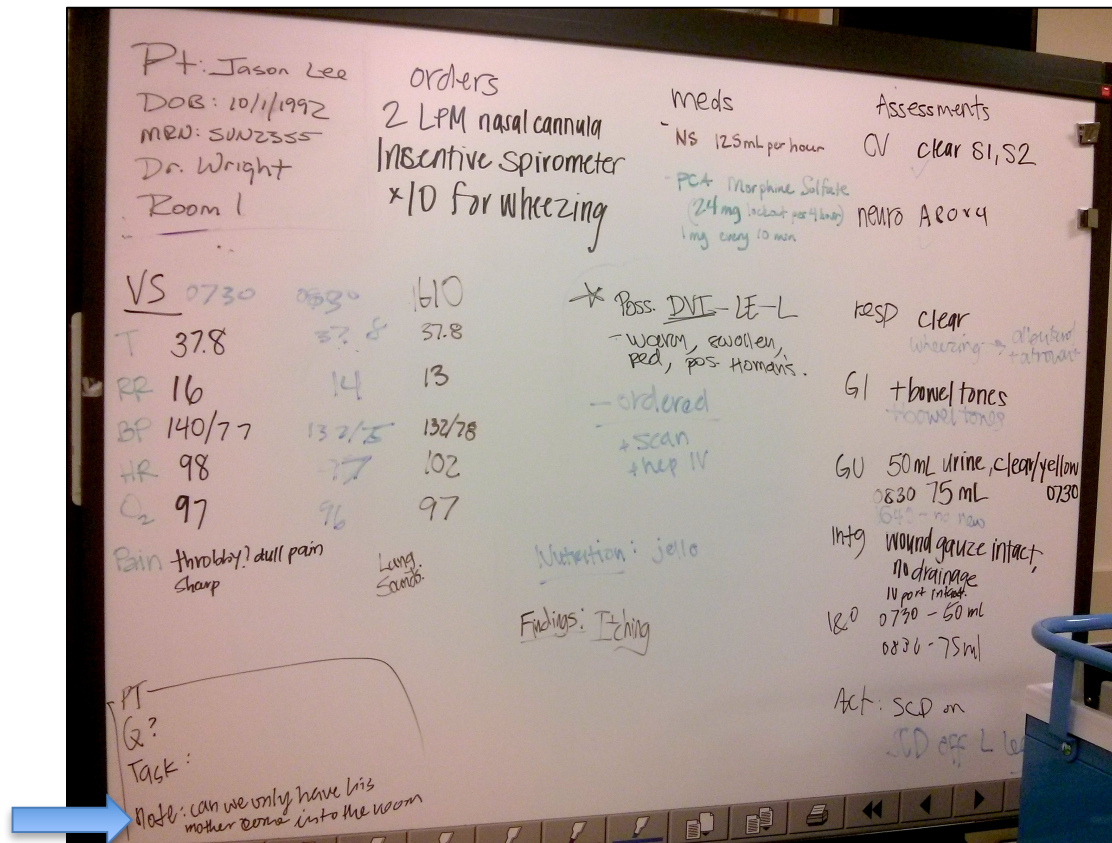
Figure 3: White Board Chart with Psycho-social Information. Photo by Author.

room." While many teams did not document this conversation on the board at all, this

team's layout of the chart still does not provide the space to expand on the comment with

context that could help another nurse to respond appropriately. While this is a limitation

of the students' simulation chart design, specifically, it is also a greater limitation of the

professional genre and the kinds of social action that it supports.

In his discussion of how genres mediate interpersonal relationships, Bawarshi

(2003) uses the example of the Patient Medical History Form. He argues that the PMHF's

focus on physical over mental experiences shapes the encounter between physician and

patient, causing the doctor to "treat the patient as a synecdoche of his or her physical

symptoms" (p. 74). Similarly, nursing faculty in Ariail and Smith's (2008) study

expressed concern that the formulaic nature of the health record might prevent students

from documenting vital patient information, like listing a frail patient's weight and height but "neglecting to include any discussion of psychosocial issues that impact eating habits of the patient" (p. 247). Therefore, scholars have found that the sections and categories that organize professional patient health records support symptom-focused exchanges between patient and healthcare provider.

My analysis demonstrates that even student charts that were designed to be responsive to the simulation context could carry with them the vestiges of a professional genre's formal and social constraints. Even though their simulation health records were not designed to prioritize psycho-social patient information, however, the students in this example still acted flexibly within their design to document more than physical symptoms. Because students are using their own records to guide care, the simulation context provides opportunities for them to experience firsthand how different formal choices might constrain social action and to innovate in response to these limitations.

Simulation Genre Uptake: Charting the To-Do List

During his second interview, I asked nursing student Ryan to reflect on what he was learning from designing and using the simulation patient health record in simulations. He responded:

> I'm definitely learning how to draw on others' ideas through their writing,
> whereas, and this is with the clinical notes at clinicals too, I can look at [nurses']
> 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 […] 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."

As Ryan's response suggests, working with the simulation record emphasized for

students the intertextual and social elements of the patient health record as they practiced

"draw[ing] on others' ideas through their writing." Ryan also encountered embodied

knowledge coded in the chart—the nurse's physical experience of the swollen calf as

well as a sense of the nurse's "inflection"—and recognized how he was learning to read

"more than just the words," as he explained later on in this conversation. Perhaps most

importantly, Ryan noted a clear connection between his experience with the patient

health record in simulations and his work with "the clinical notes at the clinicals too,"

suggesting that his encounters with the simulation chart scaffolded professional writing.

In this section, I analyze how one team's chart design influenced patient care and

communication during the course of their simulation, addressing these three aspects of

genre uptake in turn. In addition, I draw on students' accounts during interviews about

the relationships they saw between their experiences with genres in hospital clinical

placements and in simulations. Their accounts call attention both to the ways that prior

genre knowledge from clinical experiences informed their uptake of the simulation

patient health record and that their experiences with the genre in simulations was an

affordance for uptake of clinical genres.

Intertextual Chart Design

After a hand-off, many teams began their simulation in a huddle at the medicine

cart looking through the simulation physician's orders and at the previous team's charting and discussing how to prioritize their care. At this stage, students had to draw on a range of other genres in the simulation context for successful uptake of the simulation health record. During one team's second simulation with post-operative patient, Jason Lee, they used their huddle to create a To-do list and to map out their care plan together. This conversation unfolded with Carl at the white board writing out tasks while the rest of the team referenced the simulation physician's orders:

> *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].*

Here, the team translated the physician's orders and previous team's charting into an organized list to guide their care. Then, they decided which information to prioritize and highlighted this information with a numbering system designed in the moment to help coordinate action. Throughout, they draw on a range of intertextual resources in their uptake of the simulation chart. First, student charting built on the charting of the previous team, who they watched struggle to coordinate their care. Liz noted, "As we were watching the first group we decided to [create a checklist]." In addition, the To-do list emerged out of the team's engagement with the physician's orders. Huddled together at the medical cart, the team enacted a verbal negotiation of the physician's orders that would often occur only in a nurse's mind. In fact, the simulation physician's orders are designed to support this kind of exchange since, unlike their professional counter-part,

there is no set order for care.

In addition, as they considered how to best organize and document patient information, students relied on their prior genre knowledge from hospital clinical placements. Liz's account during an interview of how she developed the To-do list format drew heavily on her hospital experience:

> [The to-do list] 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 […] 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.

Liz's uptake of the simulation patient health chart, then, was informed by a personal system for note-taking that she designed to keep track of her interventions at her hospital placement. This genre was also mediating the relational dynamics of Liz's interactions with her nurse preceptor who "may or may not have been kind" when she directed Liz to use the genre. 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 describes feeling less judgment from her instructors and peers because "we're all learning." In this way, Liz's clinical experience with note-taking acts as an affordance for uptake of the simulation chart. Yet within the simulation, she has an opportunity to enact the genre with less anxiety while still experiencing how it impacts the social action of patient care.

Chart's Social Impact on Care

In addition to its intertextual positioning, the simulation health record also plays an active role in mediating students' interactions with one another and with the patient. During the course of this particular simulation, the team's simulation chart helped them to coordinate care across members and keep everyone busy. They moved rapidly through orders – administering oxygen, giving two medications, providing food, and ordering an ultra-sound for the patient's swollen leg. That said, the chart's limitation was that its task-focused orientation allowed for less flexibility in responding to the patient's needs as they emerged. The team took a long time to discover Jason's blood clot in his left leg and needed multiple promptings from coordinator Maura (playing Jason). During other simulations, when Jason would mention pain in his left leg, this was enough of a prompt for a student to take off the compression device to investigate the leg more closely. In this team, 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 [...] we're trying to prevent a blood clot from happening in your body and like after a post-op one of the common problems 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.*

While Carl offers a rationale for the compression devices and even suggests a break, 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. When Jason offers to keep enduring the pain, Carl is quick to move on. It is not until Jason starts moaning softly several minutes later that the team takes off the compression device and discovers the blood clot.

Since the patient chart plays a critical role in supporting conversations with the patient, the task-oriented design of this team's chart contributed to a silencing of the patient's complaints. Students 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 tasks. Meanwhile, this example also demonstrates the ways in which simulation genres can still reflect hierarchical relationships in the real world, which makes critical reflection during the simulation debrief even more important. In this instance, Maura reminded the group during debrief that patient complaints should prompt nurses to investigate. She also frequently reminded new nurses about the dangers of tunnel vision, getting so preoccupied with interventions that they miss crucial feedback from the patient. Thus, Maura encouraged the group to bridge their experiences in simulation to the hospital and imagine similar problems that could emerge in clinical contexts.

Chart's Embodied Impact on the Hand-Off

Finally, unlike the experience of virtual genre simulations, teams in clinical

simulations were able to embody their own and their peers' uptake of the simulation

patient health record. Rather than entering patient information into a static form without

knowing how it is taken up by other providers, students saw how their chart design

coordinated actions of their fellow students in both successful and problematic ways.

As this team prepared for the end of their shift and a hand-off to the next team, they

rewrote their To-do list into existing categories on the board including a list of vital signs

gathered during assessment, medications given, patient intake of food and liquid and

output, as well as a Completed Task List to facilitate the next team's care (See Figure 4,

second team's documentation is in ovals). Just as the To-do list primed the team to keep

moving forward with interventions, it also limited documentation for the next team. Even

after discovering the most critical information of the simulation – the blood clot in

Jason's left leg – Liz still based her notes almost entirely on the original To-do list. She

limited documentation to the tasks the team prescribed for themselves at the beginning of

the shift – ordering food and giving oxygen and medications. When the third group

arrived for a hand-off, the limitations of this chart were physically enacted. While the

group began the conversation standing together at the white board and discussing

medications, they quickly moved to Jason's bedside to discuss the primary concern.

Lifting the blanket off of Jason's left leg, Carl explained:

> *So he's like post-op from two fractures on both legs, bi-laterally, and then we did*
> *discover this spot right here that was quite warm before, so we called the MD and*
> *they are going to do a duplex ultra-sound to try and make sure or rule whether or*
> *not its DET.*

Ultimately, then, this team was able to call attention to the most pressing issue in Jason's care, but their To-do list constrained them. In contrast, as the final team cared for Jason, they documented both the physician's response to the clot, writing "physician called, will write order for Heparin drip" under medication, as well as their intervention, "warm compress on leg" under the Tasks completed list (see Figure 4, third team's interventions are in squares). In these ways, they modified the previous team's charting to accommodate the pressing sensory information that emerged during their hand-off.
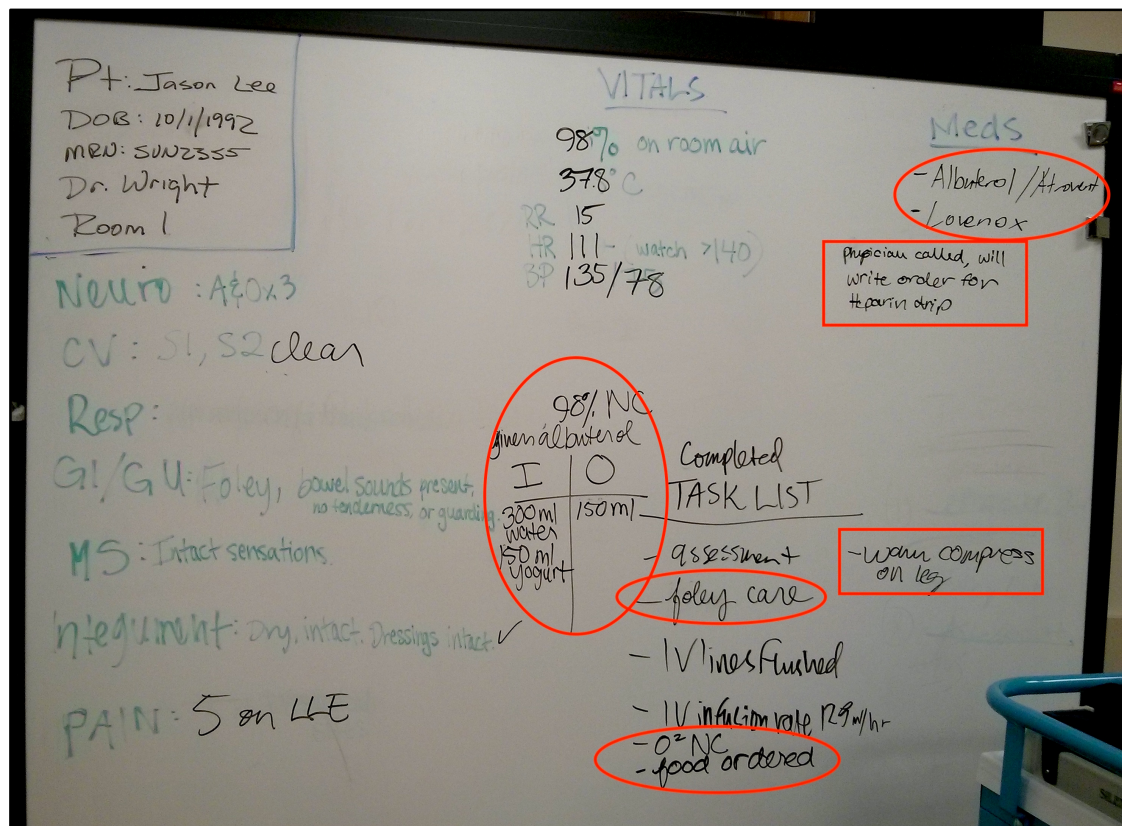

Figure 4: Charting by Teams Three and Four. Photo by Author.

In the quote that began this section, Ryan described how the simulation health record became a place where he could see what information his peers were prioritizing and read between the lines. In contrast, one of the main challenges for students working with electronic health charts during their clinical placements was figuring out which

information was most relevant. For example, focal student Kira described her struggle

with interpreting one patient's hospital chart 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 cerebral 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 patient health record at her hospital made it challenging

for her to know where to find critical information. In contrast, in simulations, students

worked together to decide what patient information to highlight in their charting and then

physically experienced the strengths or weaknesses of these choices during hand-offs.

Thus, they were better able to recognize the places where their own charting fell short in

coordinating action – the moments where they had to walk over to the patient himself and

uncover his left leg to share key information.

Overall, examining the simulation health record at each stage of a team's care

demonstrates both its integral position within the simulation context and its recursive

relationship to students' clinical experiences. The simulation health record operates

authentically within the simulation through its intertextual relationship to other genres, its

role mediating interpersonal interactions with the patient and other providers, and its

coordination of embodied actions. In addition, the simulation chart draws on students'

prior knowledge from their clinical experiences enabling them to repurpose and play with

clinical genre knowledge in a context that is focused primarily on learning. Finally, the

simulation health record is also forward-looking, helping students to better understand

how electronic charting will mediate conversations with the patient and other providers in

the hospital and consider both the strengths and limitations of the genre. Arguably neither

its mediating role in the simulation nor its role supporting uptake of professional genres is

primary – it productively holds these two roles in tension. Students are not simply

replicating the use of a hospital health record in a context that is not fully aligned with

that genre's design. Instead, they are flexibly and responsively repurposing hospital

genres both to support their care within the simulation and to further influence their

understanding of the professional genre's role.

Conclusion

      While this section considers initial implications of my findings for the teaching of

writing, it is important to first acknowledge the limitations of this analysis. This article's

goals were exploratory – to understand the possibilities afforded by student-designed

genres in clinical simulation contexts through the lens of current theories on genre

uptake, writing pedagogy and the rhetoric of simulation. Therefore, I do not expect that

every student's encounter with simulation genres will provide the same opportunities for

learning that are evident in the examples in this article. Certainly, even in the simulations

that I observed there was a wide range of simulation genre use. In some groups there was

barely any engagement with their simulation patient health records, while in others I

watched the events of an entire simulation narrative altered because of a minor student

notation. Future projects will likely take up a more rigorous documentation of that range

and endeavor to better understand the conditions that best support effective simulation

genre uptake. That said, by examining exemplary instances of simulation genre use, I can

begin to consider how the affordances of simulation genre uptake might be leveraged in a traditional writing classroom.

In designing their simulation health record, nursing students collaboratively negotiated their prior knowledge of hospital charting systems and their situated rhetorical knowledge of the simulation context to decide on the best formal features for their texts. As they enacted their genres over the course of the simulation, they experienced firsthand how those formal choices coordinated social action, oftentimes carrying vestiges of the social limitations of the professional text. These findings point to the necessity of empowering students to design genres that are responsive to the rhetorical situation of our writing classrooms. Instructors should shift attention away from providing students with the right genre to scaffold future writing and instead value how "how novice writers select for themselves the relevant genre for a new writing situation" (Rounsaville, 2014, p. 13). In this way, we have the potential to provide learning opportunities similar to both a mutt genre (emphasizing formal design choices) and a derivative genre (emphasizing social action), but also with greater room for student innovation and creativity.

In addition, by embodying their patient health records as they mediated the actions of the simulation, students were able to experience the record's role in supporting interactions with patients, other nurses, and the doctor. The simulation also called attention to the collaborative nature of the health record as students stood together at the board, adding notes to one another's documentation and building upon the text of the teams that came before them. Similarly, writing classrooms should be contexts in which students can experience immediate feedback on their genre design and use from peers. Instructors can create opportunities for collaborative genre design, coordinated use of

classroom genres, and critical reflection that leverages peers as a source of audience response and feedback. Recognizing the importance of embodied genre learning, instructors can leverage the environmental affordances of their classroom spaces to support students' writing experiences. Board space, carpet space, hallways, and classroom walls can be places for negotiating information and coordinating genre activity in ways that are immersed in classroom contexts.

Finally, the examples throughout this article demonstrate how student design of simulation genres is fallible. The nursing students' simulation health records constrained their ability to document psycho-social patient information or caused them to over-emphasize tasks rather than responding to patient needs. However, debriefs provided a space for students to process these experiences and critically reflect on what they had learned about the strengths and limitations of clinical communication. This space for critical reflection distinguishes simulations from real-world genre experiences and is perhaps their greatest affordance. Similarly, by providing students in our classes opportunities to explicitly reflect on their experiences of genre uptake, writing instructors can set the groundwork for flexible and thoughtful genre performances in their futures.

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