

CODING THE WHITEBOARD SPACE: HOW A PANDEMIC PROMPTED A PROJECT IN ONLINE WRITING CENTER RESEARCH

Abigail Kremer | University of Illinois, Chicago

Many Writing Center scholars have begun advocating for replicable, aggregable, and data-supported (RAD) research to inform peer tutoring practices in university writing centers. While recent research on in-person sessions is prevalent, there has not been much conducted in an online environment. The 2020-2021 Covid 19 pandemic became the impetus for just such a study, as the author explored her options for a senior project. The resultant study described here focused on creating a coding method for tutor feedback using the whiteboard space in WCOOnline and aims to provide a starting point for research on online synchronous sessions and considerations for transitioning back into in-person tutoring.

A university's writing center is a safe, collaborative space that provides university students support that they may not get in classrooms. To provide that support, writing centers need to create a welcoming, inclusive space for anyone who enters. A student can walk in, meet with a tutor, and leave feeling like they've made progress on their writing. At least, I would have never thought to describe a writing center as anything else. Yet when the Covid 19 pandemic struck, universities' definitions of space changed. Space was no longer a physical entity that we moved through, but a screen we moved through with our computer mouses. With such an emphasis on a welcoming space and collaboration, how could writing centers keep providing that environment? This question is what sparked my senior year research project.

Having worked as a tutor at the University of Illinois at Chicago's (UIC) writing center

for some time, I applied and was hired for a research assistant position for the summer of 2020 to help with a data-driven research project. As someone studying English, data-driven analysis was hard to come by. I gleefully started my research position doing data collection, excited to be a part of the research, focusing on extracting, cleaning, coding, and inputting data for a corpus. This corpus would be comprised of tutor and writer utterances within the chatbox feature of WCOOnline, to be compared to tutor and writer utterances in person. Then, patterns would eventually be identified between the most prevalent writer/tutor phrases. By the time I'd come into the project, it had been in progress for around a year, and it was still far from complete. While my primary research activities were gathering and cleaning writing center data (most of my job was copying and pasting text), I felt like I was playing a crucial role in the generation of data

that would fuel important research to come. Had the pandemic not happened, I could have continued this research and possibly seen it to its end.

However, the pandemic *did* happen, and along with the pandemic came budget cuts and the loss of my research assistant position in the 2020-2021 academic year. I'd lost my chance to be part of a large, empirical research study as an undergraduate English student until my supervisor offered to be my advisor for an independent study. I hesitated at first since I'd already agreed to do an honors thesis on John Milton's *Paradise Lost*, a project that was more aligned to my major. Would two research projects be too much?

Yes. Two research projects was too much, though I can't say I regret it. Starting an independent study just as the world was thrust into the online space inspired research questions that I wouldn't have otherwise considered. While I enjoyed burying myself in hundred-year-old writings and philosophy, empirical research was different. Collecting data was concrete, rooted in the same space and world that I lived in, and it would give me a chance to answer the sudden questions about functioning in everyday life amidst a world when everyday life had suddenly changed.

The most important of these questions was "What is space?" since I now needed to figure out how to conduct a research study on writing center sessions without the space in which they usually took place. For this, I turned to WCOonline. Like most North American writing centers, the UIC Writing Center uses the program to maintain schedules and run online sessions. This platform has several different modes of communication: audio, video, chatbox, and the whiteboard space. The platform

saves the chatbox and whiteboard space, but not video or audio. Online sessions almost always utilize the whiteboard, while the use of video, audio, and chatbox varies depending on individual participants' preferences.

Given the time constraints I had on the project and the stress that everyone felt during 2020, I decided to plan a study that didn't require consent from the participants. Everyone's emails were already flooded with messages beginning with "In these trying times," and I didn't want to be the reason students had to sort through one more email. I also decided that, like the study I had already been involved with, I wanted to collect data from Fall 2020, mainly because I already had an idea of what some of the sessions would look like. With these limitations on the research, I knew I would be working within the whiteboard or the chatbox because the IRB would probably consider this "exempt" research if I excluded identifying information or intellectual property. Deciding to explore the nature of the online written feedback tutors give on student drafts, I delved into writing center research to explore methods for data-driven research already in use.

Current writing center research has exploded in the past ten years, with the majority of it focusing on in-person sessions using replicable, aggregable, and data-supported research (RAD). Indeed, in "Lessons from Data: Avoiding Lore Bias in Research Paradigms," Roberta Kjesrud presents issues with writing center practices that aren't rooted in RAD research. Importantly, Kjesrud argues that what she terms lore-based tutoring doesn't always show up in RAD research, and our biases in lore may make our research practices more difficult. Lore-bias, in Kjesrud's case, relates

to her research in directive/non-directive tutoring strategies. That is, when tutors make or suggest direct changes to a writer's work and when a tutor creates conversation that leads to changes in the writer's work. Historically, non-directive tutoring was favored while directive tutoring was "vilified" (Kjesrud 35). This preference for non-directive tutoring is "Lore," in Kjesrud's paper, but lore may also include different tutoring strategies that have a long history in writing center discourse with no supporting data. Kjesrud describes "Data" and "Lore" as two characters, grappling with each other and making the researchers' lives difficult. Eventually, though, she recognizes the importance data had in her research and how her previous biases were making the study difficult. By focusing on her data, the study revealed tutoring practices that countered lore, which led to new ideas for future research.

According to other RAD research, tutors often make direct corrections. In Jo Mackiewicz and Isabelle Thompson's 2014 study, in-person tutors most frequently provided instructional feedback (aligned with directive tutoring), followed closely by non-directive feedback (called scaffolding). They used three main coding categories to analyze the frequency of differing tutoring strategies, to conclude that, overall, tutors most frequently provided instructional feedback (59). Instructional feedback was closely followed by cognitive scaffolding, while motivational scaffolding was the most infrequently provided form of feedback (65).

Drawing from both Kjesrud and Mackiewicz and Thompson, I decided to conduct RAD research for my independent study, adapting their coding methodologies to guide a discourse analysis and identify prominent

forms of tutoring. The last piece of the puzzle in finalizing my categories for coding came from an unlikely source: Melody Denny's "The Oral Writing-Revision Space: Identifying a New and Common Discourse Feature of Writing Center Consultations," which describes the ways tutors and writers revise their written sentences verbally. Denny suggests that the oral revision space is a kind of peer tutor interaction that can't be replicated outside of writing centers: when writers and tutors edit their sentences verbally and collaboratively in the oral revision space. That is, a writer may read their sentence aloud, a tutor may repeat that sentence with an edit (like changing a word or clause), and so on. It's a form of revision that requires the trust between a tutor and writer and occurs within a revision space spontaneously and collaboratively. This revision space, according to Denny (and my experience as a tutor), was crucial to writing center sessions (47).

How could this crucial aspect of tutoring, seemingly unique to an in-person space, occur online? It couldn't occur in the chatbox since the communication wasn't spontaneous¹. I needed to see what writers and tutors were typing together to find a spontaneous, collaborative revision space that occurred in an online setting, and I realized this discourse feature could be found right in the middle of the screen: in the whiteboard space. While modes of communication during sessions changed between audio and video, chatbox, or just audio, the whiteboard was always used during sessions.

The whiteboard space is where a writer uploads the draft of their paper that they want to work on during the session. Yet, the whiteboard space isn't exactly the writer's paper.

While WCOOnline does provide a way for students to download the whiteboard space as a word document, most writers don't choose this option. Uploading and downloading the paper usually changes formatting, so instead, writers will use the whiteboard space as a reference for what they need to change. Hence, the digital whiteboard space is less like the student's paper and more like exactly what it is named after: a physical whiteboard. It is a temporary space where the writer's paper exists in an editable, collaborative format, which is—above all—temporary. Like other whiteboards, the WC Online whiteboard space would usually get referred to for notes and then wiped away.

But unlike other whiteboards, this one is the space where the writer and tutor can work collaboratively: writing, rewriting, and revising a sentence within the paper at the same time. And while this is not an exact parallel to the oral writing-revision space, it does include feedback that is given spontaneously and reviewed immediately. It also has the best-recorded data on WC Online because the site records each revision made by the session's participants. Each revision is highlighted in a color specific to the person typing, which keeps track of the tutor and writer utterances. This means that even if whiteboards were cleared by the end of the session, researchers can still go back and access every revision or comment made by the tutor and writer within the whiteboard space.

Upon deciding the space I would be working in, I could then start applying for IRB approval. Part of the application process required the data abstraction method: a relatively easy step. Yet, the application process itself took almost a whole semester. During the drafting, revising, and waiting process that *is* IRB

applications, I was finding and drafting coding methodologies I could use in my research. I'd begun experimenting with different forms of tracking data as well.

As previously mentioned, I'd hoped to base my coding method on previous research. Further searches revealed that, while there was some writing center research on the chatbox of synchronous sessions, there was little previous research on the whiteboard space, and that which had been published (Hewett), was almost fifteen years old and was not published in a writing center specific journal, so I was not aware of it until after completing my project. I speculated that this could be because getting permission to conduct such research can be difficult since the whiteboard contains a writer's intellectual property. If researchers wanted access to the entire whiteboard in their published research, they'd need to get consent from every writer they chose to include in the study. Furthermore, considering data-driven research requires a reliable data-set, which is typically better if it comes from a larger pool of participants; this would make large-scale, data-driven research on the whole whiteboard space next to impossible. Another consideration is that the whiteboard space is, on some level, the writer's paper itself. Considering previous writing center lore discouraged tutors from writing on their writer's paper, the whiteboard space may have seemed like it was off-limits to research. In the end, even though my research study didn't use the whole of a writer's paper, I did need a FERPA waiver to obtain IRB approval.

In short, there is little previous research on this specific topic. This meant that in order to even start with a coding methodology, I'd need to create and test a coding system first.

This took an unexpectedly long time. As a result, my research project shifted away from identifying writer/tutor interactions akin to the oral revision space within the whiteboard and turned into an attempt to create a coding methodology specific to the whiteboard space.

IDENTIFYING A CODING SYSTEM

The lack of whiteboard-specific research meant I'd need to take existing coding systems and adapt them for the whiteboard space. While this was daunting, it was also exciting. I think Nidhi Gandhi put it best in her article when she recounts a similar situation in her research: "I would be conducting this study on a blank slate—I was pumped, I was a pioneer!" (152). I too would be conducting research in a new area. I too was an undergraduate, and I had no previous understanding of how to create a coding system. Even more intimidating was the lack of research on synchronous written feedback, meaning this would be the first attempt at a coding methodology specific to the whiteboard. Potentially, I would be building a foundation for whiteboard analysis, and I could discover new things about the virtual space.

The final coding system is a mix of two different research papers. First, Mackiewicz and Thompson's article, which identifies three main forms of tutor feedback, each with subcategories: instruction (telling, suggesting, and explaining), cognitive scaffolding (pumping, reading aloud, responding as a reader, referring to a previous topic, forcing a choice, or prompting, hinting, and demonstrating), and motivational scaffolding (showing concern, praising, reinforcing students' ownership and control, using humor or being optimistic,

and giving sympathy and empathy). Some of Mackiewicz and Thompson's subcategories weren't relevant within the whiteboard space, since certain categories were exclusively verbal, like "reading aloud." Additionally, the only subcategory of motivational scaffolding that existed in the data I collected was praising, meaning that the other categories were not captured by this study. This could be because subcategories like using humor or giving sympathy and empathy are best conveyed through verbal cues or emojis that might be used more in the chatbox.

Next, I realized that I had to add in some new categories of instructional feedback occurring in the whiteboard space. Instructional feedback in this study had two different types of direct feedback (called "telling" in Mackiewicz & Thompson) because some direct feedback was mitigated through non-syntactic symbols. Direct feedback is a direct revision to the writer's paper, such as putting in a period or comma. However, direct mitigated is slightly different. For example, a tutor may change a word, but they offset their edit with parentheses or brackets. In one instance, a tutor crossed out a writer's word and replaced it with "*right or idea*." Here, the tutor offered more than one revision to a single edit ("right or idea"). These two revisions were mitigated by the asterisks. This particular kind of feedback is not possible in in-person sessions and had to be differentiated from Mackiewicz and Thompson's "suggestion," which also occurred in the whiteboard space. In suggestion, a tutor offers a revision that is mitigated by words. For example, a tutor in one session writes, "I feel that you could benefit from adding in a bit more detail to this section." Here, the change the tutor suggests is "adding in a bit more detail

to this section,” and the syntactic mitigation is “I feel that you could benefit from.” Also included in this study was reformulation, a method that’s somewhat similar to oral revision but occurs exclusively in written format (Ellis 104). The specific coding categories and subcategories are presented in tables 1 and 2 below. In reformulation, a tutor entirely rewrites a writer’s sentence in an attempt to make its content more clear or accurate. In one case, a tutor rewrote the phrase “because their

professional and economic success depends on it” as “through professional and economic success because their livelihood and safety [depends on it].” Additional forms of coding from Mackiewicz and Thompson didn’t need to be recontextualized in the whiteboard space. Strategies like “pumping” and “praising” didn’t change much when written in the whiteboard space. All of the instructional strategies and their definitions are described below (see tables 1 and 2).

Table 1: Cognitive and Motivational Scaffolding Methods

Cognitive Scaffolding Methods	
Pumping	A tutor asks an open-ended question to spur writer response to develop the content of the writing (Mackiewicz & Thompson).
Responding as a reader	The tutor paraphrases the text to demonstrate their understanding of meaning (Mackiewicz & Thompson)
Motivational Scaffolding Method	
Praising	A tutor identifies a strength in the writer’s work (Mackiewicz & Thompson)..

Table 2: Instructional Strategies

Instructional Strategies	
Direct Unmitigated	Tutor provides student with a correction (Ellis).
Direct Mitigated	Tutor provides student with a correction that is mitigated through a non-syntactic symbol, like a set of question marks, parentheses, or brackets.
Identifying Problems	Tutor identifies an error in the writing (Mackiewicz & Thompson)..
Suggestion	Tutor offers a mitigated revision that is communicated through words like “consider changing” or “how about changing,” rather than exclusively with a choice of punctuation. (Mackiewicz & Thompson).
Explanation	Tutor explains or exemplifies a reason for an offered revision (Mackiewicz & Thompson).
Reformulation	Tutor offers a rework of a writer’s sentence while keeping the original content intact (Ellis).

DATA ACQUISITION

Before the research could be coded, data had to be extracted from WC Online's record of Fall 2020 sessions. Dates and sessions were randomized, a data set of fifteen sessions was extracted and transcribed into a table in a Microsoft Word document, which allowed for the easy removal of identifying information, and saved to a folder. Highlighter colors chosen by the tutors and writers were recorded, along with each utterance made by a tutor, the initial draft uploaded to the whiteboard space, and the final draft. In linguistics terminology, "utterances" include written communication. For the purposes of this study, utterances are defined as anything a tutor or writer writes in the whiteboard space, excluding of course the initial document upload. This includes punctuation for the purposes of this study. All identifiable information was removed from the collected data, ensuring that the study wouldn't need consent from the participants of each session (as the IRB approval stated). After writing center sessions were properly formatted and saved in Microsoft Word documents, the tutor utterances were coded and uploaded into the data-counting spreadsheet.

THE CREATION OF DOUGLAS

I realize this section title may be a bit of a surprise to readers, as they might be wondering "What/who is a Douglas?" Well, I'm sure many readers can agree that doing a research project can at times feel overwhelming, isolating, and exhausting. There came a point in this research where I began questioning myself. Had I taken on too big of a project? Or was it the lack of human interaction and

isolation that the pandemic had thrust upon me? One night I was up late, staring at the spreadsheet I'd been working on for the past week. We had gone through a lot together, that spreadsheet and I. We learned about all of the different sum functions on Google sheets. We discovered all of the different kinds of data representations that could be created right there in the spreadsheet. We'd revised, rewritten, and reversed so many things together, and I felt like I'd made a friend. This beautiful, time-consuming spreadsheet had developed a personality of its own and, I decided, needed a name. Hence, Douglas.

Douglas stored and quantified individual tutor utterances, ensuring I could refer back to the whole whiteboard, saved in the initial data acquisition (occasionally needed for context). Rather than having documents of individual sessions from the initial data collection, I wanted to have a broad view of the individual utterances in every session. There were 200 utterances in total, and Douglas, my very own creation, did a good job quantifying and representing them.

The first draft of Douglas took seven hours of researching the sum function in Google sheets—inverting, reverting, and inverting the data columns again; and deciding on an aesthetically pleasing color scheme. This first version of Douglas proved to be inefficient and overly simplistic, merely counting the number of utterances each subcategory had, as well as the totals for each category overall. This version of Douglas had no way to ensure that I'd correctly transferred the data from the initial data collection sheets. Hence, I had to go back to the drawing board.

In its final version, I copied the utterances collected in the initial data acquisition

documents into the newly designed spreadsheet. The types of feedback and feedback totals were calculated on the left, while the utterances were put in on the right. With the utterances preserved, I could easily refer back to the initial data collection sheets to review the context in which the feedback was given. Because of this, the process of verifying the data went faster and was more accurate. In addition to recording the different types of feedback, I included checkboxes that would record utterances that were grouped with other utterances (see figure 1). For example, if one sentence had two different forms of feedback, I would check each box correlating to that comment, as illustrated in figure 1 with the identifying problem and explanation categories in group occurrences. This was just to track which forms of feedback were often grouped with other forms of feedback. Unfortunately, Douglas did not record which forms of feedback were most often grouped together. For example, while I

may know that 52% of motivational scaffolding utterances were grouped with other utterances, I do not know what they were grouped *with*. Nonetheless, given that the project set out to test a coding system, Douglas effectively tracked the necessary data.

There may be improvements needed in his handling of data for future projects, but given his growth throughout the study, I'd like to say that I'm quite proud of Douglas. While I'm sure there are other methods of processing this kind of data, Google Sheets was the best at adapting for my specific needs as well as being highly user-friendly to beginners. For starters, all of the versions of Douglas were automatically saved. So if I had horrifically ruined the spreadsheet, I was always able to restore it to a previous version. I was even able to create pie graphs and charts that automatically updated as I put in information (see figure 2), which gives a clear sense of the predominance of instructional feedback in my data set. Given this

	12	3/22			
Instruction			2	12	
Direct Mitigated			0	0	
Direct Unmitigated			0	2	lab --> Labs provide->provided
Identifying Problems			1	1	this part seems very sudd
Suggestion			0	8	(get more people) explain
Explanation			1	1	since the paragraph does
Reformulation			0	0	
Cognitive Scaffolding			0	4	
Pumping			0	4	(physical or mental?. what is this respons
Responding as a Reader			0	0	
Motivational Scaffolding			0	0	
Not Feedback			0	0	

Figure 1: Screenshot of Douglas

Overall Totals

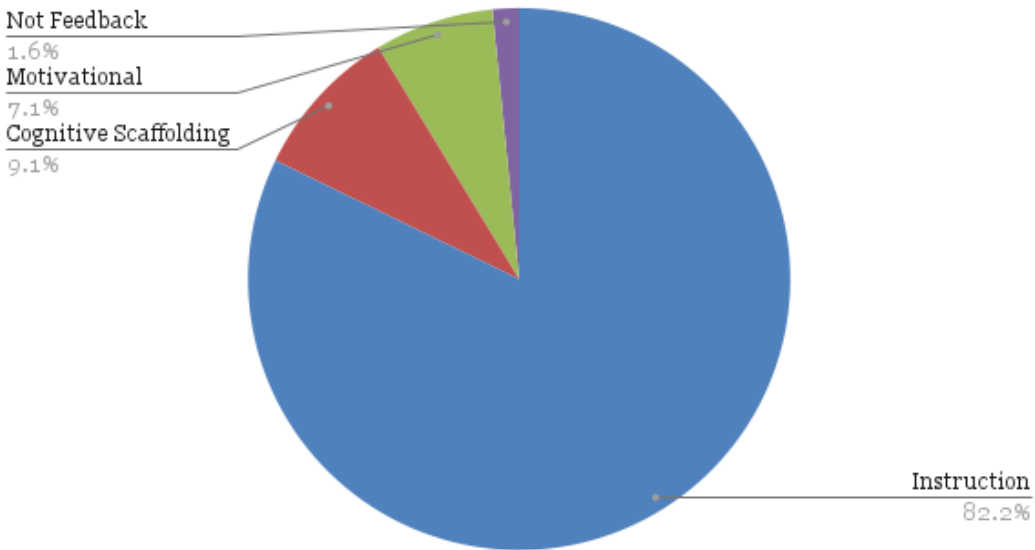


Figure 2: Image of data representation created via Douglas

is my first attempt at handling a large data set, I'm sure he'll always have a special place in my heart.

CONCLUSION

This study has demonstrated that while some forms of feedback are unique to the whiteboard space, such as direct mitigated, the majority of in-person tutoring strategies can be replicated online in a shared writing space. Utilizing a methodology specific to the whiteboard space reveals these differences and shows some of the strengths of an online, collaborative writing space. While this sort of collaboration is comparable to the oral-revision space, some writers may benefit more from a collaborative

written-revision space. In sum, this study reveals that within differing online and written spaces, tutoring methods change to adapt. However, broad tutoring strategies like instruction, cognitive scaffolding, and motivational scaffolding are all still present.

This study was trial and error, as the coding methodology was developed and adapted, which is part of the learning process when creating a data-tracking system for the first time. Often, I'd make a change to the data-tracking spreadsheet, and I'd have to go back and re-input all of the data I'd collected previously. That said, while this paper is written as if the creation of a coding methodology, IRB applications, and data collection was linear, it most certainly was not.

While this data set was not enough to be representative of the entire Fall semester at UIC (which would have been over 90 sessions), it was enough to gain some insight into the whiteboard's function. This study didn't code writer utterances either, so while this method can effectively represent the way tutors give feedback, it doesn't offer insight into how the feedback was received. Furthermore, I have no way of comparing the data I collected in the whiteboard space to the audio or chat box in the sessions. For example, if a writer was using the audio function of the session and commented on an edit the tutor made, researchers would have no way of knowing. This means that some of the information recorded in this study could be a direct result of a discussion that a tutor and writer could have been having through audio, a context that might change the way we view the instructional feedback that shows up in this study. Still, while this research is limited and new, creating this methodology hopefully gives other researchers a starting point for analyzing the whiteboard space.

With whiteboard coding methodologies established, future studies could modify or develop them as more research is conducted. Given the whiteboard is an invaluable tool in online sessions (without the whiteboard there'd be no means of sharing a paper), more

research could consider the whiteboard space alongside the audio or chat box interactions, revealing motivation behind a tutor's actions in the whiteboard and contribute towards better preparing tutors for online spaces. Finally, creating a data tracking system that accurately represents highly collaborative sessions is crucial to further understanding the whiteboard space and could reveal how spontaneous revision can occur outside of the oral-revision space.

Given the uncertainty with what the future holds with this or future pandemics, whiteboard spaces could be a way to transition into the in-person space. While COVID-19 restrictions preclude students and tutors sitting close together peering over a paper, they could sit across a table with sneeze guards in place, using the online whiteboard while they chat, giving them a safe place to work while providing them with in-person collaboration. Offering an online, collaborative writing space during in-person sessions could create a more versatile tutoring session that better accommodates some writers' needs. During the past year, we've spent so much time trying to replicate physical space in a virtual space, but as we move back to in-person activities, we could consider how the virtual space can better inform our physical ones.

NOTE

1. While there is a "live chat" option, where tutors and writers can see each other type in real-time, many turn this option off. Additionally, there is no way to know what spontaneous revision was happening in these cases unless participants pressed "send" after every word. Hence, spontaneous sentence collaboration doesn't happen very often in the chatbox, as sentence writing and re-writing aren't as well-supported in the chatbox as in the whiteboard space.

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