

Improving the Teaching and Learning of Writing through the Writing Studio Model

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Abstract

This paper presents the results of a pilot collaboration between the University Writing Center and a senior-level Electrical Engineering course. To address the growing need for engineering students to improve their written communications skills, the professor added a research project to their class. Students then participated in a required writing studio, a writing group of five to seven students who provide feedback to one another on their writing processes throughout the semester. The writing studios are facilitated by the University Writing Center undergraduate peer tutors, some of whom are also engineering students. Research in writing studies show that simply assigning writing will not necessarily improve writing skills. The students find the assignments disconnected from the course content, and do not have the knowledge to move into disciplinary writing. Teaching writing, however, takes time away from content instruction. To integrate writing into their curriculum, engineering professors need pedagogical models that provide writing support to students without eliminating content instruction time. The writing studio model, developed by researchers in the field of rhetoric and composition, provides an environment outside of the classroom to support the students as they develop into disciplinary writers. Using a case study approach, the researchers analyze initial data from this pilot course. Students not only practice writing but also responding to others, thereby increasing their understanding of the writer/reader relationship and the necessity of revision, rhetorical context, audience, and genre. In addition, because the writing studio requires collaboration between the professor and the Writing Center, and because the Writing Center tutors observe the students in the activity of writing, the studio also provides a feedback loop for those engaged in teaching writing. All stakeholders receive feedback on how the students interacted with the assignments and the studio process, and how the assignment and partnership might be revised so as to make them more effective. Finally, results show Writing Center engineering tutors engaged in metacognitive thinking about writing in engineering, and applying their own writing and communication skills.

Keywords—writing; writing studio; writing center

Introduction

The call for engineering students to develop skills as writers and communicators has become commonplace. Engineering programs hear from their advisory boards and professional organizations of the importance of improving the written communication of their graduates [1], [2]. Educating students to become engineering writers, however, cannot happen in any one course. Given the complexities of disciplinary writing and the number of audiences a student will be communicating with once they enter the profession, a single course in writing is not adequate for students to develop as writers. Instead, research in writing studies has shown that for students to mature into disciplinary writers, they need writing experiences in a variety of courses across their majors [3], [4]. Ideally, these experiences should expose the students to a “varying methods, approaches, interestes, vocabularies, etc., toward building a complex, but organic sense of the structure of the discipline” [3].

Engineering educators, however, face constraints on both their time and their pedagogical knowledges in creating ideal writing experiences for students to mature into disciplinary writers. Teaching writing requires time. For students to engage with their assignments meaningfully, they need interaction and feedback from others, whether that be the professor or their peers, as they move through the writing process [3], [5]. In addition, best practices in writing requires professors to give extensive, “contextualized feedback on papers, especially early in the course” [3]. Providing contextualized feedback on multiple drafts takes time, especially when classes have forty plus students enrolled. In addition, engineering faculty have not been trained on responding to student writing or to teaching writing within the classroom. Their knowledge is in engineering.

One solution for engineering educators in developing writing experiences for their students that promote development of disciplinary writers is to collaborate with writing studies scholars in their writing programs and writing centers at their universities [6]. Partnerships between writing centers and those teaching writing within their disciplines has been occurring for decades [7]. These partnerships can, however, easily turn into “outsourcing” of writing to the writing center rather than an opportunity for program development that draws on the expertise of each stakeholder [7]. When collaboration between engineering and writing centers offer opportunities for communication between stakeholders, those collaborations can not only support engineering faculty in the teaching of writing but can also provide valuable insight into program development, assignment design, and attitudes toward student writing [6].

This paper explores a pilot collaboration between a university writing center and an upper-division electrical engineering course using the writing studio model, a model developed by Grego & Thompson for developmental writers [8] and modified for partnerships between writing centers and writing intensive courses within the disciplines. The paper describes the writing assignment and the studio model, and then offers preliminary findings from the first semester of implementation. The authors conclude with implications for engineering faculty teaching writing within their disciplinary courses.

Course Description and Assignment Design

Acting on input from the External Advisory Council, the Electrical and Computer Engineering Department at the researchers’ institution has begun discussing ways of adding a writing component to a course at each level of the major. The department plans to start with the senior course, and in each subsequent year add a component to a junior required EE course, then at the sophomore level, and finally in an introductory freshman course. This way the modification is slowly rolled out in a four-year schedule. The course selected for the inaugural attempt to embed writing into the curriculum is the last required Electrical Engineering lecture course that students typically take in their senior year during fall semester, Material Science. This course spans a wide range of topics that are relevant no matter the field in electrical engineering the student wishes to work.

The professor of the course assigned a research paper on any topic related to Material Science. His goal was for the students to research a topic, concisely summarize and write about it, and then act as peer reviewers. From this assignment, he hoped that students would get the experience of having their writing critiqued as well as critiquing someone else’s writing, as students will need this skill set when they leave the university. Because the research paper spanned the semester, the writing studio model seemed a perfect fit to support

the student writers in the course, and to provide more opportunities for them to give and receive feedback.

The Writing Studio Model

The Writing Studio model offered by the Writing Center is modified from Grego & Thompson's writing studio model [8]. The writing center director had implemented this model in a Writing in the Disciplines program at a former institution with positive results [9], [10]. Most easily explained, writing studios are facilitated writing groups that meet throughout the writing process outside of the classroom environment. Studio members bring their writing-in-process ("drafts") that they are working on for class to the group. The group's conversation centers around those drafts and the needs of the writers. Students act as an immediate audience [11] for one another, helping answer questions or coming up with questions, brainstorming ideas for moving forward, or giving actual reader feedback when drafts are further along. In addition to the students, a facilitator – in this case, a writing center undergraduate peer tutor with additional training in group facilitation – participates in the groups, providing feedback on each draft and modeling how to respond to writing with one another. The studios are a student-centered space. Facilitators do not come with a formal lesson plan, nor do they act as a teacher's assistant. There are no "instructors" in this space, and no grades.

Ideally, the studio model provides a space where students can receive the contextual, reiterative feedback they need to mature as writers. In addition, they practice providing that feedback to one another, developing as readers as well as writers. The writing facilitator provides a non-disciplinary audience, which means that the students provide the expertise in their own areas, and practice communicating the content that they are learning to those outside of the course that they are taking. As they talk with one another about their papers, the students have the opportunity to revise as they write. Ideally, the students should experience a reiterative writing process similar to the design process in engineering.

For this collaboration, four writing center tutors facilitated groups of five students each. Two of the facilitators were also engineering students. Two of the groups were facilitated online and occurred asynchronously. The groups met four times over the semester, roughly every other week between September and November 2017. Each of these meetings occurred outside of the classroom time and space, either in a reserved small group room in the library or in the Writing Center.

Methods

Because of the necessary collaboration between the professor, writing center director, writing center tutors/facilitators, and students, the writing studio model makes visible how students experience and process the writing assignments in ways that are not visible without the collaboration. For example, because students are talking with their groups and with their facilitators while they write, researchers can "see" how students are processing and responding to the assignment. When those teaching writing pay attention to the visibility of these processes, they can learn from these moments about the teaching and learning of writing. Grego & Thompson call this process "interactional inquiry" [8].

To foster interactional inquiry, researchers gathered several pieces of data. Facilitators kept notes about what was discussed in the groups after each session. Facilitators also met every other week to discuss how the students were responding. From those notes and meetings, the

writing center director could provide insight to the professor about how the students were responding to the assignment. The professor added a pre- and post-survey to his class, asking the students about their expectations of the studio process. Finally, the researchers sent an open-ended survey to two of the groups after the semester of the implementation.

Although the sample size is small, and the results are preliminary, the project did lead to findings that show both the possibilities in and limitations of this model. To provide focused feedback, researchers used a case study approach. Findings, then, are primarily from two of the groups, groups that were facilitated by a writing center tutor who is also an engineering major.

Findings:

I. Students who participated in the model did value the process.

The goals of the writing studio model for the writing center director and facilitators were not only to improve the final writing products, but also to make visible the processes writers engage in while writing. For example, studios can provide an environment where students connect the value of the research to the writing that they do. This connection is not always a transparent one for students. Studios also make visible the audience writers must keep in mind when engaged in the act of writing. In addition, because student conversation revolves around each group members ideas, and because they are helping one another not only with editing but also with idea generation and revision, the studios make visible the social nature of knowledge creation that results in a written product.

Researchers do have some evidence from the session notes and from the surveys that the writing process was made more visible for the students, and that they valued this visibility. For example, after one session, the studio facilitator wrote: "We all noticed [the group member's] paper was focused on his own research, that he was doing on his off-grid solar system and not about current and future advancements of a specific material related to the solar field. We came to the conclusion that he would need to alter his focus before moving forward with the drafting process. All in all, a productive use of everyone's time."

After another session, the facilitator noted that the students had moved from questioning the process of the studio, to actively engaging in both providing and asking for feedback on research and on writing. The facilitator wrote: "They both immediately opened up in asking questions. [One student] started asking for my approval stamp on research articles, and [another student] felt comfortable enough to admit he was struggling to do research at all. I helped [student one] find the database page that [another facilitator] had recommended, and he began to crank out relevant research articles in a word document, and [student two] and I looked over his abstract."

After one session, the facilitator noted that from the discussion, the students moved from talking simply about their own papers to talking about the value of learning to be better technical writers. She wrote, "[Student one] read out loud portions of a research article that was particularly atrocious, and we discussed how important it was that technical students learn to write well. It was awesome to hear the consensus that all of the students found this valuable."

Of course, the facilitators are attuned to look for the students participating in what is the writing center's understanding of writing as a social and relational activity. One facilitator,

filling in for a session, noted that she saw this social activity happening: “First, as we talked about one person's question, the other students were making notes and edits and applying what we were discussing to their own work. For example, talking through [student one]'s conclusion gave us the chance to talk about what the conclusion should do--most of them found that helpful. Same with references... Second, the students really saw how useful it was to have writing done before coming to the group... Third, the shared authority (my knowledge of writing and their knowledge of EE) really worked. I felt like everyone had something to offer.”

Admittedly, the value of the social interaction might have been more visible to the facilitators and writing center director than to the students. That said, the researchers do have evidence that the students who may have initially struggled through the writing process did find the studio process valuable. The professor gave an informal survey to the students at the beginning of the course and at the end. In the survey he asked for their initial thoughts on working with the Writing Center for your Technical Review Paper, and then later what their current thoughts were (see Figure 1, Figure 2).

The professor read the survey to suggest that “that the negative people became less negative, the indifferent became more positive, and for some reason the very positive became less positive” (personal exchange).

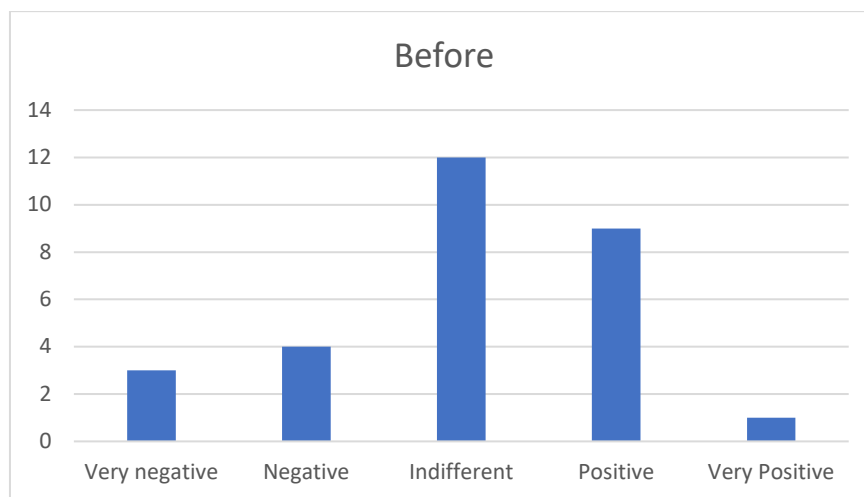


Figure 1: Student poll before Studios

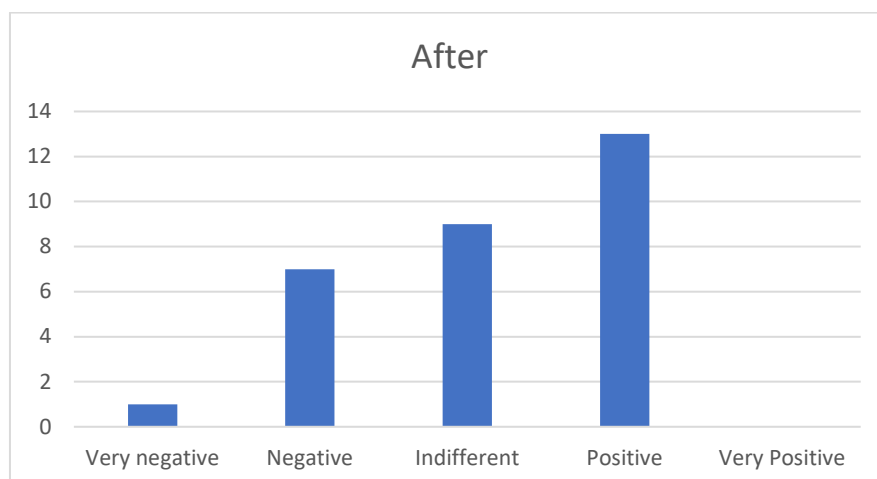


Figure 2: Student poll After Studios

A student's response to the survey sent to the students after the class was over gave some insight into the initial responses. When asked about the value of the studio to the overall process, the student wrote, "They were overall beneficial for most students. Students who were already excellent writers benefited less from the sessions but other students with less writing experience were introduced to better writing practices." One might interpret both the responses to the class survey and to the post-course survey as indicating students thinking that the studio process would offer direct editing and feedback on their papers so that they could revise and obtain a higher grade. For students who consider themselves excellent writers, the goal of making the writing process more visible may not be as valued since they already expect a higher grade. The value gained may be less visible. For students who are less confident in their writing, the value of seeing the social nature of the writing process can make a difference. The impact is more directly visible to their final product.

II. Facilitators did engage in metacognitive thinking about their own development as a disciplinary writer.

Writing studios are most often facilitated by a writing center tutor who is not a student in the same discipline as the students in the group. Much of the time the decision to have a facilitator who is not in the same discipline is based on available resources - writing center tutors who are engineering tutors, for example, not existing in great abundance. For this project, however, two writing center tutors who are also engineering students were available to facilitate the studios. Both gained an awareness of their own identities as writers and as engineers through their work facilitating, suggesting that the writing studio model provides an opportunity for writing center tutors to engage in metacognitive thinking about their own development as a disciplinary writer.

The facilitators did note the difficulty in keeping their roles as engineering student separate from facilitator, and noted that they had to negotiate when to bring in their engineering knowledge and when to act as an outside audience. One facilitator noted in her session notes, "An interesting reflection for me during this studio was that my first tendency when working with engineering students (especially those that I know in some context) is that I transition into being a team member rather than being a studio facilitator." She knew from her tutor education that the team member has a slightly different role than that of facilitator, and worried that her dual roles might affect her ability to model talking about writing.

Her metacognitive thinking led her to view her home engineering culture from an outsider's perspective:

I began to notice things about my discipline that I take for granted in context of being an engineering student. As soon as these interactions were taken outside of the normal spaces I operated in social rituals with other engineers (my first studio met in the writing center) I became an observer of this culture, removed from the interactions temporarily, and placed in the role of facilitator. This role fluxed occasionally - for example, in the first studio group composed completely of white men, the first question of one of the students was why I was qualified to be a facilitator (I am a female engineering major, and I automatically balked at a recognized trope, no matter how intentioned or unintentioned the question was). I think, with members outside of my discipline, I would have responded to this more genially. Instead, I began listing my qualifications, politely explaining that I had worked in the writing center for two years (longer than most tutors) and that I had worked with countless engineering

graduate students on their thesis and dissertations, and that I too, was an engineering student.

This outsider/insider perspective gave her a chance to reflect on the studios in ways that both show her development as an engineering writer, and give those teaching writing insight into the student writer perspective:

I was in the midst of my own engineering education project at the time that I began working with the studio groups of fellow engineering students - not in my program, but within the college. Together, but different, we shared few work similarities, but many course and instructional similarities. We overlapped in things such as the engineering design process, but not often in the projects we applied it to. . . .As I watched the student's progress through the weeks, I noticed themes that were similar in my own educational experience, yet instead as a facilitator and outsider, and less as a peer. For example, on a week where I had just recovered from some particularly exhaustive coursework, my Thursday morning early studio was missing a student, and those present looked like hell and barely participated. It was an exam week. I had a really hard time holding these students accountable for the drafts we had all agreed they bring this week (and all failed to) when I knew exactly what they were going through. I knew, in their position, I would have absolutely considered skipping these studios. . . .They just wanted to get the work done and get out - and I couldn't blame them. Unfortunately, with the studio model, and I believe with most writing models, you have to be able to show up and function, but with nothing immediately due, I could completely understand why they would prioritize their other work... because I would have done the same myself.

Providing opportunities for students to reflect on their own development as writers is an important aspect in the maturation of disciplinary writers [3]. From this engineering student acting as facilitator's experience, the writing studio provides a rich opportunity for such reflection. The writing studio model provides a learning environment for the studio facilitators as well as for the students enrolled in the course.

III. Collaborators may require more communication around what constitutes “improved writing” when implementing writing curricula.

As stated in the introduction and writing studios sections of this paper, the writing studio provides particular value to those engaged in “interactional inquiry” [8]. Through interactional inquiry, those engaged in the teaching of writing can create more effective assignments and models. The writing center director did share the facilitators' insights from each session with the professor, for example, letting him know after the first studio that students did not understand why they were to write an “abstract” for their proposal since all of the resources on writing said to write the abstract last. A simple shift to calling the first assignment as “proposal” rather than an “abstract” could make the assignment more clear to the students.

What the session notes from the facilitators suggested, however, is that the writing center director and professor could have engaged in more conversation about what the writing assignment's purpose was prior to the studios in order to create a more meaningful experience for the students. For example, one facilitator noted that the students in her group questioned the amount of time they were to spend on research and writing. She wrote, “One important thing to note from this studio was that [the professor] had given students an

estimate that the paper should only take students 8-10 hours total to complete.” At that session, the second, students reported having spent six hours minimum on their research. At the end, students reported an average of twenty hours. Many resented the added time, noting that additional assignments had not been reduced in order to compensate for the time the research and writing process would take. If the writing center director had asked more questions at the beginning of the collaboration, she could have suggested to the professor that the 8-10 hour estimate was low. Because she sees writing-in-process daily, she is aware of how much time research projects take.

In addition, the students indicated that they did not know how much time to invest in the writing process, as they did not know how much time the professor would spend grading and giving feedback on the paper. In fact, because of the class size and the time it takes to give feedback, the professor did not spend much time giving contextualized comments to each student. As [3] found, such contextualized feedback from the professor is important in the students’ development processes. Because the writing center director has studied best practices in writing, if she had asked more questions about how the writing would be graded at the beginning of the collaboration, she could have offered that knowledge to the professor before the semester began. Perhaps they could have discovered a way for the professor to offer feedback during the writing process that was not too labor intensive. Having more in-depth discussions about what the professor valued as “good writing,” and what the ultimate purpose of this particular writing assignment in this particular course was would have made the overall studio process more valuable for all involved.

Conclusion:

Although the pilot partnership was not perfect, the studio model did provide value for many of the students, opportunities for metacognitive reflection for the writing studio facilitators, and insight into how future collaborations might be improved. Ideally, the studio model makes visible the social and reiterative processes of writing. Many of the students did value the process – others, not as much. As the professor of the class noted, just like any scholarly assignment, the students that took it seriously got something out of it. The same might be said of those engaged in teaching writing. To illustrate and to conclude, the authors offer the reflections of one facilitator, comparing his groups:

I think I have found a relationship between the studio groups that I facilitate. The group on Monday treats the studio space as another assignment they have to complete in order to receive a grade. They are all motivated students, so they participate (ie. give feedback and bring writing) but it still feels forced. The conversations turn out to be productive when I emphasize what good feedback looks like but for the most part, they read each other's work and give grammatical and organizational feedback. While this is helpful, it is not as productive as it could be. But, they all care about learning. The group on Wednesday truly value the studio as a place to ask questions, receive honest feedback about content, and explore the direction of their paper. We use the entirety of the time and I feel they are invested in this paper because they see the value in writing it. We even talked about how this was the first research paper they had done in years and how they wished they had been practicing it sooner in the curriculum.

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