

Engineering the Writing Center:

The Effects of Current Writing Center Pedagogy on Students in Engineering Disciplines

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Abstract

Undergraduate students attend writing centers to better develop pieces of writing and to thus improve their communicative skills; however, many times the writing tutor is unfamiliar with the subject of the work being developed. Writing center tutors who work with those students in the engineering fields often encounter essays that contain difficult concepts or discipline-specific language. This presents a problem for tutors, who typically use conversation based on the content of an essay to further tutees' understanding of their work (Harris, 1995). Borrowing Bransford, Brown, and Cocking's (2000) definition of tutorials as pedagogical, but content-driven, directive dialogue, my research attempts to understand what motivates prospective engineers to attend writing centers and to give insight into whether content-driven dialogue is the best approach for writing center tutors to use when dealing with works that are in unfamiliar subjects. Participants in this study were undergraduate students who are majoring in, or intend to major in, any of the engineering disciplines at the University of Illinois at Urbana-Champaign, and who have attended the university's writing center, the Writers Workshop. Data from semi-structured interviews with these individuals provided recurring motives for students in similar fields to attend writing center tutorials. In effect, this research produces implications for a more effective framework for writing center tutors to use when faced with the task of assisting students with their writing despite the unfamiliar nature of its content. This composition concludes that undergraduate students in engineering who attend the writing center can develop better writing skills regardless of the tutor's expertise in a specific subject, but does imply a need for further research on the matter.

Introduction

Writing is a vital aspect of multiple disciplines, and thus a wide variety of content-specific documents pass through the hands of writing center tutors. These include documents in subjects that a writing tutor may not be familiar with like biology or engineering. Writing, however, is itself a subject, and can therefore be worked toward improving by using a particular set of skills. These skills include but are not limited to: presenting ideas clearly and in an organized fashion, providing fluid transitions between related ideas, and using correct language and style to address these ideas. Most professors look for these skills in their assignments regardless of the subject that they teach because these are core components of any sample of good writing. Because of the multidisciplinary nature of these skills, they are called transferable skills. There are still, however, more content-specific qualities such as word choice and general correctness that someone who evaluates writing might look for when examining a piece of work (Brammer and Ervin, 1999). Because writing is intrinsically related to its subject matter (Beaufort, 2007), a writing center tutor with a background in English may struggle to see the clarity, or lack thereof, in an engineering student's work that describes something like a complicated scientific concept, laden with terminology unfamiliar to the tutor herself. Because the tutor is unable to fully grasp the content, he must take what the tutee says they are describing at face value, inhibiting the content based, question driven, collaborative frame of tutorials.

Tutorials are based on pedagogical dialogue--learning through talking, essentially, in which a tutor asks questions, and the tutee derives their own solutions from answering them (Bransford, Brown, & Cocking, 2000). This means that tutorials heavily rely on content because writing is inextricably related to its content. Johnson, Clark, and Burton (2015) claim that familiarity with subject matter will cause writing tutors to take on more directive, instructional

tones with their tutees while unfamiliarity will keep the framework of a tutorial as it should be-- equal and collaborative. Dinitz and Harrington (2014), however, present a different view that while familiarity in a subject can make a tutor more instructive, it does not necessarily compromise the effectiveness of the writing tutorial itself. The problem with engineering students, for example, is that the rapport of the tutor and the tutee may fail to go beyond lower order concerns, such as grammar and sentence structure, as the tutor is unable to recognize flaws in the main idea, and the tutee is unable to bounce ideas off of someone who has little understanding of the concept. This means that although a non expert tutor may stay true to the collaborative and equal framework of writing center tutorials, they may not provide as much useful insight to their tutee. The writing session will still of course, improve the writing, especially at the level of improving core skills, but what remains in question is whether the session will achieve the writing center's goal of improving the writer and not necessarily the writing (North, 1984). In this case, the content based, collaborative frame, that serves as the structure for most writing sessions, creates a limit on the tutor's potential usefulness in the tutorial.

Because the dialogue between a tutor and their tutee is based on content, there is the possibility for a tutor to become stuck in a situation where her feedback is only minimally helpful, as in when a tutor can hardly understand the content, let alone give suggestions on improving it. To explain, this is like sitting in a traditional classroom setting, where a teacher spels out information (and occasionally misinformation), and the students are expected only to ask clarification questions, without really thinking critically on the subject matter themselves. In this analogy, the tutor is the student and the tutee is this kind of all-knowing source of

information that the teacher represents. Tutorials containing an all-knowing tutee might limit the tutor's role by preventing him from furthering ideas, and only focus on clarifying ideas, with no way of knowing their truth. After all, the tutor, like the students, does not know the situation, and she does not really have a means to think critically or question the student's logic beyond what is written on the page. Writing tutors who are unfamiliar with engineering topics may feel more comfortable adhering to a new framework for their writing sessions when dealing with students in engineering. I argue that students who are majoring in engineering fields who come to the writing center can benefit from the current collaborative framework of writing center tutorials, despite a writing tutor's lack of experience in certain genres, but that there is still a need for more research on how effective non expert or expert tutors can be in different situations.

Literature Review

Writing is an essential aspect of any discipline, yet there a gap between engineering fields and writing. A gap exists between writing center tutors and their engineering tutee counterparts, and this gap stems from a broader gap between engineering students and the subject of writing itself. What makes writing particularly different for those studying engineering compared to those studying other disciplines is the amount of emphasis on the practice of academic writing that each discipline integrates into their curriculum, as well as the nature of engineering students themselves.

The false portrayal of engineering in the workplace as non-writing intensive contributes to the gap between those pursuing a degree in engineering and their writing. Brammer and Ervin (1999) describe this gap as a "rift between academe and industry" (p.251), and explain that some academic engineers even factor in a lack of writing when deciding to pursue their careers--which

means that students underestimate the amount of writing that their prospective jobs will actually require. On the other hand, some undergraduate students may be well aware of a writing-intensive career ahead, and attend writing centers because they believe that the education they are receiving does not provide them with sufficient writing practice. Brammer and Ervin (1999) describe this gap well when they relate an “almost cliché” (p.251) situation, in which new employees are often unable to write to the same standards as their more experienced coworkers. This presents the idea that an engineer’s course of study may not have prepared them for their writing intensive jobs, a recurrent theme in the relevant scholarship. Kramberg-Walker (1993) for example, agrees that newly hired engineers lack experience in writing due to their previous education, saying that engineers’ schedules are so tightly packed, that students take mostly technical classes with little room for subjects that involve writing beyond first year composition courses. Some engineering students might notice this lack of attention to writing in their classes and wish to develop their skills elsewhere. An engineer’s skill in communication is, after all, “critical to their professional success” (Rohrbach et al., 2013 p.1) and most students will realize this before completing their degrees. Rohrbach et al. (2013) explain the difficulty of managing the already heavy level of discipline-specific courses in engineering with electives or humanities classes that are more writing centered, and they propose to rectify this with a new form of study in which engineering courses have an additional writing component, where students would instead use online tutorials to develop writing skills in the context of the subject they are studying. Most of the skills proposed in this online tutorial, however, like writing towards a specific audience or organizing ideas, can already be developed by attending writing center tutorials.

Mackiewicz and Thompson (2014) describe this type of assistance when they liken the tutor's role to a "scaffold" (p. 56) a ladder between where the student's writing is and where their writing is going to be. For example, if an idea that was written by a tutee is unclear to the tutor, they can ask the tutee to explain the idea to them, have the tutee recognize the need for a clearer version of the idea, and then work on improving it themselves. Mackiewicz and Thompson portray this type of scaffolding as a way to assist the student in writing papers that are clearer or more organized--the same types of skills that Rohrbach et al. propose to teach in their online tutorials, albeit without the automated "expert" in the field, but with the non-expert writing-center tutor. This is similar to the schism discussed earlier between Dinitz and Harrington (2014), who maintain that a tutor's experience in a specific subject can be beneficial to writing tutorials, and Johnson, Clark, and Burton (2015), who argue that a tutor's experience in a particular subject may result in a more instructional, hierarchical approach to writing center tutoring that is less desirable. My research moves away from whether writing tutors with experience in certain genres are more or less effective, and into whether students who come to writing centers from a comparatively obscure field, engineering, are actually looking for tutors with this kind of experience and their attitudes towards writing center tutorials in general.

Methods

I conducted 3 semi-structured interviews with undergraduate students who were majoring in any of the engineering fields at the University of Illinois. Each interview took place in the university's writing center, the Writers Workshop and lasted approximately 20 minutes. The interviews were recorded aurally via cellphone. Interviews occurred 3-5 days after the student had attended a session at the Writers Workshop, and sessions ranged from 15 minute walk-ins to

50 minute appointments. Of the 3 students interviewed, there was only one who I did not have social ties with. Jade, a sophomore in Chemical Engineering, was a friend of a friend. Pearl, a sophomore in Engineering physics, I knew personally. Diamond, a freshman in Aerospace Engineering, had heard of the study after attending a consultation at the Writers Workshop and expressed interest in participating. All participants received a \$5 gift certificate for attending an interview, and all participants were male.

The questions posed during the interview attempted to gauge students' current attitudes towards writing by asking about their typical writing process, recent challenges and accomplishments in writing, and describing a little bit about their major and the classes that they have to take for it. The questions were then narrowed down into how they felt about the writing they had worked on at the Writers Workshop, general attitudes towards their session and their tutor, and how it compares to their ideal version of a writing center consultation. Students were also prompted to answer what types of writing they would come to the writing center for and how they felt about tutors' experience or lack of experience in certain writing genres. After transcribing the interviews, I coded themes based off of how similar the participants' answers were to each other. Each similar response was grouped into one theme and the themes were then labeled as motivations, expectations, and reality. Although my population size was very small, each participant provided valuable insight into what engineering students are expecting from a writing center, and because their responses were so similar, it points towards a trend that may or not become generalizable with more research.

Results

Jade

A sophomore in Chemical Engineering, Jade was the most enthusiastic about attending the writing center and participating in this study. He had attended the writing center for a 15 minute walk in session three or four days prior to our meeting in which he worked on outlining a lab report. When asked why he attended the Writers Workshop he replied that “half the battle when writing those lab reports is just knowing where to start, and just, you know, diving in.” In other words, one of his motivations for attending the writing center was to get started on something. The problem, he said, was taking all of this information and then trying to organize it into something tangible. What the writing center could do for him was “say, ‘alright, now let’s start over knowing what [we] need to focus on next...[and] make sure we hit these certain points,” provide a sort of rubric for Jade to work off of as he continued to write the lab report. In his session, he worked on making an outline for himself and stated that “the outline actually helped out a lot. Like, alright, I’m going to start here, I’m going to get this part done, move on to the next part, so it was really helpful and, I ended up getting a really good grade on the lab report so I was pretty happy about that.”

In other words, Jade attended the writing center because he was unsure how to get started on writing something. He expected a writing center tutor to be able to help him come up with a plan of action, and what he actually received from the consultation was an outline that helped him move through the assignment in a clear way. Although Jade was very happy with his session and indicated that he would definitely come to the writing center again, he mentioned coming in to work on cover letters, applications, or resumes instead of something major specific. When asked why, he replied that there were “all these resources that are actually in the major,” like the Chemical Life Sciences Library and the chemistry department’s open tutoring services, where

there are people who have “already done these before, they’ve done these labs, they know the format, they know the context,” and that for anything beyond transferable writing skills, he would definitely go to these experts instead of to the writing tutors in the Writers Workshop.

Diamond

In terms of motivations, Diamond was not much different than Jade. Slightly more laid-back, this freshman in Aerospace Engineering indicated that he had attended a 50 minute session to work on a paper for a first year composition course and that he “didn’t really know how [he] was going to end up writing the paper, and didn’t know what [he] was going to end up doing,” so he sought guidance from one of the tutors at the Writers Workshop. Unlike Jade, Diamond had attended consultations before and had a more defined expectation of the session. He explained that “even if [he’s] just talking to [writing center tutors], it almost feels like [he’s] learning just by talking to them about it, even if they don’t really have much input. It feels like [he] already know[s] what [he] wanted to know, but talking a bit sort of helped [him] form those ideas into something,” and it is that kind of conversation that Diamond expects and receives from writing center tutorials. When asked about writing in engineering specifically, Diamond stated that he does not foresee much writing in his future, and that the only papers he will have to write as an upperclassman are technical ones, which he does not think he will attend the writing center for. He did, however, mention that he would certainly attend the Writers Workshop if he struggled with clarifying his ideas at some point in the future. He does not foresee this struggle occurring in an assignment related to his major field of study.

Pearl

Pearl was probably the least willing to discuss his writing center experience and that is in large part due to his subpar experience of working on a resume in a 15 minute walk-in appointment. A sophomore in Engineering Physics, what Pearl wanted most was feedback on his writing. He already felt relatively good about the work, but he wanted someone, like a writing tutor, who has seen many resumes, or someone like a graduate student, who he assumed had written many resumes, to give him some constructive criticism based on the tutor's previous knowledge. What he received instead was criticism that he disagreed with. His ideal session, what he expected from a writing consultation, was a tutor that he was "able to build a relationship with, even if it's a short period of time, and get along well and agree on what needs to be worked on," but what he received was quite different than this ideal. He said that he felt that the session was "formal," like a business interaction, in that there was business to attend to and in that there was a certain layer of distance between himself and the tutor. The social part of the interaction was uncomfortable enough for him to label the session as mediocre. He felt like he did gain something out of it, as he followed the tutor's suggestion although he disagreed with it, but that he would rather not go through the experience again. In summary, Pearl attended the writing center because he wanted feedback on his resume in order to help him improve it, he expected a collaborative atmosphere where he and the tutor worked together to find room for improvement, but what he received was an atmosphere of distance that was more instructional and deterred him from wishing to attend the writing center again. When asked whether he would attend the writing center for perhaps a longer appointment or for something major specific, Pearl replied rather humorously that he does not think there will be a need for him to attend the writing

center for something physics-related, as his writing is getting worse with his major because he learns more Greek than English.

In summary, students attended the writing center because they were having trouble getting started on writing a piece, they needed to clarify their ideas or transform them into something tangible, or they wanted feedback on a piece of writing that would help them improve it. Two of the students had overwhelmingly positive experiences with the writing center, while the third had a rather mediocre one which he notably did not attribute to what was actually achieved in the session, but to how the session was conducted. These results show that students in engineering fields who attend the writing center can usually achieve whatever goal it was that brought them to make an appointment in the first place, but that how this goal is achieved is what really matters and what really affects their perceptions of the writing center. It seems that a collaborative, content-based dialogue is effective regardless of subject matter, although each student did mention that for anything more detailed or more specific, they would turn to resources in their major rather than in the Writers Workshop, reinforcing the idea that there is a gap between writing and engineering and bringing to light underlying assumptions about how effective a tutor can be.

Discussion

One of the main focuses of this composition was about the expertise and authority of a tutor. Because writing tutors generally have backgrounds in the liberal arts, like education, communication, and English, how effective can they be when dealing with students in other disciplines like Engineering? Johnson, Clark, and Burton (2015) mentioned that a tutor's lack of experience may allow them to conduct more collaborative, non-hierarchical tutorials in the sense

that the tutor becomes supportive rather than instructive. This is similar to Pearl's experience in resume writing. The tutor had probably seen many resumes as the Writers Workshop has resume review on a weekly basis, and this experience in resume reviewing may have been the very thing that caused the session to become too formal and uncomfortable for Pearl. However, there is the question of whether a writing center tutor needs to establish this genial framework for a session to be effective. For example, Dinitz and Harrington (2014) stated that while a writing tutor with more expertise can become more instructive, more formal in a sense, their input might also be valuable to the student regardless of the uncomfortable way in which the student received it.

In any case, those students who said that they would return, said they would come back mostly because of the collaborative nature of writing center tutorials, referencing mostly the social aspect of it rather than the effectiveness of it. Diamond, for example, talked about how he could clarify his ideas just by talking to writing center tutor, and Jade often used pronouns like "us" and "we" to emphasize the way he saw writing center tutorials--a space where two people could work on something together to achieve the same end goal. Although this conclusion was certainly something that I was not expecting to find after conducting this research, I have realized that the collaborative, content-based dialogue is not necessarily the main issue regarding how students in engineering fields feel about writing center tutorials, but that it is how this collaborative, content-based dialogue is achieved that really affects a student's perceptions.

Conclusion

Even though writing tutors sometimes lack experience in writing similar genres to their tutees, they usually provide the same kind of input that students are looking for when they decide to attend the Writers Workshop. Often leaving a session with more than they had originally

expected, such as a clearer understanding of their ideas and a sort of rubric to follow for future use, students in engineering have a generally positive attitude towards the writing center. This research does not really provide a comprehensive answer for whether the expertise of tutors in writing centers negatively or positively impact students' perceptions of the writing center, but does provide implications that how tutorials are conducted may be more beneficial to research than what is actually being said in tutorials. Most of the research already agrees that collaborative, nondirective, supportive tutoring is an optimal method of teaching, but it is worth looking into how expertise affects the tutoring approach and whether this method is always the better option or if there are other frameworks that can be used in tutorials.

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