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Technical Communication and the Web:
New Directions for Traditional Education

Introduction

The technological advances of our time have made it necessary for students to have a strong background in the use of computer mediated forms of discourse. In order for students to be competitive in the workforce, colleges and universities must adequately engage them with online and collaborative educational experiences. Even beyond a knowledge of basic computing skills the fundamentals of computer information systems, students need to have an online voice and the ability to create documents for the web.

Most universities have well equipped computer classrooms and labs so students will have access to a wide variety of electronic mediums for learning and communicating. More so, students should be encouraged to use multimedia in the classroom and in coursework so that they will expand their voices into various mediums. With this shift in the approach to education, it is now up to technical communication courses to instruct students (and teachers) about ways to fully utilize the web in the production of online documents.

Technical communication emphasizes discourse in various mediums and genres, individually and in groups. The internet serves as an all encompassing platform for communication and collaboration. The fundamentals of web design are taught in technical communication, as well as rhetorical strategies for effectively adapting to the needs of various audiences. Education in this field is invaluable to students. They will probably use the Internet casually to check email and purchase products, but many of them will not know how to use web-design programs let alone different scripts and mark up languages.

Having a broad knowledge of the workings of the Internet will give students a marketable skill and put them at an advantage when they are looking to begin their careers. The web is much more pervasive in the workplace than they realize, and having web-skills is just as important as knowing how to use word processors and spreadsheets to write memos, grants, resumes, and reports. Experience in web design will only give students added opportunities when they are seeking employment. Technical communication courses provide students with the training they need for a practical and theoretical understanding of the web.

Arguably, technical communication should become mandatory. It offers skills that are relevant to all students, and it situates rhetorical skills into the workplace. In addition, the course could only benefit from added input from professors in other departments. The class can become more of a simulation if other departments participate as guest lecturers or in some capacity because technical communicators will work with others throughout a business entity. Some universities already have close inter-departmental relationships, like those who have an integrated writing or communication-

across-the-curriculum program. This trend only has the potential to help students and reinforce what they are learning in the classroom about collaboration.

Technical Communication and the Internet

Technical communication classes offer very practical and marketable instruction in document design, and most classes focus (and should if they don't at a particular university) on the creation of documents for the web. The internet easily allows students express themselves in a variety of ways through the to use multimedia. Not only is master over different mediums a goal of the course, but also an understanding of how to best address audiences in various rhetorical contexts is emphasized.

The exigency of an audience determines the mode of communication, the tone, the genre, and other factors that technical communicators will take into consideration when creating documents for a target audience. More often than not, the technical communicator behaves as a translator of highly specialized, technical data, not necessarily creating a technique or product, but perhaps contributing the derivation of meaning and practical application of technical information for the use of others (Slack, Miller, and Doak 171). The technical communicator most often behaves as a translator of technical information for an inexperienced user, effectively bridging the gap between expert and novice. They do this through the creation of user-friendly instruction manuals, supporting websites and help pages, instructional videos, audio guides, the creation of visualizations, or any other effective means. Other times the technical communicator is presenting information or important findings to other professionals in reports or journals. Therefore, technical communicators will need a fundamental understanding of whatever technology or technological advancement they are presenting in order to instruct others or simplify information so that others may derive meaning.

Rhetoric has historically been seen as the art of audience manipulation, but technical communication has moved beyond that overgeneralization to become a process for understanding audiences in order to better accommodate them. Technical communication researcher Cargile Cook advocates students understanding of audience in relation to the purpose of communication, as well as gain the ability to choose invention strategies based upon the audiences' needs (10). In each stage of communication, technical communicators need to consider the target audience in order to appropriately adjust a presentation.

Visualizations and the internet have made it necessary for students to have artistic sensibilities when creating online documents and graphic designs. As David McMurrey explains in his textbook *Power Tools of Technical Communication*, technical communicators "communicate technical information through whichever communication tools do the job best. These tools include not only writing, but graphics, animation, video, and audio" (McMurrey 2). Texts like Luke Wroblewski's book *Site-Seeing: A Visual Approach to Web Usability* are available to give an in-depth analysis of ways to use various online elements in order to convey meaningful information to various audiences. These texts are important because the web utilizes text, images, sound and video as viable forms of discourse.

Of course, technical communication courses will also encourage the use of multi-media when making presentations offline. Presentations of group projects or individual

work can be enhanced through the use of multimedia. McMurrey even demonstrates that speech and composition have a commonality in this field in a chapter to oral presentations. He explains that when giving oral reports about technical information, presenters should include visual aids like transparencies, flip charts, handouts, slides, video clips, or by using presentation software like PowerPoint (363-4). Processing technical information by ear alone is not always easy, especially if calculations need to be done.

By giving techniques for making presentations on and off-line, technical communication has a relevancy to students who will find themselves working in a collaborative, interactive environment. Technical communication is the most definitive communication-across-the-curriculum (CAC) course available. Technical communicators must interact with people of all fields in the work place, from the creators of a product to the distributors. They have to learn about a product from the engineers, and they oftentimes help marketers identify and gear products to their target audience. Technical communicators must not only learn how to convey information between creators and consumers, but also how to convey it between persons at a similar level of expertise. Technical communicators' skills are relevant to people of all disciplines.

In order for students to fully appreciate how the Internet is relevant in all fields of study, other departments outside of the English department will also need to work with technical communication instructors. Speech, computer information systems (CIS), marketing, computer science, and graphic design instructors should support technical communication classes through guest lectures or through exercises situated in other departments. Aspects of computer programming can be taught by lecturers from CIS and computer science departments in the technical communication classroom, while a lecture on online oral communication could be punctuated by assistance from speech instructors.

Rhetoric in Electronic Communication

Having a working knowledge of the internet is vital to every technical communicator who works with designers or wishes to work in an online environment (something that is important in many industries). If the technical communicator need not know how to create online documents, the internet can still be utilized for conducting research and making contacts.

Many technical writing texts, like McMurrey's, give step-by-step instructions for the creation of various documents using html. He presents the fundamental tags necessary for creating a webpage from scratch, as well as codes for creating lists (bullet, number, etc.), complex tables, highlighting and changing fonts, and he gives the steps for adding image files to web pages. All of these skills will be useful to students if they wish to create documents like an online resume.

Email is perhaps the most widely used form of electronic correspondence in the business world, and so steps for effective use of email are included in technical writing texts. Authors like McMurrey and Pearsall dedicate sections if not chapters on email etiquette, a subject many teachers and employers will discover that students and employees need acquaintance with. According to Dawley and Anthony, many employees lack training in email etiquette so they cause their peers and superiors to feel overwhelmed by the volume of unnecessary emails, and the problem varies according to the employee's education level and years of experience using email (173, 192).

Formalization in the correct use of email is desirable for employers, and many technical communication texts address the problems of email abuse. These types of rules are not always indulged in business or first year composition classes, and this information is vital to any professional who uses a computer in the workforce. Students need to learn that if they take electronic forms of discourse, like email, seriously, chances are that others will be inclined to do so as well.

Personal Experience in Technical Communication

Technical communication classes oftentimes have an emphasis in web design, and some schools may find it helpful to have other design and communication classes that are exclusive to the web. Georgia State University offers a technical communication class and two others that fall into the same category: electronic writing and digital rhetoric.

I took all of the technical communication classes as an undergraduate and as a graduate student at Georgia State University. An importance is placed on the creation of online documents at both levels. The final projects in technical and electronic writing revolved around performing a service (the creation of a website or additional web pages for a preexisting site) for a group or an organization that needed additional help.

In my undergraduate technical communication class, my group reorganized some grammar handouts and we made web pages that were meant to be added to the Writing Center's website. Students felt that the handouts were confusing or not very useful, so we first worked on the presentation and content of the handouts. Next we used Macromedia DreamWeaver to create the web pages. The group then conducted usability tests and wrote a usability report on the whole project. Our web pages were not actually used and the website has been completely updated since then.

In the graduate technical writing course, our instructor asked the class to work specifically on an online document. My team, Michael and Jeremy, followed the guidelines of a professor in the department and redesigned the English department's Rhetoric and Composition website (<http://rhetcomp.gsu.edu>).

At first each of us came up with our own test sites, but we decided to take the better elements of each but use Jeremy's design. Jeremy and Michael conducted usability testing while I wrote the majority of the usability report. The site was made public in the fall semester of 2003.

While the technical communication classes at Georgia State University do instruct on the creation of technical documents like resumes, instructions with graphics, and reports, there is a strong online element that students find to be challenging at times but very engaging.

In addition to these classes, Georgia State University offers specialized electronic writing classes, which are essentially technical writing classes that pertain to online communication exclusively. Classes may vary depending upon the teacher, but as undergraduates we explored the basics of html. In the graduate course electronic writing course we worked with DreamWeaver and other Macromedia tools to make several websites, one of which was a final project similar in nature to those in the technical writing classes.

My group proposed to start an inter-disciplinary E-journal for graduate students, and we created a website for it. We planned to continue working on the website and

hopefully have a legitimate journal going sometime in 2005, but unfortunately the idea may not come to fruition since some of us have or will be graduating by then.

All of these courses demonstrate the importance of the Internet for technical communication. Rhetorical elements like audience analysis, group collaboration, format and structure are all integrated around web-based projects, thereby showing how rhetoric and collaboration are useful on a practical level.

From Academia to the Workplace

The relationship between education and application outside of academia was readily apparent in the classical tradition of rhetoric. Aristotle grounded his teachings beyond theory by making connections between rhetoric and judicial, deliberative, and epideictic proceedings (*On Rhetoric* 3.12-19). Isocrates also grounded his work in the political system and the idea of making useful citizens (Covino 61). This immediate awareness between teaching and application is also apparent in technical communication classes.

Students should immediately recognize just how useful the skills they learn in technical communication courses are for their professional lives. Any added experience using tools and strategies for web-design will be of added utility to those with or without first-hand knowledge. I make this statement based upon personal experience. Thanks to my training in web design in my technical writing courses, I actually found a job constructing websites for Georgia State University.

I looked into an opening with the University Educational and Technical Services (UETS) department and joined a team of production specialists responsible for site construction and quality assurance testing. My job experience with UETS would not have happened had my technical writing courses not focused on web design. I learned how to use DreamWeaver, the one tool I used daily at work, in my graduate and undergraduate technical writing courses. Any and all added experiences in web design are useful especially within a group dynamic where you have to respond to peer and target audience opinions and expectations.

The Greeks related their teachings to workplace application so that students would be able to speak in court, at political deliberations, and for ceremonies. Technical writing classes also teach subject matter meant for practical application—I can attest to this from personal experience.

Making Technical Communication Mandatory

Too much time cannot be dedicated to teaching computer skills in a first-year writing course when there is so much already on the agenda. Technical communication is more than a continuation of the essay writing of first-year writing, for it goes deeper into the application of rhetoric into the workplace. I believe that the class should be mandatory for students because it gives them computer skills and an opportunity to work with their peers and with actual businesses agencies.

I believe that technical communication should become a mandatory course. Technical communicators give instruction about how to interact with people of all disciplines. Technical communicators must interact with people of all disciplines in the work place and be adept at using various modes of discourse. The Internet stands at the

forefront as a leading-edge medium for communication, and it is within technical communication courses that rhetorical aspects of communication through the web can be explored. Concerns like document design and audience analysis are explored in technical communication.

Even if one is a competent writer and has engaged in the same community service exercises that technical writing often requires, the class is still a good experience—skill can only be maintained and sharpened from active engagement in writing. While business majors may know how to perform the requisite research, they may not know the etiquette for email (a big problem in the business world) nor may they have experience making websites for that matter. Graphic design majors may be able to create a visually stunning website, but do they fully perceive the nuances of audience awareness and the creation of user-centered documents? Technical writing examines theoretical aspects that other courses may not address as well as hands on activity.

Technical communication classes can be aided with the help of instructors from other departments, and there should be some interaction between departments in order for this discipline to fully achieve its objectives. This interaction is desirable because students in technical communication will see first hand that their skills, particularly in web design and presentation, are relevant in other fields.

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