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Ethic of Responsibility: Teaching Technical Communication Students the Importance of Ethics

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Introduction

When Carolyn R. Miller wrote her 1979 article “A Humanistic Rationale for Technical Writing,” she was answering a question posed by her English department about whether or not a technical writing course could fulfill a humanities or English class. The question leads Miller to examine much more than the question, which is not a simple question at all, but more like a provocation to examine and defend the field of technical communication.

Miller answers the question with an eye turned to how technical communication professors were teaching at the time and how they could teach better in the future. Miller makes very good points as to why technical communication has humanistic value and lays out a framework for how technical communicators must move from the positivist view into a new form of learning, teaching, and writing.

I have read this article many times in my career as a student and as a professional. The first time I read the article I was astonished, if I, a student who had taken only one technical writing class, could already see technical communication’s humanistic value, then why couldn’t people who were well versed in reading, writing, and literature?

Obviously as a profession, technical communication has come a long way. In my undergraduate classes, I heard technical communication professors claim we were the jewel of the English department, but not everyone felt that way. Many students in other tracks in the English department such as education and literature thought that technical communication was a skill that could easily be mastered by any student in the English department.

Many of these students thought that if they could not find a teaching position or get into the graduate program of their choice, they could just be a technical writer. On more than one occasion I heard students discussing whether or not technical communication should even be in the English department. I took personal affront to these statements because I cannot think of any type of writing more involved in the human condition than technical communication. Technical communicators work in teams, work in corporations, and affect end-users in ways that other writers do not.

With the realization that the field of technical communication has humanistic value, technical communicators, technical communication teachers, and technical communication students must understand that we all have a responsibility to act ethically in our writing and when interacting with other people who are affected by our writing. For technical communicators it is not enough to work during the day and then come home and forget about our documents or our role. Technical communicators do not have that luxury because our documents are out there with the end-users long after we send them off to our teams, our managers and often our quality assurance (QA) staff.

Being a technical communicator and a technical editing manager are responsibilities I take seriously. As a writer, I have to ensure that everything I write is correct and as a manager I have to double-check and approve the writing of my staff. Technical communication is not just a job that I turn off and forget at the end of the day. Technical communication is not a profession I stumbled into because my original one did not pan out. Nor is technical communication a hobby I am doing until my real job comes along. I made a conscious decision to become a technical communicator.

I learned this responsibility in my very first technical communication class at Utah State University, which focused on an introduction to the field, clear writing, team work, and of course, ethics. Emphasis on ethics was interwoven into all of our projects. I listened to stories about documents that went out with errors that affected the end-user. My fellow students and I discussed ways in which the technical communicator could have alerted the subject matter expert or prevented the errors through word choice, sentence structure, or formatting.

The problem with this kind of instruction is that different professors teach different classes and ideas. Some professors are heavy on the ethic of responsibility including ethics in all their courses, and others don't teach ethics at all, focusing only on techniques. Other professors are highly technical and focus on Web design or on-line help, and ethics never cross their minds or their syllabus. The kind of instruction students receive is sometimes the luck of the draw, which is a disservice to the student and to the technical communication profession.

Research question

Are classes that focus on ethics and the ethic of responsibility necessary in the development of ethical technical communicators? If so, how can ethics be taught in technical communication programs?

Methodology

I used a mixed research method for my study drawing on both secondary research and field research. The secondary research was conducted using literature from relevant leaders in the field of technical communication such as Carolyn Miller, Stephen Katz, Paul Dombrowski and others.

I also read numerous books on the ethics of the Greek philosophers. Literature from *Technical Communication Quarterly* and *IEEE Transactions on Professional Communication* were also included in my research. My primary research included interviews with technical communicators in the field who have at least eight years of experience and who are all professionally trained technical communicators.

There are different ways to teach the ethic of responsibility in technical communication programs without trying to change the students' worldview or ethical inclination.

However, because technical communicators are responsible not only for the safety of others, but also for clear documentation, students must be made aware of their ethical responsibility. Technical communicators are responsible to the audience, their organization, and the technical communication community. In order to have a clear understanding of the ethic of responsibility it is important to have an understanding of theories of ethics.

Theories of ethics

This section of the paper summarizes how technical communication scholars and philosophy scholars such as Socrates, Aristotle, and Plato define ethics.

This section also highlights the importance of ethics in technical communication. Finally, this section examines the Challenger space shuttle tragedy.

Concentrated study of ethics in technical communication programs is needed in order to produce ethical and responsible communicators. The study of ethics in the field of technical communication usually breaks up into two positions. One position believes that technical communication is not rhetorical and therefore does not have a great deal to do with ethics. This group believes that technical communication is grounded in facts that are simply relayed by technical communicators. This view is not much concerned with ethics. (Dombrowski 2000, 15)

Two scholars I believe are in the group who believe that technical communication is grounded in fact are Patrick Moore and John Hagge. Hagge wrote “Ethics, Words, and the World in Moore's and Miller's Accounts of Scientific and Technical Discourse.” Hagge applauds Moore for his article in response to Miller’s “Humanistic Rationale,” Moore questions her theory that technical communication is humanistic and rhetorical. Like Moore, Hagge also disputes the claim that technical communication is humanistic and rhetorical. Hagge states, “No few people would trust a professional in any field who made decisions subjectively.” I agree that society will not function with rogue professionals who do not adhere to rules, but society will also not function with professionals who use only facts to make decisions without considering the human cost. (Hagge 1996, 4-11)

In contrast to scholars who emphasize the objective nature of technical communication are the scholars who argue that technical communication always has an ethical

component, scholars such as Carolyn Miller, Dale Sullivan, Beverly Sauer, Mary Lay and Steven Katz. Both Katz and Miller have written about technical expediency and technical excellence, which if left to rise to the forefront excludes all other values. (Dombrowski 2000, 15, 82-83)

I agree that technical communication has humanistic elements and that the ethic of responsibility is an important aspect of technical communication education. The concept of ethical responsibility dates back to the ancient Greeks, and is still debated by today's philosophers.

One of the most well-known Greek philosophers, Socrates, believed that there must be a basic principal of what was right and what was wrong. Socrates' ideas made him question "What is good?" To Socrates knowledge was the highest good; he believed that if man knew what was right, man would act accordingly and do what is right. (Frost 1989, 83-84). Socrates himself believed that living ethically was a very serious endeavor. He strove to teach others his belief and continued his social criticism, which eventually cost him his life.

Paul Dombroski explains in *Ethics in Technical Communication* that Socrates is important to technical communication for three reasons. First, Socrates did what was right regardless of the consequences. Second, he thought that ethics was a matter of pleasing God even though he was a practical man. Socrates believed that in order to be ethical you always had to do what was right regardless of what people around you thought you should do, which eventually lead to his persecution and death. Third,

Socrates is important to technical communication because ethical behavior requires social involvement, whether as a teacher, social critic or civic leader. (Dombrowski 2000, 17)

In recent years, technical communicators have been recognized as adding value in their communities as teachers and civic leaders. In “Leveraging Resources: How an STC Chapter Can Support Education in Its Community and Professional Development for Its Members,” Gail Lippincott and Dan Voss discuss ways that technical communicators can help their chapter of the Society for Technical Communication (STC) by volunteering in their communities, which enables them to be civic leaders and teachers. (Lippincott and Voss 2001)

As civic leaders and teachers, technical communicators must be held to high ethical standards. I agree with Dombrowski that Socrates’ views on ethics are important to technical communication and also to this paper for the following three reasons.

First, Socrates and other ethical people throughout history have put their ethical views before their own personal gain, and in some cases, their lives.

Second, while humans do not need to believe in a deity to be ethical, it is important to have values to ground us and our beliefs, whether those beliefs are religious or just a conviction to be responsible to our fellow human beings.

Third, technical communicators who act as teachers, civic leaders, or social critics in communities must be held to high ethical standards because they help ensure the safety and well-being of their audiences.

Safety as a dimension of ethics is an issue that Dombrowski talks about in his book *Ethics in Technical Communication*. (Dombrowski 2000) One example in particular has always stayed with me since I was child. I, along with the rest of the country and probably most of the world, watched as the space shuttle Challenger blew up on live television.

I was home sick that day and remember asking my mother what went wrong with the Challenger. My mother didn't have an answer for me, but simply replied that something must have gone terribly wrong to cause such a disaster. Later I learned that the truth regarding the Challenger tragedy was just as tragic and complex as the accident itself and that many unethical and poor decisions led up to the accident and the deaths of all onboard.

While there were many issues that led up to the Challenger explosion I am going to focus my attention on the Socrates-like ethics of Roger Biosjoly. Biosjoly, an engineer who worked for Morton Thiokol, tried in vain to put the end-users' safety first and stop the launch of the shuttle.

Biosjoly was a mechanical engineer working at Morton Thiokol, Inc. the supplier of the O-rings. Biosjoly, the other engineers, and their manager all initially argued against launching the space shuttle in the pre-launch meeting that Thiokol held with NASA. The engineers argued about the charring in the O-rings and about the outside temperature predicted the day of the launch. NASA was not pleased about this argument and Thiokol's management decided to have an off-line caucus to discuss the issue.

This off-line caucus is reminiscent of dirty politics and decisions that are kept out of the public eye, which society complains about and considers unethical. (Dombrowski 2000, 132-134)

In the off-line meeting senior management told the manager, who agreed with the engineers about the safety of the flight, to take off his engineer hat and put on his management hat. The manager did put aside his engineering knowledge and agreed to the launch. (Dombrowski 2000, 134)

Even though the engineers, acting as the technical authorities on the subject, strongly discouraged the launch, the managers talked themselves into believing that they were correct and the engineers were wrong. Thus, the managers appeared to be taking a “sophist’s” point of view on ethics and rhetoric and making the weaker case seem stronger or the worse case better. (Dombrowski 2000, 21)

The sophists in ancient Greece believed that there was no absolute truth. This position was prevalent in how they felt about science and technology and in how they believed that knowledge is not the collection of absolute facts that it may appear to be, but only a reflected sort of subjectivity. (Dombrowski 2000, 21) Applying this principle to how the Morton Thiokol managers felt about the shuttle launch is simple. The managers wanted the space shuttle to launch, and there was nothing the engineers could do to change their minds. The management at NASA also wanted the shuttle to launch, so they agreed with Thiokol’s management. The burden to prove without a reasonable doubt that the launch was unsafe was put on the engineers.

Unfortunately, the engineers did not succeed in having the launch cancelled, but that does not mean that Biosjoly did not act ethically or try his hardest to stop the launch. Biosjoly was an engineer and a technical communicator when he wrote the memo to R.K. Lund, Vice President of Engineering, detailing his concerns about the safety of the flight. ([see Appendix I](#) for a copy of Biosjoly's memo) (Dombrowski 2000, 137-138)

This memo is a good example of a rhetorically persuasive technical document. Biosjoly clearly states what the issue is and emphasizes the need for a resolution before the launch. Biosjoly's language is serious, and even though most vice presidents of companies are educated, his language could have been read and understood by a layperson. Biosjoly uses phrases and words that cannot be misunderstood "loss of human life, "criticality" "fear," and "honest." The seriousness of the memo speaks loudly to the audience. Biosjoly acted ethically as both an engineer and as a technical communicator who was trying to save the lives of the astronauts on the shuttle.

Unfortunately, no one listened, the Challenger tragedy occurred, and after Biosjoly testified before congress that he had warned both NASA and Thiokol about the impending disaster, he was shunned at work and eventually had to leave his career as an engineer. Although Biosjoly was not sentenced to death, like Socrates, for acting ethically and trying to alert Thiokol and NASA to the critical flaw in the O-rings, he had to quit his job at Thiokol, and his career suffered. However, on the up side, he has a clear conscience and is still asked to speak to groups about ethics.

Plato, Socrates' student, is equally important to the field of rhetoric and technical communication but in a different way. While most of Plato's ethical theory, which was absolutist and religious, is not particularly relevant to modern-day ethical situations, his belief that the communicator must be ethical and good falls in line with my view on the technical communicator being responsible. (Dombrowski 2000, 17)

Plato, whose views were shaped by both Socrates' teachings and his death, wrote about the relationship of the communicator and the audience in the *Phaedrus*.

In these dialogues Plato explains the importance of a communicator having a loving attitude toward his audience and insists that we should learn what is right before we begin communicating so we don't communicate unethically. (Dombrowski 2000, 18) The idea of loving our audience may seem extreme to technical communicators who have been taught to be objective relayers of facts, but to me, "love" can be translated into being responsible for our end-users and acting ethically on their behalf.

Aristotle was another great philosopher who believed in using rhetoric responsibly. While it is hard to summarize everything that Aristotle believed and stood for in this paper, one idea that he believed in relates directly to the technical communicators' ethic of responsibility. Unlike Plato, who thought that only the elite would know what to do ethically, Aristotle thought that through rhetoric and the discussion of ideas anyone who was paying attention would know the right thing to do. (Dragga 2001, 245)

The belief that we all have the responsibility to act ethically is an idea I share with Aristotle and one that all technical communicators should embrace. As members of teams and organizations technical communicators serve a crucial role and share

responsibility with our team members and QA. Technical communicators cannot rely upon our subject matter experts (SME), project managers or QA to find technical or ethical errors in documentation. Technical communicators must pay attention to all aspects of document development and rhetoric and be responsible all the way through the process.

Responsibility to the end-user

This section examines the importance of ethical responsibility toward the end-user. To illustrate the importance of considering the end-users to technical communicators I have included examples of fields where end-user safety is paramount.

Responsibility toward the end user does not stop when technical communicators send their documents to QA or to the SME. The technical communicators' multiple roles greatly affect the lives and well-being of people who read and use technical documents. A career in the field of technical communication ensures a highly developed sense of responsibility.

The first step in teaching ethical technical communication to students in technical writing programs is teaching students self-respect and respect for their profession. The technical communicators who are the most successful in the field of technical communication are the ones who not only write ethically, and well, but who also have a clear respect for themselves and the technical writing community.

This idea for this paper is the result of a discussion I had with another technical communication student. This student told me that technical communicators are not as

important as doctors, nurses or teachers. The student, who was new to the field of technical communication, astounded me with this statement and caused me not only to respond to his assumption, but also to think about my role as a technical communicator.

Although I was surprised that this claim was made by a student of technical communication, I have heard this statement before from other professionals. There are even professionals who have no idea what technical communicators do; many people assume that all technical communicators work in Web-design or software development.

This assumption is wrong. Many technical communicators work in fields where they play a huge role in end-user safety. For example, there are technical communicators who work in the health professions right along side nurses and doctors. These technical communicators' work on a day-to-day basis can range from simple newsletters to urgent documents that affect the well-being of numerous people all across the country and world.

In response to the statement that technical communicators are not as important as other professionals it is important to note that technical communicators work in industries where patient safety is linked to good documentation. As a technical communicator in the health industry, I am not able to perform open-heart surgery, but I can write clear instructions on how to do the surgery. I can write the documentation on how to perform CPR. These actions save lives, and technical communication is an important link in the chain of these live-saving actions.

My career in the health professions is not the only one where technical communicators must act ethically nor is it the only profession where we save lives. Sometimes just the act of keeping the end-users calm is an aspect of being responsible and ethical. A career as a technical communicator in medicine is much more than just making sure that sentences are grammatically correct.

For example, last year when news broke that there was a possibly deadly pandemic emerging in Mexico called H1N1, Lindsay Marti my friend and co-worker, who worked for the Department of Homeland Security (DHS) Office of Health Affairs (OHA), was tasked with writing press releases and making PowerPoint presentations, which informed the public on ways they could stay healthy and protect themselves from the flu.

Marti felt a big responsibility to her end-users because of the important information she relayed to a worldwide audience. Marti stated that if she gave incorrect information, people could risk contracting the flu, being hospitalized, and in some cases, dying.

Marti's dedication to the end-user resulted in fact-driven information that she received from the Centers for Disease Control and other reliable sources and then communicated to the end-user in an easy to understand format. (Marti 2011)

Marti saved lives with clear, calm, fact-driven information. Marti, who has a degree in journalism and a minor in technical communication, had ethics classes in her major, but none in her minor. Marti stated that she felt she and her fellow students could have benefited from more ethics classes in their technical communication program. (Marti 2011)

Another example of careers within technical communication is the defense industry. Many technical communicators work in fields in defense that have a direct impact on the safety of our soldiers and our country. Not only do technical communicators have to be ethical in regards to classified information; they must also ensure that their end-users can understand and use their documentation. Ethical responsibility to the end-user is an important aspect of a career in defense and a must for ethical decisions. In addition, a person who is a pacifist might refuse to write documentation for any kind of weapon, which is why it is necessary to research the company and position before accepting a job offer.

Another example is Ben Day, a technical communicator with iRobot Corporation where he writes user manuals for robots that disable roadside bombs. Day admits that he has had other technical communication jobs that were not as involved or as important as his work with iRobot Corporation, he sees the value of his work with iRobot every day. As the only writer for the company, Day has a tremendous amount of responsibility to the end-users of his documentation. (Day 2006, 44)

The clear documentation that Day writes enables the soldiers to operate the robots. Every time a robot is destroyed, it means that Day's documentation and iRobots robots have saved a soldier's life. Day's technical documentation requires him to be constantly aware of the end-user's safety

The importance of being responsible to the end-user is not the only reason why technical communicators should act ethically. Technical communicators should act ethically not only for end-user safety, but also for self-preservation.

Documentation written incorrectly that could cause end-user harm is not only the company's responsibility, but also the technical communicators'.

A career as a technical communicator is a serious undertaking. Technical communicators are responsible for what they write and how it is understood by the people who read and use it. Barbra A. Hefferon writes about the legal liability of technical communicators in her book *Writing in the Health Professions*. Hefferon discusses different topics about writing in the health professions, but the most important aspect of her book, in my opinion, is the chapter on ethics where she discusses writers' liability. (Hefferon 2006, 33)

In Chapter 2 Hefferon states, "Because we work with texts and other media that deliver health and life-and-death information, rather than fiction or opinion, our communicating tasks carry much responsibility" (Hefferon 2006, 33) Writers of defective manuals or booklets can be sued by the end-user if there is injury or harm caused by the poorly written documentation. (Hefferon 2006, 33)

Being sued is a serious consequence of working as a technical communicator who does not act responsibly or ethically, but it is not the only area in which technical communicators can find themselves in trouble. Technical communicators must also work within organizations and abide by their organizational ethics.

Responsibility to the organization

An equally important aspect of ethical responsibility in technical communication lies with a technical communicator's interaction with his or her organization. This section focuses on organizational ethics and illustrates through examples how technical communicators are responsible to not only their end-users, but also to their organizations.

Technical communicators have a responsibility to the organization itself to follow the rules and regulations set forth by the organization. Organizational ethics should be considered before accepting a position within a company, and is essential when balancing our ethic of responsibility to the end-user.

As a student, I had not thought of organizational ethics before my junior year of college. That spring there was a career fair on campus, and all the technical communicators in my group were vying for an interview with IBM. I was not interested in IBM and did not hand in my resume. However, I pushed hard to work for Ball Aerospace because I wanted to be a proposal writer. I wanted to feel important and work for an organization that I thought accomplished major goals and supported the country and defense.

None of my classmates even handed out a resume to Ball because the human resources (HR) representative said Ball didn't have any technical communication internships available, but I was driven and determined. I asked the HR representative if she would just take my resume and call me in the future if anything opened up. Two weeks later the sole technical writer from Utah State University to hand out a resume to Ball's HR

representative was having a phone interview with the proposal manager. Two months later, I was working as an intern at Ball and reading classified documentation about their latest proposal that was due at the end of the summer.

I was told by the proposal manager that I was not allowed to discuss the proposal or anything regarding the proposal with anyone and that I could be held liable if I did. This was my first lesson in organizational ethics and could have been a potential problem if my values did not match the company's values. Before this internship, I had always thought that I was only responsible for how my documentation affected the end-user, but as I quickly learned, I was also responsible for my actions outside the company in regard to company information. I was not allowed to talk to my friends or family about the proposal. I was also not allowed to discuss the proposal with my husband, who at the time was an engineer at Thiokol Propulsion and a competitor. I did not find these requests unreasonable because not only did proposals mean money for the organization, but they also ensured national security for our country.

Sometimes the organizational ethics of a company are easy to live with and support. For example, the Red Cross' organization ethics are well known and are available for anyone who wishes to read them. Anyone can go to the Red Cross Website and see the list: humanity, impartiality, neutrality, independence, voluntary service, unity and universality. (American Red Cross, 2011) As a staff member of the Red Cross these values closely align with how I feel about aspects of service and life. So it is easy to conform to my company's organization ethics and be responsible to the organization, the end-user, and the people the Red Cross serves.

However, it is important to note that not all organizations are ethical and that technical communicators have a responsibility not only to our end-users, but also to ourselves.

Stephen B. Katz's writes about the ethic of expediency in his article on the Holocaust. In the beginning of the article, Katz discusses what most technical communicators already know—that as writers within an organization we will have to adapt to and follow the organization ethics set forth by the company. However, organizational ethics can include more than following company policy or expanding the organization's monetary goals. Being responsible to an organization does not mean that as technical communicators we blindly follow where the company leads.

For example, Katz's article "The Ethic of Expediency: Classical Rhetoric, Technology, and the Holocaust" gives an example of a technical communicator, named Just, who is writing a memo about merchandise. The meaning of the memo may not be clear until much later down in the memo that the technical communicator is discussing people who are being gassed as part of Hitler's *Final Solution*, which was a plan to execute and exterminate Jewish people and other "undesirables." (Katz, 1992)

The memo written by a member of the regime detailing the need of new vehicles and alterations to vehicles that were used to gas people is effectively written from a technical communication standpoint. The purpose is clear, it is broken up into easily readable chunks of information and the idea for new vehicles is logically written. However, anyone who reads further into the document begins to notice that the author is not using any pronouns to describe what are obviously people who have been or will be gassed.

The terms he uses to describe people are “load” and “merchandise,” but then he attributes human-like qualities to the “load” or “merchandise” by saying they scream when the lights go out and rush and push on the door. (Katz 1992)

The memo is not only disturbing because of the actions it describes, but also because of the grand scale in which it was carried out. Although Hitler’s Nazi Germany is an extreme example of organizational ethics it is important to note that through rhetoric Hitler was able to persuade large groups of people to his cause and to do his heinous work. Just’s memo is just one example that proves that teaching technical communicators about organizational ethics and the ethic of responsibility in technical communication programs is an important aspect of technical communication instruction.

Technical communicators do not have to look to history or to extreme situations for examples of unethical behavior in organizations. “Teaching Enron: The Ethics and Rhetoric of Whistle Blowing” is about the unethical behavior of employees and executives. The Enron scandal is a case that made national headlines and has made many people who worked at Enron unemployable due to their lax business ethics. One employee, Sherron Watkins, saw discrepancies in numerous accounts at Enron and took it upon herself to write a memo to the president of the company, Kenneth Lay, who had asked employees for correspondence. At the time, Watkins wrote the memo anonymously, but later came forward to Lay to reveal she was the author. (House, Watkins and Williams, 2004)

In her memo, Watkins gives details of the discrepancies and asks Lay and other executives to investigate. Watkins also gives Lay insight into employee morale and her concerns about the company and its transactions. Furthermore, Watkins tells Lay about her worries of being unemployable if word ever gets out about Enron's accounting discrepancies. From her memo it appears that Watkins is split between being ethical and being employed. (House, Watkins and Williams, 2004)

Watkins knows that there are multiple discrepancies in accounts and that there needs to be action, but she also wants Lay to take the right action even though she is not sure what the action is. Watkins is trying to be ethical and loyal to her organization and to her fellow employees. Unfortunately, Enron erupted into scandal and several of the executives were indicted and convicted of crimes. Watkin's memo was made public and she had to testify before the House Energy and Commerce Committee. Watkins was also labeled as a whistle blower and was elevated to Time Magazine's 2002 person of the year along with two other people who acted ethically. (House, Watkins and Williams, 2004)

While technical communicators are not accountants it is important to remember that in any given organization we write and read different facts and proprietary information. As a technical communicator I have been asked to read communications that are outside the realm of my actual role as a technical communicator, such as emails, memos, and PowerPoint slides.

Technical communicators engage in many different roles within an organization, and we may uncover information that is both critical to our organization's goals and the well-being of the end-user.

Most organizations are ethical and even have creeds they adhere to, but it is always good to pay attention to details like Watkins did. While loyalty to our organization means safety, security and a pay check, technical communicators also need to be able to act ethically and further the goals of not only our organizations, but ourselves, and the field of technical communication.

Responsibility to the field of technical communication

In this section, I lay out the idea that technical communicators are not only responsible to the end-user and the organization, but also to the field in which they serve. Technical communicators of today benefit from earlier technical communicators who worked to develop and shape the field of technical communication. As a field, the origins are often debated with Robert Connors who states “For as long as men have used tools and have needed to communicate with each other about them, technical discourse has existed.” (Connors 1999, 185)

However, most scholars agree that technical communication took off as a profession after WWII when technical documentation was needed for the military, aerospace, and other technology oriented fields that required technical documentation. With the new technological boom technical communication became a career unto itself.

Technical communication as a field has come along way from a chore that was least liked by engineers to being a field all its own with technical communication programs in major universities all across the country.

Technical communicators have gone beyond being the editors of other peoples' work and serving only as support staff to being the leaders of teams, writers of documentation and experts on usability. These roles put us in control of end-user safety and make us responsible for organizational documentation.

STC recognizes the responsibility that technical communicators hold to both their organizations and their end-users. The ethic of responsibility ties directly into STC's ethical principles, which state that as technical communicators we are responsible for our actions. Below is a list of STC's ethical principals:

- “Legality: We observe the laws and regulations governing our profession. We meet the terms of contracts we undertake. We ensure that all terms are consistent with laws and regulations locally and globally, as applicable, and with STC ethical principles.
- Honesty: We seek to promote the public good in our activities. To the best of our ability, we provide truthful and accurate communications. We also dedicate ourselves to conciseness, clarity, coherence, and creativity, striving to meet the needs of those who use our products and services. We alert our clients and employers when we believe that material is ambiguous. Before using another person's work, we obtain permission. We attribute authorship of material and ideas only to those who make an original and substantive contribution. We do not perform work outside our job scope during hours compensated by clients or employers, except with their permission; nor do we use their facilities, equipment, or supplies without their approval. When we advertise our services, we do so truthfully.
- Confidentiality: We respect the confidentiality of our clients, employers, and professional organizations. We disclose business-sensitive information only with their consent or when legally required to do so. We obtain releases from clients and employers before including any business-sensitive materials in our portfolios or commercial demonstrations or before using such materials for another client or employer.
- Quality: We endeavor to produce excellence in our communication products. We negotiate realistic agreements with clients and employers on schedules, budgets, and deliverables during project planning. Then we strive to fulfill our obligations in a timely, responsible manner.
- Fairness: We respect cultural variety and other aspects of diversity in our clients, employers, development teams, and audiences. We serve the business interests of our clients and employers as long as they are consistent with the public good.

Whenever possible, we avoid conflicts of interest in fulfilling our professional responsibilities and activities. If we discern a conflict of interest, we disclose it to those concerned and obtain their approval before proceeding.

- Professionalism: We evaluate communication products and services constructively and tactfully, and seek definitive assessments of our own professional performance. We advance technical communication through our integrity and excellence in performing each task we undertake. Additionally, we assist other persons in our profession through mentoring, networking, and instruction. We also pursue professional self-improvement, especially through courses and conference.” (Society for Technical Communication, 1998)

As a technical communicator, I adhere to these principals in my writing of regulated documents and in my managing and mentoring of less experienced technical communicators. As a technical communicator it is important to promote the field in a positive light to ensure that our field continues to grow and garner the respect it deserves. I am not the only technical communicator who shares the belief that technical communicators should be ethical. Leslie Blair, a web and checklist designer, feels that it is her responsibility to the field of technical communication and the end-user to write ethical and easy to understand documentation so that no one will harm themselves when using her website. Blair, a former Utah State University student and fellow classmate of mine, remembers having classes that included ethics that taught her responsibility. (Blair 2011)

As stated throughout this paper technical communicators have a serious responsibility to ensure end-users’ safety, a responsibility to our organizations and a responsibility to the field of technical communication. Our work as technical communicators is important and visible across all occupations and fields that include defense, medicine, non-profit, and government.

The humanistic value that technical communicators add to all documentation that we write, edit, and develop puts us in positions where ethics must be a central part of our profession. End-users rely upon technical communicators to produce documentation that helps them perform tasks, keeps them safe, and provides them with knowledge that will allow them to live their daily lives safely.

Organizations rely on technical communicators to produce documentation that promotes their products and ideas while maintaining integrity and protecting the company's brand whether it is a corporation, a non-profit or the government. STC relies upon technical communicators to follow the six ethical principals set forth by the organization to promote and help grow the field of technical communication.

For these reasons a mandatory class that focuses on the ethic of responsibility and an examination of ethics, real of life ethical situations and an overview of different technical communication careers and roles is necessary for any technical communication program.

Putting ethics into practice in the classroom

In this section of the paper, I detail how professors have taught ethics in their classes or how they feel about ethics in the field of technical communication.

As shown throughout this paper, ethical, responsible technical communicators are important to all aspects of the field of technical communication. With this in mind, it is important to teach ethics classes in technical communication programs as required courses or through the concept of micro-insertion.

Mark D. Hawthorne, a professor at James Madison University, agrees that ethics should be taught, but is not taking a side on whether ethics courses should be required.

Hawthorne designed a class that let students get hands on instruction with ethics by allowing them to create a code of ethics for their technical communication department, thus making them not only responsible for learning about ethics, but also for putting ethics into action.

Hawthorne's class was original because not only did he assign readings of philosophers such as Aristotle, St. Thomas Aquinas, John Lock, David Hume, and Immanuel Kant, and others, he also had students analyze published codes of conduct and later they wrote a code. (Hawthorne 2001)

Reading primary texts on ethics, having in-class discussions, and analyzing codes of ethics all contributed to the students' successful completion of their department's code of ethics and their instruction on responsible, ethical behavior, which was an experience that they took with them out into the workplace. While Hawthorne's approach to ethics is instructional and hands-on, his method is not the only way to teach students to be ethical and responsible. Kellie Cargile Cook discusses ethics in her article on "Layered Literacies: A Theoretical Frame for Technical Communication Pedagogy." One of these key literacies is ethics. Cargile Cook states that ethical literacies can be defined as a technical communicator's knowledge of ethical standards and their ability to consider all stakeholders. (Cargile Cook 2002)

Cargile Cook also discussed how the movement to make technical communication students more ethically literate started in the 1970s and has helped define and develop the field of technical communication including STCs professional code of ethics. Recent ethical scholars have incorporated other areas of ethics into technical communication curricula such as language and stylistic choices, the writing process, social theory, rhetorical choices, technology and visual design. Cargile Cook writes that these ethical literacies promote ethical decision making by making students more cognizant of ethical implications of their decisions, including their responsibilities as citizens and workers in their society.

Cargile Cook states that:

“Requiring students to identify and explain ethical choices they make in their classroom projects will strengthen their awareness and may begin to build students’ awareness of ethical decision-making strategies. Classroom analysis of ethical cases may facilitate these discussions, and particular assignments, such as Internet-based projects in which students incorporate materials other than their own, can provide ample opportunities for instructors to introduce ethical concepts as well as assess how well students understand ethical guidelines and situations in which they apply.” (Cargile Cook 2002, 16)

I agree with Cargile Cook that an important teaching method is having students explain their ethical choices when they are working on classroom projects. During group work this would also give students the opportunity to discuss ethical issues and choices with their teammates, which would help prepare them for real world situations. Also noted by Cargile Cook is assigning projects that require students to incorporate materials that are not their own.

The incorporation of these assignments could benefit students in a number of ways and is significant because it opens the door for the professor to discuss ethics and responsibility.

First, it exposes students to a vast array of opinions, thus broadening their exposure to ethical issues. Second, it helps students use and refine their research skills. And third, it makes students ethically responsible by making them give credit to the authors they cited.

Another way to incorporate ethics into technical communication programs is through micro-insertion. Although micro-insertion is a popular form of introducing ethics into classes the only way that micro-insertion would work well in technical communication programs is if all instructors used micro-insertion in their classes. Michael Davis from the Illinois Institute of Technology describes micro-insertion as the process of inserting ethical minutes into classroom instruction instead of an ethics hour. (Davis 2006)

The micro-insertion method could work if applied to all classes in programs across the curriculum in technical communication programs. For example, a class on web-design could use micro-insertion to discuss ethics and copyrights; a class on usability could use micro-insertion to teach students about participants' rights, and further still, a class on editing could teach students about ethical dilemmas that could result from working on documentation for organizations.

Another aspect of ethics that should be included in technical communication classes is visual design ethics. While there is much research on deception and inaccuracy in visual design there are not a lot of examples that consider the human aspect of visual design or human deaths. Sam Dragga and Dan Voss wrote the article "Cruel Pies: The Inhumanity of Technical Illustrations," which discusses the topic of the need for incorporating humanistic values into visual design. Dragga and Voss use examples such as Nazi visuals

that were used to classify people into races and graphs and human fatalities to show inhumanity in documentation. Dragga and Voss discuss ways to change how technical communicators report facts and use visual design. (Dragga and Voss, 2001)

Both Dragga and Voss bring up valid points in their article. If technical communicators are going to be ethical and aware of what they are writing they also need to be aware of the graphics and illustrations that accompany the documentation. There are several ways that Dragga and Voss suggest inserting humanistic aspects into visual design. One way is to use humanistic language with the illustration or graphic. This would enable the audience to put the text and the corresponding illustration together. Other ways that Dragga and Voss suggest to incorporate humanistic values into illustrations is to use crosses to illustrate deaths and use pictures, cartoons and other humanistic illustrations to depict people who have been injured or killed while working or using a product.

(Dragga, Voss 2001)

Dragga and Voss make a convincing case for the need for visual design ethics instruction. Technical communication students would benefit from reading the article on technical illustrations and the author's other article on "Hiding Humanity: Verbal and Visual Ethics in Accident Reports." Both articles shed light on the need for a humanistic approach to visual design. Students would also benefit from researching accident reports and manuals and analyzing the illustrations and documentation and re-designing the illustrations and text to incorporate the human element of the accidents.

While I agree with the research on ethics that Cargile Cook, Davis, Hawthorne, Dragga and Voss have written about in their articles and think that any class on ethics should include their ideas; I also have ideas of my own that coincide with how I think an ethical and responsible technical communicator should be trained.

Class on ethics

This part of the paper discusses ways I would incorporate ethics into a college course designed as a combination of reading and writing, which also includes the opportunity for students to discuss the assigned readings and assignments with each other.

Any class on ethics would not be complete without assigned readings from the great philosophers. Because I feel that part of becoming an ethical technical communicator is discovering how your ethical values fit into your community and workplace, I would give an overview on the different philosophers and then allow the students to pick which one they want to further research further. After the students completed their research, they would present their findings to the class.

Another aspect of an ethics class should focus on case studies. Some good case studies that illustrate a break down in ethics are *Challenger Disaster: Information vs. Meaning*, *Nazi Records: The Origin and Use of Information*, and *Tobacco and Death: When is a Cause Not a Cause?*. Students would also read “The Ethic of Expediency: Classical Rhetoric, Technology, and the Holocaust.” After reviewing these assigned readings students would break into groups and discuss ethics using assigned questions.

To incorporate the ethical visual design aspect of ethics in technical communication, students would read “Cruel Pies: The Inhumanity of Technical Illustrations,” “Hiding Humanity: Verbal and Visual Ethics in Accident Reports,” and “A Humanistic Rationale for Technical Writing.” After reading these articles, the students would be assigned a project that would task them with finding accident reports and either re-writing the text to improve the documents’ humanistic aspects or re-designing the illustrations to include humanistic elements.

As with any class in technical communication programs, research and writing skills are necessary for the development of a well-rounded technical communicator. With this in mind a research based paper on ethics would allow the students to explore their own interests while continuing to learn about ethics in technical communication. The paper would focus on all three aspects of the ethic of responsibility: responsibility to the end-user, the organization, and to the field of technical communication. Students could use a variety of sources for their information and research the topic of their choice as long as it incorporated the three aspects of ethical responsibility.

The last area of ethics instruction would rely on actual technical communicators working in the field. The technical communicators could either come to class or do video conferencing with the students. The students would each be responsible for drafting questions on ethics for the professional technical communicators. I think this would allow the students a chance to see what technical communicators really do in the work place. Students could also ask the technical communicators about their day-to-day

activities in the workplace. All of these ethical ideas could be modified for on-line instruction and distance learning.

Conclusion

As shown throughout this paper technical communicators work in many diverse industries, but ethics is a consideration in all of those types of work. Technical communicators' importance to their teams is paramount to the success of organizations throughout the country and around the world. Technical communicators hold careers as editors, writers, project managers, web designers, civic leaders, teachers, managers, and others. The documents and texts technical communicators write are used daily by people to perform tasks as mundane as programming a DVD player to as extreme as diffusing a road side bomb. Technical communicators save lives, save money, and save the end-user frustration.

With the many services that technical communicators provide to organizations, end-users and their fellow technical communicators, the most important obligation technical communicators have is to be ethical. Technical communicators have a great responsibility to our end-users. For technical communicators in the medical and defense fields end-users' lives are tied directly to documentation. Technical communicators' next obligation is to the organizations they work for because without the organizations, there would be no need for us. Finally, technical communicators' have an obligation to the field of technical communication.

For all these reasons, it is necessary for technical communication students to be taught ethics in technical communication programs. As discussed in this paper, ethics can be integrated into already established classes through micro-insertion or they can be a stand-alone class requirement. Classes that teach students to be ethically responsible can only add to the skills that technical communicators bring to organizations.

Appendix I: memo

Morton Thiokol, Inc
Wasatch Division
Interoffice Memo
31 July 1985
2870:FY86:073

TO: R. K. Lund
Vice President, Engineering

CC: B. C. Brinton, A. J. McDonald, L. H. Sayer, J. R. Kapp

FROM: R. M. Boisjoly
Applied Mechanics - Ext. 3525

SUBJECT: SRM O-Ring Erosion/Potential Failure Criticality

This letter is written to insure that management is fully aware of the seriousness of the current O-ring erosion problem in the SRM joints from an engineering standpoint.

The mistakenly accepted position on the joint problem was to fly without fear of failure and to run a series of design evaluations which would ultimately lead to a solution or at least a significant reduction of the erosion problem. This position is now drastically changed as a result of the SRM 16A nozzle joint erosion which eroded a secondary O-ring with the primary O-ring never sealing.

If the same scenario should occur in a field joint (and it could), then it is a jump ball as to the success or failure of the joint because the secondary O-ring cannot respond to the clevis opening rate and may not be capable of pressurization. The result would be a catastrophe of the highest order - loss of human life.

An unofficial team (a memo defining the team and its purpose was never published) with leader was formed on 19 July 1985 and was tasked with solving the problem for both the short and long term. This unofficial team is essentially nonexistent at this time. In my opinion, the team must be officially given the responsibility and the authority to execute the work that needs to be done on a non-interference basis (full time assignment until completed.)

It is my honest and very real fear that if we do not take immediate action to dedicate a team to solve the problem with the field joint having the number one priority, then we stand in jeopardy of losing a flight along with all the launch pad facilities.

R. M. Boisjoly

Concurred by:
J. R. Kapp, Manager
Applied Mechanics

Appendix II: memo

Geheime Reichssache (Secret Reich Business)

Berlin, June 5, 1942

Changes for special vehicles now in service at Kulmhof (Chelmno) and for those now being built Since December 1941, ninety-seven thousand have been *verarbeitet* [processed] by the three vehicles in service, with no major incidents. In the light of observations made so far, however, the following technical changes are needed:

[1] The vans' normal load is usually nine per square yard. In Saurer vehicles, which are very spacious, maximum use of space is impossible, not because of any possible overload, but because loading to full capacity would affect the vehicle's stability. So reduction of the load space seems necessary. It must absolutely be reduced by a yard, instead of trying to solve the problem, as hitherto, by reducing the number of pieces loaded.

Besides, this extends the operating time, as the empty void must also be filled with carbon monoxide. On the other hand, if the load space is reduced, and the vehicle is packed solid, the operating time can be considerably shortened. The manufacturers told us during a discussion that reducing the size of the van's rear would throw it badly off balance. The front axle, they claim, would be overloaded. In fact, the balance is automatically restored, because the merchandise aboard displays during the operation a natural tendency to rush to the rear doors, and is mainly found lying there at the end of the operation. So the front axle is not overloaded.

[2] The lighting must be better protected than now. The lamps must be enclosed in a steel grid to prevent their being damaged. Lights could be eliminated, since they apparently are never used. However, it has been observed that when the doors are shut, the load always presses hard against them as soon as darkness sets in. This is because the load naturally rushes toward the light when darkness sets in, which makes closing the doors difficult. Also, because of the alarming nature of darkness, screaming always occurs when the doors are closed. It would therefore be useful to light the lamp before and during the first moments of the operation.

[3] For easy cleaning of the vehicle, there must be a sealed drain in the middle of the floor. The drainage hole's cover, eight to twelve inches in diameter, would be equipped with a slanting trap, so that fluid liquids can drain off during the operation. During cleaning, the drain can be used to evacuate large pieces of dirt. The aforementioned technical changes are to be made to vehicles in service only when they come in for repairs. As for the ten vehicles ordered from Saurer, they must be equipped with all innovations and changes shown by use and experience to be necessary.

Submitted for decision to *Gruppenleiter II D*, SS—*Oersturmbannführer* Walter Rauff Signed:

Just

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