Technical communication education in a digital, visual world

Dawn M. Armfield  
*University of Minnesota*  
armfi002@umn.edu

Laura J. Gurak, PhD  
*University of Minnesota*  
gurakl@umn.edu

Trent M. Kays  
*University of Minnesota*  
kaysx007@umn.edu

Joe Weinberg  
*University of Minnesota*  
weinb110@umn.edu

**Abstract** - Digital and visual communication is becoming a more integral part of the classroom; teachers must be digitally savvy in order to keep up and be able to connect with students. An exploration of the overlap of communication online and in the classroom, particularly the technical/professional communication classroom, will show the necessity of the inclusion of both paper-like documents and robust visual, digital, and social medias. By investigating the state of “communicating vision,” a faculty member and three advanced PhD students from a leading doctoral program will be able to share not only the vision of digital instruction, but also specific classroom practices that help make that shift.

**Index Terms** – pedagogy, practice, professional communication, service learning, social media, technical communication, visual

**INTRODUCTION**

The intrinsic multimodality of digital discourse suggests that students engaged in technical and professional communication courses must be prepared to critically recognize and address issues of process and production in varied media environments. This observation suggests that document-centric pedagogy can no longer be the sole goal of said courses but, instead, must serve as a equal guide alongside digital media focused pedagogy.

This type of pedagogy calls for a new approach to the teaching of technical and professional communication. This pedagogy requires the integration of visual, digital, and social media into the course curriculum to ensure that students are prepared for the 21st century workforce.

**CLASSROOM PRACTICE**

Traditionally, technical and professional communication pedagogy has relied at its core on traditional document types, with an emphasis on the written word. Although there have been shifts toward visual information and digital genres, as a rule these categories often feel like “add-ons” to the major assignments of a final written report or proposal. Students arrive in upper-division technical communication classes having had ample personal experience with visual, digital, and social media but limited experience with these forms in a classroom setting. This is unfortunate, because once students leave school and enter the workplace (some as technical communicators), this digital, multimedia savvy will be a big part of everyday communication activities on the job and is often expected of them in their positions with companies.

As a response, instructors are beginning to advocate for and advance students’ literacy and awareness in *multimodal* environments, rather than restricting access, knowledge, and dissemination of information to the traditional document. This paper highlights four cases in which a senior faculty member and three advanced PhD students propose new ideas about technical communication pedagogy based on engaging students in more immersive digital and visual mediums to promote their work.

1. **Podcasts**

The teaching of technical communication has shifted over the years, away from a sole focus on paper documents and toward the range of new media, genres, and approaches used in the workplace. Text, visuals,
video: all of these are a part of everyday workplace communication and appear in various forms in today’s technical communication textbooks and assignments. Yet one area, sound, is still under-represented. Communicating via recorded sounds is usually the domain of journalism (radio), but with the rise of the podcast, students and professional communicators can now use this novel form to reach broad audiences. Podcasts are easy and inexpensive to create and publish, but there is little guidance on how to incorporate this activity into the classroom.

One approach is to take a typical technical writing activity and change it such that the final product is both the traditional written assignment as well as a podcast. For instance, students are often asked to revise a technical document for a more general audience. As a follow-on to this activity, students can interview a subject-matter expert related to the topic in the technical document, then write a script, record, and publish a podcast. Putting a time frame on the podcast (3-5 minutes) requires students to consider how best to compress the information in the most succinct manner.

Another lesson here involves the difference between writing for a print (or PDF) document versus writing when the delivery is spoken, where the memory aids of a written text are absent and instead, listeners need strong discourse markers (transitions, for example) to stay focused on the material. This activity also invites a discussion about audiences and memory, patience, and focus in a digital age.

A practical lesson was about tools and technology. Most students used Audacity, a free downloadable tool for recording and editing sound. Some students who had prior experience used other tools; many of the Mac users decided to work with GarageBand. Students often commented that they had a new-found appreciation for how much time it takes to create a short sound file of decent quality with a narrative structure that works. Finally, students learned that digital composing activities do not happen in isolation; the project was a true team effort, with each student playing a specific role (interviewer and researcher; writer; tech person).

II. Avatars and visual communication

In face-to-face communication, nonverbal cues make up more than half of the message given and received. When the Internet was a text-only environment, these cues had to be either ignored or artificially represented via emoticons, which lacked the spontaneity of authentic nonverbal communication. More recently, icons and avatars have come to stand in for these cues, establishing their own embodiment, identity, and authenticity in online spaces. The choices involved in designing or choosing avatars provide a fair amount of insight into the ‘mind behind the avatar’; while not the same as the constant barrage of communication that is body language, the avatar is a rhetorical tool for increasing understanding in online communication. The visual choices made for the personal icon present a person as either a member of a group, a distinct outsider to the group, or as a borderline member. These choices are made to be specific to each audience; a person may use a different icon for a professional site like LinkedIn than she would for a more personal and social site like Facebook. These choices are not random nor unintentional, but rather present both identity and persuasion for the person who chooses the image.

Nonverbal communication often helps to establish the dynamic in a face-to-face classroom, presenting the teacher and her attitude towards the students, persuading students to pay attention and to learn, or determining the approachability of the teacher. One major concern with online teaching is the lack of ‘human touch’ the form necessarily uses. The students are unable to read tone or to understand body language because these things are completely lacking (save in video-taped lectures and such). The use of avatars, especially in online settings, offer the potential for instructors to bridge that human touch gap, leading to a better understanding of the students and a greater ability to present information in a way that will best help the students learn the material. By learning to ‘read’ icons and avatars, by learning this unspoken and unwritten language created in virtual spaces, teachers will be better able to not only communicate with students, but also to identify with them, to connect with them, and to help provide them with an onus of inclusion, thereby getting them more involved in discussions. Being able to use avatars could, therefore, have the potential to improve some aspects of online teaching.

III. Online identity analysis and website creation

Technical and professional communication textbooks predominantly focus on document types (including some discussions of digital document types), but students need to understand the unique rhetorical features of electronic communication. Working to integrate elements of electronic communication into the course, an assignment that utilizes aspects of writing on the web, professional communication, and online identity analysis and management was developed. The developed assignment works in two distinct yet connected parts. The first part is concerned with online identity analysis, and the second part is concerned with website creation and identity management.

The course for which this assignment was developed is geared toward upper-level students from across the disciplines. While the course is taught in a writing studies department, the course is a requirment for many students in other programs, including economics, management, urban studies, and others. The student make-up of the course ranges in majors from math to fashion design to
journalism to science and technical writing to sports science. Due to the diversity in majors, students come into the course with varied traditional and digital writing experiences.

In creating the analysis part of the assignment, it became critically important to connect the type of analysis being requested from students to larger business and global writing contexts. The type of analysis selected, and one often used in business contexts, was a rhetorical analysis. Understanding that the course was grounded in practicality, a rudimentary rhetorical analysis was created, including discussion about how to apply rhetorical analyses to online identities in the form of personal or corporate websites.

This analysis included basic questions. For example: who is the audience? Are there multiple audiences? How is the text structured? Are there visuals? How do those visuals convey meaning in ways the text does not? These types of questions are basic because a highly theoretical rhetorical analysis isn’t needed for the types of discourse that often exist in business contexts.

The second part of the assignment was focused on creating a personal professional website. Based on the practicality of the course, it was important for students to have something tangible to take away with them. Since many other courses students had taken didn’t include issues of digital writing and literacy, this part of the assignment served as an opportunity for students to employ their writing in an online environment while working with knowledge gained in their identity analyses.

The goal was for students to take what they had learned from rhetorically analyzing an online identity and apply it to their own online identity in the form of a professional website. This portion of the assignment quickly became a shock to many students. The process of moving from analysis to practical application left them a bit lost initially. Many students lamented having never done anything like this assignment in other courses. Students had never even considered their identity online, how to manage it, and how to present it to the greater online world. This baffling issue only served as an example of a serious deficiency in larger university curriculum and in business writing curriculum.

Understanding that many students had little technological know-how, the assignment was catered to novice web users. The technologies they could choose from for their professional website were Tumblr, Posterous, or WordPress. Each technology comes with varied affordances and constraints with WordPress being the most difficult to use. A majority of students chose to use WordPress, and as a result, workdays with one-on-one time with the instructor were schedule to accommodate students varying needs.

An overview of each type of technology was presented in class; however, as with many technologies, questions arose out of use and not talking about use. Some students worked closely with the instructor to create their site, and some students set off on their own and created their site with little interaction with the instructor. The freedom of the assignment was to encourage a certain amount of investment in their work.

There were basic requirements as to what should appear on the site. There were a set number of pages required for a basic site: About, Resume, Work Experience, and Contact. Students were free to add any other pages as long as they were presented professionally. Some students elected to include their Twitter profiles, portfolios, and other major-specific material.

Pulling together both parts of the assignment, students were required to present their work to the entire class. They needed to explain the thought-process in creating their professional website and where elements of their identity analysis came into play. After giving a brief presentation, the entire class engaged in peer critique of the presenting student’s website. Comments ranged from specific font choices to larger background coloring issues. A dynamic back and forth was created between the critiquing students and the presenting student. This process forced the critiquing students to explain in detail their critiques, and it forced the presenting student to defend their work and offer further elaboration as to why they made the choices they did.

In the process of critique, the act of reflecting on practice became apparent. Students were reflecting on what they had said, how they had presented their work, where they could improve, and where they had been successful. Students found the assignment beneficial in that it asked them to do something that many had never done before: consider, create, and reflect on a personal professional website and identity. Students found the assignment engaging, creative, and with applications to work outside of their academic studies.

IV. Service-learning and social media

In Spring 2011, a single instance of Rhetoric, Technology, and the Internet was taught to a classroom of 22 junior and senior level students, half of whom were scientific and technical communication (STC) majors and half of whom were from diverse disciplines including business, marketing, history, psychology, and sports management at a four year university. This course was established, from the first day, as a student-led curriculum, in which the students determined the final deliverables within specific parameters: rhetorical analysis was to be applied to all deliverables, technological affordances had to be considered, and the Internet had to be employed in some way, preferably with social media. In this case, students chose to develop projects centered on volunteerism.

Students submitted several concepts they would like to see developed, and voted on those concepts to determine which would be employed during the semester of the
course. The result was three separate projects with students working within the one project they were most interested in: Tunes for Troops, Volunteerism at the U, and Cranes for Japanese Tsunami Relief.

Throughout the semester, the students developed their projects both online and offline, determined recipients of their efforts, debated the types of rhetorical appeals they wanted to implement, and wrote weekly reflections to assess how they worked within their groups, how the groups themselves worked, and how the technology worked for the project.

When students first chose their topics, they were very optimistic about the amount of work they’d be able to do during the semester, and established complex social media strategies. However, as the semester progressed, other school work and outside employment often limited their time more than they initially scheduled.

As the students worked out scheduling conflicts, they found that the technological barriers became their most pressing obstacle. While some students were skilled coders, others hadn’t used the Internet beyond searches and shopping. This often left those with the skills feeling like they had to carry the development side of the projects. Working with each group individually insured that different types of media were used that enabled the students to make choices about technology allowing for those of varying skill levels to contribute to the whole project. For instance, instead of building a shopping cart and full-service website, one team chose to use a WYSIWYG web Flash development tool, WIX (http://wix.com), to ensure any team member could contribute to the design, development, and implementation of the project. The two other teams used Tumblr and Blogger as their volunteer base destinations.

Students also found that getting their friends, fellow students, or the public at large involved in their projects when it was based solely online became an obstacle to the volunteer project. Without constant saturation, their projects were lost in the barrage of information followers/friends received in their social media streams. In order to make social media work for them, rather than having to work for the social media, they networked saturation, asking their instructor, friends, and others to share and re-tweet their information.

In their weekly reflections, students often commented on the excitement they had about working within a specific community to make a difference in people’s lives. This was the major motivator to push forward when the technological problems seemed overwhelming. Once the problems were overcome (and they always were), the students were free to engage in the project as much as they could.

Students had a place where they could point friends and family to show their success. The online locations became more than a link in Facebook or Twitter, but a destination of a successful endeavor in creating a change in thinking (for the students) or in being (for the recipients).

Most students who did not come into the class with extensive technical skills described their interactions with the technology as a success. Not only were the technologies discussed in the classroom setting (as well as a historical perspective given to them), but the students learned from their fellow classmates on “best practices” for using social media for these projects. These lessons enhanced their use.

Each group made specific rhetorical choices for their projects. Group A, who was collecting media to send to troops in Iraq (one of their classmates had been in the military in Iraq), chose to use themes that centered around the American flag. All colors on their website and video were red, white, and blue. The music in their final video was a patriotic song. The images focused on people helping people, group members engaged in the volunteer project, and images of military personnel receiving care packages. The language focused on why this was important as a community, as a nation, and as a support for military. Each aspect made support for military the focus.

Group B had established a secret mailing project in which they sent anonymous postcards to people around the world who had done good deeds or had contributed to their own communities. These postcards were chosen specifically for the messages they contained. In addition, the website this group created was black with off-white text to convey a mysterious air (it was also private so only those group members and the instructor could see who would receive the next mailing). This group found, however, that anonymous accolades did not benefit them, so they didn’t feel like they were giving to a community of people in need. They shifted their focus to creating 1000 origami swans to mail to a program that would turn the swans into money for Japanese survivors of the earthquake and tsunami. This effort was directed toward a specific group of people who knew that these students were working for them. This connection made the project more tangible for the students, and allowed them to feel as if their actions had impact in a community.

Group C focused on volunteering within the University system. Acting as reporters for the community, the students gathered information about volunteering activities on campus, encouraged others to participate in National Volunteer Week (which occurred during the semester), invited students to join them in a Polar Plunge and in a Meals-on-Wheels activity. They then posted this on a Tumblr website that incorporated University colors, showed images of University students engaged in volunteerism, and commented on the benefits to the University community. Their final contribution was a video filmed in black and white (to fit a documentary-style) interviewing group members on volunteerism, but included color segments to highlight the volunteer
activities. Their recorded reflections conveyed the thought-processes they established to make this work well, and how each choice affected the entire group’s outcomes.

**CONCLUSION**

Digital literacy in the university setting is becoming more necessary to engage an ever-increasing public that exists in more mobile settings. The affordances given to technology require a vigilance to establish and maintain a connection, but also require an understanding of how to appeal to audiences with multimodal compositions. By using instruction to enhance students’ knowledge of technology, communication within technological environments, especially digital, and understanding the impacts of their rhetorical choices, students will be able to communicate more effectively in multimodal environments.

**ABOUT THE AUTHORS**

Dawn M. Armfield is a PhD candidate in the Rhetoric and Scientific and Technical Communication program in the Department of Writing Studies at the University of Minnesota. Her dissertation is a rhetorical analysis of postcards from PostSecret.com. Prior to her PhD work, she was employed at the e-Learning Center at Northern Arizona University where, as an educational technologist, she was responsible for working with faculty to use technology in innovative ways in their online courses.

Laura J. Gurak is professor and chair of the Department of Writing Studies at the University of Minnesota, where she also directs the Industrial Affiliates Program. Gurak received her PhD from Rensselaer Polytechnic Institute and is past recipient of the Society for Technical Communication’s Outstanding Article Award. She is also a recipient of a college Outstanding Teaching Award. Gurak is author or co-author of seven books on technical communication, Internet studies, and digital literacies.

Trent M Kays is a PhD student in the Department of Writing Studies at the University of Minnesota. He specializes in digital rhetoric, critical pedagogy, and the Internet. He writes for academic and non-academic publications, and he currently serves on the editorial board of Hybrid Pedagogy: A Digital Journal of Teaching & Technology. His personal website and portfolio is available at http://trentmkays.com, and he tweets regularly from @trentmkays.

Joe Weinberg is a PhD candidate at the University of Minnesota. His studies focus on identity and online spaces, particularly dealing with gender identity and the use of icons and avatars. He continues to investigate social networking sites and the identities people present in those variable spaces.