A Recursive Sequence of Technical Marketing Communication Assignments to Facilitate Active Learning

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The “Practicum in Technical Communication” course, described at our university as “Practice in writing, editing, and designing layouts of technical publications using the personal computer for desktop publication,” provides a pedagogical challenge for several reasons. First, the description significantly overlaps several other courses, including a document design course, the ubiquitous technical writing service course, and the technical communication capstone course for majors. Second, while the course is required of technical communication majors in our small but growing BS degree program, it is largely populated by majors in the fields of management and information science (MIS) and, to a lesser degree, information science and technology (IST). Third, several sections are offered each year, and our goal of consistency across those sections suggested that a standardized general syllabus be adopted. In this paper, we present our field-tested approach that fosters active learning among students.

During the spring semesters in 2005 and 2006, Malone divided the 16-week course into four parts: document design and desktop publishing for four weeks, followed by three major technical marketing communication assignments in the remaining twelve weeks (Malone and Bryan-Gosnell, 2006). Those assignments – a product sheet, a white paper, and a demonstration – require that each student select an existing product or create a new product and stay with it throughout the course. Northcut required the student to modify the existing product if it had already been marketed online. She also had the students annotate photographs with callouts, and she reduced problems with plagiarism resulting from students’ using existing information from online sources. The document design portion of the course allows students to gain hands-on experience with desktop publishing software, but the richest active learning experience for students is a result of the requirement that they select and research a product and promote it in a product sheet, white paper, and presentation.

Active Learning Strategies

Rather than lecture in ways that render students passive, we try to facilitate the students’ engagement with one another, the material, and their own learning processes.

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as suggested by Drummond (2002). For example, because the class meets in a computer classroom, the students are able to work on their documents during class as well as at home. They receive over-the-shoulder help from the teacher and their peers. The students also participate in peer evaluation activities of their classmates’ writing and speaking, which leads to reflection about their work and eventually revision. More importantly, the sequence of assignments involves a recursive process of collecting, analyzing, selecting, and synthesizing information about one product as the students produce work in three different but related genres. With each assignment, the students “engage in such higher-order thinking tasks as analysis, synthesis, and evaluation” (Bonwell and Eison, 1991). The recursiveness of the sequence, involving related “cycles of investigation and representation,” encourages reflection and reinforces learning (Drummond, 2002).

**The Genres: Annotated Illustration, Product Sheet, White Paper, and Presentation**

A required textbook for the course is Harner and Zimmerman’s *Technical Marketing Communication* (2002). Although this textbook does not cover product sheets in great detail or annotated illustrations and white papers at all, it does provide useful information about marketing communication concepts, needs and audience analysis, and branding. Readings from this textbook inform the genre-based projects and guide the related cycles of investigation and representation.

*Annotated Illustrations*

Students were required to use photos in the three major assignments: product sheets, white papers, and presentations. They learned in class what constitutes an effective photo of a product in marketing literature. Both Malone and Northcut invited the students to bring their products to class for a photo shoot or to take photos at home if their products were too large to bring to class. By taking photos of their products, the students actively learned what they had been taught in class. Northcut’s students went one step further and learned how to annotate illustrations effectively. They applied this knowledge by adding, at a minimum, indication lines and callouts to their photos. If they were modifying existing products, they could use Photoshop to add features to or remove features from the products in the photos.

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Product Sheet

A product sheet is a 2-sided, 8.5 x 11 color print document exhibiting corporate branding, a product description, and other relevant information for purchasers. Comparisons of competing products, or distinctions between models in a product line, are often presented as tabular data. High-quality illustrations of the product are featured. The front side of the product sheet is typically more heavily visual, with the back side having denser content and more verbal information.

The students in both Malone’s and Northcut’s classes analyzed professional product sheets in preparation for writing and designing their own. From their analysis, the students were able to extrapolate the conventions of this genre. They then actively applied this knowledge by creating their own product sheets. The students had to select appropriate information and reject other information and then engage in a judicious synthesis of their sources.

White Paper

A white paper is an illustrated document (anywhere from 8 to 50 pages) that usually explains and promotes a particular technology or service. As reading material for the students, Malone assigned Franklin’s 1744 fireplace pamphlet as a precursor of the white paper, Stelzner’s “How to Write a White Paper” (2005), and several professional white papers. Northcut also used these sources, but she relied more heavily on Barefoot’s tips on white papers (2002) and Stelzner’s meatier advice from his 2007 book and his Web site. Using their product sheets as starting points, the students conducted more research and analysis. Not only did they gather additional information about their products from print and online sources, but they also tested their products, measured them, etc. The type of product they chose determined the type of data they collected. This second stage of investigation — more thorough than the first — became the basis of a second representation of the product. The white paper genre imposed different demands on the students and forced them to consider their products in new ways.

Presentation

Harner and Zimmerman (2002) distinguish presentations into distinct types, such as the technology proposal presentation and the technology demonstration. Malone and Bryan-Gosnell (2006) required the students to perform scripted demonstrations of their products, while Northcut permitted different types of presentations, including demonstrations. In Northcut’s class, each presenter addressed an audience of classmates.

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who acted as members of a particular group within industry. Northcut was impressed by the depth of the spontaneous question-and-answer exchanges at the end of the presentations. The students seemed to have been galvanized by the role playing (another one of Drummond’s best practices). Once again, this genre required additional investigation — or at least a reanalysis of previously collected information — and a different representation of their topics. Students studied presentations and/or demonstrations (such as the script of the "Silver Dollar Demonstration" in Brockmann [1998]) and then applied what they had learned.

**Pitfalls**

The challenges of this assignment sequence, based on three instructors’ experiences over three academic years, primarily fall into the categories of product selection and academic honesty.

**Selection**

In order to write a product sheet and white paper and to perform a technical demonstration, students are faced early in the semester with the challenge of selecting a good product. Analogous to “topic” selection in a composition course, students research the product and work with it for several weeks; they must be warned about the commitment to the project well in advance. Malone’s approach was to allow students to use products they had developed in their classes, to work with clients in the community to promote their products, or to select a consumer products with which the students were familiar. This last option led to the second challenge, plagiarism. Northcut, benefiting from Malone’s experience, required the students to invent a variation or enhancement of an existing product if they were not working with a new product.

To help them identify choices, both Malone and Northcut prompted the students to identify a market need based on a technological problem or challenge. One example of a high-tech innovation is a temperature sensing probe used in a nuclear reactor, selected as a product by a student in the nuclear engineering degree program who knew the professor who had created the prototype. However, students could select relatively low-tech product variations and innovations. One low-tech example is a pour spout for cereal boxes; another student designed a foam wedge to make a child’s car seat more secure.
Plagiarism

Not all students enter the course confident that they can identify a product, develop reasonable technical specifications, and write and speak with authority about the evolution of the technology and the problems that it helps solve. Therefore, some students are tempted to borrow from existing marketing literature. Thus, the second key to the assignments is to warn the students early and often about the temptations of using material from the Internet without attribution.

Building upon Malone’s advice, Northcut took a 5-pronged proactive approach to plagiarism: 1) voicing and publishing early and frequent warnings about the significant consequences of academic dishonesty, 2) discussing students’ product selections individually and at length, 3) vetoing students’ selections of well-known consumer products, 4) requiring students to modify other products that had already been marketed online, and 5) requiring that the target audience for all assignments be an industry-specific group of managers, vendors, manufacturers, or distributors rather than consumers. Those steps had a dampening effect on the use of unattributed online sources, further ensuring that students spent time on active learning rather than copying-and-pasting as they completed their projects.

Conclusion

Early in the semester, the students selected products and took photographs of them. The selection of products required some research, and this research was, in turn, extended when they began to work on their product sheets. When the students moved on to the white paper assignment, they had to re-analyze the information they had already gathered and conduct additional research. The representation of their topics in white papers was significantly different from the representation of their topics in product sheets. In the final assignment, the presentation, the students returned to the same topics, engaged in another round of analysis and synthesis of data, and created a third representation of their topics. Throughout this recursive process, the students engaged in the higher-order tasks of analysis, synthesis, and evaluation, developing investigatory and representational skills that were reinforced through repetition and variation.

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