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ABSTRACT

Technical writing programs housed in geographically isolated universities face great challenges in regard to getting students career-related work experience. A course in desktop publishing can provide students at rural schools with experience equivalent to internships. In a desktop publishing course taught at Murray State University in Kentucky, in addition to learning principles of layout and design, students faced many challenges like those that will confront them in a workplace. They worked on projects that entailed real financial constraints and deadlines, and they were required to modify their work after receiving reviews from several different individuals. In addition to providing students with experience, the course provided benefits to the university in terms of service and public relations. (Twenty-four references are attached.) (Author/SR)

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Real Projects/Real Audiences/Real Headaches: Collaboration in a Technical Publications Course

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Abstract

Technical writing programs housed in geographically isolated universities face great challenges in regard to getting students career-related work experience. A course in desktop publishing can provide students at rural schools with experience equivalent to internships. In the desktop publishing course I taught at Murray State University, in addition to learning principles of layout and design, students faced many challenges like those that will confront them in the workplace. They worked on projects that entailed real financial constraints and deadlines; they were required to modify their work after receiving reviews from several different individuals. In addition to providing students with experience, the course provided benefits to the university in terms of services and public relations.

Real Projects/Real Audiences/Real Headaches: Collaboration in a Technical Publications Course

Need for a Desktop Publishing Course

Murray State University is in Murray, Kentucky, a small rural town in Western Kentucky; the school is not within commuting distance of large or even small corporations likely to hire technical communicators. However, within the last few years the English Department has developed a program in technical communication to prepare its majors for a rapidly growing field that affords many career opportunities.

As the coordinator of this program, I studied successful programs around the country and modeled Murray State's program on them within the restrictions of our particular situation. Most of the programs I studied included internships. The value of internships is widely recognized (Mikelonis 1989). Seventy-three percent of the fifty technical writing programs Sherry Burgus Little surveyed in 1989 included internships. When working as interns, students learn interpersonal skills (Norsworthy 1988), they learn about the business side of technical writing (Mancuso 1989), and they learn how to adapt to a corporation's image and values (Lutz 1988, 1989).

Despite these significant benefits to be gained from internships, the geographic isolation of Murray State made a

traditional internship program impractical. Colleges not located in rural settings, however, may face problems with internships when businesses surrounding the school do not use technical writers (Staples 1991) or during periods of recession in the economy (Southard 1984). If there are no companies in the vicinity of the school that hire technical writers, suitable jobs are sometimes available on campus (Staples 1991). Another alternative is that rather than working full time at an employer's facility, a student may be assigned a project to complete for the employer, such as producing a marketing brochure (Southard 1984).

Both of these alternatives came together in the desktop publishing course I developed for my students (both upperclassmen and graduate students) at Murray State; in the course, students produced individual projects for departments and offices on campus. The course provided some of the significant experiences that students would be likely to have in an internship as a technical communicator.

Goals of the Course

I wanted the course to accomplish two primary goals. One goal was to introduce students to desktop publishing by teaching them general principles of design and page layout in conjunction with the use of a page composition program. The second goal was

to provide students with experiences comparable to those that they would have gained from an internship. Specifically, those experiences would include learning a particular publishing system while working on projects, collaborating on a group project with real deadlines and financial constraints, seeking out reviews from individuals in authority, revising their documents based on those reviews, and dealing with a print shop.

I designed the course to provide students with theoretical knowledge, practical skills, and, most importantly, the experience of seeing a real project through the entire production cycle from planning to printing and distribution. In fact, each student saw two projects through the entire production cycle. During the course of the semester students worked collaboratively on the class project, a brochure to represent the English Department's Professional Writing program, while at the same time doing individual publication projects. Students did projects for various departments in the University and for a local business. These projects included a brochure for the College of Science's Environmental Studies program; a newsletter for a summer program for local high school teachers modelled on the National Writing Project; a training manual for Shoney's Restaurant; a brochure for the University's Learning Center; and a brochure for the Theater Department.

Background Information

Desktop Publishing Laboratory

The class met once a week for three hours in a desktop publishing laboratory created exclusively for writing students; the laboratory was housed in a small classroom adjoining my office. It was equipped with a Mac IIcx with a two page Radius monitor, an Apple scanner, and a Texas Instruments OmniLaser 2115. The page composition program the students used was Interleaf Publisher, a corporate electronic publishing system.

Learning Interleaf Publisher

Students were faced with the challenge of learning this powerful program while in the process of working on projects. I introduced them to the program by giving a demonstration of its most basic features during the first class period. Then I directed them to the excellent tutorial package provided by Interleaf. The students worked through the tutorials during laboratory hours outside of class.

I did spend some time toward the end of each three hour weekly class meeting demonstrating new functions of the program and then troubleshooting students' questions. As the program arrived shortly before the fall semester began, I learned the program little more than one step ahead of the students. During troubleshooting sessions in class, students frequently jumped in to answer one another's questions based on their own experience

working with the program. In such cases I let students help one another, joining in only when all students were clearly stumped. Sometimes I was stumped as well and in these cases we went through the documentation seeking an answer. When we could not find an answer in the documentation, we called the user support line.

Instructors of computer-aided composition courses frequently cite students helping one another with problems learning a particular application program as one significant way that use of computers fosters collaboration in the writing classroom (McAllister and Louth 1987; Nash and Lawrence 1987; Jom and Duin 1989); this type of collaborative learning also occurs in the technical writing classroom where students are doing desktop publishing. However, learning Interleaf Publisher was only one small aspect of the collaboration that went on in this particular course.

The students' experience of learning the program paralleled the experience of new employees at Texas Instruments' Semiconductor Group in Houston where technical writers use Interleaf Publisher in Product Documentation; new employees learning the program are given a brief training session and then are left to work through tutorials on their own. Coworkers experienced with the program do check on them periodically and answer questions, but the work of learning the program is, for

the most part, done individually (Tatge 1990). Similarly, although students were able to ask questions of me during a troubleshooting session at the end of each class period, for the most part they worked on their own. Students were not given an opportunity to become comfortable using the software before they began working on their projects. As Little (1990) has pointed out, technical writing students should realize that they will need to adapt to different environments, even as they do their work; they must learn to adapt quickly and smoothly.

Class Project

The class project, a brochure to represent the professional writing program, was the focus of the course. Each aspect of the publication cycle was first introduced in relation to the class project, as were elements of layout and design. This project was in many ways the model for the students' individual projects. Students collaborated on all phases of this project from planning and designing layout to writing copy and getting reviews from faculty members to arranging for printing and distribution.

Students need to have experience seeing a document through the entire production cycle (Kalmbach, Jobst, and Meese 1986); at some rural universities, it is difficult for students to get that experience from internships. In the desktop publishing course students were responsible for seeing the class project and their individual projects through all phases of production. Each

aspect of the publication cycle was first introduced in relation to the class project and students were able to apply the skills they gained working on the class project to the development of their individual projects.

Planning and Research

I gave students the first assignment toward the completion of this project on the first day of class; the class discussed the purpose of the brochure and decided who the primary audience for such a document would be (prospective students and currently enrolled underclassmen), and shared ideas on what they felt would be most persuasive to this audience.

For the next class meeting students had to bring in a series of questions that they thought the brochure should answer for the reader. I also required students to write several letters of request to get sample brochures from other institutions with technical writing programs. The assignment to write these letters of request involved three separate components: research, mastery of Interleaf Publisher, and skill in writing a persuasive letter.

In this way the class began collecting a library of brochures from various programs around the country. Each week as the students and I brought in new brochures, we analyzed them both for content and design. We looked carefully at the types of

textual information the various brochures included and at the tone each projected about its program. We also examined the use of graphic elements including line art, photographs, and logos.

While discussing the merits of various design elements, we had to keep in mind the English Department's limited budget. For example, multiple colors would be too expensive, so we decided to print black ink on colored paper. We also decided to keep our brochure to three-fold size, rather than opting for a four-fold brochure with a detachable mail-in card for further information on the program, which is used by several prominent programs. Again, we made this decision in order to stay within our limited budget.

Students were already dealing with real constraints and limitations even in these early planning sessions. As much as possible, I tried to let the students wrestle with these problems without leading the discussion; even when the class was moving in a direction which seemed ill-advised, I attempted to hold any cautions or criticisms until students had dealt thoroughly with the issue among themselves.

For example, once we decided that the brochure would be printed on colored paper, students launched into a long discussion of the merits of various colors--discussing concerns ranging from the psychological effect of colors to the

difficulty/ease of perceiving certain colors. A heated discussion of the merits of the various sample brochures in relation to their use of colors ensued. I did not remind students that we would most likely be constrained to the least expensive paper the printing services had to offer, but allowed them to continue their discussion for a time until a consensus was reached in favor of beige.

Students also debated the use of a mail-in reply card. Some students argued strenuously for including such a postcard on the brochure. They were impressed by other programs' use of such a card and liked the idea of getting immediate responses from interested students. However, the students opposed to this idea argued cogently in terms of audience awareness; they reasoned that this was not efficient or appropriate for most of the targeted audience as we had defined it.

We had agreed that at least 30 to 50% of our targeted audience would be students already on campus who had not heard about the program. For this portion of our audience a mail-in card was obviously unnecessary. We had also agreed that a significant portion of our audience would be prospective students, most likely high school students. These students would be receiving other materials from other offices on campus and our primary goal was to make them aware of the program; a telephone number would be provided for students seeking further

information. We really had no additional materials to send specifically from the English department; the other materials the students would receive would come from admissions, financial aid, and other appropriate campus offices.

The students resolved this issue among themselves with little input from the instructor except to restate, clarify, or confirm points raised during the course of the discussion. Only after students had decided for themselves that such a card was not really appropriate for our intended purpose and audience, did I point out the least debatable fact--we could not afford the postage to provide a return card for the number of brochures we had decided to print.

Writing

As we decided upon the various design elements, students began to take individual responsibility for sections of text, photographs, and graphics. Each student was responsible for one section of the text of the brochure. The sections were a definition of technical writing, a description of the program, courses recommended, possible careers in the field, successful alumni, general information on the university and the region in which it is located, information on admissions and financial aid, and how to get further information. We also decided that the

brochure would contain four photographs, one graphic design, and one map.

There is much discussion about the nature of collaboration in the workplace and how it differs from the way students are taught to collaborate in the classroom (Allen et al. 1987). Couture and Rymer (1989) tell us that the career writers they surveyed did not typically engage in fully collaborative writing teams in which each writer is responsible for a discrete section of the document. In the classroom, students are encouraged either to divide the work and write sections of a document individually or else to work as a group to draft, edit, and revise the entire document. Problems are inherent in both these methods.

When students work independently and then assimilate their efforts, the document usually lacks a unified voice (Forman and Katsky 1986). When they work through the writing process as a group, they may get bogged down in a democratic process that requires them to "vote" on every sentence (Forman and Katsky 1986); also, students often lose their individual ideas to the group's scribe (Sullivan 1989).

Although my students worked individually, we attempted to forestall the problems inherent in that method by setting up guidelines in the planning stages of the project when we

discussed our audience and purpose. We agreed on how we would refer to the program, the University, and prospective students. While this planning did reduce problems related to multiple authorship, problems still arose that had to be dealt with concerning consistency. We addressed those problems during our internal review sessions.

Working along with the students, I also wrote one section of text for the brochure and as much as possible tried to function as a part of the writing group, not the director of the group. One student volunteered to take the necessary photographs as she was enrolled in a photojournalism course that semester. Another student volunteered to scan the University's logo into the brochure file. A third student volunteered to call alumni and get their permission to include them in the brochure and arrange for photographs and quotes.

Reviewing--Internally

When we had created all the text, the class had a review session. Each person's section of the text was commented on by everyone in the class and then was revised by the class as a whole. When differences of opinion arose concerning style, I tried to remain neutral and merely stressed the importance of consistency throughout the entire document. At this time, we strove to avoid the problems related to multiple voices (Forman 1986). We also used the sample brochures collected over the

first half of the semester as models--albeit, sometimes as models of what to avoid. Nonetheless we finally created a very "rough" draft, with students brainstorming and rewriting.

Designing the Document

At this point the text for the brochure existed in a number of separate microdocuments. After we had revised the text and, in some cases completely rewritten it, students began working on the layout of the brochure, although the layout had been discussed in general terms during our initial planning sessions. For the class meeting after the revision session, students had to bring in thumbnail sketches of the brochure as they envisioned it. The class evaluated each one and decided tentatively on the design.

Working from a thumbnail sketch, students then began to work on merging the various microdocuments. The inside fold and the outside fold of the brochure were created as two separate documents. When text was placed into the desired places on the brochure grid within Interleaf Publisher, we spent time reorganizing and editing material further. Seeing a mock-up of what the brochure could actually look like led to more ideas of what needed to be included and also revealed problems not anticipated previously. As Kalmbach (1988) points out, in small folded brochures, design and writing are closely knit together.

The editing of hard copy led to several changes in the brochure. Although thumbnail sketches are valuable, students who were simultaneously learning Interleaf and learning basic principles of design needed to work from hard copy. Students learned quickly that even a two-page Radius monitor is not truly WYSIWYG. They also became increasingly aware of the importance of the way a text looks. The need to teach our students an awareness of the visual impact of texts on readers becomes vital when we teach desk-top publishing (Sullivan 1989; Olsen 1989).

Working from hard copy we made changes to strengthen the visual impact of the brochure. The section describing the surrounding area was further reduced in length; the section discussing careers was expanded. The placement of the section on successful alumni was moved to the center-fold of the interior of the brochure and the information on admissions and financial aid was moved to the center fold of the exterior of the brochure. Decisions like these could only be made when the entire brochure was laid out before the class in hard copy.

We debated minor points such as the alignment of the end of each column and the amount of space allowed for each photograph. Then we spent time correctly aligning all the text that had been pulled in from separate microdocuments. In some cases students writing the various sections of the text in different files had

used different typefaces and point sizes. We edited for consistency before we proceeded to the next step in the process.

Reviewing--Externally

Students working as interns in the corporate setting would certainly experience the review process at some level (Lutz 1988; Dorff and Duin 1989). After our internal reviews, I assigned each student to review the brochure with someone in the English department. For the most part students conducted reviews with faculty members who were currently teaching technical writing or who had taught technical writing in previous semesters; one student reviewed the brochure with the Department Chair. I reviewed the brochure with the Dean of Humanities.

These reviews followed a specific procedure. First, each student had to contact the faculty member doing the review, give the reviewer a copy of the brochure, and arrange a time to meet and go over the reviewer's comments. At the actual review session students were required to take notes and record all reactions and suggestions both positive and negative. A substantial portion of the class period following the reviews was devoted to a group discussion of the comments gained from the review process.

For both the students and the instructor these review sessions proved to be one of the most instructive and valuable learning experiences gained from the course. One by one each student reported on the review experience. The report on the review included two equally important components: 1) the specific suggestions for changes and general comments made by each reviewer; and 2) the general tone of the reviewer's comments and attitude toward the project. Students learned the importance of personal interaction in the context of a real situation with real politics.

This class session demonstrated for students the importance of personal interaction and socialization to a particular organization's or client's culture in a writing situation; in many ways it demonstrated the great difficulties that can be caused by factors removed from the actual process of writing and designing documents (Lutz 1988).

The comments of the various instructors asked to review the document were widely divergent. In several cases, there were direct conflicts of opinion. For example, the information describing the many career options open to technical writers was considered inadequately developed by one department member and irrelevant by another. Technical writers frequently face the challenge of responding to the conflicting reactions of more than one reviewer. In the organizational setting, student interns

will be required to reconcile preferences of more than one person (Lutz 1988).

Students may also receive reviews that conflict with or challenge both their notions of good writing and their ethics. For example, the Department Chair wanted to use the term "Professional Writing" to refer the program and to define the term so broadly as to almost be meaningless to ensure the opportunity to draw in as many students as possible to the department. He also raised political issues such as the fact that the person running the program should not be referred to as the "Director" because that was politically unacceptable in terms of the way the word was used at the University.

Students gained insight into the power struggles, often "petty" that may affect decisions and leave the writer caught in the middle. Other instructors differed greatly in their attitude toward the use of certain marks of punctuation. One stated flatly that, "Using an exclamation point was unprofessional!" Another suggested the use of more exclamation points. While some concerns were admittedly minor, students experienced the frustration of writers dealing with more than one "gatekeeper" overseeing their writing project. Some looked longingly back to the time when all they had to do in a writing assignment for class was "please" one instructor.

Students learned about adapting to an organization's image, in this case the University, just as clearly as if they had been working for a bank or a software company. The class thrashed out all the criticism as a group. They quickly fixed obvious errors and typing mistakes and painstakingly analyzed the impact on the intended audience of the changes suggested by the reviewers. We had many decisions to make; we were not merely grappling with the question of whose advice to adhere to in the case of conflicting opinions--for example, the exclamation point question (which was decided by consideration of other brochures none of which used them)--but also the degree to which we felt bound to follow the advice given. In some cases the advice was really an order; we could not use the word "Director"--if for no other reason than that the chair was paying for the brochure with departmental funds and would not approve it if the change were not made.

In other cases, particularly where conflicting opinions were given, the class relied on the best models they had and their own collective best judgement. Students tended to defer to reviewers more readily in matters relating to text than matters relating to design--perhaps feeling greater authority in this area since none of the other professors in the department, even those who had taught technical writing, had experience with graphic design or desktop publishing.

Once we had made all the changes we deemed necessary, I conducted a second review with the Department Chair. At this meeting some final negotiation took place and we decided on the number of brochures to be printed.

Individual Projects

Students began working on their individual projects at the same time that the class began work on the class project. Individually they had to go through all the steps from planning to production that the class did as a group. When working on these projects students had to deal with real audiences and real gatekeepers who either would or would not accept the work they were doing. Beyond obvious considerations of cost, audience, and purpose, students' work was also affected by the prejudices, limitations, and political agendas of those for whom they were working. In other words, writers were asked to make changes based on considerations other than principles of good design and good writing.

Printing and Production

For many students, dealing with the University's printing and publication services proved to be the greatest obstacle of all. Again, real world political concerns played a role. As with many small universities, individuals within certain departments sometimes perceive anyone doing anything related to what they are doing as attempting to invade their territory.

This was the case when the desktop publishing lab was set up for the Professional Writing program; the Journalism Department was annoyed by what they perceived as an attempt by the English Department to take away their students. This sentiment proved to be a significant factor in the dealings that students had with Printing Services when they had to make arrangements to have their work produced.

The Publications Director for the University thought that the English Department had no business trying to teach a course in an area where she clearly had more expertise than anyone in the department. Students now found that all of their design and layout was being questioned and criticized when they brought it to be printed.

Although the students' work was not without flaws, in some cases they received particularly scathing criticism and were given instructions not to change errors, but to redo their designs completely. One student working on an article about an alumna who is a technical writing consultant was told that a pencil would be an appropriate graphic to accompany the story. When the student tried to point out that technical writers work with high-powered computer programs, not pencils, the Publications Director argued that she knew best because she had studied graphic design.

In many cases they were not given good design advice; even when they were given good advice, they had to deal with the fact that their authority over their work was being challenged constantly.

Again, students tended to resolve these problems by working with me and deciding to accept some advice and reject some as well. They found it necessary to be very forceful in defending parts of their documents that they did not wish to alter both when dealing University's Publications Director and with the contact person they were working with to produce their individual projects.

For example, one student was working on a brochure for the University's Learning Center. Her contact person was someone who believed that a good brochure must be crammed full of pictures; this person also wanted a large amount of textual information included. She expected the student to produce a brochure with barely any margins, let alone adequate white space. The student had to educate her "client" in some principles of good design to make her see that her interests would be best served by a different type of layout.

Although in some work situations guidelines are clear and uniform, many times technical writers will be responsible for setting standards and will need to know how to educate other

experts and managers as to the basis for their decisions. They will need to know when to argue for elements of design in a document and when to compromise. Students came out of the experience with much clearer ideas about design and their own reasons for making the design decisions they had made; they also became better able to explain and defend their decisions to others in positions of authority.

Conclusion

The course accomplished both of my primary goals. Students did learn about desktop publishing; they learned how to apply general principles of page design and layout to a high level page composition program. They also had learning experiences comparable to those they would have gained in internships. The course provided benefits to the students and also to the University.

Benefits to Students

The students taking this course learned to exercise interpersonal skills necessary for successful performance as technical communicators. One student commented on the fact that she had no idea "how much time writers spend talking to people and asking questions."

Students gained an understanding of all phases of the publication cycle. The student who did the brochure for the University's Learning Center had a great deal of experience with page layout; she changed her page design many times as she attempted to please her client. She also had experience estimating printing costs as she struggled to meet her client's unrealistic expectations for a brochure full of photographs on a very restricted budget. She commented in frustration on the fact that she spent "much more of [her] time dealing with Printing Services than she spent on researching, writing, and editing [her] text."

From the experiences they had, all the students thought they were more prepared to function as technical communicators. They lost their naive notions that they would be sitting alone and working at a desk or a terminal without interruption and without consulting others except with a final copy. While at first some students had been uneasy with this challenge to their idea of what it meant to be a technical writer, eventually they all rose to the challenge and became invigorated by it.

Overall students learned several important "real world" skills in the course. They had mastered a corporate electronic publishing system; they also had at least two documents to add to their portfolios. Most importantly, they learned how to adapt to a new piece of software while in the process of working on a

project. One student said that he "felt confident that [he] could learn any new system after mastering Interleaf."

Students learned how to function as part of a writing team. They had an experience of collaboration that paralleled the kinds of collaboration done by writers in the workplace. Although the course provided many surprises and contradictions of students' preconceptions about being technical communicators, the surprise that the students reacted most positively to was the amount of collaboration they had to do in the course. Students all looked forward to this aspect of a job as a technical writer. One said, "It is great that we can all review each other[']s work] and draw on each person's strengths."

They learned how to deal with reviews that were at least in part politically motivated and they learned what to accept and what to reject from those reviews. For many of the students, my support and the support of their classmates eased the transition from student writer (essentially dealing with the criticism of one instructor) to professional writer (dealing with conflicting criticism from multiple sources).

One of the realities of the workplace they learned was that at times it may be necessary to alter one's own perception of the ideal text in order to satisfy gatekeepers who are paying for the

production of a document. They also learned to work within the constraints of time and money that exist in a given situation.

Benefits to University

The course made it possible for a rural university to provide students with experiences usually only gained through internships. The students in the course also provided a service needed by the University. Many departments and programs were served by the high quality work the students produced as their term projects. The brochures and newsletters produced by the class also served to make members of the University and community aware of the program, thereby drawing in more prospective students.

Despite the success of my desktop publishing class, I realize that one class cannot give students all the benefits of a semester spent interning as a technical communicator. However, this particular class did give students the opportunity to work with clients on real projects and to encounter many of the challenges technical writers face on the job. They also gained confidence in their abilities to meet those challenges and to produce manuals, newsletters, and brochures that satisfied their clients. Therefore, while students should be encouraged to do internships when they are available, a desktop publishing course

will prove a viable alternative when the geographic location of a university or difficult economic conditions severely limit the possibility of internships.

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