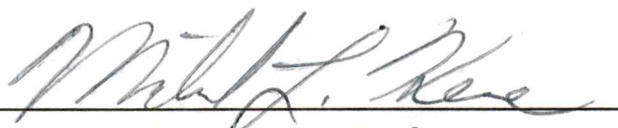


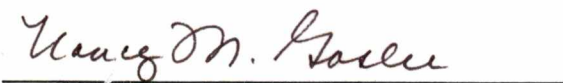
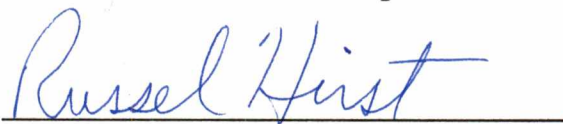
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Michael L. Keene, Major Professor

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Technical Communication Employment Opportunities
in the Knoxville-Oak Ridge Area: A Survey

A Thesis
Presented for the
Master of Arts
Degree
The University of Tennessee, Knoxville

Victoria Cherie Johns
August 1992

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DEDICATION

For David and Seth, who help me with all my transitions.

And for the women who gave me my writing life:

Marilyn Jacobson, teacher;

Mary Richards, mentor;

and

Linda Weaver—fellow writer, trusted editor, sister of my heart.

ACKNOWLEDGMENTS

My acknowledgments begin with my major professor, Michael Keene.

From the beginning of our working relationship Mike has treated me as a fellow professional. He has made me feel like a younger colleague rather than a student, and he has always been generous with his time and guidance. He's pushed me (zapping me with the dreaded "pocket annihilator") when I needed it, and praised me (favoring me with a tune from the Mickey Mouse watch) when he felt I earned it. He has won my wholehearted respect and admiration, and he has set a valuable example for me in his conduct as teacher, professional, parent, person, and friend.

Then there are my colleagues in University Relations, who have supported me throughout my four years of graduate study. John Clark, my boss before the merger of University Communications and University Relations, helped me decide on a graduate program, recommended me for graduate study, and let me take the classes I needed, even when they were offered at awkward (non-lunch hour or after-hours) times. Sammie Lynn Puett and Jim Bennett, who head the "new" University Relations, continued to support my pursuit of a graduate degree.

My Publications Center supervisors, Jim (a.k.a. "Boss") Kelly and Diane (a.k.a. "Boss") Ballard, have also lent their support and help. Jim has always been available for ongoing literature discussions, progress updates, cheerleading, and computer advice. Diane has supported and encouraged my interest in science and technical writing and has given

me opportunities to pursue that interest. She's taken time to discuss with me what does and does not work, to save and pass on to me articles on science and science writing, and to give everything I've written the benefit of her thoughtful, precise editing. On top of this she's a super dresser and drives a cool car. Incredible.

Linda Weaver, *Context* editor and longstanding advisor on all subjects, has showed me new skills, given me new confidence, read (and read and read) and made suggestions on my writing, shared my sorrows and successes, eaten lunch with me, bought lunch for me, assured me that I *would* pass whatever test I was currently bemoaning, and kept me liberally supplied with Great Literature. In short, she has been the dearest and most loyal of friends.

My other colleagues have pitched in whenever I needed their help and advice. When I needed information but had no idea where or how to get it, Kathy Aycock (you all know Kathy, don't you?) utilized her vast network of contacts. When I was discouraged, she offered me hope: a Huggy Bunny here, a purple petunia there. Tina Jones gave me "friendship rates" on mailing labels that absolutely, positively had to be done overnight, rescued me from my computer snarls, and delivered the latest in jokes. Jenny Nash made sure I was never without a lunch partner or listening ear when I needed it. Pan Riggs offered me High Adventure (rafting, hiking, Chinese and videos, trips with our kids), and her sympathetic ear. Greta Eichel regularly and cheerfully lent me parts of her enormous library, and Hugh Bailey—well, he was just his regular, cheerful self, who kept me diverted with many a running impractical joke.

Several ETC/STC members made information gathering for my

research project much easier. Fred O'Hara gave me the initial information I needed and came up with more when my well ran dry. Cindy Robinson, Margie Ortigara, and Christina Goode made it possible for me to conduct my PCOC survey. Linda Phillips gave me access to the local chapter of ASIS, Mary Uziel gave me space in the ASIS newsletter, and Jennifer Combs gave me space in the STC newsletter. And all the technical communicators I called upon during the survey (sometimes more than once) willingly gave me their time and help.

I can't say enough thanks to my friend Tammy (a.k.a. "The MacWhiz") Pickens, who lent me her editorial and design expertise beginning with the very first survey to the very last page of the thesis. Tammy got up early and stayed up late to help create my pages and charts, and she did it cheerfully (often positively humorously). This thesis and this writer would not have made it without her.

There is one last acknowledgment, and that is to my late father, Allison Slagle, who spent the last four years showing all who knew him the meaning of courage and integrity. He was hit again and again by strokes, but he never lost his dignity and independence or his steadfast love for his children. I will never cease to miss his presence and support. Yet I know that I will never be without the inspiration and reassurance that his memory gives me.

ABSTRACT

Because it is home to the Oak Ridge National Laboratory and to many technology-based businesses, the Knoxville-Oak Ridge area is considered a prime area for people seeking technical communication jobs. However, no systematic attempt has been made to document how many firms in the Knoxville-Oak Ridge area actually employ technical communicators, or the approximate number that they employ.

For this research project, I attempted to compile information about Knoxville-Oak Ridge technical communication employment opportunities. I identified 338 Knoxville-Oak Ridge businesses and 87 businesses in Anderson, Blount, Hamblen (City of Morristown), Jefferson, Loudon, and Sevier Counties as possible employers of technical communicators. I conducted a telephone survey of these businesses, asking them if they employed technical communicators and (if yes), the number that they employed. I discovered 81 businesses in the Knoxville-Oak Ridge area who either employed technical communicators or who listed positions for which people with a technical communication background would be qualified. I discovered 10 such employers in surrounding counties.

I also conducted a mail survey that asked technical communicators at selected businesses to describe their educational background and to identify the skills they used and the tasks they performed most frequently in their current work. I sent the survey to 80 individuals at 26 companies. Survey results indicate that this group of technical commu-

nicators had very different levels of education and training. However, most jobs required a common set of skills and tasks.

I concluded that I succeeded in establishing a limited resource for technical communication job seekers. In addition, my list of companies may prove useful to researchers who would like to undertake a more in-depth study of the technical communication profession in the Knoxville-Oak Ridge area.

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1. INTRODUCTION

The main goal of this project, which I began in the fall of 1991, was to create a list of companies in the Knoxville-Oak Ridge area that employ technical communicators. Michael Keene, my major professor and director of UT Knoxville's technical communication program, suggested that such a list would be useful to the East Tennessee Chapter of the Society for Technical Communication (ETC/STC), which often gets calls from technical communicators who are job-hunting in this area, and to students in UT Knoxville's technical communication program.

A complete list of companies that employ technical communicators would also allow me to complete the project's second goal: to discover some of the skills and tasks that technical communication jobs in the Knoxville-Oak Ridge area require. This information would give students and job seekers an idea of the skills they need to possess to be competitive in the Knoxville-Oak Ridge job market, and would identify questions for future research about the nature of technical communication in the Knoxville-Oak Ridge area.

Initially, I planned to find companies that employed technical communicators by telephoning members of ETC/STC and asking them for referrals to technical communicators at other businesses, continuing the chain until I had exhausted all referrals. From the total number of people interviewed, I planned to choose subjects for a more detailed telephone survey in which I would ask participants about some of the typical tasks their jobs required. However, I decided that compiling a list

through referrals would be too time-consuming both for me and for survey respondents, and would yield a limited list of businesses.

Therefore, I decided to conduct a "cold call" telephone survey of all businesses in the Knoxville-Oak Ridge area that I thought might employ technical communicators. The problem with this method is that I had to make my net very wide, calling manufacturers, retailers, laboratories, consulting firms—any business that dealt in any way with technical or scientific products or services.

My first task was to compile a list of businesses. I started with the ETC/STC's list of 36 area businesses that are known to have employed technical communicators. I also looked at ETC/STC's current membership directory. Unfortunately, the businesses named in this list were, for the most part, the same as on the employment list.

I thought that I might get new leads on businesses by surveying attendees of the annual Practical Conference on Communication, sponsored by ETC/STC and held in Oak Ridge each October. More than 200 area technical communicators usually attend this event, which I thought would be the ideal place to distribute a very short questionnaire asking for each attendee's company name.

I was wrong. Not only was the response rate extremely low, but those responding were from companies I already knew about. I will discuss this survey in more detail in Section 3.

I began consulting other sources. One of the best is the Tennessee Technology Foundation's list of 231 technology-based organizations located in the Tennessee Technology Corridor area. To find the names of other possible employers of technical communicators, I consulted busi-

ness directories from the Oak Ridge and Knoxville Chambers of Commerce. These directories list businesses in their area (the 1990-91 Knoxville directory lists those in 17 surrounding counties, as well), not just technology-based businesses. However, since they include a description of each business, I was able to pick out businesses which seemed to be technology-based. I checked listings for Anderson County, Blount County, Grainger County, Hamblen County, Jefferson County, Knox County, Loudon County, and Sevier County.

I also consulted the 1992 edition of the *Dun and Bradstreet Regional Business Directory*, which lists businesses in all Tennessee counties, nine Georgia counties, and some western North Carolina and southern Kentucky counties. I checked businesses by city (these listings are subdivided by zip code) as well as those under the subject divisions of "Commercial Physical and Biological Research" and "Noncommercial Research Organizations." Since the subject divisions included businesses from all areas that fell under that heading, I found it much easier to search by city.

I also searched the Oak Ridge Waste Management Association member directory and the East Tennessee Development District *Industrial Land Inventory*, which lists businesses housed in industrial parks in Anderson County, Blount County, Campbell County, Claiborne County, Cocke County, Grainger County, Hamblen County, Jefferson County, Knox County, Loudon County, Monroe County, Morgan County, Roane County, Scott County, Sevier County, and Union County. In addition, I checked Lawson-McGhee Library's newspaper clippings file on area technology-based businesses.

From these sources, I derived a call list of 425 businesses. My telephone survey results are listed in Section 3.

I still wanted to ask technical communicators about the skills and tasks their jobs required, but I felt a phone survey would not be the best way to get this information. First, it would be hard to schedule phone interviews with each potential respondent, and I would probably have to confine myself to companies where I knew someone by name. Second, even if I limited myself to a few simple questions, the interviews would probably take 15 minutes at the least. Third, it would be difficult accurately to record responses without taping each interview. Not only would transcribing interviews be time-consuming, but any research project involving taping of human subjects must undergo a more extensive review by UT Knoxville's Office of Research Administration than one that does not involve taping.

For those reasons, I decided a mail survey would be the best method for learning about technical communicators' jobs. Survey participants would be drawn from my phone survey list of area businesses that employ technical communicators.

I discuss the results of my mail survey in Section 3.

I hope that my list of businesses and brief information about Knoxville-Oak Ridge technical communicators' job tasks will be a useful resource for researchers as well as job seekers. Using my list to identify potential respondents, future researchers may want to investigate some of the questions I was unable to explore within the scope of this project. I have listed possible questions for future research in Section 4.

2. LITERATURE REVIEW

Technical communication is a fast-growing and increasingly popular career field. The Society for Technical Communication estimates that there are currently more than 100,000 technical communicators in the United States and approximately 150,000 worldwide. Those figures indicate tremendous growth in the profession since 1980, when the first United States census to count technical writers as a separate class found 48,065 (Norman, ADE Bulletin, 31). The profession is expected to continue its rapid growth as we approach the year 2000. The 1990-91 *Occupational Outlook Handbook* says, "Demand for technical writers is expected to increase because of the continuing expansion of scientific and technical information and the continued need to communicate it" (174).

Yet relatively little is known about the technical communication profession. In a 1986 article, Rose Norman describes some of the difficulties in defining the role of the technical communicator: "Describing what technical writers do is rather like trying to explain what teachers do, except that most people are generally familiar with teachers, while relatively few have ever met a technical writer...To complicate research and job hunting further, the job title 'technical writer' is often an umbrella term for editors, proofreaders, and writers of speeches, reports, and software documentation; in short, anyone associated with technical communication may be a technical writer. Technical writers are often disguised under mildly cryptic job titles, such as Information Representative, Communication Specialist, or Instructional Materials Developer" (ADE Bulletin, 30).

In recognition of the many tasks in addition to writing and editing that technical writers or editors are asked to do, and of the many people who are doing technical writing and editing under some other title, it has become popular to call members of the profession "technical communicators." However, individual businesses still continue to employ technical communicators under a variety of titles, making it impossible for researchers undertaking surveys to be sure that their potential sample populations include all those doing technical communication work.

Before undertaking my survey of technical communicators in the Knoxville-Oak Ridge area, I wanted to find out the kinds of questions other researchers had asked in recent surveys, along with their sample population size, sample population composition, research methods, and survey results. Therefore, I searched *IEEE Transactions on Professional Communication*, *Journal of Business and Technical Communication* (Iowa State), *Journal of Technical Writing and Communication*, *Technical Communication*, and *The Technical Writing Teacher* (called *Technical Communication Quarterly* beginning with the Winter 1992 issue) for surveys of the technical communication profession published since 1980. I also searched the *American Statistics Index* and the *Statistical Reference Index* from 1980 to the present.

To date, the Society for Technical Communication has conducted the most complete surveys of the technical communication profession. These surveys have provided valuable information about items such as average salary, levels of education, and geographic distribution. However, as in most surveys of the technical communication profession, the sample population has been drawn from STC members.

The biggest contribution of STC surveys has been to provide consistent information about technical communicators' salaries, although the surveys track other important information, such as educational level and gender. Beginning with the 1985 survey, STC also asked about certain job skills and level of professional satisfaction.

STC's 1979 survey (published in late 1980) showed that 52 percent of respondents earned between \$15,000 and \$25,000, and 32 percent earned more than \$25,000. However, the largest percentages of respondents earning more than \$20,000 had at least five years of experience, while the largest percentage of respondents earning more than \$30,000 had more than ten years of experience (Davis 16).

In 1979, only 25 percent of all respondents had a master's degree. Furthermore, for salary levels of more than \$25,000, the master's degree did not seem to make a significant difference. In fact, 17 percent of respondents with a bachelor's degree earned salaries within the \$25,001-\$30,000 range, as opposed to 15 percent with a master's degree (p. 16). Respondents with a master's degree fared better at the \$30,001-\$35,000 level, with 13 percent earning salaries within that range as opposed to 8 percent of respondents with a bachelor's degree. Education level apparently had no effect on salaries of more than \$35,000, with 8 percent of respondents with a bachelor's degree and 8 percent of respondents with a master's degree falling into that category (16).

The 1979 survey also reported salaries by geographical region. At that time, the highest percentage of respondents (30 percent) from the Alabama, Florida, Georgia, Mississippi, and Tennessee region earned between \$15,001 and \$20,000. The second highest percentage (21 per-

cent) earned less than \$15,000. Only 1 percent of respondents earned more than \$35,000.

STC's next membership survey, conducted in early April 1985, shows a median salary of \$30,500 as opposed to \$20,000 in 1979 (Cook 28). The highest percentage of respondents (21 percent) earned between \$25,000 and \$29,000 (28). The survey lists median salary by region (for the Alabama, Florida, Georgia, Mississippi, and Tennessee region, it is \$28,000), by sector, by job title, by sex, by age, and by years of experience (28). The survey also showed the percentage of respondents with a master's degree (26 percent), and provided other general information about the STC membership. For example, the majority of 1985 respondents worked as writers and editors, worked in the computer industry, and majored in English (29).

Neither the 1985 nor the 1988 STC survey tracks salaries as compared to level of education, although the 1988 survey did show respondents' highest level of education (25 percent with a master's degree) (Cook and Stolgitis 41). The 1988 survey also shows respondents' reasons for joining STC and levels of satisfaction with programs and services (41-42). The article's authors conclude, "Results of the 1988 survey reveal that the typical STC member is much the same as the profile identified in the 1985 survey. Basic trends continue, with more women in the field and a higher educational level" (3).

STC's most recent survey, conducted in October 1991, showed median salary for writers and editors in the United States by sex ("In the U.S., female writers/editors can earn 93 cents compared to the dollar earned by their male counterparts"), years of experience, age, zip code,

employment level, staff size, education level, and industry (Profile 92, 12-14). The largest employer continued to be the computer industry (5). The latest survey also showed an increase in the number of respondents with a master's degree (30 percent) (4).

Education level is a major area of study for researchers of the technical communication profession. Since 1980, there have been several surveys concerned with how potential technical communicators should be educated.

Most surveyors, responding to the rapid growth of formal programs in technical communication, have asked about the desirable curriculum for potential technical communicators at the undergraduate level. Bill Coggin, summarizing the results of a 1980 survey, wrote, "Technical communication courses and curricula are appearing in more and more college catalogs as recognition of the profession grows. To assist colleges in the development of such offerings, the curriculum development subcommittee of STC's Education and Development Committee asked practicing technical communicators what the schools should teach" (13). The education-related survey questions, distributed to 3,414 STC members (886 responded), asked if educational experience was preferable to on-the-job experience, and if so, what educational experiences the respondents considered most important. Respondents were also asked "to name noncommunication-oriented subject areas and specific communication subject areas that a degree in technical communication should include" (13-14). Coggin drew three major conclusions from the survey: 1) That professional technical communicators supported existing technical communication programs and advocated the establishment of new

programs; 2) That existing and future programs should provide experience in science and engineering as well as written and graphic communications; and 3) That engineering was the most important noncommunication course and editing was the most important communication course for potential technical communicators (16-17). Coggin says the survey results may be used by teachers establishing technical communication courses and curricula, and to provide "a rationale for offering technical communication programs" (17).

Worry about justifying a technical communication program seems to have been the guiding force behind Scott Patrick Sanders's 1982 survey of undergraduate technical communication programs. Sanders explains that "the survey was conducted by the humanities department of the New Mexico Institute of Mining and Technology, as the principal research preliminary to the proposal of a curriculum for a new Bachelor of Science degree in technical communications" (Abstract). Sanders asked employers about company hiring practices; desirable background and preparation for technical writers and editors; the on-the-job responsibilities of technical writers and editors; and employers' likely response to job applicants who hold technical communication degrees (Abstract). He also compared the proposed curriculum at his institution to that of three other undergraduate programs in the Rocky Mountain region and the undergraduate program at Carnegie Mellon University, and furnished descriptive profiles of technical writers in four different industrial settings (Abstract).

Sanders suggests the proposed degree program "will strengthen the department's traditional service role in the technological community"

(Abstract). However, certain survey questions—"Would you consider a degree in technical communications from a Technical Institute (such as New Mexico Tech) requiring an extensive background in the sciences and computer use a stronger credential than a communications degree from a liberal arts college or state university?" and "Would you consider an applicant for a technical position who presents a double major or a minor in technical communications in addition to his/her technical degree more favorably than an applicant with a strictly technical degree?" seem designed to help the survey results to that conclusion (46).

In 1983, Marcus M. Green and Timothy D. Nolan, citing educators' need for "published research that systematically analyzes the job of the technical communicator," attempted to "develop a description of the technical communicator's job that is based solely upon information from the most expert source possible: experienced practitioners" (9). Green and Nolan gathered nine technical communicators in the Cincinnati and Dayton, Ohio area for an intensive two-day DACUM (Developing a Curriculum) workshop. Participants worked together to create a list of the most important general areas of competence and individual tasks for technical communicators (9). Green and Nolan then took the 130 tasks identified by the workshop participants and developed a mail survey. Respondents were asked "to indicate the importance and frequency of the task in his or her own job" and "to indicate which tasks they considered to be entry level" (10).

Green and Nolan mailed the survey to 177 individuals (Southwestern Ohio Section STC members) and 100 organizations in the Cincinnati

and Dayton area thought to have technical documentation departments. They received responses from 58 technical communicators (21 percent) (10). Green and Nolan drew four major conclusions from these responses: 1) Technical writers and editors do much more than write and edit; 2) Technical communicators past the entry level do substantial project management; 3) The most frequent job tasks for entry-level technical communicators are researching, writing, and editing; and 4) Those planning to become technical communicators should have composition skills and some level of technical expertise or aptitude (10). The authors also include a table showing how respondents ranked skills and areas of competence (11).

Green and Nolan's abstract states that the workshop participants' description of the technical communication profession "is intended to help educators determine what they should teach in their programs" (9). They concede at the article's end that their study is limited because it involves a small geographical region, and because it "examines the profession as it exists at present," meaning that the skills important at the time of their survey could become outdated in the future (12). Their study, they conclude, is valuable for showing the usefulness of gathering information from practicing professionals through the intensive DACUM workshop method (12).

Susan Feinberg and Jerry Goldman used the Delphi method to evaluate results of a mail survey of communicators in industry, government, and academia and to design a technical communication course based on survey responses (21). They say theirs is the first attempt to develop a course method in technical communication based on the

Delphi method, which "explores an issue by moving from individuals conveying thoughts and feelings to group consensus" (21).

Feinberg and Goldman sent questionnaires to 153 senior STC members with at least seven years of experience, asking them to identify topics that should be included in a technical communication class for junior and senior undergraduates. The 76 respondents identified 54 such topics (21). By combining some topics, Feinberg and Goldman came up with a list of 33 topics, which they asked the 76 respondents to the first survey to place into eight categories or clusters (22). They claim that this constitutes a use of the Delphi method: "Because the responses to the first questionnaire became the subject of the second questionnaire, the respondents were using the information they had supplied to reach a consensus about a course in technical communication" (23).

Feinberg and Goldman's questionnaires showed five skill categories that they suggested could be developed into course units on rhetorical principles and drafting skills, case studies, formatting and design, interpersonal communication, oral communication, and ethical issues (24). Instructors planning courses might have to select and arrange these topics according to their personal needs, the authors say, but their study is valuable because "For the first time, a diverse group of experts in the field has provided the content around which educators may design a course in technical communication" (25). (This, of course, was also Green and Nolan's claim for their study. Feinberg and Goldman noted their awareness of this article, which appeared while theirs was still in press) (25).

Researchers have also tried to establish the usefulness of program offerings by surveying program alumni. Earl McDowell, L. David Schuelke, and Chew Wah Chung's 1980 survey of alumni, employers, and STC members concluded that writing and oral communication courses were considered the most useful offerings of the University of Minnesota's undergraduate program (195-200). James R. Kalmbach, Jack W. Jobst, and George P.E. Meese surveyed graduates of Michigan Technological University's Scientific and Technical Communication program and came up with five recommendations: 1) Offer courses that require students to use a variety of technical communication skills; 2) Structure some courses so that students a) work in small groups on projects and b) write for a variety of audiences; 3) Advise students to obtain experience working on a variety of technical communication projects; 4) Advise students to consider computer science, business, and graphic design as electives; and 5) Advise students taking minors in fields other than those currently in high demand that at graduation they will probably have to take communications jobs outside their chosen minors (23-24). The authors also list specific figures from responses, such as the average percentage of time spent on various activities (23), and the percentage of respondents who perform certain tasks at least once a month (24).

Earl E. McDowell attempted to discover subject areas of importance for undergraduate and graduate technical communication programs and courses by surveying educators and professional writers. He completed two separate studies. The first was "designed to identify the level of importance of undergraduate courses for a student working on a

bachelor's degree in technical communication" (30). The second survey asked respondents to identify the level of importance of graduate courses for students with a bachelor's degree in technical communication or a related discipline and for students with a bachelor's degree in an unrelated (noncommunication) discipline. McDowell drew his list of courses at both levels from actual offerings in 27 undergraduate programs and 12 graduate programs in technical communication (31). McDowell wanted to know how courses would be ranked, and whether there would be significant differences between educators' and technical communicators' order of ranking (30-31).

McDowell reported that both educators and technical communicators rated writing and editing courses most important in undergraduate technical communication programs (32). For graduate students with an undergraduate degree in technical communication, both groups rated most highly courses in rhetorical theory, planning and testing documents, publication management, along with internships. However, educators rated technical writing and speaking courses "significantly higher" than did technical communicators, who placed more importance on managerial, research, and media courses (35). Courses in writing and editing were rated most highly for graduate students with an undergraduate degree in an unrelated (noncommunication) discipline (33). For this group, technical communicators rated internships and managerial courses higher than did educators (35).

McDowell concludes that none of the 37 undergraduate programs and 18 graduate programs listed in the third edition of *Academic Programs in Technical Communication* offered the ten courses his respon-

dents rated as most important. While he cautions against using his results as a rationale for drastic changes, he does suggest that they might be used as a source for program standardization efforts (35).

At least one researcher has studied technical communication at the two-year college level. In 1982, Roger Easom published *A Study to Determine Essential Competencies for Technical Writing Students in the Two-Year Colleges of the Southeastern States*. Easom surveyed four groups: authorities (which he defines as "authors of books, articles, and papers on technical writing; professional technical writers, and technical editors"), instructors, employers, and graduates of two-year college technical programs, asking them to rate "fifty-five competencies or skills in technical writing for two-year college students" (DAI Abstract). He found that all four groups agreed on the importance of many general competencies (for example, "collect, analyze, and interpret data" and "distinguish between relevant and irrelevant details") (103, 107, 110, 112), but that instructors and authorities disagreed with employers and graduates about the importance of certain writing skills, particularly report writing (130). Easom concluded that "Results of this study show that educators and the representatives of business and industry agree generally on the selection of essential competencies for students in the two-year college. Disagreement regarding some of the items, however, probably means that current courses may not be exactly on target with industry's requirements" (131). He recommends that better communication with industry representatives would help educators develop courses that better serve the needs of employers (131).

Other surveys have attempted to document the number and scope of existing technical communication education programs. Lionel A. Howard published results of "A Survey of Technical Communication Programs in U.S. Colleges and Universities" in September 1983 and September 1984 (IEEE Transactions 26.3, 113-115, and 27.3, 172-176, respectively). The 1983 survey found programs at more than 100 institutions, while the 1984 survey reported programs at 177 institutions. Rose L. Norman and Freda Stohrer's 1988-1989 surveys provided information about 51 internships in technical communication in four-year colleges and universities with technical communication programs. Their results showed that 28 schools had both graduate and undergraduate internships, 17 had only undergraduate internships, and 6 offered only graduate internships (252-258). The researchers defined "internships" as "School-administered work experiences that do not fit the formal requirements of cooperative education programs. They may be paid or unpaid, last one term or more, earn academic credit or not, but are normally directly related to a student's field of study" (255).

Still other researchers have focused on subgroups of technical communicators, either those in a certain job category, or those in a specific region. Their surveys have produced a (probably not too generalizable) "snapshot" of their target populations.

Lola M. Zook's 1982 survey, completed by 60 technical editors, requested "details about the opinions and practices of individual editors and managers" (20). Zook made her report a montage of responses, to "reflect the available range of opinion and experience" (20). For example, one-third of respondents said that working with people was the most

enjoyable part of being an editor. Their reasons included "dealing with talented people" and "opportunity to work with various people" (20). Respondents' widely varying definitions of technical editing showed how hard it is to come to a systematic view of the term (21), while their consensus on their biggest problem (management interference) suggested that certain things are common to most editing jobs (22). Zook's survey also provides comments from managers about desirable qualities in applicants and resumes, from editors about the traits of a good editor, and from all respondents on possible future professional trends (24-25). While the survey was not extensive or systematic, the results provide some background on day-to-day demands and rewards for those interested in technical editing as a career.

Sherry Burgus Little and Margaret C. McLaren wanted their 1987 study of San Diego County technical writers to provide "quantitative information on the people and work involved in technical writing" (9). They sent a questionnaire to 122 technical writers "asking them about the tasks they perform, documents they produce, skills they consider significant, audiences they write to, working conditions, types of companies they work for, and education and training" (9). They also asked about salary and length of time on the job (9).

In addition to identifying most important job skills (a good command of grammar and proofreading ability were rated highest), respondents provided information about documents most frequently worked on (operation manuals), types of reports (the sixteen types included annual, document review, product description, and technical reports), and most frequently performed tasks (writing and editing were among the most

frequent) (15-19). Their suggestions for training focused on developing practical skills, such as editing and computer skills (20). The authors concluded that from their survey, "Technical writing emerged as practical work, closely geared to manufacturing, but also serving research and service institutions...an immensely challenging and varied occupation...one which both demanded and gave breathing space to a real range of abilities" (21).

Nimira Harjee and Morgan White's 1990 survey supplied quantitative information about technical communicators in the Toronto, Ontario area. Their survey questions covered four categories: Background and education; work history and environment; job classification, salary, and benefits; and job satisfaction (420). Most of the resulting profile focused on practical information such as the type of computers most frequently used (IBM, with Macintosh a close second) and most common method of charging for contract work (hourly), but the authors also list some of the respondents' comments. They vary from a desire for professional certification for technical communicators to a complaint about the sedentary nature of editing work (421-422).

Instead of surveying people, William Buchholz identified desirable skills for technical communicators by tracking want ads in the Bentley College *Job Journal* and the *Boston Globe* for one year, January 1-December 31, 1986 (9-10). He entered all advertisements for professional business or technical communication positions into a database. Buchholz found that the greatest number of the 1,585 communication advertisements were for technical communicators (335 total positions), with advertisements for technical writers (185) being most frequent (p. 14).

Although software writers were most in demand (65 of the 185), Buchholz notes that "No matter what the career path...technical communicators often produce a wide range of documents" (15). The listings contained "nearly 70 different discourse types, including procurement documentation, regulatory documents, editorials, marketing material (customer-release notes, product-status bulletins, technical press releases), newsletters (external, internal, online), speeches, and training materials" (15). Buchholz supplies a table of all the different types of technical writing requested in the advertisements (16).

Frequently requested skills included the ability to analyze and do research, and to work well with a variety of people (15). Buchholz concludes that "the technical-communication process encompasses good writing and editing skills; research, developmental, and organization abilities (task orientation); as well as scientific, engineering, or technical aptitude. In addition, those people familiar with document design and production have a definite edge" (17).

After reviewing journals to determine the scope and structure of past surveys on the technical communication profession, I also searched for literature on research design and methodology. I hoped to find sources that would explain common terms and procedures and offer guidance for researchers about to undertake a survey.

Janice M. Lauer and J. William Asher's *Composition Research: Empirical Designs* offers detailed explanations of eight major research designs (case studies, surveys, quantitative descriptive studies, prediction and classification studies, true experiments, quasi-experiments, meta-analyses, and program evaluations) for researchers attempting

objective measurement of a very subjective process, writing. Researchers in technical communication would probably be most interested in the chapters on case studies (2); ethnographies (3); sampling and surveys (4); and measurement (7). The book's back matter, which contains appendices on statistics and measurement (I); measurement instruments (II); the use of human subjects in research (III); and glossaries of terms and symbols, describes procedures and features common to empirical research. The book is helpful as a "how to" for reading and evaluating others' research. It also describes the strengths and weaknesses of past surveys in each research design category, but most readers will be too busy trying to sort and absorb explanations and definitions to discover practical applications to their own research situations.

Paul Anderson's chapter in *Writing in Nonacademic Settings* is a good introduction to survey methodology. Anderson has written his chapter both to help readers interpret existing research and to understand how to undertake their own research (453-454). While Anderson's primary target audience is writing instructors (454), his clear explanations of elements of a survey (455-456), survey purposes (457-459), types of research questions (459-461), respondent selection (461-462), sampling methods (462-469), and survey instruments and results evaluation (469-498) would be useful to anyone contemplating undertaking a survey. He also includes specific advice on statistics interpretation for would-be surveyors (493) and lists his favorite books on survey research (456).

Jan H. Spyridakis, Michael J. Wenger, and Sarah H. Andrew have written an article on research models aimed at technical communication

researchers. Although they are most interested in helping technical communicators become "informed and critical consumers of the quantitative information presented in published research" (208), their explanations will also help those undertaking research. Topics include types of statistics (208-210); types of variables (210-212); measurement of variables (212-213); statistical techniques (213-216); and statistical significance (217). However, would-be researchers may find the same problem with this article as with the previous two references: the research they contemplate may not involve the complicated elements these sources so carefully define and detail. Furthermore, these sources do not address those seemingly mundane, but nonetheless worrisome, survey project elements: What kinds of questions should I ask? What is the best way to frame questions? How many questions should I ask? How should my survey look?

Don Dillman provides answers to these "nuts and bolts" questions. His *Mail and Telephone Surveys: The Total Design Method* "describes the step-by-step details of how to conduct successful mail and telephone surveys" (Preface, vii). Dillman, a University of Washington social science researcher, developed and refined his Total Design Method while undertaking his own mail and telephone surveys (Preface, viii). When Dillman discusses survey design, he covers questions at the most basic level, such as guidelines on paper and envelope size (120-123). Dillman also offers advice on writing questions (Section 3); ordering questions (123-127); formulating pages (133-135), writing a cover letter (165-172); and even what day of the week is best to mail a survey (180). His instructions on telephone surveys (Section 7) are equally clear, although they

apply to social science surveys that involve several interviewers and detailed questions.

Many researchers will be unable, because of time and budget constraints, to take all of Dillman's advice. For example, he recommends extensively pretesting the questionnaire for design flaws with colleagues, potential data users, and potential respondents (156-158), or implementing as many as three written follow-ups to nonrespondents (183-191). However, this book is invaluable in offering easy-to-read, basic, practical guidelines that may be easily modified to fit the needs of an individual research situation.

Those contemplating survey research in technical communication will find plenty of written resources to use as guidelines. Past surveys will give an idea of the questions that have been asked and the populations that have been studied. Books on research design and methodology will familiarize readers with common terms, procedures, features, and methods of data analysis.

Dillman's book offers a resource for formulating and implementing surveys. However, would-be surveyors will have to adapt advice to the demands of their own research situations, and to the limitations of their physical and financial resources.

3. DISCUSSION OF SURVEYS

3.1 Survey of Practical Conference on Communication (PCOC) Attendees

To help me identify businesses to include in my telephone survey, I decided to conduct a survey of those attending the 15th annual Practical Conference on Communication (PCOC), held October 24-25, 1991, in Oak Ridge, Tennessee. This conference, which is sponsored by the East Tennessee Section of the Society for Technical Communication, is always well attended and attracts technical communicators from throughout the Southeast.

I decided to distribute a survey asking attendees for their name; their firm's name, address, and telephone number; their title; the division in which they worked; and the number of technical writers or editors in their division. I also asked if I would be able to contact respondents for more information, if needed. (A copy of the questionnaire is Appendix A). I explained that the information would be used to make a list of firms in the Knoxville area that employed technical writers and editors.

My primary interest was in finding firms that I didn't already know about from the sources I had already consulted (at that stage, these were ETC/STC's list of 36 area businesses that are known to have employed technical communicators, and word-of-mouth recommendations from writer/editor friends). However, I was also interested in finding out if technical communicators in firms of which I was already aware were

spread out over several different divisions. That knowledge would enable me to make a more accurate count of the total number of technical communicators. I also wanted to get as many respondents' names as possible, to increase the number of personal contacts for my telephone survey.

I printed 250 surveys, to match the number of registration packets that were prepared. The surveys were included in the packets that are given to conference attendees upon their arrival at the conference.

Two hundred people actually attended the conference. Not only was the survey included in the registration packet, but, during the course of the conference, the coordinator regularly reminded attendees of its presence and requested that they fill it out and turn it in at the registration table. I thought these tactics would ensure a high response rate.

I was wrong. Of the 19 responses (9.5 total response rate), 8 were from technical communicators employed outside my polling area, leaving only 11 usable responses (5.5 percent usable response rate). Of those responding, two people were from Labat-Anderson, Inc. (Oak Ridge); three were from JBF Associates (Knoxville); four were from Martin Marietta Energy Systems (Oak Ridge); and there was one each from HMP Systems, Inc. (Knoxville) and Titan Corporation (Oak Ridge). The only business of which I was not already aware was HMP Systems, Inc.

I did gain useful information about the number of titles under which technical communicators may be employed. Respondents from JBF Associates and Labat-Anderson were called "editor" or "technical editor." However, the Titan Corporation respondent's title was "analyst" and the HMP Systems respondent's title was "technical analyst." Martin

Marietta respondents, all from the Publications Division, listed a range of titles: "technical editor," "information resources associate," and "technical publications analyst." From Labat-Anderson and JBF Associates respondents, I learned that technical communicators may indeed be located in more than one division. At Labat-Anderson, one respondent was in database support, and the other was in publications support. At JBF Associates, one person did not list a division; one listed division as "editing," and one listed division as "administrative staff."

I felt that I had made my questionnaire's purpose clear, my instructions simple, my questions short, and that I had selected an attractive design. (I even agonized over the paper color, finally choosing light blue as sufficiently attention-getting but still "professional" looking.) I had distributed it so that potential respondents were bound to receive and notice it, and had the added benefit of continuous oral advertising.

Why then was my response rate so low? I worked the registration table both days of the conference, from which vantage point I had the opportunity to study conference attendees as they moved from session to session or enjoyed breaks. People wanted to talk to friends from other companies or make new contacts; filling out a survey, however short and uncomplicated, was just not very high on their list of priorities.

Despite the disappointing response rate, the PCOC survey was a valuable learning experience; it made me aware of the need to "troubleshoot" surveys not only for potential design and clarity flaws, but also for social and environmental factors that might affect the response rate.

3.2 Telephone Survey of Knoxville-Oak Ridge Area Businesses

3.2.1. Explanation and Procedures

In November 1991, I began my telephone survey of 338 Knoxville-Oak Ridge businesses and 87 businesses in Anderson, Blount, Hamblen (city of Morristown only), Jefferson, Loudon, and Sevier Counties, a total of 425 businesses.

I compiled the list of businesses to be surveyed from several sources: ETC/STC's list of 36 area businesses that are known to have employed technical communicators; the Tennessee Technology Foundation's list of 231 technology-based businesses located in the Tennessee Technology Corridor area; the Oak Ridge Chamber of Commerce *Industrial Service Directory*; the Knoxville Chamber of Commerce *1990-91 Directory of Manufacturers*; the 1992 *Dun and Bradstreet Regional Business Directory*; the Oak Ridge Waste Management Association membership directory, and the East Tennessee Development District *Industrial Land Inventory*. I also checked Lawson-McGhee Library's newspaper clipping file on area technology-based businesses.

The Tennessee Technology Foundation list, Oak Ridge and Knoxville Chamber of Commerce directories, and Dun and Bradstreet directory contain not only the name, addresses, and phone numbers, but also a description of each business (how long the business has existed, total number of employees, chief officers, and the nature of the business). I recorded this information (excluding chief officers unless the business was very small) on individual 4" x 6" index cards, making one for each

business selected for inclusion. I chose 4" x 6" cards because they are easy to file and store, and provided enough room to record information about the business, the date of each phone call, and information I gathered during the phone call (the date of each call; the name of the person with whom I spoke, if he or she was willing to tell me; the number of writers and editors; and any corrections to the data I had gathered or additional comments).

I created separate card files for Knoxville-Oak Ridge businesses and for businesses in Blount, Hamblen (Morristown only), Jefferson, Loudon, and Sevier counties. My card file included all businesses on the Tennessee Technology Foundation list. I chose businesses from the other sources if their name or description suggested that they might be technology-based. (This selection method proved to be far from foolproof; for example, American Continental Techlabs in Maryville, listed in Dun and Bradstreet under the cryptic heading "industrial inorganic chemicals," turned out to be a cleaning supply vendor!)

Because I was calling "cold," I decided to make my initial request for information very simple, and increase the complexity of the request as I gained the respondent's confidence. First I told the person who answered that I was calling from the University of Tennessee and was gathering information for a directory of local businesses. I then asked who at that company might be able to help me get that information.

Sometimes the person answering the phone would connect me immediately with the company personnel representative or, at small companies, the company's chief executive officer. However, often the person answering the phone wanted to know what kind of information I

was seeking. I would then explain that I was a master's student in technical communication, making a list of area businesses that employed technical communicators for my master's thesis.

Upon hearing this explanation, the person answering the phone would sometimes connect me to a personnel representative or company executive. Other times, however, the person answering the phone would elect to handle the request himself or herself.

After reaching each company's "information giver," I briefly explained the nature of my project (if this person was different from the person who initially answered the phone) and asked if that company had technical writers or editors on staff. I did not use the umbrella term "technical communicator," since many people are unfamiliar with this term. (Indeed, two or three respondents were unfamiliar with the terms "technical writer" and "technical editor.") If the answer was no, I asked the respondent to verify the company information I had gathered from outside sources (address, year founded, and total number of employees), thanked the respondent for his or her time, and hung up.

If the answer was yes, I then asked the respondent the number of technical writers or editors that his/her company currently employed. Most respondents not only gave me the number, but also explained whether the employees were full-time, part-time, or contract. I then asked whether the company information I had gathered from outside sources (address, year founded, and total number of employees) was correct.

The bulk of the telephone survey was completed over three months (November-December 1991, January 1992) on days I took off from work

or on which the University was closed. The actual calling took approximately fourteen days, in which I spent 9 a.m.-11:30 a.m. and 1 p.m.-4:30 p.m. on the phone. I spent mornings making calls; I spent afternoons making or receiving return calls.

Of the 338 Knoxville-Oak Ridge businesses included in the initial polling list, 25 respondents either could not be contacted (phones were no longer in service or were never answered) or did not want to participate in the survey, leaving a polling list of 313 businesses.

Of those 313 businesses, 81 said that they employed technical communicators or listed positions for which people with technical communication training would be qualified. My list includes businesses that employ technical communicators only on contract, businesses that employ non-technical communicators, and temporary agencies that "place" technical communicators.

One business, the University of Tennessee, is listed both under employers of technical communicators and employers of non-technical communicators. However, I counted it only once when calculating the total number.

I decided to include these businesses in my list because job seekers with technical communication backgrounds or interests are usually qualified for (and may be interested in) non-technical writing and editing jobs.

Of the 87 businesses outside Knoxville-Oak Ridge included in the initial polling list, 4 respondents either could not be contacted (phones were no longer in service or were never answered) or did not want to participate in the survey, leaving a polling list of 83 businesses.

Of those 83 businesses, 10 said that they employed technical communicators or listed positions for which people with technical communication training would be qualified. Again, my list includes businesses that employ technical communicators only on contract, businesses that employ non-technical communicators, and temporary agencies that "place" technical communicators.

3.2.2. Presentation of Results

Knoxville-Oak Ridge Businesses That Employ Technical Communicators

(n=52)

Minimum Number of Positions: 312.5

Maximum Number of Positions: 327.5

Advanced Sciences, Inc.

165 Mitchell Road

Oak Ridge, TN 37830

483-1274

Description: Civil and geotechnical engineering and hazardous waste management services.

Employees: 80

Technical Communicators: 1

Year Started: 1986

Comments: One technical editor.

Advanced Tank Certification

211 Center Park Drive, #3020

Knoxville, TN 37922

Description: Tests underground storage tanks.

Employees: 20

Technical Communicators: 1

Year Started: 1988

Comments: One technical report writer.

American Welding Institute

10628 Dutchtown Road

Knoxville, TN 37932

675-2150

Description: A member-owned, nonprofit organization established through an industrial initiative to enhance and expand U.S. welding technology.

Employees: 10

Technical Communicators: 1

Year Started: 1983

Comments: At the time I called, this business was about to hire a technical writer, but had not decided on the title by which they would call this person. A possible title was "Documentation Specialist."

Analysas Corporation
300 S. Tulane Avenue
Oak Ridge, TN 37830-5450
576-3211

Description: Technical and administrative support in areas such as program management, environmental regulatory analysis, waste management technology development, technical writing and editing, graphic arts, and word processing.

Employees: 232

Technical Communicators: Minimum 10, Maximum 20

Year Started: 1979

Comments: According to Personnel, the number of technical writers and editors fluctuates between 10 and 20. According to a source within the company, there are several other positions, such as "Instructional Technologist," that involve writing and editing.

The Analysis Group, Inc.
9050 Executive Park Drive, Suite A-105
Knoxville, TN 37923
531-2546

Description: Studies and analysis; simulation and modeling; software development.

Employees: 5

Technical Communicators: 1

Year Started: 1989

Comments: There is a person who does both technical writing and editing, although that person does not have that title. The respondent was not sure of that person's exact title.

Bechtel National, Inc.
800 Oak Ridge Turnpike
Oak Ridge, TN 37830
220-2000

Description: Services for the design, engineering, procurement, and construction of all types of facilities in the nuclear fuel cycle, decontamination of nuclear facilities, and toxic or hazardous chemical facilities.

Employees: 525

Technical Communicators: Minimum 8, Maximum 10

Year Started: Oak Ridge office, 1981

Comments: The company has between 8 and 10 technical editors at any time. They fall under the administrative section of the company and are assigned to different projects.

CDM (Camp Dresser and McKee) Federal Programs Corp.
101 W. Rutgers, Suite 202
Oak Ridge, TN 37830
482-1065

Description: Environmental consulting.

Employees: 14

Technical Communicators: 1

Year Started: 1988

Comments: One technical editor.

CH2M Hill
599 Oak Ridge Turnpike
Oak Ridge, TN 37830
483-9032

Description: The company is working under contract with the Martin Marietta-managed Hazardous Waste and Remedial Action Program (HAZWRAP). It also subcontracts to Bechtel National, Inc., at the Oak Ridge National Laboratory.

Employees: 65

Technical Communicators: 1

Year Started: 1986

Comments: One technical editor.

CTI, Inc.: See Siemens Gammasonics.

Campus America
900 Hill Avenue, #205
Knoxville, TN 37915
523-9506

Employees: 92

Technical Communicators: Minimum 4, Maximum 5

Year Started: 1980

Comments: In addition to its technical writers/editors, Campus America employs a copy writer for its internal newspaper.

✓ Computational Systems, Inc.

835 Innovation Drive

Knoxville, TN 37932

675-2110

Description: Manufacturer of microprocessor-based instrumentation and software for vibration analysis.

Employees: 214

Technical Communicators: 4

Year Started: 1984

Comments: The four-person technical writing staff consists of an engineering publications manager, two technical writers, and one translations coordinator who translates documents into foreign languages.

DOCURIM, Inc.

L & N Station, Ground Floor

401 Henley Street

Knoxville, TN 37902

546-4675

Description: Provide complete records information management of professional service records.

Employees: 26

Technical Communicators: 2

Year Started: 1988

Comments: Two people on staff, called records consultants, write procedures for DOCURIM clients.

The EC Corporation

10511 Hardin Valley Road

Knoxville, TN 37932

693-9800

Description: Systems engineering, process analysis, instrumentation, simulation, modeling support services, electronics assembly, and construction management.

Employees: 25

Technical Communicators: 3

Year Started: 1979, has been in Knoxville since 1987

Comments: Three technical writers.

EG & G, Inc.

100 Midland Road

Oak Ridge, TN 37830

Description: Nuclear radiation detectors and associated electronic processing instrumentation.

Employees: 500

Technical Communicators: 1

Year Started: 1960

Comments: One technical editor.

ERC International, Inc.

702 S. Illinois Ave, Suite B-102

Oak Ridge, TN 37830

482-7973

Description: Planning, analysis, and design of computer services.

Employees: 19

Technical Communicators: 2

Year Started: 1979

Comments: Two people do technical writing/editing work. One, called a systems analyst, writes and edits. The other, called a configuration management specialist, does layout work.

Eastern Technical Engineering Corporation

525 Warehouse Road

Oak Ridge, TN 37830

482-1579

Description: Industrial controls, computer systems, specialized manufacturing.

Employees: 9

Technical Communicators: 1

Year Started: 1981

Comments: There is one technical writer/editor, whose title is manager of documentation. This person is assisted by a secretary.

Ebasco Services, Inc.

111 Union Valley Road

Oak Ridge, TN 37830

483-8622

Description: Provides general design and field support for the Watts Bar Nuclear Plant.

Employees: 70

Technical Communicators: 1

Year Started: 1987

Comments: One technical writer.

Engineering Science, Inc.
710 S. Illinois Avenue, Suite F-103
Oak Ridge, TN 37830
481-3920

Description: Consulting and environmental engineering firm.

Employees: 33

Technical Communicators: 1

Year Started: 1957

Comments: At time of call, this business was interviewing for a technical writer.

Galbraith Laboratories, Inc.
2323 Sycamore Drive
Knoxville, TN 37921
546-1335

Description: Products and services in analytical testing; organic microanalysis, wastewater, and metal.

Employees: 70

Technical Communicators: 1

Year Started: 1950

Comments: The person who does technical writing and editing is called "technical manager."

H & R Technical Associates
151 Lafayette Drive
Oak Ridge, TN 37831
483-0248

Description: Safety and systems analyses; nuclear safety analyses.

Employees: 35

Technical Communicators: 1

Year Started: 1981

Comments: There is one technical editor; in addition, all the engineers on staff write.

HMP Systems, Inc.

9040 Executive Park Drive, Suite D-225

Knoxville, TN 37923

690-8055

Description: Advanced training technology as applied to government and private industry technical training systems.

Employees: 3

Technical Communicators: 1

Year Started: 1986

Comments: A technical analyst does technical writing, editing, and graphics. For large projects freelancers are hired.

International Technology Corporation

312 Directors Drive

Knoxville, TN 37923

690-3211

Description: Analytical testing services, including collection of samples, response to emergency spill situations, hazardous waste cleanup, and the supplying of mobile analytical laboratory.

Employees: 77

Technical Communicators: 6

Year Started: 1968

Comments: There are two technical editors in the proposal group and two in the word processing group. At the time of the call, there was one person in graphics and desktop publishing, with another to be hired in January, 1992.

JBF Associates

1000 Technology Park Center

Knoxville, TN 37932

966-5232

Description: Engineering consulting providing system safety and reliability, and probabilistic risk assessment to energy, defense, petrochemical, and manufacturing industries.

Employees: 65

Technical Communicators: 6

Year Started: 1978

Comments: There are six technical editors; one has title of supervisor.

Kapline Enterprises, Inc.

4121 Guinn Road

Knoxville, TN 37931

927-3784

Description: Technical market research studies.

Employees: 1

Technical Communicators: 1

Year Started: 1988

Comments: At time of call, the president was searching for someone to write reports on an ongoing, permanent basis.

Knox Porcelain Corporation

2706 Mynderse Avenue

Knoxville, TN 37921

523-8157

Description: Porcelain electrical products.

Employees: 92

Technical Communicators: 2

Year Started: 1923

Comments: Two people do technical writing and editing and are called engineering assistants.

Labat-Anderson, Inc.

575 Oak Ridge Turnpike, Suite 208

Oak Ridge, TN 37830

576-1158 (Office of Scientific and Technical Editing)

Description: Consulting for the Department of Energy.

Employees: 100

Technical Communicators: 7

Year Started: 1988 (began DOE contract)

Comments: There are seven on the technical editing staff: four in Publications Support and three in Database Support.

Lockwood Greene Engineers, Inc.

No. 3 Main Street

Oak Ridge, TN 37831

483-8080

Description: Engineering design management; construction management, architectural and engineering design services.

Employees: 383

Technical Communicators: 1.5

Year Started: 1981

Comments: The company has a full-time and a part-time specification writer.

Martin Marietta Energy Systems, Inc.

Oak Ridge Turnpike

Oak Ridge, TN 37830

574-1642

Description: Oak Ridge Gaseous Diffusion Plant, isotope separation; Y-12 Plant; weapons production; Oak Ridge National Laboratory, research, development, and engineering.

Employees: 16,663

Technical Communicators: 160

Year Started: Diffusion Plant, 1943; Y-12, 1947; ORNL, 1948

Comments: Martin Marietta has 160 in the Publications Division, which covers all local locations. This number includes editors as well as electronic publishers (who do keyboarding) and graphics people.

Midwest Technical, Inc.

710 S. Illinois Avenue, Suite A-104

Oak Ridge, TN 37830

483-3131

Description: Contract and consulting engineering services to firms in the Southeast in the areas of architectural engineering design, computer programming, and systems analysis.

Employees: 700 (company-wide)

Technical Communicators: 15

Year Started: 1979 (in Oak Ridge)

Comments: There are 15 technical writer/editors on staff.

Oak Ridge Associated Universities

Badger Avenue

Oak Ridge, TN 37831

576-3300

Description: A non-profit association of more than 50 colleges and universities acting as prime contractor for research, training, education, and information activities.

Employees: 613

Technical Communicators: Minimum 6, Maximum 8

Comments: There are 6-8 technical writers/ editors, although all do not have that title.

Oak Ridge Research Institute
113 Union Valley Road
Oak Ridge, TN 37830
482-9604

Description: Research laboratory investigating cardiovascular diseases.

Employees: 120

Technical Communicators: 1

Year Started: 1981

Comments: One technical writer, who works on proposals.

Ogden Environmental (formerly ERCE)
725 Pellissippi Parkway
Knoxville, TN 37933-0879
966-9761

Description: Consulting and engineering firm offering environmental and technical energy services.

Employees:

Technical Communicators: 2

Year Started: 1954

Comments: Ogden changed its name from ERCE on January 1, 1992.

In addition to the Pellissippi Parkway location, there is an Oak Ridge laboratory, but it does not employ technical communicators.

PAI Corporation
116 Milan Way
Oak Ridge, TN 37830
483-0666

Description: Consulting and development firm specializing in engineering, analyses, waste management, and research and development.

Employees: 120

Technical Communicators: 2

Year Started: 1983

Comments: There is one technical editor doing documentation and one technical writer.

PEER Consultants

575 Oak Ridge Turnpike

Oak Ridge, TN 37830

483-9191

Description: Environmental engineering, hazardous waste management consulting firm.

Employees: 35

Technical Communicators: 1

Year Started: 1988 (Oak Ridge)

Comments: One technical editor.

Performance Development Corporation

109 Jefferson Avenue

Oak Ridge, TN 37830

482-9004

Description: Procedures and training for handling storage and shipping of high-level waste; also low-level waste quality assurance.

Employees: 85

Technical Communicators: 5

Year Started: 1987

Comments: There is one technical editor; also four graphics people, including an illustrator and a graphic artist.

Power Electronics Applications Center

10521 Research Drive

Knoxville, TN 37932

675-9505

Description: Power electronics technology development.

Employees: 22

Technical Communicators: 2

Year Started: 1986

Comments: This is also the site of the Laser Technology Center, Pellissippi International, and the Tennessee Center for Research Development. There are two technical editors as well as a temporary, part-time technical editor.

Presearch, Inc.

708 S. Illinois Avenue, Suite E-104

Oak Ridge, TN 37830

482-2407

Description: Systems analysis, systems engineering, and product evaluation.

Employees: 6

Technical Communicators: 1

Year Started: 1983

Comments: One person does writing and editing, but respondent did not know that person's title.

QualPro, Inc.

3117 Pellissippi Parkway

Knoxville, TN 37931

690-7100

Description: Consulting and seminars to help companies improve quality and competitive position.

Employees: 20

Technical Communicators: 1

Year Started: 1982

Comments: There is one technical editor on staff, working mostly on proposals.

Radian Corporation

120 S. Jefferson Circle

Oak Ridge, TN 37830

483-9870

Description: Environmental engineering services.

Employees: 107

Technical Communicators: 3

Year Started: 1978

Comments: There are 50 people who write at some time or another, but only three have "official" titles. There are two technical writers and one editor.

Science and Technology, Inc.
704 S. Illinois Ave., Suite C-103
Oak Ridge, TN 37830
482-0064

Description: Computer applications and research and development engineering services.

Employees: 75

Technical Communicators: 1

Year Started: 1976

Comments: At time of call, this company had just hired a technical writer/editor.

Science Applications International, Inc.

P.O. Box 2501

Oak Ridge, TN 37831

482-9031

Description: Engineering services, nuclear fuel cycle and waste storage analysis, technical information services, information systems, environmental analysis and modeling, program management, document preparation.

Employees: 400

Technical Communicators: 12

Year Started: 1975

Comments: There are seven technical editors and five technical writers, spread out over four divisions: Public Information and Communications, the Formerly Used Sites Remedial Action Program, the Engineering Division, and the Transportation Management Division.

Scientific Ecology Group, Inc.

P.O. Box 2530

1560 Bearcreek Road

Oak Ridge, TN 37830

481-0222

Description: Process low-level radioactive waste.

Employees: 560

Technical Communicators: 3

Comments: There are three technical writers, based in the marketing department.

Sea Ray Boats, Inc.
2600 Sea Ray Blvd.
Knoxville, TN 37914
522-4181

Description: Boat manufacturer.

Employees: 1000

Technical Communicators: 1

Year Started: 1978

Comments: There is one technical writer/editor, who does manuals, proposals, on-line documentation, and a newsletter.

Siemens Gammasonics, Inc.
810 Innovation Drive
Knoxville, TN 37932
966-7539

Description: Manufacturing, design, and research and development in positron emission tomography.

Employees: 140

Technical Communicators: 2

Year Started: 1983

Comments: Siemens and CTI are a joint venture. The two technical editors work for Siemens.

Southern CAD/CAM, Inc.
215 Center Park Drive, Suite 100
Knoxville, TN 37922
966-3956

Description: Computer integrated systems design.

Employees: 22

Technical Communicators: 12

Year Started: 1983

Comments: The company employs 12 technical writer/editors.

Systematic Management Services
685 Emory Valley Road
Oak Ridge, TN 37830
481-0036

Description: Construction management and project control.

Employees: 6

Technical Communicators: 1

Year Started: 1986

Comments: One technical writer/editor.

Theta Technologies, Inc.
101 E. Tennessee Ave.
Oak Ridge, TN 37830
482-0056

Description: Perform engineering subcontracting, project management support.

Employees: 60 (Oak Ridge)

Technical Communicators: 2

Year Started: 1990 (Oak Ridge)

Comments: One technical writer.

Tombras Group
630 Concord Street
Knoxville, TN 37919
524-5376

Description: Advertising agency.

Employees: 65

Technical Communicators: 1

Year Started: 1946

Comments: There is one copy writer who handles technical accounts, such as Tennessee Eastman.

Tresp Associates

663 Emory Valley Road

Oak Ridge, TN 37830

Description: Information engineering, telecommunications, and ADP Facility Management.

Employees: 83

Technical Communicators: 1

Year Started: 1988

Comments: One technical writer, who works on proposals and documentation.

University of Tennessee, Knoxville

113 Aconda Court

Knoxville, TN 37996-0612

974-6642

Description: Research university.

Employees: 4,147 (Knoxville campus)

Technical Communicators: 3 (Knoxville campus)

Year Started: 1794

Comments: UT employs only three people under the title "technical writer" (none under the title "technical editor"). However, UT employs a fair number of people to do writing and editing tasks: 11 editors; 3 assistant editors; three managing editors; 2 staff writers; and 4 editorial assistants.

World Computer Systems, Inc.

700 S. Illinois Ave., Suite A-103

Oak Ridge, TN 37830

482-1944

Description: Marketing of computer and computer-related services.

Employees: 17 (Oak Ridge)

Technical Communicators: 2

Year Started: 1986

Comments: Two technical writers, who write manuals, proposals, and reports.

ZYP Coatings, Inc.
120 Valley Court
Oak Ridge, TN 37831
482-5717

Description: Specialty high-temperature coatings for research and development and industrial users.

Employees: 6

Technical Communicators: 2

Year Started: 1982

Comments: ZYP employs two technical advisors, who give brief written responses to technical questions as well as give advice over the phone.

Zellweger Uster, Inc.
456 Troy Circle
Knoxville, TN 37919

Description: Instruments for the textile industry.

Employees: 125

Technical Communicators: 1

Year Started: 1949

Comments: There is one technical writer in the engineering department, who writes manuals and engineering reports.

Contract Only Employers (n=13)

Active Media Corporation
714 N. Fourth Avenue
Knoxville, TN 37917
546-8675

Description: Magnetic and optical recording media

Employees: 20

Year Started: 1987

Comments: This company does not have a full-time technical writer; instead it contracts out for technical writing as needed.

Camel Manufacturing
8900 Valgro Road, SE
Knoxville, TN 37920
573-0122

Description: Manufacturer of camping equipment.

Employees: 300

Year Started: 1946

Comments: Occasionally hires technical writers on contract to write manuals.

Delta M Corporation (same as Tech Corridor Instrumentation)
525-B Warehouse Road
Oak Ridge, TN 37830

Description: Industrial process monitoring instrumentation for temperature, level, and flow.

Employees: 17

Year Started: 1983

Comments: Engineers write their own specifications, but occasionally Delta M hires technical writers on contract.

Earth Technology Corp.
673 Emory Valley Road
Oak Ridge, TN 37830
483-9404

Description: Environmental and waste management consulting.

Employees: 5

Year Started: 1987

Comments: Hires technical editors on contract, as needed.

Future Technology Corporation
10330 Technology Drive, Suite 3
Knoxville, TN 37932
675-1430

Description: Software development, software and hardware installation, sales, training, and support.

Employees: 9

Year Started: 1980

Comments: Occasionally hires technical writers on contract.

FuziWare, Inc. (formerly Thorndike and Associates)

316 Nancy Lynn Lane, Suite 10

Knoxville, TN 37919

Description: Develops fuzzy and expert systems for management services.

Employees: 4

Year Started: 1990

Comments: Occasionally uses freelance technical writers.

J.P. Hogan and Company, Inc.

109 W. 5th Avenue

Knoxville, TN 37917

546-7661

Description: Advertising agency

Employees: 20

Year Started: 1954

Comments: The agency has employed one freelance technical writer since October 1991.

International Waste Management Systems

200 Tech Center Drive

Knoxville, TN 37912

689-1395

Description: Chemical and waste management consulting company.

Employees: 7

Comments: Usually engineerings write their own specifications. Occasionally hires technical writers on contract.

NUS Corp.

800 Oak Ridge Turnpike, Suite C-200

Oak Ridge, TN 37830

483-9900

Description: Environmental engineering and waste management services.

Employees: 40

Comments: Hires technical writers through temporary agency as needed.

Perceptics Corp.
725 Pellissippi Pkwy.
Knoxville, TN 37932
966-9200

Description: Consulting, design, development, and fabrication of systems for image processing, pattern recognition, and computer vision.

Employees: 70

Year Started: 1980

Comments: Occasionally hires technical writers on contract.

Technology for Energy Corp.
10737 Lexington Drive
Knoxville, TN 37932
966-5856

Description: Supplier of high-technology engineering products and services for the energy production industry.

Employees: 100 full-time, 4 part-time

Year Started: 1975

Comments: Employed a full-time technical writer until December, 1991. This person is now working on contract. No current plans to put a technical writer on the regular staff unless business warrants.

Tennelec/Nucleus, Inc.
601 Oak Ridge Turnpike
Oak Ridge, TN 37831
483-8405

Description: Manufactures electronic instrumentation used in radiation detection.

Employees: 134

Year Started: 1960

Comments: Occasionally hires technical editors on contract for part-time work.

Tennessee Research Institute
601 Concord Street, Suite 200-B
Knoxville, TN 37919
546-3664

Description: Assists scientists and engineers involved in high-risk research in obtaining government financing.

Employees: 7

Year Started: 1984

Comments: This is also site of Computational Mechanics Corp. (COMCO). Tennessee Research Institute has one technical writer on contract, who helps write proposals.

Employers of Non-technical Communicators

(n=10) (UT Knoxville listing was excluded from this count)

Minimum Number of Positions=371

Maximum Number of Positions=374

East Tennessee Baptist Hospital
Blount Professional Building
Knoxville, TN 37920
632-5011

Description: Full service hospital.

Employees: 1400

Communicators: Minimum 1, Maximum 4

Year Started: 1983

Comments: Baptist does not have a technical writer; however, it employs people who write. Baptist has a publications editor, and that person writes and edits brochures and produces an in-house newsletter.

East Tennessee Children's Hospital
2018 W. Clinch Avenue
Knoxville, TN 37916
546-7711

Description: Children's health services and hospital.

Employees: 650

Communicators: 5

Year Started: 1937

Comments: Children's does not have technical writers or editors; however, it does employ people who write. There are five people on the marketing staff, including a periodicals coordinator. Publications include two employee newsletters.

Fort Sanders Regional Medical Center
1901 Clinch Avenue
Knoxville, TN 37916
546-2811

Description: Full service hospital

Employees: 1,159

Communicators: 4

Year Started: 1954

Comments: Fort Sanders does not have technical writers or editors; however, it does employ people who write. The marketing staff—at least two at Fort Sanders and two at Park West—produce news releases, speeches, newsletters, magazines, and brochures.

Methodist Medical Center
990 Oak Ridge Turnpike
Oak Ridge, TN 37831
481-1000

Description: Full service hospital.

Employees: 1100

Communicators: 5

Year Started: 1936

Comments: Methodist does not have technical editors or writers; however, it does employ people who write. The five-person marketing team includes one writer/editor and a graphic designer. Publications include an in-house newsletter.

Oakwood Medical Center
5310 Ball Camp Pike
Knoxville, TN 37921
584-9191

Description: Provides medical services, particularly psychological.

Employees: 50

Communicators: 2

Year Started: 1984

Comments: Oakwood does not have technical writers or editors; however, it does employ people who write. The two-person marketing staff produces brochures and other promotional copy.

Peninsula Hospital
Jones Bend Road
Louisville, TN 37777
970-9800

Description: Psychiatric hospital.

Employees: 469

Communicators: 2

Year Started: 1972

Comments: Peninsula does not have technical writers or editors; however, it does employ people who write. The two-person marketing staff does writing and editing of in-house publications and brochures.

St. Mary's Health System
900 E. Oak Hill Avenue
Knoxville, TN 37917
971-7689

Description: Full service hospital.

Employees: 2,060

Communicators: 5

Year Started: 1984

Comments: St. Mary's does not have technical writers or editors; however, it does employ people who write. The five-person marketing staff includes a publications editor, who writes speeches, video scripts, advertising copy, and produces in-house publications.

Tennessee Valley Authority
400 W. Summit Hill Drive
Knoxville, TN 37902
632-8030

Description: Headquarter activities include planning and personnel functions for the entire system; engineering design and construction management; natural resources development; and economic development.

Employees: 5,200

Communicators: 22

Year Started: 1933

Comments: TVA does not have technical writers and editors; however, it does employ people who write and edit. The duties of the 22-member corporate communications staff include writing and editing TVA employee publications.

Thompson Cancer Survival Center
1915 White Avenue
Knoxville, TN 37916
541-1678

Description: Cancer treatment center.

Employees: 100

Communicators: 2

Year Started: 1985

Comments: While Thompson does not employ technical writers or editors, it does employ people who write. The two-person marketing staff writes brochures and promotional copy.

University of Tennessee, Knoxville
113 Aconda Court
Knoxville, TN 37996-0612
974-6642

Description: Research university.

Employees: 4,147 (Knoxville campus)

Communicators: 23 (Knoxville campus)

Year Started: 1794

Comments: UT employs only three people under the title "technical writer" (none under the title "technical editor"). However, UT employs a fair number of people to do writing and editing tasks: 11 editors; 3 assistant editors; 3 managing editors; 2 staff writers; and 4 editorial assistants.

Whittle Communications
505 Market Street
Knoxville, TN 37902
595-5000

Description: Publishing company.

Employees: 1020

Communicators: 300

Year Started: 1986

Comments: Whittle does not employ technical editors, but employs many people as editors. There are 300 on editorial staff, a figure that includes managers and administrators. Whittle was not able to supply an exact breakdown due to confidentiality.

Temporary Agencies
(n=6)

American Technical Associates
525 Bearden Park Circle
Knoxville, TN 37919
588-5751

Description: Supplies technical specialists, including writers and editors, to businesses in the Southeast.

Employees: 350

Year Started: 1963

Comments: The number of technical writers and editors varies depending on current contracts.

Kelly Services, Inc.
308 N. Peters Road, Suite 150
Knoxville, TN 37922
691-5552

Description: Temporary help agency.

Employees: Depends on contracts awarded.

Year Started: 1958

Comments: Kelly has a technical division to provide technical writers/editors to local businesses. There is no fee to applicant.

Manpower Temporary Services
808 State Street
Knoxville, TN 37901
523-5166

Description: Temporary help agency.

Employees: Depends on contracts awarded.

Year Started: 1970

Comments: Manpower has a technical division that provides local businesses with technical professionals. There is no fee to applicant.

Professional Temporary Services

5410 Kingston Pike
Knoxville, TN 37919
584-1333

Description: Temporary help agency.

Employees: Depends on contracts awarded.

Year Started: 1983

Comments: While there is no technical division, this business does accept resumes from, and places, technical writers and editors. There is no fee to applicant.

Technical Staffing, Inc.

8560 Kingston Pike, Bldg. B
Knoxville, TN 37919
483-7800

Description: Temporary help agency.

Employees: Depends on contracts awarded.

Year Started: 1968

Comments: Supplies technical writers/editors for short- and long-term projects. There is no fee to applicant.

Western Technical Services

9040 Executive Park Drive, Suite 201
Knoxville, TN 37923
693-6060

Description: Temporary help agency.

Employees: Depends on contracts awarded.

Year Started: 1948

Comments: Supplies technical writers and editors and other technical personnel to local businesses. There is no fee to applicant.

**Businesses Outside Knoxville/Oak Ridge That Employ
Technical Communicators**

(n=4)

Positions=13

Blount County

Macawber Engineering

Clydesdale Street

Maryville, TN 37801

984-5286

Description: Produces conveyers and conveying equipment.

Employees: 35

Technical Communicators: 1

Year Started: 1978

Comments: One person in company writes proposals, but does not have the title of technical writer/editor.

Jefferson County

Philips Consumer Electronics

P.O. Box 555

Jefferson City, TN 37760

Description: Engineering design and development of Magnavox and Sylvania audio-video products.

Employees: 1,100

Technical Communicators: 8

Comments: The Jefferson City branch of Philips provides support services, such as technical writing, to the other East Tennessee Philips locations at Knoxville and Greeneville. There are eight technical writers. Six write service manuals for Philips products; two write consumer literature.

Loudon County

Professional Loss Control, Inc.

P.O. Box 585

Kingston, TN 37763

376-1131

Description: Provide engineering services in the areas of fire protection, safety, and environmental protection.

Employees: 20

Technical Communicators: 1

Year Started: 1986

Comments: One technical editor.

Sevier County

Ten-Tec, Inc.

Hwy. 411 East

Sevierville, TN 37862

453-7172

Description: Manufacturer of radio electronics.

Employees: 100

Technical Communicators: 3

Year Started: 1968

Comments: Three people write manuals, but do not have the title of technical writer or editor.

Contract Only Employers (n=2)

Loudon County

Kimberly-Clark Corporation

5600 Kimberly Way

Loudon, TN 37774

988-7000

Description: Produces tissue papers and other machine creped papers.

Employees: 150

Year Started: 1990 (in Loudon County)

Comments: Kimberly-Clark has employed a technical writer on contract since last year to write procedures and practices for this new plant.

Sevier County

Appalachian Log Homes, Inc.

Route 66, South

Sevierville, TN 37863

966-6440

Description: Manufacturer of prefabricated log homes.

Employees: 25

Year Started: 1980

Comments: This company does limited publications work by contract only.

Employers of Non-technical Communicators

(n=4)

Positions=12

Blount County

Aluminum Company of America (ALCOA)

P.O. Box 9128

Highway 129 and Hurst Road

Alcoa, TN 37701

977-2011

Description: Manufacturer of primary aluminum: plate, sheet, foil.

Employees: 3,300

Communicators: 7

Year Started: 1913

Comments: There are no technical writers, but two departments employ people who write and edit. There are five people, called designers, employed by the Training Department to write and edit in-house manuals. In Personnel, there is one communications coordinator and one contract writer who write the in-house newsletter and other employee communications.

Blount Memorial Hospital
907 E. Lamar Alexander Parkway
Maryville, TN 37801
983-7211

Description: Full service hospital

Employees: 900

Communicators: 2

Year Started: 1947

Comments: Blount does not have technical writers; however it does employ people who write. Baptist employs two editors to produce publications; the editors employ freelance writers on contract.

Nippondenso Tennessee, Inc.
1720 Robert C. Jackson Drive
P.O. Box 9710
Maryville, TN 37802
982-7000

Description: Manufacture air conditioning units and systems for automobiles.

Employees: 900

Communicators: 2

Year Started: 1989 (locally)

Comments: There are no technical writers or editors; however, Nippondenso does employ people who write. The two-person communications staff writes policies and training manuals.

Jefferson County

Hearthstone, Inc.
1630 E. Hwy. 25-70
Dandridge, TN 37725
397-9425

Description: Manufacturer of precut log homes.

Employees: 100

Communicators: 1

Year Started: 1971

Comments: There are no technical writers, but Hearthstone does have one person who writes advertisements and brochures.

**Knoxville-Oak Ridge Businesses That Do Not Employ
Technical Communicators
(n=232)**

(Complete list, with addresses and descriptions, is Appendix B)

ABB Environmental Services, Inc. (Asea Brown Boveri)
ABB Flakt, Inc.
Access Systems, Inc.
Ackermann Public Relations and Marketing
Acraloc Corp.
Adams, Craft, Herz, Walker
Albers, Inc.
Alexander and Associates Co.
Alignment Engineering Company
Allen and Hoshall, Inc.
Allied Industrial Equipment
Allied Signal Corp.
Alpha Digital Systems, Inc.
Aluminum Company of America (ALCOA), Knoxville corporate office
American Auto and Machine
American Limestone, Inc. (Knoxville plant)
American Magnetics, Inc.
American Safety and Abatement Products, Inc.
Analysis and Measurement Services
Andersen Consulting
Applied Management Services, Inc.
Aqua-Chem, Inc.
Arendt Associates, Inc., John. W.
Atomic Industrial Co. and Associates, Inc.
Atom Sciences, Inc.
Audio Animation, Inc.
Automated Sciences Group, Inc.
Automatic Control Technologies, Inc.
BAT Associates
BRI Government Services, Inc.

Babcock and Wilcox Nuclear
Barber and McMurry, Inc.
Barge Waggoner Sumner and Cannon
Barrier Concepts, Inc.
Battelle Memorial Institute
Biochem Technology, Inc.
Bio-Electric, Inc.
Blue Diamond Coal Company
Boeing Aerospace and Electronics—Oak Ridge
Briggs Division of JPI Plumbing Products
Button and Associates, Randy
C & A Control Systems, Inc.
CBM Computer Center
CER Corporation
CES Corporation
CF Systems
COR, Inc.
Campbell and Associates, Robert G.
Chem-Nuclear Systems, Inc. (CNSI)
Chemrad Tennessee Corp.
Cherokee Porcelain Enamel Corp.
Clear Corp.
Commercial Plastic and Supply
Compact Chips, Inc.
Computer Engineering
Computer Products, Inc.
Computer Resource Systems, Inc.
Computer Solutions of Tennessee
Comstock, Inc.
Concoal Corporation
Concord Associates, Inc.
CONSULTEC, Inc.
Continental Water System
Control Center, Inc.
Control Technology, Inc.

Coopers and Lybrand
Coors Technical Ceramics, Inc.
Cryomagnetics, Inc.
Cummins Cumberland, Inc.
Dames and Moore
Dataman Information Services
Data Research and Applications
Design Essentials, Inc.
Digital A.V.
Digital Equipment Corp.
Dimension Data, Inc.
Diversified Engineering
Dunn and Associates, Lamar
EOD Technology, Inc.
EOL (Electro-Optics Laboratory), Inc.
ETE Consulting Engineering, Inc.
Ecology and Environment, Inc.
Electro-Panel, Inc.
Electrotek Concepts, Inc.
Elographics, Inc.
Emory Valley Center
Emory Valley Corporation
Empruve, Inc.
Enco Materials, Inc.
Engineering Services Group
Entech Corporation
Entech, Inc.
Environmental Consulting Engineers, Inc.
Environmental Systems Corp.
Ernst and Young
FBF Nuclear Containers
Ferraro, Oliver, and Associates, Inc.
FI-Shock, Inc.
Flynt Engineering
Focus Environmental

Fox Environmental Services
Geraghty and Miller, Inc.
Gilbert/Commonwealth, Inc.
Gutierrez-Palmenberg, Inc.
HNU Systems, Inc.
Harding-Lawson Associates
Hart Graphics
Hertel Cutting Technologies, Inc.
Hewlett Packard Company
Hillco Engineering Services
Hillsdale Industries
Human Machine Interfaces, Inc.
I & I Industrial Sales
ICF Information Technologies
(combines ICF Kaiser and Chartway Technologies)
IMT Corp.
IPS, Inc.
Infinite Options, Inc.
Information Management Services, Inc.
Injectech Corp.
Instrument and Technical Systems, Inc.
Integrated Computer Systems, Inc.
JCL Clinical Research Corporation
JAYCOR
KCG and Associates
Kaatz, Binkley and Jones Architects, Inc.
Knox International Corporation
Laboratory Balance and Microscope Service
LanoCare Laboratories, Inc.
Laser Precise, Inc.
Law Engineering, Inc.
Listen, Inc.
McCampbell and Young
Machine Kinetics Corp.
Magnatron, Inc.

Mantech Services Corp.
Manufacturing Sciences Corp.
Mark III Machining, Inc.
Materials Engineering and Testing Corp.
Matsushita Electronic Components Company
Maxima Corp.
Med Images
Michigan Bulb Company (Knox Greenhouse)
Micomp, Inc.
Microwave Materials Technologies, Inc.
Modine Manufacturing Co.
ModuFil, Inc.
Mor-Flo Industries, Inc.
National Plastic Co.
National Psychopharmacology Laboratory
Niblick and Company
Norris Software Systems, Inc.
North American PDTS Corp.—Precision Disc
Nuclear Energy Services
Nuclear Lead Co., Inc.
Ogden Environmental (Oak Ridge office)
Omega Plastics Corp.
Ordela, Inc.
Oxyrase, Inc.
PB & S Chemical Co., Inc.
P & S Engineered Plastics, Inc.
ppm Enterprises, Inc.
Parsons/Main (Oak Ridge): joint partner with Ebasco Services, Inc.
Patent Plastics
Pathway Bellows, Inc.
Pellissippi High Tech Supply
Phoenix Engineering, Inc.
Plexco
Precision Instruments, Inc.
Prime Technologies, Inc.

Process Applications, Inc.
QCI, Inc.
Quadrex Recycle Center
Quality Computers (formerly AQ Enterprises, Inc.)
Quality Development, Inc.
Qualteq, Inc.
RJO Enterprises, Inc.
REMOTEC, Inc.
Ridge Metals, Inc.
Robertshaw of Tennessee
Rohm and Haas, Inc.
Rotocast Plastics of Tennessee, Inc.
Safety and Reliability Optimization Services, Inc. (SAROS)
Schaffer Engineering
Seehuus Associates
Sigma Science, Engineering, and Technology Applications Corp.
Smith Wilbur Associates
Southeastern Data Systems
Southeastern Telecom
Southern Testing Services
S.M. Stoller Corp.
Stone and Webster Engineering Corp.
Summitec
Sun Coal Co.
SunTrust Services Corp.
Supercom
Synergistic Applications, Inc.
Systems Research and Applications Corp.
TMA/Eberline
TEC-COM
Tech-Con Corp.
Techmer PM Tennessee
Telephone and Data Systems, Inc.
TeleRobotics International, Inc.
Tele-Sys, Inc. (formerly Access America)

Tenera, L.P.
Tennessee Innovation Center (includes EOL, Barrier, and Chemrad)
Tennessee Technology Foundation
Tennessee Tool and Engineering, Inc.
Tetra Technologies (formerly CSA, then Lake Industries)
Thermocopy of Tennessee
Tice Engineering and Sales
Titan Corporation
Turtle Mountain Communications, Inc.
Tutor Toys, Inc.
Ultra Tech Extrusions of Tennessee
Union Carbide Industrial Gases
United Engineers, Inc.
U.S. Department of Energy (Office of Scientific and Technical
Information)
VWR Scientific
Vacuum Technology of Tennessee
Valmet-Enerdry
Vinylex Corp.
Vreeland Associates
Wagner CNC, Inc.
Wastech, Inc.
Webster Engineering and Machining
West Miller Welch Engineers
Westinghouse Environmental and Geotechnical
Weston, Roy F., Inc.
Wilson and Associates, Inc.
Windrock Inc.
Xerox Corp.

**Unable to Contact/Refused to Participate:
(n=25)**

Accu-Tec Engineering and Machining: Unable to contact.
Allegheny Industrial Electrical Co., Inc.: Unable to contact.
American Matrix, Inc.: Unable to contact.

Atomic City Tool Co.: Refused to participate.
Authorization Systems, Inc.: Refused to participate.
Carrier Corp.: Knoxville plant has closed.
Cockerham and Associates, John M. (Oak Ridge): Unable to contact.
Cosmos Corporation: Oak Ridge office closed.
Electro-Nucleonics: Unable to contact.
Farris Chemical Co: Unable to contact.
Iso-Clear Systems: Unable to contact.
Iso Tech, Inc.: Unable to contact.
Knoxville Tool and Stamping, Inc.: Unable to contact.
Lipogen, Inc.: Tennessee facility has been consolidated with main plant
in Maryland.
Lockheed Engineering and Sciences: Unable to contact.
Millenium Associates: Unable to contact.
Orbit, Inc.: Unable to contact.
Pellissippi Development Corp.: Unable to contact.
Pic-Air, Inc.: Unable to contact.
R&D Development, Inc.: Unable to contact.
ReMaxCo Technologies, Inc.: Has moved offices to New York.
Structured Systems Specialists: Unable to contact.
TRW, Inc.: Plant has closed.
VSE Corp.: Unable to contact.
Valley Industries: Unable to contact.

**Businesses Outside Knoxville-Oak Ridge That Do Not Employ
Technical Communicators
(n=73)**

(Complete List, with Addresses and Descriptions, is Appendix C)

**Anderson County (Outside Oak Ridge)
(n=7)**

Becromal of America, Inc.
DH Compounding Company
Eagle Bend Manufacturing, Inc.
Easter Surveying and Mapping Company
P.T. Components, Inc. (Link Belt Bearing Division)
Up-Link, Inc.
Visicon, Inc.

**Blount County
(n=22)**

Activated Crystal Technology, Inc. (ACT)
American Continental Techlabs, Inc.
American Limestone Company
Anderson Truss Company, Inc.
B-TEC
Bendix Safety Restraints Group
Brown Truss Company
DCS Electronics
Hurst Tool and Engineering
Industrial Commutator Company, Ltd.
Infotech
Montgomery Associates, Inc.
National Electric Coil Division, Magnatek
Neo Industries, Incorporated
S & S Industries, Inc.
Schlegel Technical Center, Inc.
Schlegel Tennessee, Inc.
Scintillation Technologies Corporation
Southeastern Energy, Inc.

Spec-Mat Technologies, Inc.
TACL Manufacturing, L.P.
Vertiflite, Inc.

Hamblen County (Morristown only)
(n=16)

BASF Corporation, East Tennessee
Camvac International, Inc.
Crain Industries, Inc.
Foamex LP
Form Rite
General Electric Company
Graco WR and Company, Inc.
Helm Corporation
Howmet Corporation
Mahle, Inc.
Morristown Printing Company, Inc.
Pioneer Plastics Corporation
RPN Inc.
Rockwell International Corporation
Toyota TRW Auto, Inc.
Tuff Torq Corporation

Jefferson County
(n=6)

American Limestone Company (Coy Stone Plant)
Asarco, Inc. (American Limestone)
Five Rivers Hydraulics, Inc.
Rittenhouse Company
U.S. Slate and Marble
USX Corporation Zinc Mine

Loudon County**(n=14)**

Diversified Scientific Services, Inc.

Greenback Industries, Inc.

Johnson City Chemical Company, Lenoir Division

Liquid Carbonic Corporation

Maremont Corporation

Metal Resources, Inc.

Monterey Mushrooms

Olympic Metals, Inc.

PDQ Metals

Quazite Corporation

Scientific Endeavors Corporation

A.E. Staley Manufacturing

Visicase Corporation

Vytron Corporation

Sevier County**(n=8)**

Activated Metals and Chemicals, Inc.

The Arnold Engineering Company

Electro-Voice, Inc.

Emco-Williams, Inc.

Southern Casting Company

TRW Fuji Valve Company

Vamistor Corporation

Wagner Divison, Cooper Industries

Unable to Contact/Refused to Participate:
(n=4)

Anderson County:

CMA, Inc., Oliver Springs: Unable to contact.

Hyperion Thermal Technologies, Clinton, TN: Unable to contact.

Blount County:

Seiburg Industries, Maryville: Refused to participate.

Jefferson County:

Cherokee Products, Inc., Jefferson City: Refused to participate.

3.3 Mail Survey of Knoxville-Oak Ridge and Area Technical Communicators

3.3.1. Explanation and Procedures

In April 1992 I began the final part of my research project: a mail survey of area technical communicators. I wanted to find out some of the skills and tasks their jobs required, hoping that this information would be useful to those preparing to enter the Knoxville-Oak Ridge technical communication job market.

I chose companies to be surveyed from my telephone list. At the time of selection, there were 80 companies in the Knoxville-Oak Ridge list (the 81st company was added later), and 10 companies in the surrounding county (Anderson, Blount, Hamblen (Morristown only), Jefferson, Loudon, and Sevier) list. Knoxville-Oak Ridge companies were selected on a systematic basis (every third company), with contract-only employers, temporary agencies, and employers of non-technical communicators excluded from consideration. The surrounding county list revealed only two employers who met the guidelines I had set for inclusion, Philips Consumer Electronics in Jefferson City and Professional Loss Control in Kingston. Therefore, they were the only companies chosen from that list.

Twenty-six companies were selected for inclusion in the mail survey. They were:

- Advanced Tank Certification, Knoxville
- Analysas, Oak Ridge
- CDM Federal Programs Corporation, Oak Ridge
- Computational Systems, Inc., Knoxville

- The EC Corporation, Knoxville
- Eastern Technical Engineering Corporation, Oak Ridge
- Ebasco Services, Oak Ridge
- Galbraith Laboratories, Knoxville
- J.P. Hogan and Company, Knoxville
- JBF Associates, Knoxville
- Knox Porcelain Corporation, Knoxville
- Martin Marietta Energy Systems, Oak Ridge National Laboratory
- Oak Ridge Associated Universities
- PAI Corporation, Oak Ridge
- Performance Development Corporation, Oak Ridge
- QualPro, Inc., Knoxville
- Science Applications International Corporation, Oak Ridge
- Siemens Gammasonics, Knoxville
- Systematic Management Services, Oak Ridge
- Tennessee Center for Research Development, Knoxville
- Theta Technologies, Oak Ridge
- Tresp Associates, Oak Ridge
- The University of Tennessee, Knoxville
- World Computer Systems, Oak Ridge
- Philips Consumer Electronics, Jefferson City
- Professional Loss Control, Kingston

One survey was sent to companies with only one technical communicator. Those who reported larger staffs were sent from two to ten surveys. The greatest number of surveys, 10, was sent to Martin Marietta

Energy Systems, which reported a publications staff of 160. I mailed a total of 80 surveys.

When mailing to the 13 companies where I had a personal contact, I directed my survey package to that person's attention. I directed the survey package to "Senior Technical Communicator" when mailing to companies where I had no personal contact.

Each survey package contained a cover letter describing the project and the way questionnaire results would be used, along with all questionnaires to be sent to that company (Copy of the cover letter and questionnaire are Appendices D and E.) I secured a stamped, self-addressed, legal-sized envelope to each questionnaire with a paper clip.

At companies to which more than one questionnaire was sent, I had to count on the person who initially opened the package to read the cover letter and distribute the questionnaires. Under ideal circumstances, I would have mailed a separate cover letter and questionnaire to each individual. However, materials and mailing costs prevented me from taking this approach.

The questionnaire contained nine questions concerning respondents' company name, job title, industry classification, education, background, and on-the-job skills and tasks. I did not ask for respondents' names. I avoided asking any other "identifying" questions, such as salary, specific work environment, or job satisfaction. Questionnaires that ask for personal information require a more extensive review by UT's Office of Research Administration than ones that do not. In order to keep my questionnaire within the limited review guidelines, I steered away from personal questions.

Instead, I asked for information that I felt would be most useful to those contemplating, or currently preparing for, a career in technical communication. My questions fell into three categories: company data, educational background, and current job skills and tasks.

In the educational background category, I was most interested in discovering respondents' highest level of formal education and the extent of their college science and technology training. I wanted to find out if levels of education and science and technology training were uniform or varied widely; in other words, if these respondents shared a "typical" level of education and science background. I suspected that many respondents might not have had extensive science and technology training prior to getting jobs as technical communicators, so I also asked if respondents had felt it necessary to take additional science coursework.

In the current job skills and tasks category, I was most interested in the communication (e.g., writing, editing, production) and computer-related tasks (e.g., word processing, desktop publishing) respondents regularly performed, and the types of material (e.g., user manuals, procedures) they regularly produced. If potential technical communicators had that information, they might be able to gain those skills and practice those tasks before entering the job market.

Five requests—company name, undergraduate major, list of science courses taken in college, and science coursework taken after college—were designed as "fill in the blank." The remainder were multiple choice questions, in which respondents were asked to circle the option or options which applied.

3.3.2. Presentation of Results

Survey packets were mailed the week of April 20-24, 1992.

Results are calculated from completed questionnaires that I received by May 14, 1992.

I received 36 completed questionnaires, for a 45 percent individual response rate. The respondents represented 16 companies, for a 61.5 percent company response rate. Among companies that received multiple surveys, those with the highest response rates were Computational Systems, Inc., with three out of four questionnaires returned, and Science Applications International Corporation, with four out of five questionnaires returned.

The 16 companies returning questionnaires were:

- Analysas
- Computational Systems, Inc.
- EC Corporation
- Ebasco Services
- Galbraith Laboratories
- JBF Associates
- Knox Porcelain Corporation
- Martin Marietta Energy Systems, Oak Ridge National Laboratory
- PAI Corporation
- Philips Consumer Electronics
- Power Electronics Applications Center (Tennessee Center for Research Development)
- QualPro

- Science Applications International Corporation
- Siemens Gammasonics
- The University of Tennessee, Knoxville
- World Computer Systems

After asking each respondent's company name, I asked, "What is your title?" Twelve respondents listed their title as "Technical Writer." Of that 12, 5 were called "Senior Technical Writer;" and one each was called "Technical Writer II" and "Associate Technical Writer."

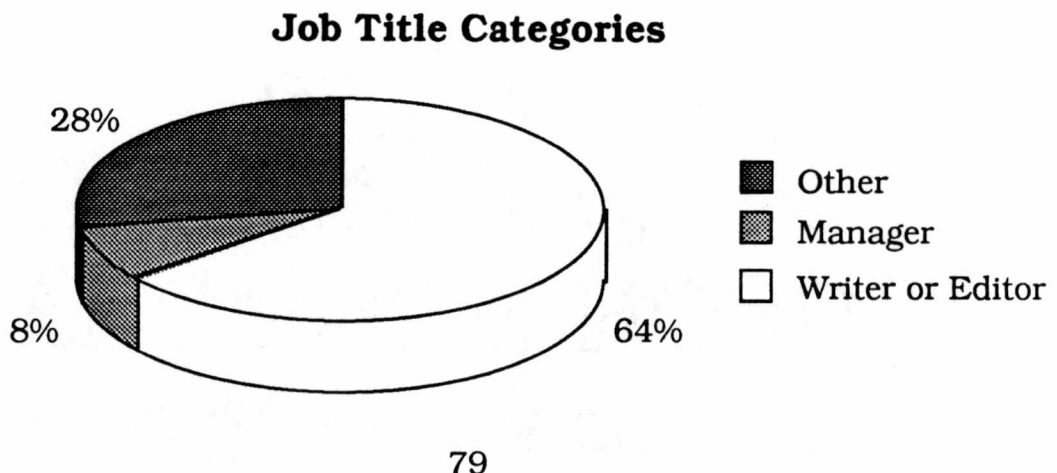
Figure 1 indicates the major job title categories to which respondents belonged.

Seven respondents listed their title as "Technical Editor." Of that seven, one was called "Technical Editor/Librarian."

Four respondents had writing or editing job titles without the word "technical." Two respondents were called "Editor" and two were called "Service Manual Writer."

Of the thirteen respondents who were not called "writer" or "editor," six had titles indicating technical responsibilities. There was one each "Instructional Technologist;" "Technical Reviewer/Support Services

Figure 1



Supervisor;" "Technical Manager;" "Part-time Technical Support;" "Technical Publications Analyst;" and "Technical Trainer."

Three respondents had managerial titles. They were "Program Manager;" "Manager, Engineering Publications;" and "Technical Manager."

Other job titles were "Public Information Specialist" (2); "Senior Communications Specialist;" and "Executive Assistant to the CEO."

My next question asked respondents to classify the industry to which their company belonged. There were six choices: a) computer software research, development, or manufacturing; b) electronics or telecommunications research, development, or manufacturing; c) waste management and/or removal; d) aerospace/aircraft research, development, or manufacturing; e) consulting or training in specific areas (write in area); and f) other (please specify).

Figure 2 shows how respondents classified their businesses by industry.

INDUSTRY CLASSIFICATION	
Electronics or telecommunications research, development or manufacturing	20%
Consulting or training in specific areas	20%
Computer software research, development, or manufacturing	9%
Waste management and/or removal	6%
Aerospace/aircraft research, development, or manufacturing	0%
Other	45%

Figure 2

The greatest number of responses, 11, were in the "other" category. Five respondents had similar descriptions. Three replied, "university." Two replied "medical imaging technology—nuclear medicine" and "nuclear medicine diagnostic equipment manufacturing."

Other descriptions included "environmental, computer, and other technical support services;" "chemical analysis;" "national laboratory;" "consumer electronics manufacturing;" "all of the above;" and "a,b, c, and consulting management expertise as a company; our separate division deals with public information on energy and waste management issues."

Seven respondents described their company's industry as "electronics or telecommunications research, development, or manufacturing."

Another seven indicated "consulting or training in specific areas." Two described those areas as "environmental engineering." Other descriptions included "environmental and applied technology;" "process improvement consulting;" "process safety management of highly hazardous chemicals;" "risk assessment consultants;" and "chemical/petroleum risk assessment."

Three respondents chose computer software research, development, or manufacturing; and two chose waste management and/or removal.

Five respondents chose more than one answer. Of those, two chose b, e, and f (electronics and telecommunications research, development, or manufacturing; consulting or training in specific areas; and

other). Both described the specific area ("job corps") and the other ("service contracts") the same.

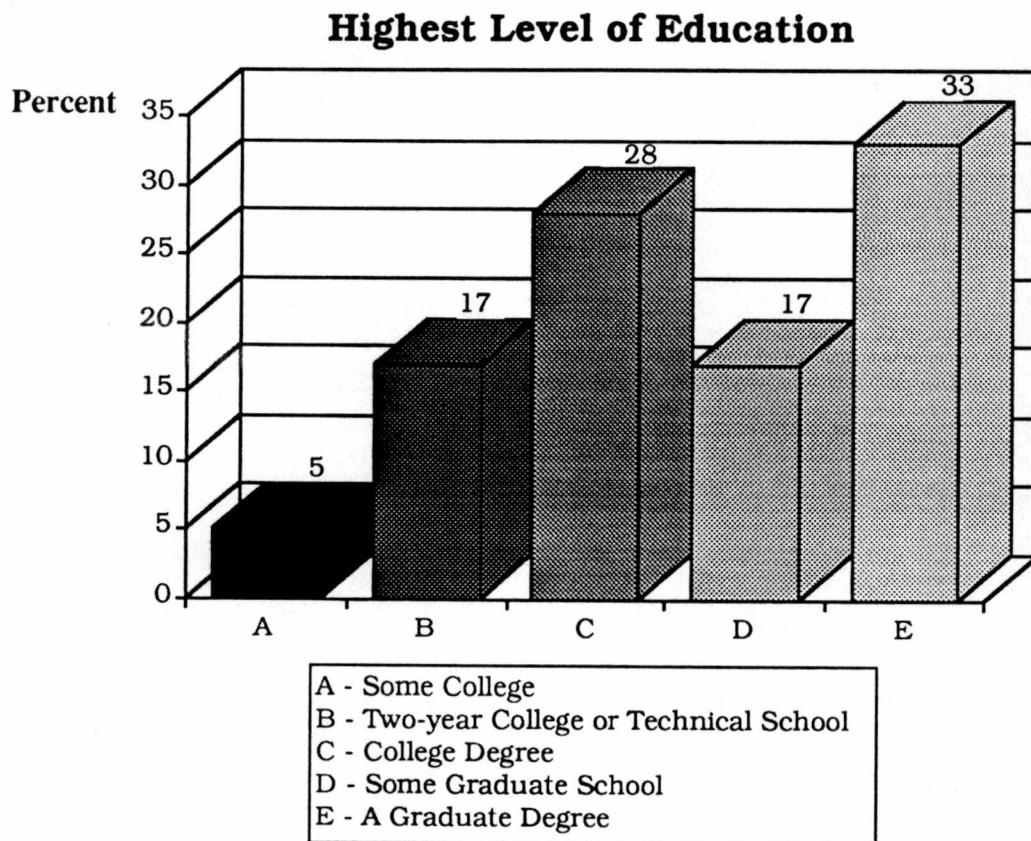
One respondent each chose c (waste management and/or removal) and f (other, described as "environmental remediation"); a (computer software research, development, or manufacturing) and e (consulting or training in specific areas, with area listed as "chemical/nuclear consultants for engineers in both fields and safety/reliability analysis and training"); and a (computer software research, development, or manufacturing) and c (waste management and/or removal).

My next question was "What is the highest level of education that you have completed?" Choices were a) some college; b) two-year college or technical school; c) college degree; d) some graduate school; or e) a graduate degree (specify degree and major).

The greatest number of respondents, 12, had a graduate degree. Of those, two had a Ph.D. (one in English; the other in industrial and organizational psychology). Six of the 10 respondents with master's degrees had degrees in humanities or communications. Two indicated graduate training in scientific and technical communication (one pending master's in scientific and technical communication and one master's in chemistry and technical communication). Another respondent indicated training in writing (M.A. in English with writing emphasis).

Four graduate degrees were in non-humanities or communications areas. These included an M.S. and Ph.D. in industrial and organizational psychology; an M.S. in chemistry and technical communication; an M.B.A. in logistics; and an M.S. in industrial engineering.

Figure 3



The second greatest number of respondents, 10, had a college degree. An additional six respondents had had some graduate school, bringing the total number of respondents with a four-year college education or above to 28.

Figure 3 shows respondents' highest level of education.

Of the eight respondents without a four-year degree, two had had some college and six had completed a two-year college or technical school.

My next question asked respondents to list their undergraduate major. The greatest number of respondents, 12, said their undergradu-

ate major was English. Another eight indicated a major in journalism or communications. I included in this category two respondents who listed technical communication as the primary major. One listed the major as "technical communication;" the other listed "technical communication and psychology."

The eight remaining respondents listed widely varied majors. Of those, three indicated science or technology majors: one chemistry major, one microbiology/English major; and one mechanical engineering major.

Other majors were history; business administration; German; international economics; and economics.

Five respondents listed double majors. These were microbiology and English; technical communication and psychology; English literature and English; English and journalism; and English and library science.

Figure 4 lists, by percentage, undergraduate majors of respondents with degrees from four-year institutions.

UNDERGRADUATE MAJOR	
English	43%
Journalism or Communications	29%
Other Humanities Subjects	14%
Science or Technology	11%
Business Administration	3%

Figure 4

Two of the six respondents with degrees from two-year institutions listed majors. One listed electronics; the other listed electrical engineering technology.

I asked respondents to list college science courses by number of academic years taken. In calculating responses, I focused on science courses in which respondents listed at least one academic year or its equivalent (two semesters or three quarters) of training.

Only two respondents did not take any science courses in college. An additional two gave no specific response; one said "very little," while the other wrote, "Would need to research." One indicated less than one academic year of training in any science subject. Another did not specify number of academic years.

Figure 5 lists most popular science subjects among the 22 respondents who had taken at least one academic year of science.

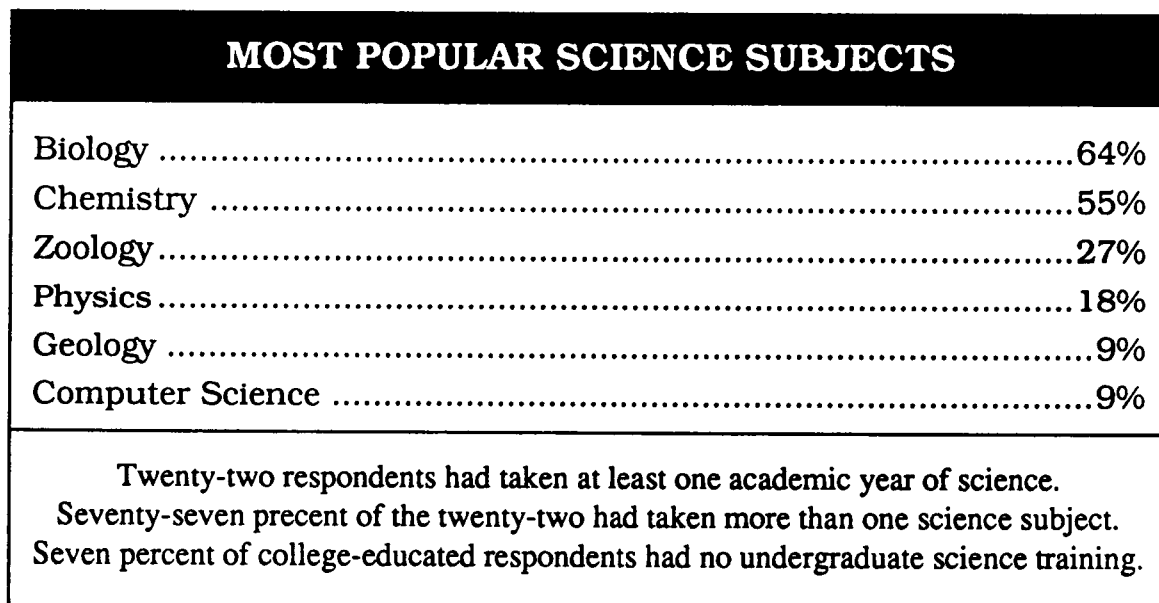


Figure 5

Seventeen respondents had taken more than one different science course (again, this total includes only science courses in which respondents had at least one academic year). Of these respondents, 12 had taken two different science courses; two had taken three different science courses; and three had taken four different science courses.

Only eight respondents indicated more than one academic year in any science subject. Five of these respondents indicated more than one academic year of chemistry; three had more than one academic year of biology. (The only other courses in the more-than-one-year category were computer science, industrial electronics, and botany.)

Only three respondents said they took more than one academic year in more than one science subject. One respondent had two years of computer science and two years of industrial electronics; another had three years of microbiology and two years of chemistry; a third had five years of chemistry and four of biology. Of those three, two had undergraduate degrees in science.

Among science courses in which respondents had at least one academic year, biology was the most popular, with 14 respondents. Chemistry was a close second, with 12 respondents. Zoology was third, with 6 respondents. Four respondents had taken physics. Two had taken one year of computer science, and two had taken one year of geology.

Other courses in which respondents had at least one academic year were astronomy, computer science, environmental science, genetics, and industrial electronics.

Asked if they had taken additional science courses since graduating from college, the majority of respondents, 23, said no. Two of the five respondents who said yes indicated a single course: one had taken Fortran and the other listed a course entitled, "Analysis of Cognitive Learning Processes."

Of the remaining three who had taken courses, two were working on additional degrees. One had taken nutrition courses and was working toward a B.S. in nutrition; another, who listed a pending master's in scientific and technical communication, had taken courses in environmental biology, geology, oceanography, advanced geology, and principles and applications of environmental science. The third respondent had received "specialized training in nuclear physics, cellular biology, and energy science."

One respondent offered a comment: "Since graduating from UT in 1968, I've taken numerous courses not in the sciences. The technical communication classes have been most helpful: Advanced Technical Writing, Professional Writing, Technical Editing.

"I believe that persons desiring to enter the technical communication field would benefit most from basic *engineering* courses—maybe not at UT, but at Pellissippi State Technical Community College—in the areas of safety, environmental hazards, health hazards, etc."

The next question asked which tasks respondents performed at least once weekly. Choices were a) writing; b) editing; c) publications production (layout, design, scheduling, etc.); d) training; e) supervising/managing; and f) other (please specify).

No respondent performed only one task. The greatest number of respondents, 16, performed three tasks. Of those, 11 performed the same three tasks: writing, editing, and publications production.

Ten respondents performed four tasks. Of those, six performed the same four tasks: writing, editing, publications production, and supervising/managing.

Five respondents performed two tasks, and five performed five tasks.

Of the five who performed two tasks, four performed the same two tasks, writing and editing. (The fifth performed writing and training).

Of the five who performed five tasks, four performed the same five tasks: writing, editing, publications production, supervising/managing, and "other." The fifth performed writing, editing, publications production, training, and supervising/managing.

No respondent performed six tasks.

Figure 6 shows, by percentage, the weekly job tasks that respondents most commonly performed.

MOST COMMON WEEKLY JOB TASKS	
Writing	94%
Editing	94%
Publications Production	75%
Supervising/Managing	44%
Training	11%
Other	19%

Figure 6

The two most common tasks were writing and editing, with 34 respondents each. The second most common task was publications production, with 27 respondents. The third most common task was supervising/managing, with 16 respondents.

Although more respondents (7) listed "other" than listed training as a task, I hesitate to classify it as the fourth most common task because task descriptions were so varied. They included "document formatting;" "coordinate document production;" "meeting with authors, filling out paperwork;" "reports and logs, CADD work;" "planning documentation, evaluation/feedback analysis;" "program development;" and "training."

Of the 16 respondents who performed supervising/managing, only three had managerial titles (technical manager; manager, engineering publications; and program manager). Three reported two tasks in addition to supervising/managing; eight reported three additional tasks; and five reported four additional tasks. The most common additional tasks were editing and writing, with all 16 performing editing and 15 out of 16 performing writing. Twelve of the 16 performed publications production.

Respondents were asked what computer skills their jobs required. Their choices were: a) word processing; b) desktop publishing; c) creation of computer graphics/illustrations; d) computer programming; and e) none.

When I first formulated this question, "none" was not one of the available options. However, my major professor suggested that I make it an option. I thought that no one could survive without at least doing some word processing!

I was wrong. Four respondents said that their jobs required no computer skills. All four were technical editors with the same company.

Figure 7 shows, by percentage, most frequently used skills among the 32 respondents whose jobs required computer skills.

Six respondents said that their jobs required only one computer skill, word processing.

Eight respondents said that their jobs required word processing and desktop publishing.

The greatest number of respondents, 17, said that their jobs required three computer skills. Of those, 16 listed the skills as word processing, desktop publishing, and creation of computer graphics/illustrations. The other respondent listed word processing, desktop publishing, and computer programming (this was the only respondent to list computer programming).

Only one respondent listed more than three skills, indicating word processing, desktop publishing, creation of computer graphics/illustrations, and "CADD."

MOST FREQUENTLY USED COMPUTER SKILLS	
Word Processing	100%
Desktop Publishing	78%
Creation of Computer Graphics/Illustrations	56%
Computer Programming	3%

Figure 7

My last question was, "What types of material do you write, edit, or produce at least once a month?" The choices were a) training or user manuals; b) technical specifications; c) procedures; d) proposals; e) brochures/newsletters/marketing material; f) online documentation; and g) other (please specify).

Figure 8 shows, by percentage, the types of material respondents produced most frequently during a one-month period.

Only three respondents listed one type of material. Of those, two named training or user manuals, and one named technical specifications.

Of respondents listing more than one type of material, very few reported the same type of material. This was true even of respondents with the same job title in the same company.

MOST FREQUENTLY PRODUCED MATERIALS	
Training or User Manuals	56%
Brochures/Newsletters/Marketing Material	53%
Procedures	50%
Proposals	44%
Other	44%
Technical Specifications	39%
Online Documentation	8%
The greatest percentage of respondents (44%) produce three different types of material monthly.	

Figure 8

Of those listing the same types of material, two indicated proposals and brochures/newsletters/marketing material; two listed proposals and "other" (described by one as "environmental restoration recordkeeping (synopsis of events at meetings)" and the other as "reports, summaries, fiscal policies, and memos/correspondence").

Three listed training or user manuals, technical specifications, and procedures; two listed training or user manuals, procedures, and proposals; and two listed proposals, brochures/newsletters/marketing material, and "other" (described by one as "exhibit staffing, writing, development" and the other as "reports, letters, course materials, and tables").

Of respondents listing more than one type of material, the greatest number, 16, listed three types of material. Eight respondents listed two types, and seven listed four types. One respondent listed five types, and one respondent listed all six types.

The most frequent type of material listed was training or user manuals, with 20 respondents. Second was brochures/newsletters/marketing material, with 19 respondents, and third was procedures, with 18 respondents. Two types of material, proposals and "other," were fourth, with 16 respondents. Fifth was technical specifications, with 14 respondents. Very few respondents, three, named the sixth-place material, online documentation.

The 16 respondents listing "other" as a type of material gave a variety of descriptions. These included:

- safety analysis reports and tables
- environmental restoration recordkeeping (synopsis of events at meetings)
- reports, summaries, fiscal policies, memos/correspondence

- mailings-campuswide
- research reports
- feasibility studies, Title I, II, III engineering design documents, and
baseline design reports
- reports, course materials, and presentation materials
- meeting proceedings, environmental reports
- reports, letters, course materials, and tables
- exhibit staffing, writing, development
- complete television service manuals
- fact sheets, briefings
- safety procedures, manuals
- technical reports
- conference minutes
- educational curricula, magazine articles, news releases

3.3.3. Summary of Results

Taken as a whole, the mail survey results indicate that these respondents share some common characteristics.

More than half of the 36 respondents, 19, are called "Technical Writer" or "Technical Editor." An additional four are writers or editors; two are called "Service Manual Writer" and two are called "Editor." Of the thirteen who are not called "writer" or "editor," six have titles indicating technical responsibilities.

When asked to classify their company's industry, the greatest number of respondents, 11, chose "other." Their descriptions ranged from chemical analysis to medical imaging technology to research university.

An equal number of respondents, seven, said they work for electronics or telecommunications research, development, or manufacturing companies or consulting companies.

Three respondents described their company's industry as computer software research, development, or manufacturing, and two indicated waste management and/or removal.

Five respondents felt that they could not place their company under a single industry classification.

Most respondents were college educated, with 28 out of 36 having a four-year college degree or above. Of that 28, 12 had graduate degrees (2 with a Ph.D).

Most respondents with a four-year degree had majored either in English or in journalism/communications (20 out of 28). Only three respondents were undergraduate science or technology majors.

Of the 22 respondents who had taken at least one academic year or its equivalent of undergraduate science, the majority, 17, had taken more than one science subject. Biology was the most popular undergraduate science course, with chemistry a close second.

Most respondents (23) had not taken additional science coursework to help them in their technical communication careers. Of the five who had, three had taken more than one course, and two were pursuing additional degrees.

Respondents' most common weekly tasks were writing and editing, with publications production a not-too-distant second. Slightly less than half (16) of respondents reported managerial duties.

Of the 32 respondents who said that their job required some level of computer skills, all listed word processing as one of those skills. Twenty-six indicated that they performed desktop publishing, and 18 named creation of computer graphics/illustrations. Only one respondent indicated computer programming, and one respondent indicated CADD.

Respondents produced a variety of materials, and most produced more than one type of material. The most frequently listed materials were training and user manuals, brochures/newsletters/marketing material, and procedures.

This group's education and on-the-job experiences suggest that potential Knoxville-Oak Ridge area technical communicators should complete college and work hard to gain writing and editing skills (particularly of training and user manuals, marketing material, and procedures) as well as computer skills (particularly word processing and desktop publishing).

However, it is unsafe to generalize about the whole area from this small group's replies. For example, few had advanced undergraduate science training, and few had sought additional training after entering technical communication careers. However, that does not mean a strong science background is unnecessary. After all, respondents were not asked if they now wished they had taken more science, nor were they asked why they had not pursued additional coursework (many may be too busy). The lack of answers to these types of questions indicate that

this questionnaire's results are merely a starting point for research on technical communication in this area.

4. SUGGESTIONS FOR FUTURE RESEARCH

In a 1990 article, Heather Keeler reviewed current research on the technical communication profession, dividing it into the categories of philosophical and critical research and empirical research. Keeler's review of empirical research includes "surveys of professional technical communication societies, of technical communication students, of practitioners, and of engineering and other related professionals" (42).

Keeler says of the empirical research she reviews, "Methods are mimicked, questions are repeated, subjects are narrowly defined and geographically based" (47). However, in suggesting remedies to this problem, Keeler seems unaware of the realities and constraints of empirical research, particularly surveys. For example, she writes, "...where our research requires empirical data, we must strive for reaching national and international subjects. We must ask questions that are truly important to our profession, not just researcher curiosities" (47). (She does not give an example of the type of question she has in mind.) She also says that "We must expand our view of the practicing technical communicator to include all major groups that practice similar communication strategies" (47).

However, it seems that before we can reach for broader subjects and more expansive views, we must find out more about those whose titles clearly define them as technical communicators, as well as the job/company characteristics of the regions in which they are employed. That is what I tried to do: to find Knoxville-Oak Ridge area companies that

employed technical communicators and to discover some of their typical job skills and tasks.

I acknowledge that my research is only a beginning. However, it opens up the way for future researchers to ask deeper questions: Why do some technology-based companies elect not to employ technical communicators? Is there some definable trait that separates those companies that don't from those that do? Also, how do executives from different types of companies see the role of technical communicator, and what training do they feel would be most desirable?

Time limitations forced me to confine my telephone search to those who employ technical writers and editors. Perhaps another researcher could search for the total number of technical communicators and learn if the numbers increase once the definition has been broadened to include designers or publications managers, even practicing engineers. However, the inclusion of engineers brings up a question that Keeler does not address: In surveys of the profession, do we really want to include those for whom communication is not the primary function? As I did, future researchers will have to establish the boundaries of their definition.

Future researchers may want to find out more about job tasks and skills. Do different types of companies require different types of tasks, and are there certain tasks common to all technical communication jobs? Or they may want to find out not only what technical communicators do now, but what they feel they will be doing in the future. For example, I did not ask if survey respondents had had to learn desktop

publishing on the job, or what computer skills they felt would be required in the future.

I also did not ask respondents about the social skills their jobs required, or about their job environments. But one practicing technical communicator told me, "If you can't get along with other people, you're doomed." Future researchers may want to ask about the kinds of social skills (e.g., ability to negotiate, make critical comments tactfully) most important to professional survival, and whether some company environments are less socially oriented than others.

Finally, I did not ask what practicing technical communicators wished they had done. For example, I never asked what courses they wish they had taken or skills they wish they could have acquired before entering the profession. Nor did I ask them what courses and skills they felt would be most useful to potential technical communicators. A more in-depth exploration of these issues would be particularly helpful to those preparing to enter the profession.

No matter how much research is done, I doubt that anyone will come up with the definitive list of qualifications for the technical communication profession. Not only do many of the required job tasks and skills vary from company to company or from region to region, but new developments in computer technology (e.g., new layout and design programs, better scanners) mean that technical communicators must periodically learn new skills. So the technical communication profession includes many ranges of experience, and continues to change. Empirical research can only try to identify skills and training that will help future or practicing professionals prepare for different experiences, and adjust to change.

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APPENDICES

APPENDIX A

Questionnaire for PCOC Conference Attendees

Please take part in this survey to locate area firms that employ technical communicators.

This questionnaire is part of a project to find firms within a 40-mile radius of Knoxville that employ technical writers and editors. The project is being conducted by Vicki Johns, a Master's student in technical communication at UT-Knoxville, and Dr. Michael Keene, director of UT-Knoxville's technical communication program. The information from this survey will be used to make a "master list" of such firms in the Knoxville area.

STC members' help is needed to make this project a success! Would you please take a moment to fill out this questionnaire? Then, please return it to the registration table before you leave today.

Please note that all information will be treated confidentially.

No individual's name or title will be included in the list of firms.

Your Name: _____

Your Firm's Name: _____

Your Firm's Address: _____

_____ Your Firm's Phone Number: _____

Your Title: _____

Division or Department in Which You Work: _____

Number of Technical Writers/Editors in Your Division/Department: _____

May we contact you for more information, if needed? _____

Thank You

Please complete this form and return it to the registration table before you leave today.

APPENDIX B

Addresses and Descriptions Knoxville-Oak Ridge Businesses That Do Not Employ Technical Communicators

ABB Environmental Services, Inc. (Asea Brown Boveri)
683 Emory Valley Road, Suite C
482-9015

Description: Environmental contamination assessment and remediation services.

Comments: Two hydrogeologists on staff do the technical writing.

ABB Flakt, Inc.
9111 Cross Park Drive
Knoxville, TN 37923
693-7550

Description: Particulate and CO₂ removal systems for coal-fired boilers and other industrial processes.

Comments: Staff does its own technical writing.

Access Systems, Inc.
9724 Kingston Pike, #702
Knoxville, TN 37922

Description: Administrative operations consulting, project and information management, computer systems, and software development.

Comments: Programmers do all writing.

Ackermann Public Relations and Marketing
10305 Dutchtown Road, Suite 101
Knoxville, TN 37932
966-8888

Description: Public relations and marketing.

Comments: Writers produce advertising copy—no technical work.

Acraloc Corp.
113 Flint Road
Oak Ridge, TN 37831
483-1368

Description: Manufacturer of food processing equipment.

Adams, Craft, Herz, Walker
P.O. Box 1114
Oak Ridge, TN 37831-3114
482-4451

Description: Architecture and surveying engineering services.
Comments: Marketing manager does any writing required.

Albers, Inc.
2309 Kingston Pike
Knoxville, TN 37919
524-5492
Description: Pharmaceutical products.

Alexander and Associates Co.
307 New York Avenue
Oak Ridge, TN 37830
483-3314
Description: Engineering design and drafting/customized machinery.

Alignment Engineering Company
6000 Industrial Heights Drive
Knoxville, TN 37909
588-6551
Description: Tool and die shop.

Allen and Hoshall, Inc.
9041 Executive Park Drive
Knoxville, TN 37923
693-7881
Description: Environmental engineering services.
Comments: Engineers do their own writing.

Allied Industrial Equipment
1640 Island Home Avenue
Knoxville, TN 37920
573-0995
Description: Industrial machinery and equipment.

Allied Signal Corp.
Bendix Safety Restraints Group
1601 Midpark Drive
Knoxville, TN 37921
584-9141

Description: Manufacturer of automotive seat belts.

Alpha Digital Systems, Inc.
115 Claymore Lane
Oak Ridge, TN 37830
482-6410

Description: Airport traffic counting and analysis.

Comments: Three-person company; all writing is done by in-house staff.

Aluminum Company of America (ALCOA)
1250 Riverview Tower
Knoxville, TN 37902
594-4849

Description: Aluminum products.

Comments: No writers/editors at this office.

American Auto and Machine
3925 Papermill Road
Knoxville, TN 37909
588-7636

Description: Repair and rebuild boat, automotive motors

American Limestone, Inc.
2209 Blount Avenue
Knoxville, TN 37920
573-4501

Description: Supplier of crushed and broken limestone.

American Magnetics, Inc.
112 Flint Road
Oak Ridge, TN 37831
482-1056

Description: Superconducting magnets and cryogenic instrumentation.

American Safety and Abatement Products, Inc.
102 Flint Road
Oak Ridge, TN 37830
481-3225

Description: Distribution of safety products, asbestos removal products, and hazardous waste removal supplies and equipment.

Analysis and Measurement Services
9111 Cross Park Drive
Knoxville, TN 37923
691-1756

Description: Field or laboratory qualifications testing for instruments, including nuclear power systems.

Andersen Consulting
333 Rutgers Avenue
Oak Ridge, TN 37831
483-5877

Description: Consulting in systems building and integration.

Applied Management Services, Inc.
575 Oak Ridge Turnpike, #205
Oak Ridge, TN 37830
482-2721

Description: Consulting: Computer systems analysis, information management, research and development, and environmental engineering.
Comments: In-house staff does writing.

Aqua-Chem, Inc.
3001 John Sevier Hwy, SE
Knoxville, TN 37914
544-2065

Description: Water purification systems manufacturing.

Arendt Associates, Inc., John. W.
109 Caldwell Drive
Oak Ridge, TN 37830
483-1401

Description: Engineering and management consulting.

Atomic Industrial Co. and Associates, Inc.
795 Oak Ridge Turnpike
Oak Ridge, TN 37830
482-1589
Description: Resale of industrial supplies.

Atom Sciences, Inc.
114 Ridgeway Center
Oak Ridge, TN 37830
483-1113
Description: Trace element analysis; analytical measurement services; contract research and development.

Audio Animation, Inc.
6632 Central Avenue Pike
689-2500
Description: Designers of fully digital audio equipment.

Automated Sciences Group, Inc.
800 Oak Ridge Turnpike, Suite C-102
Oak Ridge, TN 37830
482-6601
Description: Hazardous waste, quality assurance, and information systems management.

Automatic Control Technologies, Inc.
10202 Technology Drive
Knoxville, TN 37932
966-0969
Description: Manufacturer representative for automatic control equipment for industrial applications.
Comments: One person does drawings and writes procedures, produces a newsletter, but his primary task is not technical writing.

BAT Associates
255 S. Tulane Ave.
Oak Ridge, TN 37830
481-8105
Description: Engineering consulting.

BRI Government Services, Inc.
675 Emory Valley Road
Oak Ridge, TN 37830
481-0041

Description: Security consultations and investigations.

Babcock and Wilcox Nuclear
255 S. Tulane Ave.
Oak Ridge, TN 37830
481-8100

Description: Environmental restoration and decontamination services.

Barber and McMurry, Inc.
623 Lindsay Place
Knoxville, TN 37919
546-7441

Description: Architectural planners and consultants.

Barge Waggoner Sumner and Cannon
Plaza Tower, Suite 2400
Knoxville, TN 37929
637-2810

Description: Engineering consulting.

Barrier Concepts, Inc.
1055 Commerce Park Drive
Oak Ridge, TN 37930
482-3792

Description: Anticrash barriers and gates, security consulting.

Comments: Company vice-president does all writing.

Battelle Memorial Institute
700 S. Illinois Avenue
Oak Ridge, TN 37830
482-7945

Description: Technical studies of environmental and energy-related topics.

Biochem Technology, Inc.
200 Tech Center Drive
Knoxville, TN 37912
688-7900

Description: Manufacture and market fiber optics luminoscope.

Bio-Electric, Inc.
408 Cedar Bluff Road, Suite 256
Knoxville, TN 37923
691-8951

Description: Development stage company developing medical devices for electro-therapeutic purposes.

Blue Diamond Coal Company
6305 Kingston Pike
Knoxville, TN 37919
588-8511

Description: Supplier of bituminous coal.

Boeing Aerospace and Electronics—Oak Ridge
767 Boeing Road
Oak Ridge, TN 37831
481-7220

Description: Manufacturing of aircraft parts and equipment.

Briggs Division of JPI Plumbing Products
5040 South National Drive
Knoxville, TN 37914
523-1161

Description: Manufacturer of plumbing products and supplies.

Button and Associates, Randy
31 E. Tennessee Avenue
Oak Ridge, TN 37830
483-3539

Description: Appraises personal and commercial property.

C & A Control Systems, Inc.
7117 Halls Commercial Park Drive
Knoxville, TN 37918
922-2148

Description: Produces communications equipment, excluding broadcast.

CBM Computer Center
8081 Kingston Pike
Knoxville, TN 37919
481-3320

Description: Sales, service, training in major brands of personal computers and software.

CER Corporation
800 Oak Ridge Turnpike, #C-102
Oak Ridge, TN 38831
482-3900

Description: Hazardous waste management, environmental services and consulting.

Comments: No active office in Tennessee now; everything handled out of Arlington, VA, office.

CES Corporation
6529 Clinton Hwy.
Knoxville, TN 37912
938-2088

Description: Sales and service of electronic equipment.

CF Systems
908 W. Outer Drive
Oak Ridge, TN 37830
483-4316

Description: Marketing surveys, demographics, systems analysis.

Comments: Small family business; all writing is done by the owners.

COR, Inc.
702 S. Illinois Avenue, Suite A-202
Oak Ridge, TN 37831
482-6734

Description: Information and waste management services.

Campbell and Associates, Robert G.
6636 Central Avenue Pike
Knoxville, TN 37912
687-5996

Description: Engineering services.

Comments: Engineers write their own specifications.

Chem-Nuclear Systems, Inc. (CNSI)
18 Fowler Plaza
Oak Ridge, TN 37830
481-0216

Description: Processing and disposal of radioactive, hazardous and mixed waste.

Chemrad Tennessee Corp.
1055 Commerce Park Dr., #104
Oak Ridge, TN 37830
481-2511

Description: Manufacturer of surveying equipment for locating radiation, chemicals, and buried objects. Service with same equipment.

Comments: President and chief engineer write technical manuals, reports, brochures.

Cherokee Porcelain Enamel Corp.
5300 Homberg Drive
Knoxville, TN 37919
588-3553

Description: Produces ceramics for chemical and technical industries.

Clear Corporation
4028 Papermill Road
Knoxville, TN 37909
558-6115

Description: Surgical equipment and supplies.

Commercial Plastic and Supply
918 Katherine Avenue
Knoxville, TN 37927
637-1000

Description: Supplies structural sealants.

Compact Chips, Inc.
525 Old Tavern Circle
Knoxville, TN 37922
966-8527

Description: Design of integrated circuits for specific applications.
Comments: Two-person company; owner does his own writing.

Computer Engineering
704 S. Illinois Avenue, Suite C-203
Oak Ridge, TN 37831
483-0000

Description: Licensed program products for process measurement and control applications in the chemicals, plastics, metals, and electric utility market.
Comments: Systems analysts and engineers write their own documentation; an administrative assistant edits documentation.

Computer Products, Inc.
2100 Duck Cove Lane
Knoxville, TN 37922
675-6800

Description: Computer-based system design and integration.

Computer Resource Systems, Inc.
6701 Baum Drive, Suite 125
Knoxville, TN 37919
558-6273

Description: Sales of computers, peripherals, and software.
Comments: All technical writing done from Washington, D.C. office.

Computer Solutions of Tennessee
301-C Oak Ridge Turnpike
Oak Ridge, TN 37830
483-4373

Description: Microcomputer sales and support.

Comstock, Inc.
1005 Alvin Weinberg Drive
Bethel Valley Industrial Park
Oak Ridge, TN 37830
483-7690

Description: Manufacturer of scientific instruments used in physical and chemical analyses.

Concoal Corporation
4710 Papermill Road
Knoxville, TN 37909
588-6233

Description: Supplier of coal and other minerals and ores.

Concord Associates, Inc.
725 Pellissippi Parkway
Knoxville, TN 37932
675-0930

Description: Systems safety performance work in nuclear, chemical, transportation industries.

CONSULTEC, Inc.
725 Pellissippi Parkway
Suite 110, Pellissippi Center
Knoxville, TN 37932
675-4333

Description: Technology transfer and consulting.

Comments: Scientists and engineers do their own writing.

Continental Water System
3110 Northwest Park Dr.
Knoxville, TN 37921
938-9292

Description: High purity water systems.

Control Center, Inc.
3517 Sutherland Avenue
Knoxville, TN 37939
524-1112

Description: Manufacturer's representative and distributor of instrumentation and process controls.

Control Technology, Inc.
5734 Middlebrook Pike
Knoxville, TN 37921
584-0440

Description: Back-up support units for programmable controllers.

Comments: One employee writes documentation and manuals along with regular work.

Coopers and Lybrand
1600 Plaza Tower
Knoxville, TN 37929
524-4000

Description: Accounting, auditing, and bookkeeping.

Coors Technical Ceramics, Inc.
1100 Commerce Park Drive
Oak Ridge, TN 37830
481-8021

Description: Manufacture technical ceramics for laser, semiconductor equipment, prototype and research ceramics industries.

Cryomagnetics, Inc.
782 Emory Valley Road
Oak Ridge, TN 37831
482-9551

Description: Design and fabrication of superconducting magnets and systems for physical science research.

Cummins Cumberland, Inc.
1211 Ault Road.
Knoxville, TN 37914
523-0446

Description: Industrial machinery and equipment.

Dames and Moore
Fairbanks Plaza
575 Oak Ridge Turnpike
Oak Ridge, TN 37830

Description: Environmental engineering consulting.

Dataman Information Services
3502 Overlook Circle
Knoxville, TN 37909
588-1863

Description: Mainframe computer sales.

Data Research and Applications
412 Cedar Bluff Road, #200
Knoxville, TN 37923
690-1345

Description: Development and support of software and hardware for Stratus and IBM System 88 computers.

Design Essentials, Inc.
502 Union Avenue
Knoxville, TN 37902
525-2556

Description: Interior design firm.

Digital A.V.
9715 Truckers Lane
Knoxville, TN 37922
693-6822

Description: Interactive video research and development organization concentrating in training applications for industry and institutions.

Digital Equipment Corp.
412 Executive Suite
300 Tower Drive
Knoxville, TN 37923

Description: Sales of computers, peripherals, and software.
Comments: Technical writing/editing done from Atlanta office.

Dimension Data, Inc.
212 Peters Road, Suite 208
Knoxville, TN 37923
690-3008

Description: Sales of prepackaged software.
Comments: Employees write manuals along with other duties.

Diversified Engineering
115 Central Avenue
Oak Ridge, TN 37830
482-9901

Description: Architectural engineering and waste management.

Dunn and Associates, Lamar
6408 Papermill Road
Knoxville, TN 37919
573-7672

Description: Engineering consulting.

Comments: Engineers write their own specifications.

EOD Technology, Inc.
111 Robertsville Road
Oak Ridge, TN 37830
483-0007

Description: Explosive ordnance disposal, technical services, and training capabilities.

Comments: Engineers write their own specifications.

EOL (Electro-Optics Laboratory), Inc.
701 Scarboro Road
Oak Ridge, TN 37830
482-4239

Description: Develop and manufacture laser-based medical devices.

ETE Consulting Engineering, Inc.
P.O. Box 3471
Oak Ridge, TN 37831
482-4053

Description: Civil engineering surveying, health physics, and hazardous waste.

Comments: Have no need for technical writers/editors; work from standard specifications.

Ecology and Environment, Inc.
683-A Emory Valley Drive
Oak Ridge, TN 37830
482-3556

Description: Waste management services.

Comments: No technical writers/editors in local office.

Electro-Panel, Inc.
100 Mecco Lane
Oak Ridge, TN 37830
482-3456

Description: Engineering design, fabrication, testing, and installation of control systems.

Electrotek Concepts, Inc.
10305 Dutchtown Road, Suite 103
Knoxville, TN 37932
675-1500

Description: Consulting in power quality and power systems engineering.
Comments: Technical writers/editors based in California office.

Elographics, Inc.
105 Randolph Road
Oak Ridge, TN 37830
482-4100

Description: Design and manufacture of computer touch screen systems and software.

Emory Valley Center
715 Emory Valley Road
Oak Ridge, TN 37830
483-4385

Description: Shelter for handicapped adults.

Emory Valley Corporation
677 Emory Valley Road
Oak Ridge, TN 37830
482-2630

Description: Bulk mailing services.

Empruve, Inc.
1016 E. Weisgarber Road, Suite 260
Knoxville, TN 37909
558-3421

Description: Develop of "Pathfinder" software, electronic book with audio, visual, and text capabilities.

Comments: Staff does its own writing.

Enco Materials, Inc.
4615 Coster Road
Knoxville, TN 37912
687-7220

Description: Metals manufacturing service center.

Engineering Services Group
2916 Tazewell Pike
Knoxville, TN 37918
689-5132
Description: Engineering consulting.

Entech Corporation
10700 Dutchtown Road
Knoxville, TN 37932
Description: Structural steel designing and detailing for high-rise buildings and shipping.

Entech, Inc.
574-A Oak Ridge Turnpike
Oak Ridge, TN 37830
481-3231
Description: Architectural engineering design and environmental engineering.

Environmental Consulting Engineers, Inc.
P.O. Box 22668
Knoxville, TN 37933
966-6622
Description: Environmental and hydrochemical engineering services.
Comments: Engineers do their own writing.

Environmental Systems Corp.
200 Tech Center Drive
Knoxville, TN 37912, 689-1395
and 140 E. Division Street, Suite A-5
Oak Ridge, TN 37830, 483-4513
Description: Environmental and engineering systems for air quality monitoring, hazardous waste management, ground water management, etc., for coal and nuclear energy industry.
Comments: Has only had need of technical writer once; hired on contract.

Ernst and Young
Plaza Tower, Suite 1526
Knoxville, TN 37929
637-4161
Description: Accounting, auditing, bookkeeping.

FBF Nuclear Containers
1201 Hilton Road
Middlebrook Industrial Park
Knoxville, TN 37921
584-1868

Description: Manufactures type A and B nuclear containers.

Ferraro, Oliver, and Associates, Inc.
9724 Kingston Pike, #901
Knoxville, TN 37922
691-9728

Description: Consulting in power electronics and motor applications.

Comments: Company president does his own report writing.

FI-Shock, Inc.
5360 National Drive
Knoxville, TN 37914
524-7380

Description: Produces electrical equipment and supplies.

Flynt Engineering
2125 University Avenue
Knoxville, TN 37921
546-5800

Description: Engineering services.

Comments: Engineers write their own specifications.

Focus Environmental
9050 Executive Park Drive
Knoxville, TN 37923
694-7517

Description: Environmental engineering consulting.

Comments: Engineers write their own specifications.

Fox Environmental Services
2501 Byington Beaver Ridge
Knoxville, TN 37931
691-9282

Description: Environmenal engineering consulting.

Comments: Staff does its own writing.

Geraghty and Miller, Inc.
255 S. Tulane Avenue
Oak Ridge, TN 37830
481-3000
Description: Environmental consulting.

Gilbert/Commonwealth, Inc.
Oak Ridge Tech Center I
1055 Commerce Park Drive, Suite 200
Oak Ridge, TN 37830
482-1434
Description: Engineering consulting and construction services.

Gutierrez-Palmenberg, Inc.
1962 Oak Ridge Turnpike
Oak Ridge, TN 37830
482-2700
Description: Environmental consulting.

HNU Systems, Inc.
1003 Larsen Drive
Oak Ridge, TN 37830
482-2444
Description: Makes an X-ray fluorescence analyzer and a microanalysis product that is an accessory to scanning electron microscopes.
Comments: All technical writing done out of Newton, MA office.

Harding-Lawson Associates
255 S. Tulane Ave.
Oak Ridge, TN 37830
483-8172
Description: Engineering consulting.

Hart Graphics
215 Center Park Drive, Suite 800-B
Knoxville, TN 37923
675-1600
Description: Graphic arts services.

Hertel Cutting Technologies, Inc.

Commerce Park

1000 Clearview Court

Oak Ridge, TN 37830

481-6000

Description: Manufacturer of metalworking tools, specifically carbide inserts and wear parts.

Hewlett Packard Company

725 Pellissippi Pkwy.

Pellissippi Center

Knoxville, TN 37932

966-4747

Description: Sales and service of Hewlett-Packard equipment.

Hillco Engineering Services

1948 Oak Ridge Turnpike

Oak Ridge, TN 37830

482-4950

Description: Engineering consulting.

Hillsdale Industries

5049 S. National Drive

Knoxville, TN 37914

637-1711

Description: Manufacture of plastics products.

Human Machine Interfaces, Inc.

3620 Woodlawn School Road

Knoxville, TN 37920

531-6041

Description: Human machine interface research and design.

Comments: Currently a one-person business.

I & I Industrial Sales

120 Westlook Circle

Oak Ridge, TN 37830

483-8581

Description: Sales of corrosion-resistant coatings.

ICF Information Technologies
(combines ICF Kaiser and Chartway Technologies)
685 Emory Valley Road, Suite B
Oak Ridge, TN 37830
483-4812

Description: Engineering and remedial services for waste management industry.

Comments: Engineers are currently doing their own writing; may employ technical editor if business continues to grow.

IMT Corp.
6700 Baum Drive, Suite 21
Knoxville, TN 37919
584-0148

Description: Automation engineering consultants and mechanical design engineering services.

Comments: Manufacturing business; no need of technical writers.

IPS, Inc.
P.O. Box 1216
Oak Ridge, TN 37830
482-2490

Description: Sales and service of office equipment.

Infinite Options, Inc.
Fairway Technology Center
11020 Solway School Road, Suite 101
Knoxville, TN 27931
927-5871

Description: Optical laser and school administrative software development.

Comments: This is mainly a software research and development company; staff writes its own documentation.

Information Management Services, Inc.
105-B Broadway
Oak Ridge, TN 37830
482-3243

Description: Technical writing for the Department of Energy's database.

Comments: Despite this description, these people said they had no technical writers.

Injectech Corp.
7126 Commerce Park Drive
Knoxville, TN 37918
922-2467
Description: Plastics products.

Instrument and Technical Systems, Inc.
501 Lafayette Drive, #402
Oak Ridge, TN 37831
483-5715
Description: Manufacturer's representative and distributor for control systems.

Integrated Computer Systems, Inc.
215 S. Rutgers Avenue
Oak Ridge, TN 37830
482-1999
Description: Consulting in hardware/software integration and systems development.

JCL Clinical Research Corporation
5433 Strawberry Plains Pike
Knoxville, TN 37914
546-0654
Description: Manufacture of in-vitro laboratory devices, immune diagnostic test kits for use in hospital and research facilities.

JAYCOR
701 Scarboro Road
Oak Ridge, TN 37830
483-8022
Description: Advanced technology research and development and systems for defense to government and industry.

KCG and Associates
100 Tulsa Road
Oak Ridge, TN 37830
482-5825
Description: Machine design, specializing in automated manufacturing systems, CAD and plotting services.
Comments: KCG had provided technical writing services as well as CAD services; it is now dropping those services and concentrating on software development.

Kaatz, Binkley and Jones Architects, Inc.
2128 Clinch Avenue
Knoxville, TN 37916
637-4156

Description: Architectural services.

Comments: Architects do any writing that is required.

Knox International Corporation
505 Market Street, 7th Floor
Knoxville, TN 37902
521-5669

Description: Direct marketing for Michigan Bulb's products.

Laboratory Balance and Microscope Service
203 Scenic Drive
Oak Ridge, TN 37830
483-9652

Description: Maintains and cares for balances and microscopes.

LanoCare Laboratories, Inc.
1670 Oak Ridge Turnpike
Oak Ridge, TN 37830
481-3224

Description: Produces pure lanolin products.

Laser Precise, Inc.
127 Perimeter Park, Suite D
Knoxville, TN 37922
531-8016

Description: Application of laser technology to cut steel and other metals.

Comments: Employees do whatever writing is required.

Law Engineering, Inc.
1725 Louisville Drive
Knoxville, TN 37921
588-8544

Description: Engineering services.

Comments: Engineers write their own specifications.

Listen, Inc.
P.O. Box 8727
Knoxville, TN 37996-4800
523-0969

Description: Design and fabrication of electro-acoustical devices for personal hearing problems or foreign language training.

Machine Kinetics Corp.
10628 Dutchtown Road
Knoxville, TN 37932
675-3337

Description: Machine building, engineering, design, and drafting services.

Comments: Engineers write their own specifications.

Magnatron, Inc.
316 Nancy Lynn Dr., Suite 17-B
Knoxville, TN 37919
584-0980

Description: Remarkets IBM products

Comments: Once used a technical writer on contract for documentation, but those services are no longer needed.

Mantech Services Corp.
661 Emory Valley Road, Suite B
Oak Ridge, TN
481-0061

Description: Consultants on computer security.

Comments: Person who does research also does whatever writing is required.

Manufacturing Sciences Corp.
804 Kerr Hollow Road
Oak Ridge, TN 37830
481-0455

Description: Products from depleted uranium, beryllium, and other specialty metals.

Mark III Machining, Inc.
111 Newhaven Road
Oak Ridge, TN 37830
482-4367

Description: Construction of models, prototypes, and special products in various scientific fields, such as robotics, instrumentation, and lab equipment.

Materials Engineering and Testing Corp.
125 Valley Court
Oak Ridge, TN 37830
482-7762

Description: Engineering and testing in fields of metallurgy and chemistry.

Matsushita Electronic Components Company
5105 South National Drive
Knoxville, TN 37914
673-0700

Description: Manufacturer of electrolytic capacitors and components for audio speakers.

Maxima Corp.
107 Union Valley Road
Oak Ridge, TN 37830
483-7010

Description: Information management company.

Comments: Maxima no longer has technical writers or editors on staff; they followed a contract to Labat-Anderson.

McCampbell and Young
2021 Plaza Tower
Knoxville, TN 37929
637-1440

Description: Attorneys at law.

Med Images
9050 Executive Park Drive, #C-110
Knoxville, TN 37923
694-7501

Description: Provides full color digital documentation to the medical field.

Comments: Contact described this as a medical transcription service and said it had no need of technical writers or editors.

Michigan Bulb Company (Knox Greenhouse)
100 Agronomy Road
Oak Ridge, TN 37830
482-9869

Description: Greenhouses.

Micomp, Inc.
5441 Rucker Street
Knoxville, TN 37821
588-3281

Description: Retailers of micro and mini computer systems

Microwave Materials Technologies, Inc.
135 Valley Court
Oak Ridge, TN 37830
481-3042

Description: Manufactures and markets microwave processing equipment.

Modine Manufacturing Co.
5050 S. National Drive
Knoxville, TN 37914

Description: Manufacturer of auto air conditioning condensers and evaporators.

ModuFil, Inc.
201 Sherlake Drive
Knoxville, TN 37923
691-3878

Description: Manufactures filtration devices for work places.

Mor-Flo Industries, Inc.
5300 National Drive
Knoxville, TN 37914
525-7733

Description: Metals manufacturing service center.

National Plastic Co.
Alcoa Highway
Knoxville, TN 37901
970-2842

Description: Custom compounding of purchased resins and color concentrates.

National Psychopharmacology Laboratory
9320 Park West Blvd.
Knoxville, TN 37923
690-8101

Description: Assay blood levels of psychopharmacologic drugs.
Comments: Lab director writes own procedures.

Niblick and Company
9040 Executive Park Drive
Knoxville, TN 37923
691-6778

Description: Organizational assessment and development, training programs for high-technology firms.

Norris Software Systems, Inc.
8201 Courtland Drive
Knoxville, TN 37909
693-3132

Description: Software products for personal computers and workstations.
Comments: Developers write their own documentation.

North American PDTs Corp.—Precision Disc
5055 S. National Drive
Knoxville, TN 37914
525-1111

Description: Machine tool and die shop.

Nuclear Energy Services, Inc.
683 Emory Valley Road, Suite A
Oak Ridge, TN 37830
482-5177

Description: Environmental consulting.
Comments: Oak Ridge location is a field office; technical writers are employed at corporate office in Danbury, CT.

Nuclear Lead Co., Inc.
P.O. Box 532
Oak Ridge, TN 37831-0532
483-8718

Description: Lead products and radiation shielding.

Ogden Environmental (formerly ERCE)
800 Oak Ridge Turnpike, Suite 103
Oak Ridge, TN 37830
481-8002

Description: Consulting and engineering firm offering environmental and technical energy services.

Comments: Ogden's Pellissippi Parkway location employs technical communicators.

Omega Plastics Corp.
Beaver Creek Drive
Knoxville, TN 37912
938-2081

Description: Custom compounding of purchased resins and color concentrates.

Ordela, Inc.
139 Valley Court
Oak Ridge, TN 37830
483-8675

Description: Manufacturer of radiation detection instrumentation.

Comments: Any technical writing/editing is done by engineers or staff.

Oxyrase, Inc.
Fairview Technology Center
11020 Solway School Road, Suite 108
Knoxville, TN 37931
927-6540

Description: Biotechnology—specifically an enzyme system that selectively and efficiently reduces oxygen to water.

Comments: President does technical writing because this is such a small (three-person) company.

PB & S Chemical Co., Inc.
1705 Boone Street
Knoxville, TN 37917
523-7171

Description: Chemicals and allied products.

P & S Engineered Plastics, Inc.
2661 Byington Solway Road
Knoxville, TN 37931
691-0516

Description: Manufactures plastic products.

ppm Enterprises, Inc.
11428 Kingston Pike
Knoxville, TN 37932
966-8796

Description: Commercial, geophysical, meterological instruments.

Parsons/Main
111 Union Valley Road
Oak Ridge, TN 37830
481-8690

Description: Environmental engineering and consulting.

Comments: Parsons/Main is a Pasadena-based company. This one-person office was established because the company is involved with a joint project with Ebasco Services, Inc.

Patent Plastics
638 Maryville Pike
Knoxville, TN 37920
573-5411

Description: Manufactures plastic products.

Pathway Bellows, Inc.
115 Franklin Road
Oak Ridge, TN 37830
483-7444

Description: Design and fabrication of industrial expansion joints.

Comments: Product managers and engineers write their own specifications and articles.

Pellissippi High Tech Supply
124 Perimeter Park
Knoxville, TN 37922
691-0072

Description: Industrial supplies.

Phoenix Engineering, Inc.
100 Tulsa Road, Suite 7
Oak Ridge, TN 37831
482-6116
Description: General contractor.

Plexco
10420 Lexington Drive
Knoxville, TN 37933
966-5822
Description: Produces plastic piping.

Precision Instruments, Inc.
1900 N. Winston Road
Knoxville, TN 37939
690-5608
Description: Design and manufacturing of scientific instruments for research.
Comments: Respondent said there is no need of technical writers or editors because the company's emphasis is on design and manufacturing.

Prime Technologies, Inc.
10330 Technology Drive, Suite 12
Knoxville, TN 37932
966-0066
Description: Machine shop specializing in laser technology.

Process Applications, Inc.
209 Connors Circle
Oak Ridge, TN 37831
482-1608
Description: Design and consulting, vacuum technology, and leak detection.

QCI, Inc.
379 Warehouse Road
Oak Ridge, TN 37831
483-6498
Description: Market and manufacture quality control instruments for the electroplating and *NDT industries.
Comments: Company president writes his own proposals.

Quadrex Recycle Center
109 Flint Road
Oak Ridge, TN 37830
482-5532

Description: Decontamination services and recycling of nuclear components and materials.

Quality Computers (formerly AQ Enterprises, Inc.)
201 Center Park Drive, #1150
Knoxville, TN 37922
675-1022

Description: Data processing and preparation.

Quality Development, Inc.
1107 Oak Hollow Road
Knoxville, TN 37932
691-3779

Description: Implements Total Quality Management programs and develops training courses.

Comments: Systems analysts do limited writing.

Qualteq, Inc.
9041 Executive Park Drive, Suite 500
Knoxville, TN 37923, 539-6300
Oak Ridge Lab:
124 Mitchell Road
Oak Ridge, TN 37830, 483-8387

Description: Physical and chemical testing for hazardous wastes.

RJO Enterprises, Inc.
681 Emory Valley Road, Suite A
Oak Ridge, TN 37830
482-5000

Description: Telecommunications and information systems.

Comments: One-person staff.

REMOTEC, Inc.
114 Union Valley Road
Oak Ridge, TN 37830
483-0228

Description: Designs equipment to handle and process radioactive materials.

Ridge Metals, Inc.
121 Flint Road
Oak Ridge, TN 37830
482-1704

Description: Precision machine shop specializing in high-technology applications.

Robertshaw of Tennessee
2318 Kingston Pike
Knoxville, TN 37919
546-0550

Description: Manufactures temperature and pressure controls.
Comments: In-house advertising department produces brochures.

Rohm and Haas, Inc.
730 Dale Avenue
Knoxville, TN 37921
521-8200

Description: Plastics materials and resins.
Comments: Local branch is strictly a production facility.

Rotocast Plastics of Tennessee, Inc.
5061 S. National Drive
Knoxville, TN 37914
522-9902

Description: Fabricates plastic products.

Safety and Reliability Optimization Services, Inc. (SAROS)
170 Market Place Blvd.
Knoxville, TN 37922
693-6941

Description: Consulting engineers to the chemical and nuclear industries, providing analysis for improving plant safety.
Comments: Engineers do whatever writing is required.

Schaffer Engineering
P.O. Box 10686
Knoxville, TN 37939-0686
531-1010

Description: Microprocessor consulting, software, design and fabrication of electronics components.
Comments: Three-person company; writing done by staff.

Seehuus Associates
1966 Oak Ridge Turnpike
Oak Ridge, TN 37830
483-5605

Description: Management and technical consulting.

Sigma Science, Engineering, and Technology Applications Corp.
901 Oak Ridge Turnpike, Suite 19
Oak Ridge, TN 37830
482-4950

Description: Engineering services.

Comments: No technical writers/editors on Oak Ridge staff; may have technical writers/editors in Decatur, AL office.

Smith Wilbur Associates
5401 Kingston Pike
Knoxville, TN 37902
584-8584

Description: Engineering services.

Southeastern Data Systems
1016 Weisgarber Road, #110
Knoxville, TN 37909
584-1507

Description: Resells computer hardware and software

Comments: There are no technical writers or editors per se. Manuals are done at the corporate home base. One person does do desktop publishing.

Southeastern Telecom
6701 Baum Drive, Suite 230
584-7777

Description: Telephone interconnect sales and service.

Southern Testing Services
10627 Lexington Drive
Knoxville, TN 37932
966-5330

Description: Provides environmental stress testing and services to the nuclear and defense industries.

Comments: Engineering staff does writing.

S.M. Stoller Corp.
100 Adams Lane
Oak Ridge, TN 37830
482-2120

Description: Environmental and waste management engineering consulting.

Comments: Technical writers work out of Boulder, CO office; Oak Ridge office may begin employing a technical writer sometime in the future.

Stone and Webster Engineering Corp.
702 S. Illinois Ave., S-B104
Oak Ridge, TN 37830
482-6171

Description: Construction management services.

Summitec
675 Emory Valley Road
Oak Ridge, TN 37830
482-6460

Description: Engineering services and management consulting.

Sun Coal Co.
4711 Kingston Pike
Knoxville, TN 37939
558-0300

Description: Supplier of subbituminous coal and lignite.

SunTrust Services Corp.
7005 Middlebrook Pike
Knoxville, TN 37900
558-6700

Description: Data processing for banks.

Comments: No one on local staff does writing; company advertising comes from Florida.

Supercom
3208 Valley Forge Drive
Knoxville, TN 37920
573-0766

Description: Consulting for supercomputer and new parallel architectures.

Comments: Business consists of one person and consultants; the owner does her own technical writing.

Synergistic Applications, Inc.

127 Newport Drive
Oak Ridge, TN 37830
483-4835

Description: Development of commercial science/engineering software for the Apple Macintosh.

Comments: This is a small company; staff does any writing required.

Systems Research and Applications Corp.

225 S. Tulane Avenue
Oak Ridge, TN 37830
481-8100

Description: Telecommunications; crisis management; systems analysis, design, and integration; logistics; information systems.

TMA/Eberline

601 Scarboro Road
Oak Ridge, TN 37830
481-0683

Description: Health physics services, repair and calibrate nuclear detection instrumentation.

TEC-COM

Fairview Technology Center
11020 Solway School Road
Knoxville, TN 37931

Description: Specializes in technical communication through publications and exhibits.

Comments: The company president does technical writing and editing, with help from a writer in Houston, TX.

Tech-Con Corp.

835 Innovation Drive, #100
Knoxville, TN 37932
675-0141

Description: Maker of process-control systems for dairy food, pharmaceutical, and other food-related industries.

Techmer PM Tennessee
1 Quality Circle
Oak Ridge, TN 37830
457-6700

Description: Manufacturer of custom colorants and additives for plastics and plastics.

Telephone and Data Systems, Inc.
725 Pellissippi Pkwy., Suite 230
Knoxville, TN 37932
966-4700

Description: Telecommunications company.

Comments: Main office in Madison, WI may have technical writers.

TeleRobotics International, Inc.
7325 Oak Ridge Hwy., #104
Knoxville, TN 37931
690-5600

Description: Real-time interaction of humans and machines for performing object and data manipulation.

Comments: Programmers do whatever writing is required.

Tele-Sys, Inc.
138 Fairbanks Road
Oak Ridge, TN 37830
482-2140

Description: Telecommunications services.

Tenera, L.P.
308 N. Peters Road, Suite 280
Knoxville, TN 37922
531-0806

Description: Environmental and nuclear engineering consulting.

Comments: Formerly there was a person who reviewed documents for accuracy and correctness.

Tennessee Innovation Center
1055 Commerce Park Drive
Oak Ridge, TN 37830
482-2440

Description: Provides start-up capital through investments in new companies in Oak Ridge area. Companies surveyed under TIC "umbrella" include EOL, Barrier, and Chemrad; none have technical writers/editors on staff.

Tennessee Technology Foundation
P.O. Box 23184
Knoxville, TN 37933-1184
694-6772

Description: Encourages high-technology economic development in Tennessee.

Tennessee Tool and Engineering, Inc.
741 Emory Valley Road
Oak Ridge, TN 37830
483-6334

Description: Precision machining of production parts.

Tetra Technologies (formerly CSA, then Lake Industries)
140 Mitchell Road
Oak Ridge, TN 37831
483-7424

Description: Waste treatment equipment, chemical processing equipment.

Thermocopy of Tennessee
P.O. Box 10655
Knoxville, TN 37939
524-1124

Description: Sales and service of Minolta and Ricoh copiers and 3M audio-visual products; supplies and service for all products.

Comments: Someone does limited procedure writing, but his title is not technical writer and his primary responsibility is not writing.

Tice Engineering and Sales
6711 Maynardville Hwy.
Knoxville, TN 37918
922-7501

Description: Sewing machine industry machinery.

Titan Corporation
671 Emory Valley Road
Oak Ridge, TN 37830
482-6440

Description: Systems engineering, systems integration, and management information systems.

Comments: Titan employed someone to do technical editing, but has laid that person off.

Turtle Mountain Communications, Inc.
Fairview Technology Center
11020 Solway School Road, #110
Knoxville, TN 37931
927-5403

Description: Systems research developer, retailer, manufacturer, and integrator of command, control, communications, computers and intelligence information mission area systems.

Comments: One person edits technical manuals, but this is one of many duties.

Tutor Toys, Inc.
10619 Dutchtown Road
Knoxville, TN 37932
671-2000

Description: Manufacturer of educational toys.

Ultra Tech Extrusions of Tennessee
300 Industrial Park Drive
Oak Ridge, TN 37830
426-2862

Description: Company representative would not release.

Union Carbide Industrial Gases
200 Liberty Street
Knoxville, TN 37919
524-3626

Description: Chemicals and allied products.

United Engineers, Inc.
9111 Cross Park Drive
Knoxville, TN 37923
690-8610

Description: Full service engineering and design, serving chemical process, steel and metals, and nuclear and fossil power generation industries.

Comments: There are technical writers/editors at other corporate locations; not in Knoxville office.

U.S. Department of Energy
Office of Scientific and Technical Information
175 Oak Ridge Turnpike
Oak Ridge, TN 37830
576-2268

Comments: Technical writing done on contract through Labat-Anderson.

VWR Scientific
72 Mitchell Road
Oak Ridge, TN 37830
481-0874

Description: Sales and distribution of lab supplies and chemicals for research and development.

Vacuum Technology of Tennessee
133 Valley Court
Oak Ridge, TN 37830
481-3342

Description: Manufactures mass spectrometers.

Valmet-Enerdry
2200 Sutherland Ave.
Knoxville, TN 37919
525-6990

Description: Engineering services.

Vinylex Corp.
2636 Byington-Solway Road
Knoxville, TN 37931
690-2211

Description: Plastics materials and resins.

Vreeland Associates
200 Daylight Bldg.
Knoxville, TN 37902
637-4451

Description: Engineering services.

Comments: Engineers write their own specifications.

Wagner CNC, Inc.
4610 Coster Road
Knoxville, TN 37912
688-4992

Description: Heavy industrial machinery.

Wastech, Inc.
114 Tulsa Road
Oak Ridge, TN 37830
483-6515

Description: Waste management and waste process disposal.

Comments: Company president does writing and editing.

Webster Engineering and Machining
386 Warehouse Road
Oak Ridge, TN 37830
481-3330

Description: Fabricates metallic components.

West Miller Welch Engineers
5417 Ball Camp Pike
Knoxville, TN 37921
588-2431

Description: Engineering services.

Comments: Engineers write their own specifications.

Westinghouse Environmental and Geotechnical
255 N. Peters Road, Suite D
Knoxville, TN 37923
690-1100

Description: Consulting engineering including environmental, geotechnical, asbestos, and construction inspection and testing.

Comments: Staff does its own writing.

Weston, Roy F., Inc.
704 S. Illinois Ave., Suite C-102
Oak Ridge, TN 37830
483-7756

Description: Environmental engineering management services. Waste water treatment and waste management.

Wilson and Associates, Inc.
P.O. Box 391
Oak Ridge, TN 37831-0391
482-9442

Description: Resell scientific and laboratory supplies to government and subcontractors.

Windrock Inc.
154 Fairbanks Plaza
Oak Ridge, TN 37830
481-0572

Description: Research and development of instrumentation for electrical uses.

Xerox Corp.
320 N. Cedar Bluff Road
Knoxville, TN 37923
690-4071

Description: Sales and service of Xerox equipment.

APPENDIX C

Addresses and Descriptions Businesses Outside Knoxville-Oak Ridge That Do Not Employ Technical Communicators

Anderson County (Outside Oak Ridge)

Becromal of America, Inc.

350 J.D. Yarnell Industrial Parkway

Clinton, TN 37716

457-8914

Description: Processes aluminum foil used in electrolytic capacitors.

DH Compounding Company

1260 Carden Farm Drive

Clinton, TN 37716

457-1200

Description: Producers of customized thermoplastic resins.

Eagle Bend Manufacturing, Inc.

1000 Yarnell Industrial Parkway

Clinton, TN 37716

457-3800

Description: Metal stamping facility for automotive industry.

Easter Surveying and Mapping Company

119 Charles Seviars Blvd., Suite 204

Clinton, TN 37716

457-9237

Description: Surveying services.

P.T. Components, Inc.

Link Belt Bearing Division

Eagle Bend Industrial Park

Clinton, TN 37717

Description: Manufactures auto bearings.

Up-Link, Inc.

406 Davis Circle

Clinton, TN 37716

457-0748

Description: Engineering services.

Comments: Company president's wife does all technical writing.

Visicon, Inc.

1904 Emory Road, NW

Powell, TN 37849

938-8344

Description: Photographic equipment and supplies.

Blount County

American Continental Techlabs, Inc.

1626 Robert C. Jackson Street

Maryville, TN 37801

984-8701

Description: Cleaning supply company.

American Limestone Company

Little Brook Industrial Park

P.O. Box 2389

Maryville, TN 37801

984-5901

Description: Ready-mixed concrete.

Anderson Truss Company, Inc.

780 Louisville Road

P.O. Box 33

Alcoa, TN 37701

983-9485

Description: Fabricated structural wood products.

B-TEC

Rt. 11, Box 7

Maryville, TN 37801

982-6750

Description: Manufacture and market Africanized bee detectors.

Bendix Safety Restraints Group
1644 Mustang Drive
Maryville, TN 37801
984-5007

Description: Motor vehicle parts and accessories.

Brown Truss Company
Wilkerson Pike
Route 5, Box 1
Maryville, TN 37801
982-0768

Description: Fabricated structural wood products.

DCS Electronics
3494 Northcross Drive
Alcoa, TN 37701
982-9517

Description: Instrument and control system design, commissioning, and installation.

Comments: One person edits and revises documentation along with other duties.

Hurst Tool and Engineering
919 Foch Street
Alcoa, TN 37701
984-1579

Description: Special dies and tools, die sets, jigs, and fixtures.

Comments: Managers do any writing necessary.

Industrial Commutator Company, Ltd.
1620 Robert C. Jackson Street
Maryville, TN 37801
983-7444

Description: Integral motor generator sets.

Infotech
210 W. Church Avenue
Maryville, TN 37801
983-8529

Description: Software development and specialized computer systems.

Comments: Company president does his own documentation.

Montgomery Associates, Inc.
253 Lindsay Street
Alcoa, TN 37701
982-1951
Description: Manufacturing engineers.

National Electric Coil Division, Magnatek
73 Hall Road
P.O. Box 480
Alcoa, TN 37701
983-5550
Description: Power and distribution transformers.

Neo Industries, Incorporated
Highway 321
Maryville, TN 37801
982-0008
Description: Electroplating, plating, polishing, anodizing.

S & S Industries, Inc.
Cusick Road, Little Brook Industrial Park
P.O. Box 1360
Maryville, TN 37802
970-3097
Description: Manufactures reinforced and fiberglass plastics products.

Schlegel Technical Center, Inc.
2200 Stock Creek Blvd.
Rockford, TN 37853
977-0116
Description: Specializes in researching and developing new products for the automotive sealing industry.

Schlegel Tennessee, Inc.
1713 Henry G. Lane Street
Maryville, TN 37801
984-7600
Description: Manufactures rubber mechanical goods for automotive industry.

Scintillation Technologies Corporation
1704 Henry G. Lane Street, #C
Maryville, TN 37801
983-5123

Description: Service and sales of first pass nuclear angiocardioqram diagnostic equipment to cardiologists and hospitals.

Southeastern Energy, Inc.
Route 1, Louisville Road
P.O. Box 236
Louisville, TN 37777
995-2172

Description: Distributor of industrial explosives.

Spec-Mat Technologies, Inc.
1714 Triangle Park Drive
Maryville, TN 37801
977-6192

Description: Communications systems and equipment.

Comments: This is a local branch of an English company; all writing is done from corporate offices in England.

TACL Manufacturing, L.P.
1626 Mustang Drive
Maryville, TN 37801
982-5999

Description: Manufactures polymer thick film circuitry.

Vertiflite, Inc.
1503 Old Mountain Tabor Road
Maryville, TN 37801
982-3960

Description: Helicopter maintenance and operating, including training.

Hamblen County

BASF Corporation, East Tennessee
Hwy. 160
Lowland, TN 37778
586-3110

Description: Manufactures non-cellulosic organic fibers.

Camvac Intl. Inc.
5705 Commerce Blvd.
Morristown, TN 37814
586-5021
Description: Manufactures coated and laminated paper.

Crain Industries, Inc.
116 Dice Street
Morristown, TN 37814
581-0493
Description: Fabricates foam.

Foamex LP
1806 Gluck Road
Morristown, TN 37813
581-8350
Description: Fabricates rubber products.
Comments: There are four plants in Morristown.

Form Rite
5961 Commerce Blvd.
Morristown, TN 37814
345-2383
Description: Fabricates rubber products.

General Electric Company
5320 East Morris Blvd.
Morristown, TN 37816
581-0307
Description: Switchgear and switchboard apparatus.

Graco WR and Company, Inc.
5700 Commerce Blvd.
Morristown, TN 37814
586-4441
Description: Manufactures printing trades machinery.

Helm Corporation
5350 Jeffrey Lane Industrial Park
Morristown, TN 37815
581-1703
Description: Tool and die shop.

Howmet Corporation
5650 Commerce Blvd.
Morristown, TN 37814
587-4910

Description: Manufactures turbine and turbine generator sets.

Mahle, Inc.
Hwy. 11-E and Cedar Creek Road
Morristown, TN 37814
581-6603
Description: Manufactures pistons.

Morristown Printing Company, Inc.
1135 West Morris Blvd.
Morristown, TN 37815
586-4812
Description: Offset printing.

Pioneer Plastics Corporation
325 Desota Avenue
Morristown, TN 37813
587-1842
Description: Manufactures plastics plate and sheet.

RPN Inc.
908 Cherokee Drive
Morristown, TN 37814
586-8663
Description: Manufactures industrial machinery.

Rockwell International Corporation
1 Rockwell Drive
Morristown, TN 37813
587-2290
Description: Manufactures motor vehicle parts.

Toyota TRW Auto, Inc.
5932 Commerce Blvd.
Morristown, TN 37814
585-0999
Description: Manufactures power steering parts.

Tuff Torq Corporation
5943 Commerce Blvd.
Morristown, TN 37814
585-2000

Description: Manufactures lawn and garden equipment.

Jefferson County

American Limestone Company
Coy Stone Plant, Hwy. 11-E
Jefferson City, TN 37760
475-8943

Description: Crushed and broken limestone plant.

Asarco, Inc. (American Limestone)
Old Andrew Johnson Hwy.
P.O. Box 98
Mascot, TN 37806
933-3461

Description: Crude lead and zinc ores.

Five Rivers Hydraulics, Inc.
Route 2, Box 1
New Market, TN 37820
475-4731

Description: Fabricated pipe and pipe fittings.

Rittenhouse Company
Rittenhouse Road
P.O. Box 407
Jefferson City, TN 37760
475-9027

Description: Manufactures paper coated and laminated products.

Comments: All writing done from corporate office in San Francisco.

U.S. Slate and Marble
100 Marble Road
Jefferson City, TN 37760
475-4762

Description: Manufactures building stone, monumental stone, marble products.

USX Corporation Zinc Mine
Highway 11-E
P.O. Box 632
Jefferson City, TN 37760
475-2231
Description: Lead and zinc ore mine.

Loudon County

Diversified Scientific Services, Inc.
P.O. Box 863
Kingston, TN 37763
376-0084
Description: Waste management and decontamination services.

Greenback Industries, Inc.
6621 Hwy. 411 South
Greenback, TN 37742
856-3021
Description: Manufactures non-ferrous metal powders.

Johnson City Chemical Company, Lenoir Division
P.O. Box 608
Lenoir City, TN 37771
986-6545
Description: Mixed fertilizers.

Liquid Carbonic Corporation
P.O. Box 345
Loudon, TN 37774
458-5402
Description: Industrial gases.

Maremont Corporation
Loudon Industrial Park
Loudon, TN 37774
458-4681
Description: Motor vehicle mufflers.

Metal Resources, Inc.
Blair Bend Industrial Park
P.O. Box 386
Loudon, TN 37774
458-2007
Description: Secondary nonferrous metals.

Monterey Mushrooms
Hwy. 72
P.O. Box 324
Loudon, TN 37774
458-4611
Description: Food crops.

Olympic Metals, Inc.
Blair Bend Industrial Park
P.O. Box 446
Loudon, TN 37774
458-5625
Description: Steel processing company.

PDQ Metals
301 Bussell Ferry Road
P.O. Box 879
Lenoir City, TN 37771
986-0151
Description: Processes metals.

Quazite Corporation
3621 Industrial Drive
Lenior City, TN 37771
986-9726
Description: Manufactures polymer concrete.
Comments: Engineers and sales staff write their own specifications.

Scientific Endeavors Corporation
508 N. Kentucky Street
Kingston, TN 37763
376-4146
Description: Software development and sales.

A.E. Staley Manufacturing
Blair Bend Industrial Park
Route 3, Box 51
Loudon, TN 37774-9499
458-5681

Description: Manufactures corn sweeteners, ethyl alcohol.

Visicase Corporation
E. Lee Hwy.
P.O. Box 486
Loudon, TN 37774
458-2071

Description: Manufactures consumer plastics products.

Comments: The company has employed technical writers in the past, but laid them off during cutbacks. They have no plans to re-hire.

Vytron Corporation
Carding Machine Road
P.O. Box 279
Loudon, TN 37774
458-4625

Description: Manufactures building and construction products.

Sevier County

Activated Metals and Chemicals, Inc.
Industrial Park
P.O. Box 32
Sevierville, TN 37862
453-7177

Description: Industrial inorganic chemicals.

The Arnold Engineering Company
310 Walnut Grove Road
Sevierville, TN 37862
453-9071

Description: Porcelain electrical supplies.

Electro-Voice, Inc.
1201 Dolly Parton Parkway
Sevierville, TN 37862
453-5563

Description: Manufactures microphones.

Comments: Corporate office in Michigan handles all technical writing and editing.

Emco-Williams, Inc.
1031 Chapman Hwy.
Sevierville, TN 37862

Description: Building stone, monumental stone, marble products.

Southern Casting Company
502 Dolly Parton Parkway
P.O. Box 4748
Sevierville, TN 37862-4748
453-6151

Description: Aluminum sand casting company.

TRW Fuji Valve Company
Hodsden-Hicks Industrial Park
128 River Bend Drive
Sevierville, TN 37862
453-0199

Description: Manufactures gasoline engines and parts for new motor vehicles.

Vamistor Corporation
144 River Bend Drive
Sevierville, TN 37862
453-0001

Description: Manufacture electronic component parts.

Comments: Vice president of quality assurance writes all specs and engineering change orders.

Wagner Divison, Cooper Industries
Ray L. Reagan Industrial Park
P.O. Box 4650
Sevierville, TN 37864
453-2811

Description: Manufactures halogen light beams and lamps.

APPENDIX D

Mail Survey Questionnaire Cover Letter

THE UNIVERSITY OF TENNESSEE
KNOXVILLE

April 22, 1992

Dear Senior Technical Communicator:



Department of
English

Technical communication is a fast-growing career field. The Society for Technical Communication (STC) estimates that there are currently more than 100,000 technical communicators in the United States. As reports of our field's growth are publicized, more and more people seek to enter it.

People who are interested in becoming technical communicators would benefit from knowing where the jobs are in their area, what skills are required, and what tasks technical communicators are commonly asked to perform. For my master's thesis in technical communication at the University of Tennessee, Knoxville, I am compiling this information for the Knoxville-Oak Ridge area. The project director is Dr. Michael Keene, head of the technical communication program.

Your business's name was selected from a list of area businesses that are known to employ technical communicators. I compiled this list from a telephone survey in late fall 1991 and early winter 1992. Your responses to the enclosed questionnaire will give prospective technical communicators information about skills they need to develop in order to find employment.

As you can see, this questionnaire asks only about the skills and tasks your job requires. You are not asked to give your name, salary, or any other personal information. I have enclosed several copies of the questionnaire for companies that have more than one technical communicator on staff.

The results of this survey and my earlier telephone survey will be published in my master's thesis, and will be available through the UT Knoxville library.

I would be happy to answer any questions about this research project that you might have. Please write or call. My telephone number is (615) 974-2225.

Sincerely,

A handwritten signature in cursive script, appearing to read "Vicki Johns".

Vicki Johns
Graduate Student

APPENDIX E

Mail Survey Questionnaire

Would you take a few moments to fill out this questionnaire?

Your responses will aid a UT Knoxville research project that seeks to compile information about the technical communication profession for future technical communicators. You do not have to give your name or provide salary or any other personal information. If you have questions about any part of this survey, please call Vicki Johns at 974-2225.

Name of Your Company: _____

1) What is your title? _____

2) How would you classify the industry to which your company belongs? (Please circle letter.)

- a computer software research, development, or manufacturing
- b electronics or telecommunications research, development, or manufacturing
- c waste management and/or removal
- d aerospace/aircraft research, development, or manufacturing
- e consulting or training in specific areas (please write area in which your company specializes) _____
- f other _____

3) What is the highest level of education that you have completed? (Please circle letter.)

- a some college
- b two-year college or technical school
- c college degree
- d some graduate school
- e a graduate degree (specify degree and major) _____

4) What was your undergraduate major? _____

5) What science courses did you take in college? (For example, two years of physics, one year of biochemistry, etc.) _____

6) Since graduating from college, have you taken additional science coursework to help you in your technical communication career? (Please list courses.) _____

7) What tasks do you perform at least once weekly? (Please circle letters of all that apply.)

- a writing
- b editing
- c publications production (layout, design, scheduling, etc.)
- d training
- e supervising/managing
- f other (please specify)_____

8) What computer skills does your job require? (Please circle letters of all that apply.)

- a word processing
- b desktop publishing
- c creation of computer graphics/illustrations
- d computer programming
- e none

9) What types of material do you write, edit, or produce at least once a month?
(Please circle letters of all that apply.)

- a training or user manuals
- b technical specifications
- c procedures
- d proposals
- e brochures/newsletters/marketing material
- f online documentation
- g other (please specify)_____

Please mail your completed questionnaire in the stamped envelope. Thank you for your help!

VITA

Victoria Cherie Johns, the daughter of Allison Slagle and Evelyn Kayler Slagle, was born in Chattanooga, Tennessee on February 17, 1960. She attended elementary and secondary schools in Chattanooga. In 1980 she entered the University of Tennessee, Knoxville. In 1981 she enrolled in the College Scholars program, majoring in English. Her undergraduate awards included the Bonham, Doggett, and Roddy academic scholarships, the Kind German Scholarship, the Alvin H. Nielsen College Scholars Scholarship, and election to Phi Eta Sigma and Phi Beta Kappa. She was top humanities graduate in the College of Liberal Arts in December, 1984.

In 1987 she joined the staff of the UT Knoxville Office of University Communications. She is presently employed as a staff writer for the UT Office of University Relations. In 1988, she became a part-time student in the technical communication program of the English Department at the University of Tennessee, Knoxville. She received the Master of Arts in English in August, 1992.

She has been married to David Johns since 1978, and they have a son, Seth.