Communication or Technology?:

The Technical Communicator's Dilemma

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Communication or Technology?: The Technical Communicator's Dilemma

Introduction

Technical communication students learn both communication and technical skills in most programs. However, these students may run into problems when searching for technical communicator job positions. For example, according to Albers (2005) "a change in employers' hiring over the past 10 years: a shift to an underlying assumption that new graduates can write—after all, they have technical communication degrees" (p. 269). Technical communicators wanting to enter the workforce may find that they do not have the technical skills employers desire.

Researchers have conducted studies to compare the alignment of technical communication curriculum to the skillsets and requirements contained in job advertisements. However, researchers have yet to compare the preferences of job advertisements to the skills, technologies, and tools used by practicing technical communicators. For instance, while a job ad may emphasize technical skills, practicing technical communicators may see themselves valued more for their ability to communicate.

This report plans to examine job advertisements and the views of practicing technical communicators to assist technical communication students in choosing to learn the appropriate skills that will prepare them for the most job opportunities in their future.

This report plans to answer the following question:

Q1: Are technical communicators more valued for their verbal and written communication skills or their technical skills – their knowledge of tools and technologies?

Q2: In communication and technical areas, what skills or tools are most popular and valuable for technical communicators to learn?

The results indicate that technical communicators should learn both communication and technical skills, but ensure they have strong verbal and written communication skills as technical communicators are often more valued for their ability to work with others. Students wanting to go into the workplace should also focus on communication skills such as writing, collaborating, managing, and leading and technical skills such gaining knowledge of general technology and learning Microsoft products, Adobe products, and markup languages.

Methods

This section describes the methods used to obtain primary research sources.

I collected 15 job advertisements for technical communicator job openings and related roles. My selected advertisements were added to a class corpus of over 100 job advertisements. I used Ant Conc, a freeware corpus analysis toolkit for concordance and text analysis, to find the frequency of communication and technical skills.

For communication skills, I searched for terms synonymous to and related to "communication" such words as "communicate," "writing," "verbal," "collaboration," and more. For technical skills, I searched for terms related to technology – PC, iOSs, and Mac – and specific programs such as InDesign, Framemaker, and more. For each term, I checked the word's context to see if it applied to communication or technical skills. For instance, for "writing," I checked that the word was not in the title of a degree name or the title of the job position. I searched through every word on the word list function to find mentions of communication or technical skills. I then categorized these skills based on their area – communication or technical. I calculated the number of words per communication skills and technical skills to find which area job advertisements focus on.

I then searched for practicing technical communicators to interview for the project. I searched for technical communicators who had at least one year of experience. I found two practicing communicators through personal

connections and two others through technical communication groups on Twitter. I created a survey through SurveyMonkey. First, I composed general questions concerning personal and professional information such as name, title, location of employment, and years of experience. I then asked questions concerning the tools they use in their job and what their daily tasks consist of.

I asked the following questions for this section:

- What programs and tools do you use to complete your daily tasks?
- What non-technical skill would you recommend technical communicators possess? Why?

Last, I asked if they felt they were more valued for their technical or communication skills.

I raised the following question:

- Would you say you or other technical writers you know are more valued for technical skills or communication skills? And why?

I examined the responses along with the final calculations from the corpus to reach conclusions.

Results

In this section, I will report the results of my research and surveys.

Communication Versus Technical Skills in Job Advertisements

Many of the job advertisements asked for technical communicators to have both some type of communication and technical skills. Both communication and technical skills had over one thousand mentions in corpus.

Varying communication skills had 1676 references with writing related activities leading with 598 mentions (Table 1). These skills were followed by management skills with 243 references and varying mentions of the word "communicate" (186 references). The communication skills included such skills as the ability to lead, work with teams, communicate with consumers, and translate materials. Table 1 shows each communication skill referenced in the job advertisements. The skills are broken into related words and categories. I chose to only include skills with frequencies of more than 50 in the table.

Table 1: Frequency of Communication Skills in Job Advertisements

Skill	Frequency of Term in Job Ads
Writing/Written/Write/Writers/Rewrite/Grammar/Edit/Copyedit/Proofreader	598
Management/Manage/Oversight/Oversees/Oversee	243
Communication/Communicate/Communicator/Communicating	186
English/Spanish	72
Social	58
Verbal/Verbally/Interpersonal/Personal/Interview/Intrapersonal/Speaking/Speak	112
Leadership/Leading/Led/Leads/Leader/Leaders	94
Member/Peer/Peers/Teamwork/Teammates/Relationship/Colleagues	74

Collaboration/Collaboratively/Collaborative/Collaborates/Coordinating/Connect	58
Total	1676

Technical skills had 1083 references with general references to technology (tech, computer, PC, software) leading the category with 395 mentions (Table 2). References of Microsoft products appeared second most often with 229 references. These skills included knowledge of Word, Excel, PowerPoint, and more. Authoring tools and markup languages ranked third with 152 references. Table 2 shows each technical skills mentioned in the job advertisements. The skills are broken into related words and categories. I chose to only include skills with frequencies of 10 or more.

Table 2: Frequency of Technical Skills in Jobs Advertisements

Skill	Frequency of Term in Job Ads
Microsoft Word/Excel/PowerPoint/Outlook/Visio/SharePoint	229
Technology/Tech/Technologies/Computer/PC/iSO/Software	395
Acrobat/InDesign/Framemaker/Dreamweaver/Photoshop/Captivate/Illustrator/ Robohelp	112
Html/ XML/ Xhtml/MadCap Flare/Authoring tools/CSS	152
Facebook/Twitter/Linkedin/Google/Youtube/Pinterest	83
Wordpress/Wikis	12
Programming/Javascript/Java/API	56
Database	20
Snagit/Camtasia	11
Total	1083

Communication Versus Technical Skills in Responses from Practicing Technical Communicators

Table 3 shows the responses I received from four practicing technical communicators. I asked each individual if they believed they and other technical communicators were more valued for their communication or technical skills.

Each participant mentioned how important it is for technical communicators to have both communication and technical skills. However, while one participant mentioned how both were equal in importance, other participants stated they believed technical communicators are more valued for their communication skills. The participants mentioned the importance of technical communicators to be able to work with and provide feedback to developers and engineers, simplify jargon and technical terms to specific audiences, and more. Even the participant who saw the skills equal mentioned she could not learn new technical skills if not for her ability to communicate.

Table 3: Responses from Practicing Technical Communicators

Participant	Response
Participant#1	N/A
Participant #2	Many technical writers are more valued for technical skills than communication skills because for a lot of people, it takes a long time to learn a new tool effectively. However, I like to think that technical communicators are a special breed. I think the communication skills we bring to the table are more valuable. We help developers/engineers communicate the required information to the end users. Meanwhile, we are able to effectively provide feedback to the developers/engineers.
Participant #3	I wouldn't say one is valued one over the other, and I wouldn't say I use one over the other, either. I use my communication skills to upgrade my technical skills on a daily basis. Without communication skills, your technical skills become outdated.
Participant#4	I would say that, in my experience, technical writers are valued for their communication skills because they can understand the technical terms and jargon but write them in a way that makes sense to non-technical people, which is so important and which is the most important part of technical writing, in my opinion. As a writer, I can write anything and make it concise and understandable to many people, but I also have the ability to work with more technical people and glean from them what they mean to say and then say it in a clearer tone. Having the technical skills is important, but knowing how to transfer that information to the masses is even more important.

Suggested Skills and Tools for Technical Communicators

While communication skills were mentioned more frequently than technical skills, both areas were well-represented.

For communication skills, the results of the corpus suggest technical communicators possess skills in basic writing (598) and management (243). These skill-sets were followed by the ability to verbally communicate with others (112) and lead others (94).

For technical skills, the results of the corpus suggest technical communications obtain skills and knowledge of basic technology –such as how to use computers (395) and Microsoft Office products. These skills were followed by knowledge of markup languages (152) and Adobe products (112).

I also asked the four practicing technical communicators what tools and skills they and what is the most important non-technical skill a technical communicator should have.

Participant 1 listed interviewing skills and the ability to work with teams as the most important non-technical skills for technical communicator. For technical skills, the participant listed she uses Microsoft products such as Word and SharePoint, Adobe products like Acrobat, and XML and related programs like MadCap Flare, MadCap Capture, and MadCap Mimic.

Participant 2 listed the abilities to build relationships and work with subject matter experts as the most important non-technical skills. For technical skills, the participant listed she uses Microsoft products such as Word and Excel, Adobe products like Acrobat and InDesign, and Google products.

Participants 3 listed the ability to work with teams and colleagues as the most important non-technical skill. For technical skill, the participants listed she uses Microsoft products like Word, PowerPoint, and Excel and Adobe products like Acrobat.

Participant 4 listed listening as the most important non-technical skills. For technical skills, the participant listed she uses Word products like Word, PowerPoint, and Outlook and Adobe products like Captivate. The participant also listed Camtasia and Evernote as tools she often uses.

Discussion

The results of this study suggest that technical communicators should be first and foremost communicators. The study found that the job advertisements and participants referenced and mentioned communication skills as the most valuable skills for a technical communicator. According to the results, a student should have strong writing skills as well as be able to communicate verbally as a teammate, as a manager, and a leader.

Rainey & Dayton (2005) also found similar results when they interviewed managers of technical communicators to see what skills they prefer their employees to have. The two found the highest competency included "collaborating with co-workers" (p. 324) and the high competencies in open ended questions to concern "excellent communication skills," "collaborative skills," and "interviewing/people skills" (p. 327). Their research aligns with the current study as communication skills continued to outrank those of technical skills. Likewise, Spyridakis (2015) also suggested technical communication programs should include fundamental courses such as "writing, editing, style, grammar" and "[m]angement and collaboration" to help students find success in both industry and academia (p. 34). Dicks (2010) also references the importance of technical communicators having the ability to communicate. He even mentions employees who successfully communicate products to and with customers are seen as strategic contributors who are important and valued by managers (p. 53)

However, both communication skills and technical skills are still vital to finding a position as a technical communicator in the workplace. Both the job advertisements and participants mentioned the importance technical communicators learning technical skills and specific tools. This study suggest technical communicators learn to use general technologies, Microsoft Office and Adobe products, and markup languages.

Similarly, Spyridakis examined job advertisements to find tool knowledge for technical communicators. She found many positions desire applicants with knowledge of Adobe Framemaker and Creative Suite and HTML, XML, and MadCap Flare. Both Adobe products and markup languages were rank high in this current study. In their study, Rainey and Dayton listed word processing, document-design applications, and desktop publishing software as technical skills managers look for in technical communicators. However, Rainey and Dayton differed in that managers did not find single sourcing skills important to their employees when this study found XML and other markup languages are becoming more important to technical communicators.

While few articles list specific tools and technologies, many researchers, such as Carliner (2010), focus on the importance of technology and technical skills to the field of technical communication. For example, she states that

technology has allowed technical communicators to become "their own designers, illustrators and production assistants … and their own editors" (p. 45-46). Technical skills have and will continue to enable technical communicators to grow in their roles and abilities.

Overall, technical communicators "need to be conversant in all areas with both the technology and communication issues required to properly communicate information to readers" (Albers p. 269). Technical communicators should have knowledge of both skillsets to create and produce products for their audiences.

Limitations

This section will discuss the limitations of the study.

As an entire class gathered the job advertisements to add to the corpus, some students may have focused on specific jobs roles. For example, some students may have focused on careers in social media areas. This preference may have affected the study to include more references to social media than typical job advertisements for technical communicators. Students may have focused on a number of specific areas and roles that may have skewed the results.

My choice of participants may have also limited the results of the study. Half of my participants were from the Oklahoma and Texas area and may not have presented the skills asked of technical communicators from across the country. A larger pool or participants also would have allowed the study to offer more data to ensure that the skills are consistent with most technical communicators in the work place.

Applications

Based on this study, technical communication programs should continue to teach their students both communication and technical skills. While researchers may imply technical communicators need more technical skills, job advertisements and practicing technical communicators suggest students focus on their ability to communicate through verbal and written facets. For instance, the study found employers wants technical communicators who can write and communicate, manage, and lead teams. However, technical communicators should learn the best of both worlds and also gain knowledge and experience of technical tools and programs. For instance, this study finds that technical communicators and job advertisements prefer students be able to use technology, operate Microsoft and Adobe Products, and write and know markup languages.

Future Research

The results of this study may change in as little as a year as the field of technical communication continues to evolve with technology. Similar studies should be conducted at least every year to see how the skills desired of technical communicators and tools they use most often change. Similar studies will help technical communication programs select their curriculum and know which skills and tools to teach their students to prepare them for the workplace. Similar studies will also help students know which courses they should take as well as which skills and tools to learn inside and outside of the classroom.

As for myself, I was surprised to find communication outrank technical skills since some of the researchers emphasized the technical communicator's need to learn technologies and tools. I know technical communicators need knowledge in both areas, but the articles seem to push technical communicators towards gaining technical skillsets. I plan to focus on gaining some knowledge of management practices because I know little of this area. I also plan to try to learn more markup languages and Adobe products – ones that I can at least get my hands on. I hope to be a viable candidate with both communication and technical skills when I begin looking for a position and for job advertisements.

Appendix

Survey Participant's Information

Name	Job Role/Company	Email	Twitter	Contacted for…
Participant #1 Allison Tamplin	Technical Writer at Sabre Corporation	Allison.Tamplin@sabre.com		• Survey • Follow-up questions
Participant #2 Jamie Gillenwater	Owner and Technical Communication Consultant at Transcend Text	jamie.gillenwater@transcendtext.com	@j_gillenwater	• Survey • Follow-up questions
Participant #3 Rose Calloway	Technical Writer at Raytheon	callowayrose@yahoo.com		• Survey • Follow-up questions
Participant #4 Christen Harm	Technical writer at Daiichi Sankyo	christenharm@gmail.com	@puntificating	• Survey • Follow-up questions

I don't have a list of how long I communicated with each individual. I used a survey, so it would be easier on both sides – I knew these people would probably be busy with their own work. However, I sent out a survey link to each participant. I then asked each participant multiple follow-up questions until I asked the ones I knew I would be using in the survey.

Survey

1. Please write your full name.

2. What is your job title in your current position?

What company do you work for? (If retired, where have you worked?)

3. How many years of experience do you have in the field of technical communication?

Why did you choose to enter this field?

4. What programs and tools do you use to complete your daily tasks?

5. How would you define digital literacy?

How does it relate to your job as a technical communicator?

6. What do you believe is the most important technical skill that you possess?

Why do you believe this?

7. How valuable is being able to teach yourself new technical skills?

Why?

8. How have you seen the field of technical communication change throughout your career?

Why do you think these changes have occurred?

9. What non-technical skill would you recommend technical communicators possess? (such as problem-solving skills, able to work with teams, etc)

Why?

10. What duties or work flow does a project for you entail?

You may describe a specific project or describe your duties in general.

Survey Results

Participant #1

Q1: Please write your full name.

Allison Leigh Tamplin

Q2: What is your job title in your current position? What company do you work for? (If retired, where have you worked?)

Principal Technical Writer / Sabre

Q3: How many years of experience do you have in the field of technical communication?Why did you choose to enter this field?

24 years / I have a passion for the English language and for improving the customer experience using software and helping customers use our products.

Q4: What programs and tools do you use to complete your daily tasks?

MS Office, Adobe Acrobat Pro, MadCap Flare, MadCap Capture, MadCap Mimic, SharePoint, XMLSpy, Internet Explorer, Google Chrome

Q5: How would you define digital literacy?How does it relate to your job as a technical communicator?

Use of computer devices to retrieve and communicate information as well as learn. We provide both online help (for GUI applications) as well as user guides. It relates to my job because we have to determine the easiest and most effective way to communicate use of software to our customers.

Q6: What do you believe is the most important technical skill that you possess?Why do you believe this?

Mastering the tools that we use to produce documentation as well as a good understanding of the products for which we are writing documentation. This is an imperative prerequisite for effectively and efficiently doing this job.

Q7: How valuable is being able to teach yourself new technical skills?Why?

Very valuable. Professional training is usually very expensive, so learning on the job is very important. Anytime you can save the company money is greatly appreciated. Also, we have a lot of support for our software via our licenses.

Q8: How have you seen the field of technical communication change throughout your career?Why do you think these changes have occurred?

Having it become a degreed program in colleges has come about during my career. Also, the value that we add outside of user documentation (for example, labels on GUI pages, error message text, tooltip text). As technology has become so important, and the quality of software has become so important, part of the user experience is their ability to understand how to use the software to perform necessary tasks.

Q9: What non-technical skill would you recommend technical communicators possess? (such as problem-solving skills, able to work with teams, etc)Why?

Interviewing skills and ability to work with teams. This includes interpersonal professional skills that are needed to gather information from numerous people in the development community and continue working with them to understand the info provided. We, as tech writers, should be capable of writing about any product. We do not need to be experts on the product. However, you need to be able to get the information from other people in order to produce accurate documentation.

Q10: What duties or work flow does a project for you entail?You may describe a specific project or describe your duties in general.

The process is iterative and includes interviewing, gathering information, writing the documentation using the MS Manual of Style and internal conventions, ask questions, conduct reviews with stakeholders, get edits from colleagues, publish, and maintain on an ongoing basis. Being involved in writing release notes is a great advantage as a tipoff for knowing how you will need to update the customer-facing documentation.

Participant #2

Q1: Please write your full name.

Jamie Gillenwater

Q2: What is your job title in your current position? What company do you work for? (If retired, where have you worked?)

Technical Communications Consultant, Transcend Text

Q3: How many years of experience do you have in the field of technical communication? Why did you choose to enter this field?

7, stumbled into it through an internship

Q4: What programs and tools do you use to complete your daily tasks?

Microsoft Word and Excel, Adobe InDesign and Acrobat, Gmail, other Google apps

Q5: How would you define digital literacy? How does it relate to your job as a technical communicator?

Digital literacy: the ability to understand and use technology. Digital literacy is critical in technical communications because digital tools are used in the creation and delivery of technical information.

Q6: What do you believe is the most important technical skill that you possess? Why do you believe this?

Ability to learn new software quickly; this skill allows me to adapt to various clients' needs and specifications.

Q7: How valuable is being able to teach yourself new technical skills? Why?

It is very important to be able to learn as you work. You must be able to not only learn new technology, but also follow tech trends and industry trends for new deliverables and requirements.

Q8: How have you seen the field of technical communication change throughout your career? Why do you think these changes have occurred?

With the rise of mobile devices, the responsiveness and adaptability of content is increasing important. As more users look for more information on the go, this trend is likely to continue.

Q9: What non-technical skill would you recommend technical communicators possess? (such as problem-solving skills, able to work with teams, etc.)Why?

Tenacity is essential in gathering the information necessary to create technical documentation. Building relationships and flexibility help in working with SMEs. Curiosity is also a must because you constantly learn in this field.

Q10: What duties or work flow does a project for you entail? You may describe a specific project or describe your duties in general.

Because I work as a consultant, my workflow varies with every client. I typically meet with the client to determine the project scope and deadline. Then I create an estimate. Once the estimate is approved, I begin working with SMEs, create a draft, then work with the client to review and revise the draft. Once the draft is approved, I provide the final files and invoice the client.

Participant #3

1: Please write your full name.

Rose Knong Calloway

Q2: What is your job title in your current position? What company do you work for? (If retired, where have you worked?)

Technical Writer

Q3: How many years of experience do you have in the field of technical communication? Why did you choose to enter this field?

Four—I chose this field because I place a fairly good amount of value on readability and concise and consistent communications.

Q4: What programs and tools do you use to complete your daily tasks?

Adobe Acrobat Pro, Microsoft Word, Microsoft PowerPoint, Microsoft Excel

Q5: How would you define digital literacy? How does it relate to your job as a technical communicator?

I define digital literacy as a means of understanding and communicating technical knowledge through digital means, which involves the latest technologies.

Q6: What do you believe is the most important technical skill that you possess? Why do you believe this?

My most important technical skill lies in my ability to break down a complex subject and convey it in a way that is understandable to someone outside of the field of that subject. I believe this is significant in a field of technical writing given that the end-user measures the quality of a technical writing product by its usability.

Q7: How valuable is being able to teach yourself new technical skills? Why?

Flexibility and adaptability are valuable given that technologies, trends, and audiences change over time. If you can't adapt, then it's difficult to perform quality control on a product intended for a specific audience if you yourself can't place yourself in the audience's shoes.

Q8: How have you seen the field of technical communication change throughout your career? Why do you think these changes have occurred?

Technical communications, when used as a means of instruction, has changed in that it's moving more toward interactivity with simulations, films, and video. This is likely because of younger generations and the expansion of video games and movies. Simply, older methods of instruction aren't as captivating as say, for example, special effects of animation.

Q9: What non-technical skill would you recommend technical communicators possess? (such as problem-solving skills, able to work with teams, etc.) Why?

The ability to work with teams is a skill set I highly recommend. If you don't have a solution, then at least you can put your head together with a team to determine a solution. You will also find that colleagues are more inclined to hear any ideas that could be innovative if you have a history of looking out for the team or proving you certainly are a contributor. People skills can only help matters.

Q10: What duties or work flow does a project for you entail? You may describe a specific project or describe your duties in general.

In general, I would say my duties consist of reviewing Patriot missile training materials for overall defects (usability, consistency, grammar, technical discrepancies, etc.).

Participant #4

Q1: Please write your full name.

Christen Harm

Q2: What is your job title in your current position? What company do you work for? (If retired, where have you worked?)

Technical Writer at Daiichi Sankyo (Pharmaceutical company)

Q3: How many years of experience do you have in the field of technical communication? Why did you choose to enter this field?

1 year 2 months. I am a writer and I was interested in exploring writing in a different way.

Q4: What programs and tools do you use to complete your daily tasks?

PowerPoint, Word, a Content Management System, Outlook, the internet, Adobe Captivate and Camtasia (I also create videos based on the written training I write). Personally I draft on physical paper at times as well, and I use Evernote to stay organized with my tasks/projects and to do lists.

Q5: How would you define digital literacy? How does it relate to your job as a technical communicator?

Digital literacy is the ability to understand various devices (tablets, smart phones, computers/laptops) and the skills that come with them to identify different programs, systems, technological updates and advances for the device, etc.

Q6: What do you believe is the most important technical skill that you possess? Why do you believe this?

The most important technical skills I possess is the ability to look at a program/system and be able to understand the language to analyze it properly.

Q7: How valuable is being able to teach yourself new technical skills? Why?

It is incredibly valuable in this age to be able to teach yourself new technical skills because our society is so technologically-based and is only heading more in that direction. In order to survive you need to understand some

of the "lingo" (could be picture lingo). People who possess technical skills and the ability to sit down and learn a new technical are more likely to succeed and understand the world we live in.

Q8: How have you seen the field of technical communication change throughout your career?Why do you think these changes have occurred?

To be honest I don't think I have been in the field long enough to see technical communication change from a career way; however, personally, I can recognize how technical communication has changed (as most things) from being very tangible in-your-hand material to very digital and more easily accessible material resources.

Q9: What non-technical skill would you recommend technical communicators possess? (such as problem-solving skills, able to work with teams, etc)Why?

I would suggest that you need to be able to listen and really understand the needs of what needs to be produced, you need to be able to convey what you are trying to say for those who are not erudite in technical jargon, and what I find is key is to stay organized. If you can't be organized and organize your message, you won't have gotten your job done properly.

Q10: What duties or work flow does a project for you entail?You may describe a specific project or describe your duties in general.

I will give you an example of a Service Portal training I wrote recently, which had 3 parts. The workflow starts with sitting down with the Subject Matter Experts and getting an understanding of their project and what training needs they will require for end users. Then I work with the SME to get a demo of the program or system (in this case a service portal that will allow employees to easily request services and submit break/fix tickets to our IT Helpdesk) and from there I begin to write training decks (PPT presentations) which are basic How-To guides that include explanations, definitions, and steps for how to use particular areas of the program they will need. The training decks need to be written in a cohesive and basic manner in order for the end user to be able to understand without being tripped up in technical jargon. I write the decks using the technical jargon and then alter it to make it easier to understand. Once the decks are completed and reviewed, I sit down with the SME to find out particularly what in the deck can be used as highlights or most important features of the system and create a Quick Reference Card (using Word) with all the information and steps provided from the deck, but in a shorter and smaller format to reference. Depending on the project, the SME may want an e-learning training component, in which case I use the deck I have written to create video demonstrations, in Adobe Captivate and Camtasia, which are placed in our Learning Management System and tracked for training purposes. For the Service Portal training, I created 3 decks, one for end users, one for those who approve requests, and one for the technologists who go in and review the requests and fulfill them. I then created 3 separate demonstration videos for the project. We then set up in-person trainings for people who are looking to speak with an instructor and I train the trainer we use from an external vendor. Once training is complete, I track users and mark them complete for taking the course. So for my job, as I suspect there probably aren't many technical writers who have this, there is also an administrative component.

Table 1: Complete List of Communication Skills in Job Advertisements

Skill	Frequency of Term in Job Ads
Writing/Written/Write/Writers/Rewrite/Grammar/Edit/Copyedit/Proofreader	598
Management/Manage/Oversight/Oversees/Oversee	243
Communication/Communicate/Communicator/Communicating	186

English/Spanish	72
Translation/Translating	12
Social	58
Verbal/Verbally/Interpersonal/Personal/Interview/Intrapersonal/Speaking/Speak	112
Articulate/Conversation/Storytelling/Partnering/Respond/Telephone	25
Leadership/Leading/Led/Leads/Leader/Leaders	94
Member/Peer/Peers/Teamwork/Teammates/Relationship/Colleagues	74
Presentations/Presentation	42
Collaboration/Collaboratively/Collaborative/Collaborates/Coordinating/Connect	58
Liaison/Together/Aid/Aides	26
Agile/Scrum	20
Mentor/Coach	14
Vendors/Consumers	17
Chicago/APA	3
Facilitating/Teaching	16
Correspondence	6
Total	1676

Table 2: Complete List of Technical Skills in Job Advertisements

Skill	Frequency of Term in Job Ads
Microsoft Word/Excel/PowerPoint/Outlook/Visio/SharePoint	229
Technology/Tech/Technologies/Computer/PC/iSO/Software	395
Acrobat/InDesign/Framemaker/Dreamweaver/Photoshop/Captivate/Illustrator/ Robohelp	112
Html/ XML/ xhtml/Madcap Flare/Authoring tools/CSS	152
Facebook/Twitter/Linkedin/Google/Youtube/Pinterest	83

Wordpress/Wikis	12
Programming/Javascript/Java/API	56
Database	20
Oracle	7
Snagit/Camtasia	11
Android	3
Total	1083

References

Albers, M. (2005). The future of technical communication: Introduction to this special issue. *Technical Communication*, *52*(3), 267-272.

Carliner, S. (2010). Computers and technical communication in the 21st century. In R. Spilka (Ed.), *Digital Literacy: For Technical Communication* (21-50). New York, NY: Routledge.

Dicks, S.R. (2010). The effects of digital literacy on the nature of technical communication work. In R. Spilka (Ed.), *Digital Literacy: For Technical Communication* (51-79). New York, NY: Routledge.

Rainey, K.T., & Dayton, D. (2005). Do curricula correspond to managerial expectations?: Core competencies for technical communicators. *Technical Communication 52*(3), 323-352.

Spyridakis, J.H. (2015). Identifying new topics in TC curricula: Preparing students for success in a changing world. *Communication Design Quarterly 3*(2), 27-37.