



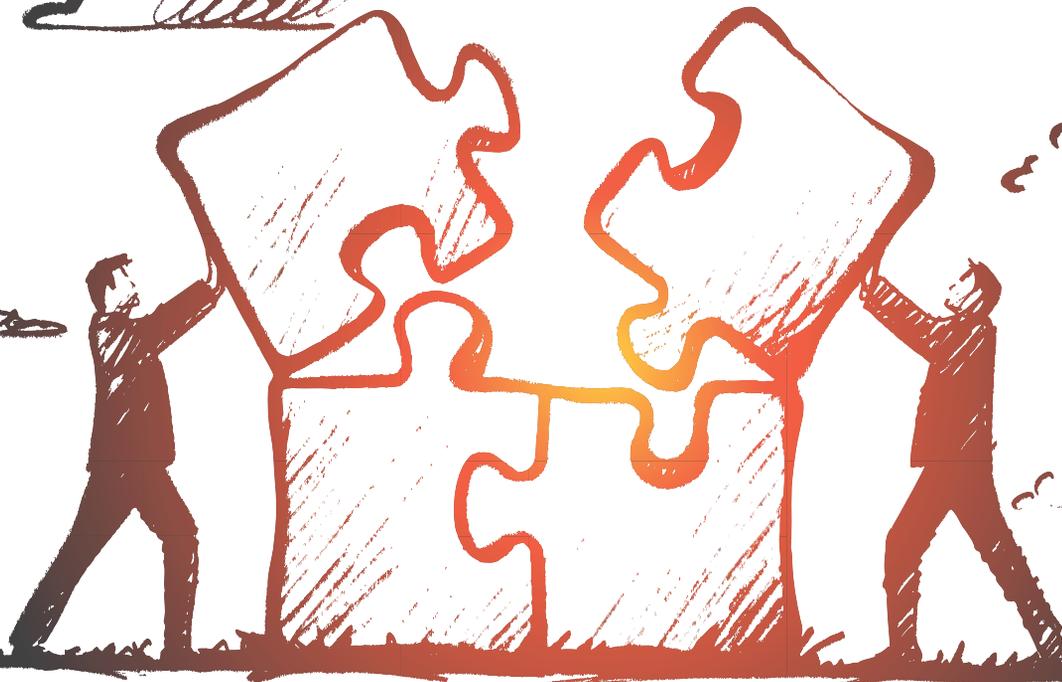
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THE MAGAZINE OF THE SOCIETY FOR TECHNICAL COMMUNICATION



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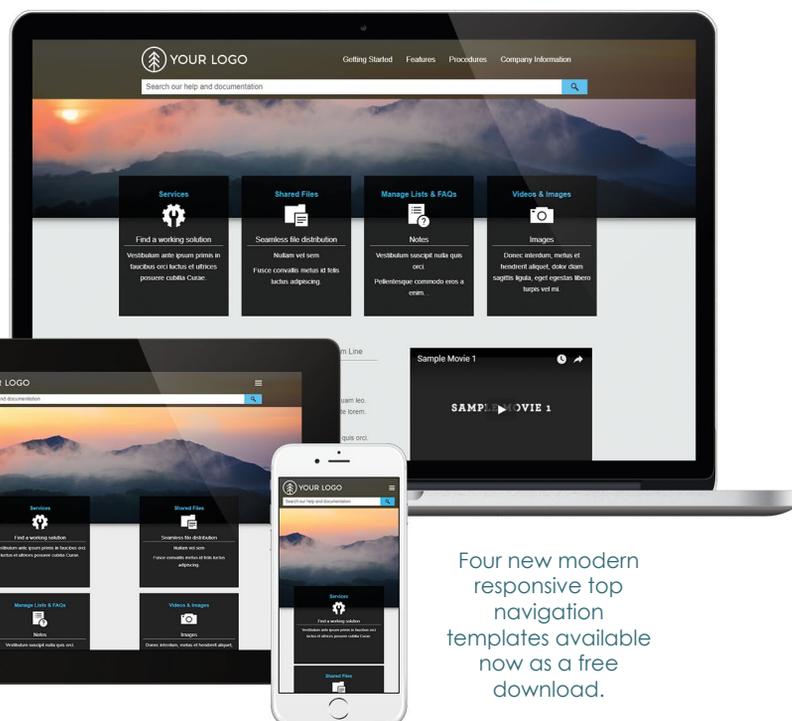
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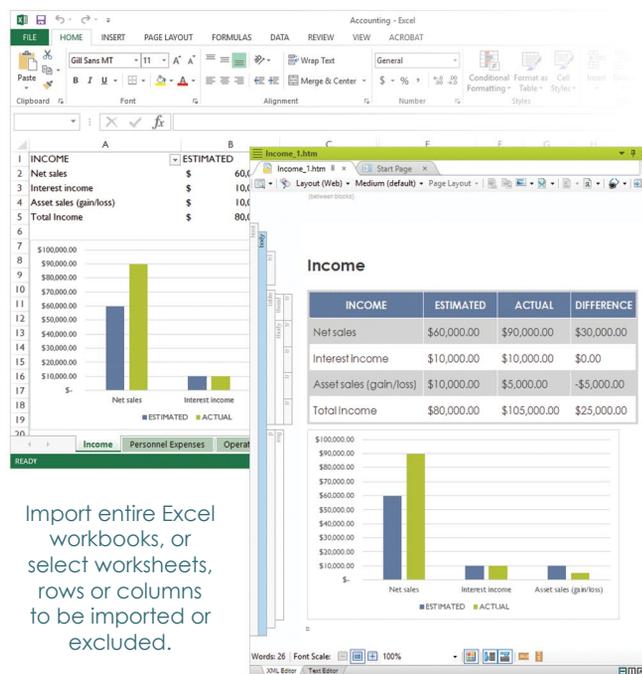
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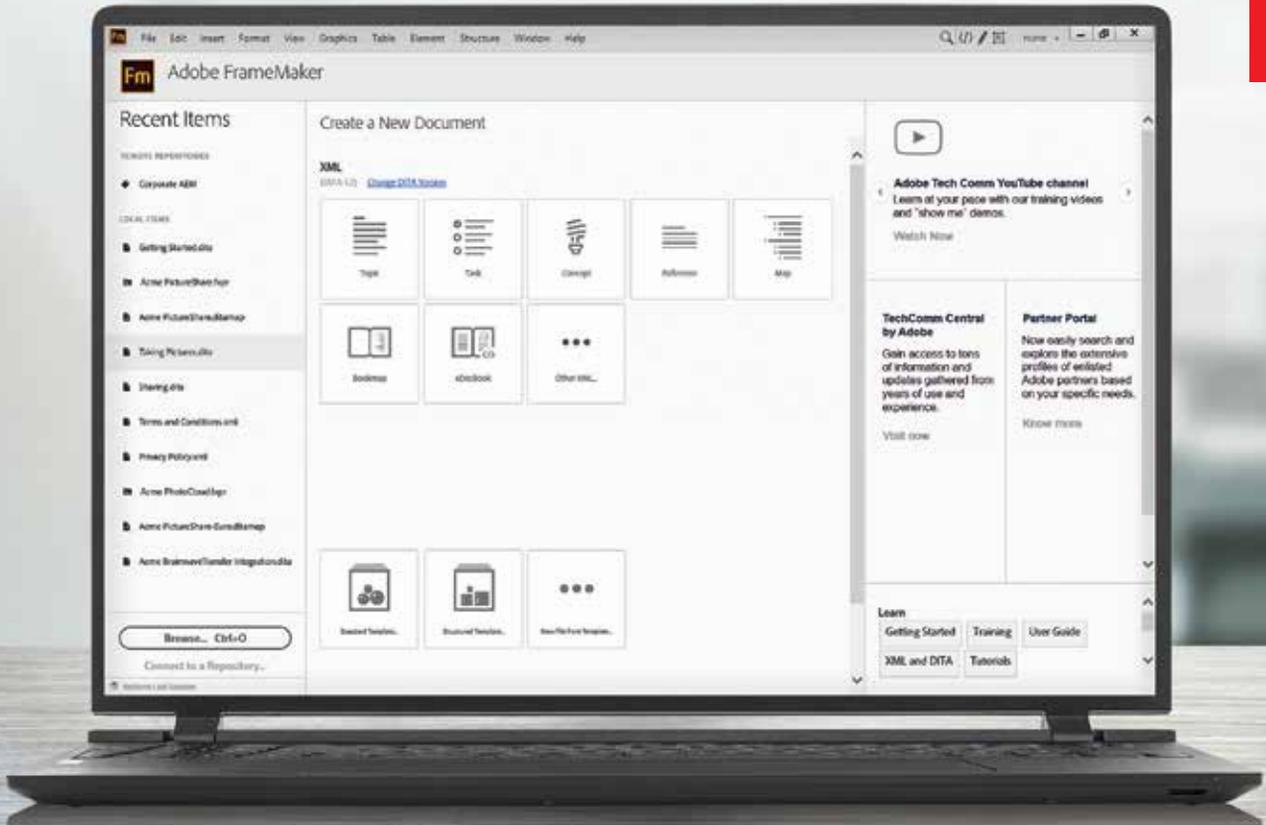
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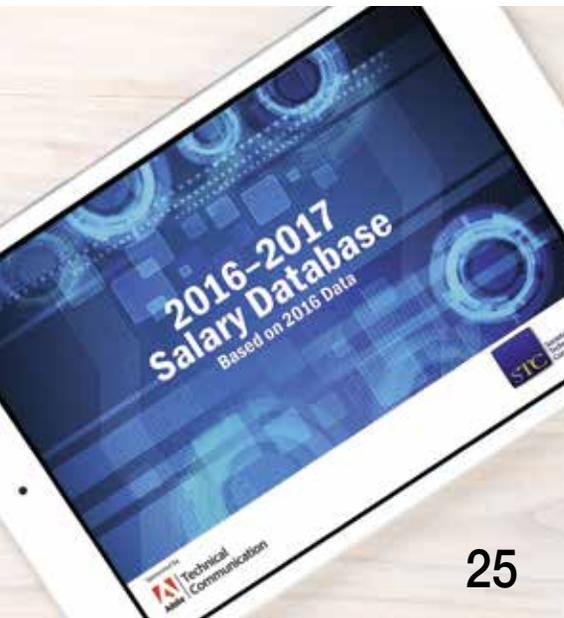
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A Note from the Editor



NINE YEARS AGO, I took on the editorial responsibility for *Intercom* magazine. Time flies when you enjoy your work! Editing *Intercom* has been a wonderful experience, and it has been an honor to serve the profession by developing content for the field in one of its leading professional magazines. It is hard to believe that during this time, 90 issues were published, which amounts to a truckload of content on topics as diverse as our profession can be. More than anything, however, I am proud of the role the magazine has played and will continue to play within the discipline, connecting practitioners and academics, and providing technical communicators with applicable professional development guidance.

It is a great pleasure that my final issue of *Intercom* has been guest edited by Dr. Kirk St.Amant, someone who has always made an effort to bridge practice and academia. Kirk is a Professor and the Eunice C. Williamson Endowed Chair of Technical Communication at Louisiana Tech University and an Adjunct Professor of International Health and Medical Communication with the University of Limerick. His research focuses on international and intercultural communication and online media. Kirk is a Senior Member and a Fellow of STC, the current Vice Chair of the Association for Computing Machinery (ACM) Special Interest Group on Design of Communication (SIGDOC), and the Interim Editor of *Communication Design Quarterly*, the ACM SIGDOC's peer-reviewed research publication. Kirk is also a Past President of the Council for Programs in Technical and Scientific Communication (CPTSC) and the Past Co-Editor of the organization's official journal, *Programmatic Perspectives*.

In his guest editorial, Kirk asks the question, "How can research help the members of a field collaborate effectively?" In the following five articles, the authors identify differences in how research is perceived across the field. By describing how different groups approach research, they identify areas where collaboration can be beneficial. Each article in this issue presents different perspectives on research and offers ideas and examples on using research as a mechanism to collaborate. Through this approach, readers should be better able to understand the perspectives of "others" and how research might help foster effective collaborations. I look forward to seeing where the advice in this issue leads us.

I am also pleased to announce that Andrea Ames has agreed to serve as *Intercom's* new Executive Editor in 2018. Andrea impressed the members of the search committee with her enthusiasm for the editorship and her strong vision for the magazine. As outgoing editor, I feel very confident in passing the reins to Andrea because she has global technical communication and content strategy experience, wide acquaintances within the industry, and admiration from the STC membership for her contributions to the Society. In addition, she already has some terrific ideas for the 2018 editorial calendar. You can reach Andrea at intercom@stc.org.

Stay tuned for these changes and more for *Intercom* in 2018! I wish you all a very healthy and happy New Year!


—LIZ POHLAND
intercom@stc.org

intercom

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A Note From the Guest Editor: Rethinking Research to Foster Collaboration

BY KIRK ST.AMANT | *STC Fellow*



TECHNICAL COMMUNICATION CAN seem like a field divided. Academics appear to focus on the theoretical, while industry

practitioners generally concentrate on the applied. And educators often struggle to balance the two to prepare students for life after graduation. Yet across all these areas, there are commonalities that can unite. These include a common interest in a topic (technical communication), a mutually recognized objective (understanding and addressing audience/user expectations), and a shared reliance on research to better understand both. In fact, one could say the common interest connecting the field is understanding communication behaviors—how we present, perceive, and process information to achieve goals.

How can research help the members of a field collaborate effectively? By understanding how different groups approach research, we can identify areas where collaboration can benefit all. This process begins by noting differences in how research is perceived across the field.

Definitions and Perceptions

The key question is “What is research?” It may seem obvious, but it’s more complex than most of us realize. I do a quick Internet search to determine the best method for using a software to perform a task. Is this research? How about having

five coworkers review a new website to evaluate its design? A survey of 2,000 individuals to determine when they use their mobile phones to check the day’s news?

Many of us would agree these examples all represent *research* (i.e., a quest for answers). Differences, however, would likely occur due to the value individuals associate with each *kind* of research. This is because members of the field often use different metrics to assess the significance—or the value—of research and identify research that “counts” or “contributes.”

Metrics and Value

In industry, if the objective of research is to create effective products, then activities contributing to this goal have value. As such, a range of activities can constitute “valuable” research if they address the primary metric of creating effective products. For educators, the objective of research might be to find an effective way to teach new content. In this case, value is determined by how well students achieve certain learning objectives. And in academia, research often exists as a formal category for assessing an individual’s job performance. In these cases, certain kinds of research—that which leads to conference presentations and academic journal articles—are often seen as having value.

This use of different metrics for assessing value creates varied perspectives of how individuals in the field view research. These perspectives also affect how individuals from one group view the research done by others. The result is a “yes ... but” divide. “Yes, it is research, but it

doesn’t help me achieve my overall objectives, so it doesn’t have value to me.” The key to fostering collaboration through research becomes a matter of perspective. This means we—as members of a field—need to understand how different approaches to research can help us address our objectives and contribute value according to metrics we recognize.

Dynamics of Difference

Knowledge is power. Accordingly, the more we know about how value is associated with research, the better we can understand and address alternative perspectives. In terms of research, the most problematic differences generally involve the following aspects.

Function and Focus

For some of us, research is used to address an immediate problem or answer a particular question at hand. For others, the objective is to identify patterns of how persons engage in a communication behavior. This difference in function leads us to focus on different topics and to use different methods to find the answers we need. Each kind of research—short term and specific and long term and more general—can contribute to the other; the key is considering how and then looking for ways to achieve such objectives.

Artifacts vs. Action

Technical communication research is about behavior, or how humans share information. What we study to understand that behavior, however, can vary. For some, research is about analyzing artifacts or applying a particular approach to determine

how well a text addresses a theoretical construct. For others, the focus involves action or observing how individuals engage in a process to understand behaviors that produce artifacts. Both kinds of research can help us understand the complexities of how humans convey information; the key is to understand how each kind of research can contribute to the other.

Desired vs. Doable

The populations we study also affect how we view research. Ideally, our research involves large numbers of persons who represent specific audiences. Unfortunately, such research can be costly, time consuming, and difficult to coordinate. As a result, individuals might focus on populations to which they have quick and easy access. (Consider, for example, how much of academic research involves studying students in the researcher's class or at an institution.) The key consideration here is how partnering across segments of the field might address such factors.

Value and Variation

As noted, different metrics affect what research is valued in the field. Accordingly, effective research collaboration involves understanding such differences and designing projects that allow participants to address the value prospects associated with their professional activities. Doing so might mean re-thinking approaches to how research is done—from what research results can be publically shared to what contributions merit authorship credit for academic articles.

Collaboration and Convergence

Addressing these factors is not easy, but the resulting benefits can

be manifold. Moreover, there are models for engaging in such research-based collaborations (St.Amant & Meloncon). These can include:

- ▶ Using internships to learn about individuals working in other areas of the field
- ▶ Creating advisory boards of individuals from different segments of the field
- ▶ Coordinating symposia or conferences for sharing research among different groups in the field

The key is for individuals to learn about each other's perceptions of research. Through such understanding, we can develop partnerships for effectively engaging in collaborative research projects that benefit all involved. The entries in this issue represent a step toward such understanding.

Issue Overview

The articles in this issue present different perspectives on research and offer ideas and examples on using research as a mechanism to collaborate. Through this approach, readers can better understand the perspectives of "others" and understand how research might help foster effective partnerships.

The first three articles present perspectives on what research is and what it involves. In the initial entry, university professor and STC Fellow Michael J. Albers overviews how academics generally perceive research and contrasts that perspective with how individuals from industry view research. Next, Tom Johnson of Amazon offers his perspective on how individuals in industry approach research and the kinds of research activities he, as a technical communicator working for an international company, regularly does. Elizabeth Frick expands upon this industry

perspective by noting how she—as the owner of her own technical communication business—engages in research.

The final two articles examine how different segments of the field can use research to collaborate. The article by Sam Dragg (a retired career academic) and Dan Voss (a retired member of industry) provides a framework for including ethics into research practices across the field. In so doing, the two offer an example of how individuals from different segments of the field can collaborate around a mutual interest in research. The closing entry, a summary of an interview with Boeing employee Alexandra "Sandy" Bartell (a University of Washington PhD) by Darin Williams provides insights on how research-based collaborations by someone who has used research as a tool for working across different areas of technical communication.

Final Thoughts

The more members of a field collaborate, the stronger the field becomes. The topic of research can serve as a mechanism for engaging in such collaborations in ways that are meaningful to all involved. Realizing this goal is not easy, and it requires continued, consistent attention over time. To do so, we—as members of a common field—need to understand the perspectives and expectations individuals from other areas associate with "research."

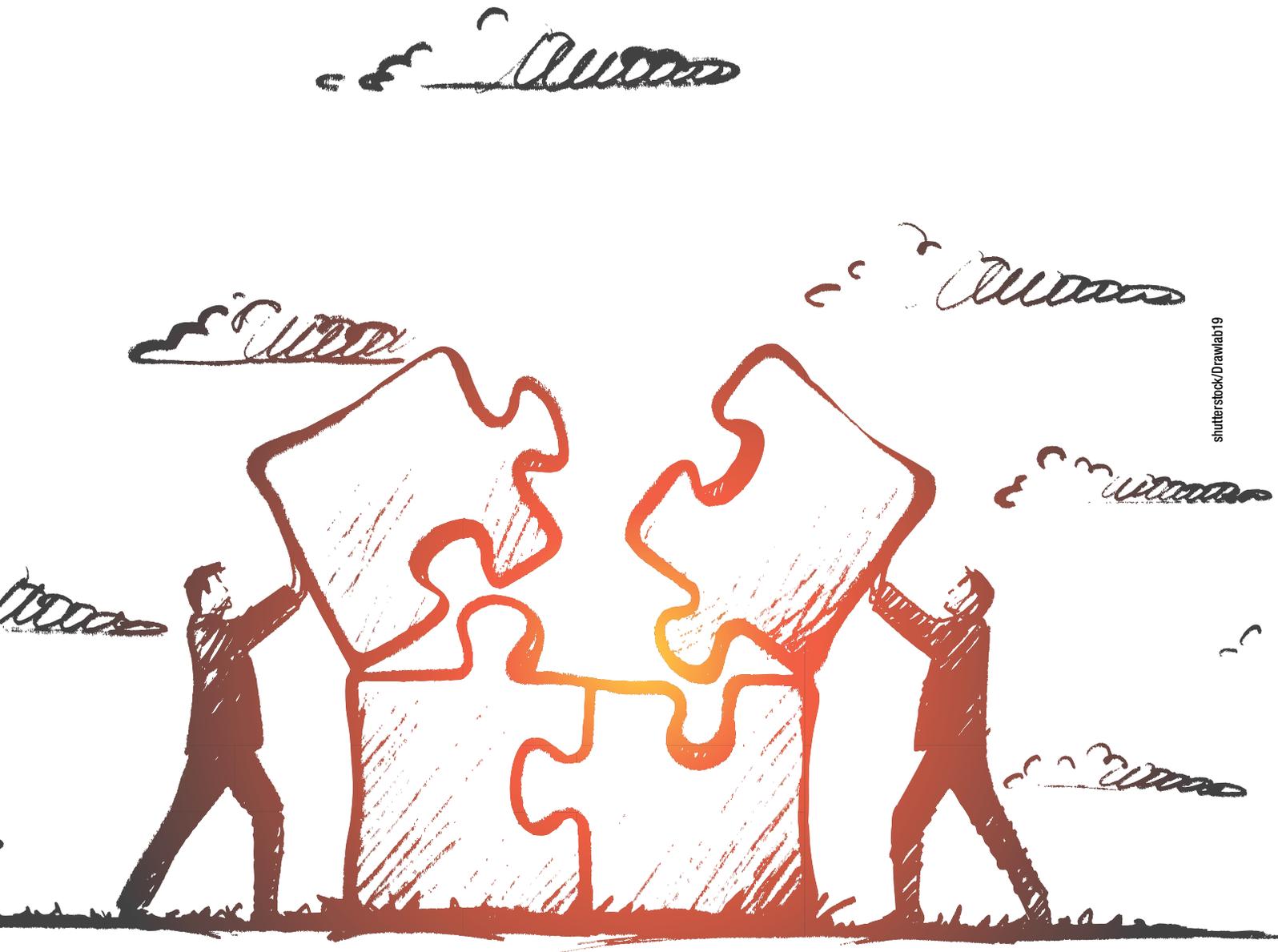
This issue is a step toward fostering such understanding. Like most initial steps, it is a small part of a greater journey toward an objective. Readers are therefore encouraged to consider how they might build upon the ideas noted here to expand our approach to research and foster partnerships around a topic of mutual interest to us all. I look forward to where the next steps in this journey will take us.

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Forging Research Partnerships Across Industry and Academia

By MICHAEL J. ALBERS | *STC Fellow*



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AS A RECENT SPECIAL ISSUE of *Technical Communication* notes, research is something all members of the field see as central to success. What constitutes research, however, can vary depending on whether you are in industry or academia. This difference can often result in industry practitioners and academics talking past one another versus talking with each other. The key to bridging this divide is to better understand how each side views research. This knowledge can then serve as the foundation individuals use to collaborate more effectively on research projects of interest and benefit across the greater field (see St. Amant & Meloncon 2016).

How Industry Practitioners View Research

One problem is that practitioners and academics often mean different things when they use the term *research*. Practitioners think of research as answering a question about their current project; they need an answer for a specific situation *now*. Academics have a more general future-oriented view.

Consider the following example: we have a new Web interface and need to know tradeoffs and best sizes for the icons. Practitioners might perform usability research to figure out the best icon size for the current project. They would run some tests, decide a particular size works, and move on to finishing the product. They have an acceptable answer, and time constraints mean they stop there. It also means that for a new project eight months later, they will repeat the research to determine the best icon size for the new project.

Repeating the work eight months later is not necessarily bad because the goal is to answer a specific question for a specific interface; the previous results gave a starting place, but no assurance that the same sizes would work again on the next project. The bigger problem is that most industry practitioners don't have clear guidance to shape the initial expectations. That is, they are lacking the more general concepts about how the size of an icon affects the usability.

How Academics View Research

In the previous example, the practitioner looks at this situation and wants to answer the question, "What do I need to do now to address the immediate situation at hand?" (Focus = specific answers to immediate situations.) The academic, however, looks at this same situation and wants to answer the question, "What are the universal principles I need to know to understand this overall situation and anticipate—and address it—when it occurs again?" (Focus = general laws or principles that can be applied widely.) In sum, the academic doesn't strive to find the correct size icon for *this* interface, but wants to provide the general guidance everyone can use going forward *in most situations* and *for most interfaces in general*. Different interfaces require different sized icons. What academics, in turn, want to know is, "What factors drive selecting an icon size to maximize usability?"

One problem is that practitioners and academics often mean different things when they use the term research.

This situation gets to the heart of the industry-academic split over research: A practitioner wants a specific answer to a particular problem. An academic thinks of the problem in terms of trying to figure out the general case. As such, academic research works to uncover and define the rules of the general case, and this objective is essentially the definition of an individual's research agenda in most social science disciplines.

In the previous example, academics are doing the kind of generalized study that would lead to the formulation we call Fitts' law (i.e., the idea that relates the size of an icon to the time it takes to move to and click on it). We academics (I include myself) tend to think of uncovering the fundamental issues that drive the answer to give the best implementation of icon size. The academic question is viewed not as "What size of icon works best for *this* interface?" but as "What factors drive effective icon size across many interfaces?" A useful to know but very different question from the practitioner who needs to define icon sizes for this interface right now.

The end result is that a practitioner can take the results of the academic research and make a good prediction on what size of icon to use on their new project. Usability testing will be required to verify that choice, but academic research provides practitioners with the confidence the initial choices were close to what they needed.

What Academics Research

Before we can explore how to better share research results, let's stop for a moment and think about what academic technical communication research looks at. In academia, there are two different main groups of researchers: people who study human behavior (e.g., readability, usability, and human-information interaction) and people who study texts (e.g., discourse or rhetorical analysis). Clearly, it's the people who study human behavior that will have results most applicable to practitioners. However, a sizable percent of the rhetorical analysis looks at why an existing text failed to work with a given audience. Thus, these analyses, too, can be useful to help understand how well-intended texts fail so miserably when they meet a real audience.

(Poorly) Communicating Research Results

To everyone's loss, much of academic research that can be useful to practitioners is written in a style that is inaccessible to practicing professionals. In 2014, for example, I watched a conference presentation by Ryan Boettger, Erin Friess, and Saul Carliner (2014). Their presentation laid out a claim that the research and theory presented in

A way to address these problems is to get both groups to better understand the other.

peer-reviewed journals—including the ones in our field—are written by academic researchers for other academic researchers; not a big surprise. However, they also pointed out that the end result is that research academics poorly communicate to practitioners, the very people who could use those results for practical purposes. Thus, we have the interesting result that even academics think the research they do is poorly communicated to practitioners.

At the same time, practitioners fail to communicate their research needs to academics. This failing occurs for many reasons. Some industry practitioners try to reach out to an academic for help on a project and get rejected because:

- ▶ The need reported on in the manuscript isn't "my research area" (i.e., the area the academic researcher works in).
- ▶ The academic wants a six-month study to answer a question that needs answered next week—and those reasons don't even consider the issues of getting the idea of interacting with academics past senior management or the ever-present corporate non-disclosure agreements.

A way to address these problems is to get both groups to better understand the other. One method (discussed in the rest of this article) is engaging in industry and academic collaboration on research projects. Such collaborations can foster understanding of how research is viewed and used across the field. It also helps each side better communicate about research—and the reporting of research results—with the other.

Benefits of Industry-Academic Research Partnerships

Industry-academic research partnerships are highly beneficial to both groups. Academics gain an understanding of practitioner research needs and can work to address them. Academics also gain knowledge of how and what to write for a practitioner audience. In return, practitioners get answers to their questions and gain insight into new ways of answering them. The basic need (and justification to management) may be for help with today's project, but the long-term return can easily dwarf the initial one-off study results.

Even with the various obstacles, strong reasons exist for why academic/practitioner relationships should improve usability and decrease product development time. The practitioner world is evolving at a rapid rate, and the ivory tower shields many academics from seeing that change. This situation leads to new graduates trained

for the workplace of 10+ years ago and not the needs of the current technical communication or usability world. Ideally, industry-academic collaboration will funnel back into the classroom and result in more relevant educational experiences.

Let's think about how technical communication academics can be brought in to help with industry research projects. At the basic level, this could be integrating academics as a part-time team member for a project. They can provide valuable insight into design decisions and assistance for conducting usability studies. The result is the company gets an improved product to release, and the academic gets an article to publish. The article, in most instances, is a case study of the time spent working on the project. That is a good start and supports leading into longer-term academic-style research. By spending time with a development team, they understand practitioner usability research needs.

Rethinking Research Collaborations

For the company to maximize their benefits, they need to support academic research, which is only at the beginning phase. In terms of the Fitts' law example, we understand a need to know the relationship of target size to speed of clicks. However, there also needs to be a general study to determine this overall relationship; that is something the academic can do with corporate assistance, but outside of production schedule deadlines. In the end, the company gets access to new information, which it can use for future projects.

As a second example, let's assume the project was to produce a multimedia healthcare information module to replace a printed brochure. In the first round, an academic would be embedded with the development team, and the resulting interaction would improve the design and usability of the user's interaction with the information. But this situation also leaves open the general questions that apply to future projects. Such questions include:

- ▶ What part of the change caused the improved comprehension?
- ▶ What parts of the change were detrimental?
- ▶ What are the underlying human behavior factors to consider for future projects?
- ▶ How does the target audience influence those answers?

Answering these questions involves fine-grained studies that can be used to ship future products both faster and with higher quality. The first study is practitioner research and improves the current product, but its results may not be applicable to other products. The second sequence is academic research that finds the underlying issues to generalize the idea. Those results can then be fed back to improve the company's products.

However, there is a problem. Academics are going to want to publish the results of their research—preferably in an academic journal. (It's what we do and it's an

expected part of our job that is central to everything from keeping our jobs to affecting our eligibility for pay raises and promotions.) Publication means the results of research studies are available to everyone (well, primarily individuals subscribed to the journals in which the results are published). Corporate managers might see this as giving away intellectual property to their competitors. Why would they want to fund that? This is why you see articles that decline to give specific data, with generic statements like “the study was done in the MIS department of a large mid-western retailer.” Nondisclosure agreements prevent using specific data or the company name, but the important findings get published for the world to see.

Working Together

Effective collaboration is all about asking the right questions from the start. Consider the following scenario: As a practitioner, you finally decide to ask your boss to consider letting an academic on your team. Now you have to decide if the person you are talking with is appropriate for the project. When you do talk with an academic, here’s a list of questions (and tips on interpreting their answers) to consider in planning out effective research collaborations:

- ▶ **What is your research area?** Appropriate answers include studying human behavior, such as how people use documentation or make decisions. Inappropriate answers include the rhetorical aspects of a situation, discourse analysis, or cultural rhetoric. There is nothing wrong with these research areas, but they don’t really address practical needs/problems, and the person may not have a background to contribute to team discussions.
- ▶ **What research methodology do you use?** Appropriate answers should include qualitative or quantitative methods. Research on human communication behavior requires testing, interacting with an audience, and interpreting/integrating those results. Inappropriate answers would be rhetorical or discourse analysis. These closely examine the text, but miss the human behavior issues that drive many problems affecting communication, design, and usability.
- ▶ **What experience do you have in this topic area?** Appropriate answers mirror the current expectations for hiring a senior-level usability person for the project. Inappropriate answers include explanations of why they don’t have any experience, but that their other research

experience is equivalent. They need to understand usability research and how human behavior affects the use of materials.

- ▶ **What is your experience on team projects?** Appropriate answers mirror the hiring expectations for a senior-level usability or technical communication person. Inappropriate answers talk about their collaborative writing projects. Yes, writing with other people is a core academic skill, but all of those people have similar backgrounds. Working with a team that has a range of skills is rare in academic circles.
- ▶ **Have you worked in a corporate environment?** A “yes” means they understand the pace of corporate projects and understand that once a decision is made the project moves forward. A “no” may mean they will treat your project like another academic project. Those too often move slowly or get pushed aside for teaching or administrative duties. Disagreements can keep coming up and being rehashed because they are rarely deadline driven.

These questions represent a start in the overall process of engaging in effective industry-academia collaboration, and individuals can modify or build on them based on the project on which collaboration would occur.

Conclusion

Developing new ways to engage in effective research requires a blend of practitioner and academic contributions. Practitioners need to define their needs and communicate them to academics. Academic researchers need to learn how practitioners work, what they need, and how to communicate research in an accessible manner. Academics also need to understand the kinds of problems the practitioners consider important.

Ideally, collaborative research projects—when done effectively—allow academics to build on information they receive from practitioners, and practitioners can improve their products based on research published by academics. Realizing such benefits is a matter of understanding how each side views research and selecting research partners carefully and effectively. Truthfully, there is no single answer to how to improve the interactions about research between practitioners and academics, but it is a process we all need to work on improving. ■

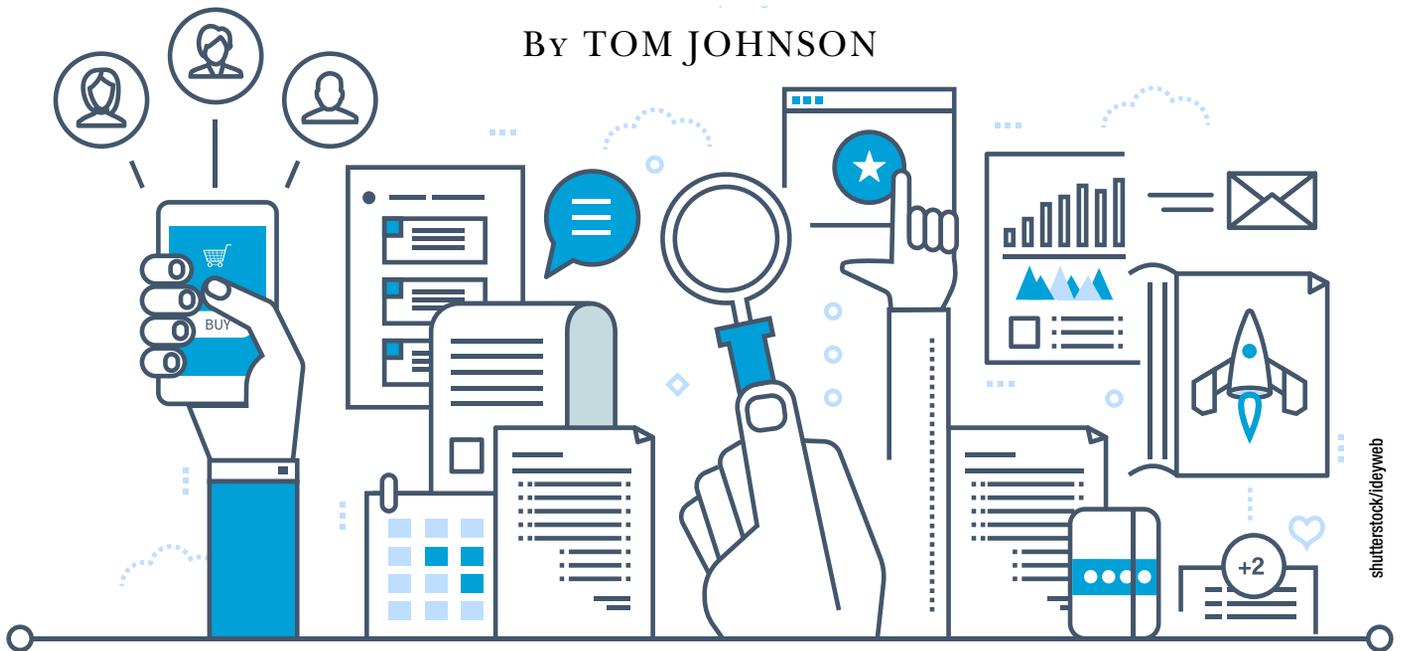
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How to Research What You Need to Learn to Be Successful as a Technical Writer

BY TOM JOHNSON



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Keeping up with Technology

Some years ago, I had an informal chat with other tech writers on my blog about the biggest challenges in their work. The prevailing theme in their responses involved keeping up with technology. Various writers explained:

- ▶ “I have trouble keeping up with the rapid pace of innovation in the IT world and the many ways to deliver content.”
- ▶ “For me, it’s keeping up with the right technology and fighting to increase productivity without making our jobs horrid.”
- ▶ “Part of the problem about keeping pace with technology is that we often work under tight deadlines. ... at the end of the day, to learn new tools and technology, it’s often on your own time.”

The recurring theme was keeping up with everything you needed to know to be successful. That chat took place a decade ago, in 2007 (See Johnson 2007).

The Exponential Curve of Information

Looking back, those seemed like the early days of the Internet, when all you needed to know was HTML, a little CSS, and a couple of help authoring tools to get by. Now the number of proliferating technologies seems to be growing at an exponential rate.

In “How it feels to learn JavaScript in 2016,” Jose Aguinaga explains that jQuery, Bootstrap, and Bower are now passé. Aguinaga says today front-end Web developers have replaced those libraries with React, JSX, Babel, ES6, Browserify, WebPack, VueJS, RxJS, Grunt, Gulp, Broccoli, SystemJS, Typescript, OCaml, Ramda, Fetch, Request, Bluebird, Axios, Flux, Flummox, Alt, Fluxible, Redux, SystemJS, and dozens more JS frameworks and tools.

Continuing Education Efforts

To help their employees keep up with the needed research and learning to stay current, many companies provide continuing education for their employees and encourage

employees to regularly update their technical skillsets. AT&T chief executive Randall Stephenson says, “People who do not spend five to 10 hours a week in online learning will obsolete themselves with the technology” (Hardy 2016).

This isn’t just fear in the face of the technology unknown. According to TechCrunch, a study by Washington University claims that 40 percent of companies in the Fortune 500 will be gone in 10 years. This is because technology advances at such a rapid rate, if employees don’t keep up, their skill sets will become outdated—and in turn so will the products they create.

Research as a Strategy

Keeping up isn’t just a matter of amplifying your learning time. You can’t just hunker down and spend all day reading one technology book after another. Few have the time, patience, or even interest for that. Instead, you have to be *discerning* in what you learn. You have to research out what is truly worth learning that is relevant and helpful to your larger role as a technical writer in producing documentation.

This element of research—looking in multiple domains that include product, technology, user, and industry information, and narrowing the information by user tasks—is the strategy that will help you become successful in the face of endless information.

What to Research and Why

The knowledge a technical writer needs to research can be divided into at least four main groups:

- ▶ **Product knowledge:** Information about the product you’re documenting—how it works, how it’s configured, what features it provides, and so on.
- ▶ **Technical knowledge:** Technical information required to use the product, such as an understanding of a programming language or platform (Java, Android, PHP, and so on).
- ▶ **User knowledge:** Information about the goals, tasks, questions, issues, complaints, requests, and other feedback from the people using the product.
- ▶ **Industry knowledge:** Information about the general trends, issues, and other topics in the business context in which the product lives.

Unless you have a lot of time on your hands, you won’t have the bandwidth to master each of these knowledge domains. You have to use discerning research to limit the scope. Mark Baker proposes looking at **user tasks** as a way of restricting the research you need to do in each domain. He writes:

You clearly can’t master all of these four fields [technology, product, and industry knowledge], so you need some way of limiting what you need to know about each of them to be effective. The task is what we write about, so the task is what we need to know (See Johnson 2016).

In other words, you can filter down these knowledge domains by looking at a specific user goal or task.

Research by Academics Versus Research by Industry Practitioners

Here I want to pause and explain how research done by academics differs from research by industry practitioners. When academics do research, they often start with a question and gather data through participants in a formal study or experiment. They analyze the results using rigorous methods to identify errors and faulty assumptions. Typically, their goal is to add to the body of knowledge, so academics carefully explain the methodology they used in gathering data and the formulas in their analysis. If the data and methods are valid, the conclusions will more likely be accepted.

For industry practitioners, their research is broader and less focused around a particular study or experiment. Practitioners gather information from various domains to inform the documentation they’re writing. Practitioners drink from a firehose of information to pull out relevant nuggets that will shape needed tasks and other details in their docs. The practitioner looks for information that will influence the business goals that drive product usage, trends in technologies and skillsets among user demographics, and ways to help increase product adoption and dominance in the marketplace. Practitioners care little about rigorous methodology or quantitative analysis—they’re just trying to stay abreast of what’s going on with their product, the users, and the industry so they can create better documentation.

In both cases, research—the gathering or discovery of information about a subject—is being done. Industry practitioners don’t often label their information gathering as “research”, but they are in fact doing research. I prefer the term research over simply “learning” or “information gathering” because research implies something more. You’re not just absorbing or collecting new material; you’re skillfully navigating domains to determine what to learn, looking through vast quantities of information to decide what will be most useful, and how. It is this element of discernment amid a high wall of potential learning material that becomes key to succeeding in the practitioner role.

Example of Filtering Knowledge

I’ll clarify how the research process works for industry practitioners by going through an example of how I do research at my work. I document how third-party developers can create streaming media apps for Amazon’s Fire TV. (Fire TV is a set-top box similar to Roku or Apple TV—it converts a “dumb TV” into a “smart TV” by providing an online interface to Internet video apps and games). How would focusing on this general task—building streaming media apps for Fire TV—help limit the four

domains of knowledge that a technical writer pursues? Let's step through it domain by domain.

Product research: To research product knowledge, you, as a technical writer, would look at what frameworks are used to build streaming media apps. There are several frameworks (or starter kits) for building Fire TV apps. How do these starter kits or frameworks work? Can you set the frameworks up and make them work with sample feeds? How do users configure their media feeds and other navigation details? How do users adjust the appearance and other elements of their apps?

You probably spend the majority of your time researching this knowledge domain. To do the research, you immerse yourself in the product you're documenting. You read wiki pages related to the project, set up meetings with engineers, and go to sprints for the relevant teams. You ask engineers for sample apps along with demos, and then you play with the product, using as real a scenario as you can, until you know the product well.

Technical research: You also research the technology behind the product. In this scenario, you study the technologies used in building streaming media apps. Android is frequently used for building apps for Fire TV, but the world of Android is almost as vast as Java. Saying that one needs to learn Android is like saying one needs to learn "medicine" or "databases." Which part of Android do you learn? Again, you can filter the domain by looking at the user task.

Most of Android is actually focused on building apps for smartphones and tablets, not TVs. But your users will be building *TV apps*, so already you've whittled down the massive Android landscape.

Building TV apps involves understanding requirements for the "ten-foot experience." To get the technical knowledge, you could read a book on Android in Safari Books Online or take a course on Android on Lynda.com. You could dive deep with a course on Udacity, watch videos on YouTube, or read general tutorials across the Internet.

The goal in acquiring technical knowledge is to become familiar with concepts and lingo to understand what's going on at a high level. You don't need to get lost in the technical details. You won't be diving as deep as engineers do—they're building production-ready apps from the ground up. (Diving too deep into the technology might actually exhaust all your other knowledge-gathering bandwidth.) But you need to learn enough to be technically competent with the product. This technical foundation is usually more difficult in developer documentation environments.

User research: It's important to research what goes through the heads of users—specifically, what information do users who want to build streaming media apps need to know? What questions will they have? What issues or feedback have you received so far from existing users?

When I look at user feedback (from forums, submitted apps, contact forms, etc.), it turns out most developers don't want to build Fire TV apps from scratch. They already have an Android app they built for Google and want to

port it to Fire TV. What they need to know is how Fire TV differs from Android TV. How do they change their existing Google Android app to make it work on Fire TV? What Amazon APIs do they need to use instead to handle services such as in-app billing or maps? Again, user tasks have filtered the scope of the knowledge domain.

To get user knowledge, you can visit forums, send surveys, and talk with field engineers. You can pick the brains of product managers, check support logs, or look at search queries in metrics. You can attend user conferences, make visits to user sites, and more. Almost any place users go online, you can go, too.

Researching user information helps shape and inform your documentation efforts. Without this information, you might spend much of your time focused on acquiring and publishing the wrong information.

Industry research: Finally, technical writers need an awareness of industry knowledge. What's going on with streaming media apps in the industry? What other starter kits and frameworks are available on other platforms? For example, how does the Fire TV app compare with apps for Apple TV, Roku, and Chromecast? Are there certain features or specs to be aware of across these different platforms? What trends are happening with streaming media apps on set-top boxes?

For example, if 4k is a common need, what do developers need to know to make their videos play 4K? The Fire TV stick sells more than the Fire TV set-top box, but the stick's CPU and chipset aren't as fast. How does this business trend toward less performant but cheaper devices affect how developers code apps? Is there still a trend toward gaming with these (slow-CPU) devices? What will Apple release in their upcoming version of Apple TV? Is HDR (high-definition range) going to be the next big must-have feature?

You get this knowledge from researching industry information through websites, magazines, blogs, conferences, and other general news sources. Researching these industry trends and directions will help you focus your documentation in relevant ways.

Where Do You Find the Time?

Now that I've covered the types of information a technical writer needs to research, another question remains. *How do you find the time to get this knowledge?* Even if you filter the product domains by user tasks, there is still a lot of ground to cover.

Here's my approach. I tackle the product, user, and industry knowledge at more or less the same time. First, I compile a list of relevant news sources to gather the information. The links include the following groups:

- ▶ **Wiki pages** (including change histories, which highlight active pages and topics)
- ▶ **Code repositories** (specifically commit messages from relevant engineers)
- ▶ **Blogs** (corporate blogs, marketing blogs, product evangelist blogs, internal blogs, and industry blogs)

- ▶ **Email distribution lists** (some information is only sent in email)
- ▶ **Support channels** (forums, Stack Overflow, incident logs)
- ▶ **Issue tracking sites like JIRA** (sprint charts, recently updated items)

My list of links has about 25 different information sources. When I roll into work in the morning, I spend about 30 minutes checking all these new sources. I usually don't read each item thoroughly, but instead I start by skimming titles and headings to look for new information.

Then, when I find some relevant nugget, I log a task item (in JIRA) to add the information to the documentation. This research session works well and makes me feel aware of what's going on.

Usually, one source will have more information on some days than others. For example, a company blog post might have new case studies and videos that outline top tips or concerns from developers. Another day, an updated wiki page might reveal details about an upcoming feature and launch schedule. Another day, newly published apps in the Appstore might show a trend with a niche developer audience.

During my research session, I don't spend time creating new documentation. Here I'm just gathering information and logging JIRA items. When it comes time to work on the tasks (JIRA items), I identify the top one or two JIRA items to focus on for the day. I drag these items into the "In Progress" column on my Kanban board.

Here's where my deep-dive into technology comes into play. To address a JIRA item, I may have to spend some time learning about a concept. For example, if the JIRA is to address audio focus handling in streaming media apps, I could turn to YouTube. YouTube has many Google I/O presentations, including some that address audio focus. The YouTube video might introduce concepts that would be familiar to existing Android developers but which are new to me. To better understand these new concepts, I turn to my other resources for learning, such as Lynda.com, Udacity, Safari Books Online, or other sources.

Focusing in the Right Direction

As long as I've grounded the knowledge need in an actually relevant JIRA I'm working on, based on my research, I

won't feel like I'm learning the wrong thing. This is the problem with most tech courses and e-learning. You often spend time researching subjects that aren't immediately relevant to your projects.

When you're a working professional, you can't sink countless hours of time in directions that seem like tangents. The effort must directly address the knowledge you want to gain. What you learn has to relate to JIRAs you're working on—otherwise, the efforts become tangential and unproductive.

The research you do informs the learning angles you pursue. Sometimes I hear people tell me they want to ramp up their technical skills, so they take a class in iOS programming, AWS architecture, or AI, but these technical skills usually have little to do with their current roles or documentation projects.

Although there's certainly merit in learning for learning's sake, and I applaud the effort, it might not be sustainable in the long run. As an industry practitioner, your research efforts have to pay dividends in the documentation you write. The technology landscape is wide and vast in what you could potentially learn. If you don't do the necessary research to inform what is actually relevant to your documentation tasks, you'll find yourself taking many leisurely strolls down technology lanes that don't get you closer to your destination. That destination, for technical writers, is to produce great documentation for users.

Conclusion

Researching knowledge domains and then acting on the knowledge is a challenge that crosses all disciplines, but it's especially relevant to practitioners in technology fields. Focus your research on the four main domains—product knowledge, technology knowledge, user knowledge, and industry knowledge. Then limit your scope to the user's tasks that you need to document. This will help you both learn what you need to know to write great documentation and have a successful, long career. **I**

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Numbers? Questions? Nah. Until I Owned my Own Business

BY ELIZABETH FRICK | *STC Fellow*

I HAVE A T-SHIRT that says, “English major, you do the math.” Ironically, as an English major who owns a small technical communication business, I have to use some numbers every day to ensure that my business and professional decisions are rational rather than emotional (left brain vs. right brain).

My other T-shirt says, “Got questions?” Together, these messages summarize my natural avoidance of numbers and questions—factors that affect research. In this article, I will share how I have overcome that reluctance and am now better able to perform the kinds of research that all businesses must conduct, starting with technology and tools that will help us in our businesses. Next, I will look at how to research and implement a business strategy, and I’ll also explore marketing research that helps self-employed technical communicators like me find new clients. Finally, I’ll explain some research that I do that helps me set my prices.

Researching Technology and Tool Purchases for Small Businesses

In terms of doing research in the field, let’s start with technology, not because I love it (I don’t), but because no business can survive without it. The most obvious

technology purchase is a computer and relevant mobile devices. When it’s time to make hardware decisions, I need to ask a lot of questions:

- ▶ Should I stay with my trusted brand? Or should I spend the energy required to compare my current brand to others so that I can be certain that I’m choosing the current best products on the market?
- ▶ Should I upgrade dramatically or settle for fewer, less powerful features? Will the new, powerful features in a radical upgrade provide a return on investment (ROI) or just be fun to play with?
- ▶ Will I even be able to figure out the new technology? Will I have to hire someone to help me explore and use the features that I choose?

These questions are all key because sometimes, I make snap decisions when I’m in a panic (my computer just died) or I’m just being lazy.

Concurrently, I do a fair amount of research online and use simple spreadsheets to compare packages (bytes and bits and service packages) before I buy. To make a final decision, I then combine my findings with the advice of fellow colleagues and my IT guy. This kind of activity is relatively simple.

Other technology decisions may be more complex, especially when they intersect with financial decisions. For example, researching the ROI for high-speed Internet requires that I ask questions about two financial specifics:

1. Before upgrading to a blazing speed, I must ask, “How much is each hour of my time worth?” This requires asking what my net profit is by accounting for how much time I spend both generating income and running the business.
2. Then I have to figure out how much time the mega-fast Internet connection would theoretically save me—is it worth it? The good news is that I can build a dynamic spreadsheet for this data that I can easily update to keep financial numbers top of mind. When my Internet provider tries to upsell me to a faster package every time I call, I can quickly compute if the faster speed will net an increase in income or just help that megacompany’s bottom line.

A third type of research-related technology decision involves the software and apps that businesses choose to use. As a corporate trainer and editor, I don’t need the software applications that my writing colleagues use, so I can’t comment on that research strategy and its relevant questions. However, I imagine it might be similar to the strategy I followed ten years ago to research and choose my first webinar tool:

1. First, I searched online for available tools and captured relevant details in a spreadsheet.
2. Then I tried a 30-day free trial for a webinar tool that met my stated requirements within my budget. I asked, “Can I see myself using this software for a year?” When the answer was “Yes,” I signed up for a year.
3. When my subscription expired, I documented my irritations with that webinar tool (it no longer exists) and repeated steps 1 and 2 above. I eventually chose the “GoTo” products that Citrix® offers, starting with the lowest level (GoToMeeting®) in 2007. After mastering the technology at that level, I progressed through GoToWebinar® and on to GoToTraining®, where I have worked happily for the last nine years.

Ongoing research involved watching Citrix’s webinars that demonstrate their features and upgrades so that I could continue to use more of my webinar tool; there’s always a lot of technical evolution to learn with any application or software. Occasionally, I’ll look at competing vendors to see if they have other options that I might want to consider as a reason for switching platforms. However, there’s usually a steep learning curve built into this technology, so my tendency toward inertia prompts me to stay where I am, no matter how alluring the competition may look.

In summary, this strategic approach to technology decisions seems to work for me:

- ▶ I read up on what I can.
- ▶ I use a trial subscription before purchasing (always!)

- ▶ I purchase and stick with whichever version seems to work best for me.

I imagine this is similar to the research path that larger organizations may follow, but they probably have more people on their research team than I do. I should also note that I am not an early adopter; once I eventually do choose a technology, I tend to stay loyal longer than most others, perhaps because I must do all the research myself and pay for the new technology.

Strategic Business Research

For my business, I offer at least three service lines, each connected to research processes and practices in some way. I started my company, The Text Doctor LLC, in 1990 offering writing, editing, and training services. Back then (and still today), I preferred training because I loved it and it paid the best. However, at certain points over my past 26 years in business, I have reacted to market conditions in the following ways:

- ▶ In the recessions that I have survived (1990-1991, 2001, 2007-2009), I edited and wrote but did not train much because training is one of the first cost centers to be cut in an economic downturn.
- ▶ Whenever I could, I trained and edited because I prefer those services over writing.
- ▶ Whenever I could, I was almost exclusively a trainer.

This reactive stance may have been strategic, although I am not at my core a strategic person. The success of this approach, however, is connected directly to effective research.

For example, in my early years in business, I figured out that the key to success was doing research to identify resources to help me strategize my service lines as a small business. In doing such work, I have used advice from experts at my town’s Small Business Development Center (SBDC) to help me think more like a business. The good news is that there are 900 SBDCs in the country (see <https://www.sba.gov/offices/headquarters/osbdc/resources/11409>), and here’s how they are advertised: “As a result of the no cost, extensive, one-on-one, long-term professional business advising, low-cost training and other specialized services SBDC clients receive, the program remains one of the nation’s largest small business assistance programs in the federal government.”

Through the help of my SBDC counselors, I learned to think of my company as a business and market accordingly, rather than consider that I was an artisan or academic. I guess I subconsciously thought that a business offered products—silly me. It took me awhile to shift my view, but the resulting research implications were huge. When I had thought of myself as an artisan or academic who writes, edits, and trains, I expected that other businesses would seek out my services. When I finally realized that I was a *business offering service lines* rather than products, of course I had

to write a business plan (with the help of the SBDC). For more information about writing business plans, see my 2004 *Intercom* column, “Business Plans Build Good Business.”

Marketing Research for Small Businesses

Like so many other business activities, marketing—particularly for one who owns her own business—is a research-centric activity. For my own business, I’ve approached this process over time in the following way: After I wrote my business plan, I generated a marketing plan, using Jay Conrad Levinson’s “guerrilla marketing” concept to create a seven-sentence marketing plan. I learned to define, among other things, my target audience and my niche in the market. This led me to ask strategic questions such as:

- ▶ What kinds of companies in what kinds of industries might need my services?
- ▶ Are there specific businesses that might hire a small business like me?
- ▶ What size businesses are most likely to hire me directly rather than go through a contract house?

Answering these questions provided search parameters that I could use to access my local library database (which offers a mountain of databases, eBooks, and eMagazines). I use referenceUSA® online (their home page says they offer “Accurate Data on 44M Businesses”). This goldmine of research information has fueled many a marketing campaign for me. For more information about marketing plans, see my 2004 *Intercom* column, “Building a Marketing Plan.”

Using Numbers to Understand and Set My Prices

I have learned to use research to track my editing metrics to be able to answer the question: *What is my average speed for editing certain types of documents?* Once I know the answer to that question, I can estimate realistically and submit a bid on a variety of documents that will be fair to both me and the client, or I can reject a project based on a client’s unrealistic expectations. Figure 1 shows an example of what this research process often looks like.

I compile my bids in two steps: I do a one-hour edit on a client’s sample document, and I then compare those metrics to my overall numbers for similar documents. This helped me last summer, when a publisher contacted me and sent

A	B
Document	Words per hour
A	453.87
B	776.44
C	836
D	1071.43
E	943.2
F	1439.43
G	1527.2
H	1435.43
I	1057
J	1225.78
K	1591.2
L	1022
M	1729.33
Total (13 docs)	15108.31
AVG Words/hr	1079.165

Figure 1.

a sample document for me to do a trial edit. She said, “From the samples I have seen [in this project], I think your job will be a fairly simple, light copyedit.” (Don’t clients always say that?) She had projected that I could edit at 2666 words per hour. My trial speed was 1593 words per hour, almost 50% more than my average rate of 1000 words per hour but almost half of her expectations. Granted, I might have realized some economy when I became more familiar with the content, but our numbers were just too far apart.

If I had accepted the contract, I might have been tempted to compromise my quality of work to meet the deadline and expectations for time spent. The choice was clear: I politely declined the project. If I had followed my emotions—I wanted the project—I might have earned \$18 an hour. (Minimum wage in my town is \$15 an hour.) I was glad to have numbers to soothe my disappointment about turning down the job.

Who knew that numbers could be an English teacher’s best friend? Of course, writers and coders and other businesses must maintain similar metrics so that they are able to bid profitably.

Final Thoughts About Research

My success in business has depended on many factors, but the most important has been my ability to do research that focuses on improving the quality of my decision making. The key is knowing how to answer key questions associated with owning and operating a business.

Answering questions like these have helped me make better decisions:

- ▶ Whom do I know who has experienced this particular business problem and could help me?
- ▶ Do I really need high-speed Internet? Is it worth the cost? Or do I just want it for watching Netflix?
- ▶ Are there industries that I should research to find potential clients?
- ▶ Which of my service lines brings me the most joy? Can I afford to focus on delivering that service in the present economy, or do I need to widen my service lines?
- ▶ Should I buy X software (I really, really want it!)? Will it provide enough ROI?
- ▶ Do I want to lower my hourly rate and compromise my editing quality just because I “need” the income this month?

Good questions lead to good numbers and, eventually, to good business decisions. And good research is key to knowing what questions to ask and to finding the related answers. ■

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Research Ethics Is a Tricycle, Not a Unicycle

BY SAM DRAGGA | *STC Member*
and DAN VOSS | *STC Fellow*

THE DISCUSSION OF RESEARCH ETHICS often focuses on the actions and intentions of the researcher. And researchers do have important ethical duties to the participants in their studies; to their institutions and organizations, their discipline, and their profession; and to the journals, magazines, proceedings, white papers, and reports to which their research is submitted for publication. Reviewers and editors, however, also have important ethical responsibilities, as do the readers in their interpretation and application of research findings. That is, research ethics is a tricycle, steadied and stabilized by each of its wheels—or the different individuals involved in the overall research endeavor—instead of a precarious unicycle operating exclusively on the skill of the researcher.



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Ethical Framework

In research ethics, as in any discussion of ethics, one must have a set of values with which to analyze potential ethical conflicts. Bear in mind there are often no “black-and-white” answers. It seems apropos, in this forum, to use the six tenets defined in the *STC Ethical Guidelines* (<https://www.stc.org/about-stc/ethical-principles/>) to create a foundation for understanding research ethics in the field, as each tenet has implications for conducting research:

▶ **Legality.** This ethical tenet pertains to research ethics in a number of ways. When there are human subjects, particularly with medical research, privacy laws apply. And when research results are published—as is generally the case—copyright laws govern subsequent use of the published entry by others, whether that use be academic or commercial. In reporting their findings, researchers sponsored by or partnering with a corporation must not compromise the company’s intellectual property and proprietary information. The same holds true for data considered sensitive or classified by the United States or another government.

▶ **Honesty.** This ethical tenet obviously applies to all three wheels of the research ethics tricycle: researcher, reviewer/editor, and reader. Yet, as critical as it is, honesty is often assumed to be the case on the part of researchers, reviewers and editors, and readers. Honesty applies in the researcher’s gathering of data (witness how readily empirical data can be falsified or how easily a survey can be “slanted” to yield the desired results); in the presentation of the data (witness “lying with statistics” or misleading visuals, which should be “refereed” by reviewers and editors); and in the interpretation and promulgation of data and research results by readers.

Consider the laboratory partners in Chemistry 101, under pressure to get an “A” in the course, conducting an experiment to determine the specific heat of aluminum by heating 10 grams of aluminum to Y °C, immersing it in 100 milliliters of water at Z °C, measuring the resulting change in water temperature, and applying the appropriate formula:

- ▼ Partner 1: “What temperature do you have?”
- ▼ Partner 2: “What do you *need*?”
- ▼ Partner 3: “71°C would be about right.”
- ▼ Partner 4 (squinting at thermometer): “What do you know—70.9°C! Amazing!”

▶ **Confidentiality.** This ethical tenet overlaps legality when it comes to the privacy of research subjects. When recording, archiving, and reporting data from participants in a research study, researchers are ethically bound to protect the anonymity of participants. They also must ensure research subjects are aware of confidentiality issues via disclosure and release forms.

Confidentiality also applies to the “blind peer review” process that governs the acceptance of research articles for publication in technical journals.

▶ **Quality.** This ethical tenet (as it applies to research, particularly the reporting of research findings) is composed of four attributes:

1. **Objectivity** means the researcher should not have a bias or a self-interest in interpreting and presenting results of the study. Consider, for example, a pharmaceutical or medical research project where the primary goal in development testing is gaining market share rather than patient wellness. Data should be presented and interpreted strictly on its merits rather than “slanted” to serve the interest of the researcher or his/her sponsor. One recalls the famous commercial: “Four out of five dentists surveyed recommend sugarless gum for their patients who chew gum.” What the slogan leaves out is the number of dentists approached by the survey team (10? 100? 1000?) and the number who declined to participate. It also makes clever use of the restrictive clause “who chew gum,” as it omits what the surveyed dentists might have said about gum-chewing in general and, using the word *recommend*, implies a broad endorsement for what is actually a narrow caution directed only to patients who are already chewing gum.

2. **Thoroughness** involves using appropriate and sufficient research methods and populations and subjecting findings to statistical analyses or equally rigorous processes for ensuring validity and reliability. A single study is unlikely to offer incontrovertible evidence: the more familiar you are with the findings of related studies, as well as the limits of their validity and reliability, the more credible and ethical will be your application of research findings.

For example, if 60 people in a survey of 100 technical communicators in the United States thought that Helvetica was superior to Times New Roman for legibility in a side-by-side analysis of two one-page business letters, you would be wrong to claim that “a majority of technical communicators prefer Helvetica to Times.” You would also be misguided if you were to switch all of your organization’s documents to Helvetica because “research proves Helvetica is more legible” or if you were to encourage colleagues to stop using Times altogether. The only logical and ethical claim or action in this case is to identify the finding as “potentially significant,” meriting continued research with other populations and other kinds of documents.

3. **Accuracy** applies to the collection, measurement, analysis, and reporting of findings. It requires a

meticulous awareness of detail and scrupulous attention to precision throughout the research process. Accuracy refers not only to *measuring* research results (see “Honesty” earlier). It also requires us to avoid both exaggeration and gross simplification in *presenting* and *interpreting* results.

Take, for example, the television station that reports “60% of callers to the station support Proposition X, and 40% are opposed.” While this finding might look impressive, its accuracy is impossible to determine without more information. When and for how long a period were calls received? Were these calls about Proposition X solicited or unsolicited? How many actual calls were received? Were any of these calls from the same caller? Is 60% exact or approximate (and if approximate, is it rounded up or rounded down)? A more accurate report would be: “We asked you to call us about Proposition X. We received 36 calls from different telephone numbers on Monday evening between 6 and 9 PM, with 21 supporting Proposition X and 15 opposed.”

4. **Clarity** is paramount in presenting research results. In technical communication, clarity is achieved by presenting information as simply as possible without oversimplifying.

This raises an interesting question: clarity for whom? Other subject matter experts in the area being researched, or an educated lay reader? The answer, of course, is audience-driven; thus, it would be appropriate for an article in a research journal to be written at a scholarly level, but not necessarily in the undefined esoteric jargon of the specific area of research. (Too often, researchers lapse into unbridled sesquipedalian “academese”—like this!—leading the reader to conclude they are more interested in impressing rather than informing.)

- ▶ **Fairness.** This ethical tenet, rooted in honesty and respect for others, covers considerable territory in research ethics. When researching a controversial subject involving opinions and judgments, the researcher ought to present all sides of a debate even if he/she disagrees with some of the opinions. Fairness is particularly important in constructing surveys, gathering data, and interpreting results (consider the dentists “not surveyed” in the above example). Fairness is critical in administering a test and interpreting the results. Witness the misguided thinking and manifest bigotry generated by tests riddled with culturally biased questions that purport to demonstrate how one race is genetically inferior to another in native intelligence.
- ▶ **Professionalism.** The description of the sixth STC ethical tenet, while broader in its intent, applies directly to

a careful review of a research article by others: “We evaluate communication products and services constructively and tactfully, and seek definitive assessments of our own professional performance.” As described later, professionalism in research includes the process of reviewing, critiquing, and providing comments on research results prior to making a decision to publish them (e.g., publish as is with minor editing, publish with revisions, don’t publish).

Now let’s apply an ethical framework to the three wheels of the research ethics tricycle.

Researchers

The first wheel of the aforementioned research ethics tricycle is that of the *researchers*. Their ethical duties have been the subject of extensive scrutiny, especially regarding the protection of participants in research studies. And we know that the ethical researcher must be objective, fair, and professional.

Agendas and Objectivity

Would you trust the research on the potential environmental impact of fracking for oil if the researchers worked for a major oil company? Conversely, would you accept the results of a research study on the same subject by an environmental protection or conservation organization?

A researcher could have a personal agenda that jeopardizes the integrity of the research, be it simply the professional recognition of getting published (as in the academy’s “publish or perish” syndrome) whether or not the research is legitimate or even pertinent to the field; or the researcher could be seeking financial aggrandizement (as in marketing a product or service for oneself or one’s employer). Or a researcher might allow personal beliefs to influence the structure, execution, and reporting of a study on cloning or stem cell genetic research, Darwinism vs. Creationism, medical marijuana, or the origins of sexual orientation (nature vs. nurture).

Inclusivity and Exclusivity

A less-examined aspect of ethical research, however, concerns the *inclusivity* or *exclusivity* of the research project. With research involving human participants, depending upon the nature of the research (trial medication vs. placebo, opinion survey, even a political poll), the demographics of the study group are obviously key both to the relevance of the research and the validity of the results. Is the study group representative—that is, is it inclusive or does it exclude key demographic sectors? Is the study group the right sample for the subject being researched? Is it balanced for gender, ethnicity, age, educational level, and other cultural factors? Is it open for participation by persons with disabilities? For example, little has been addressed about a researcher’s obligation to make research projects accessible in recruiting participants and reporting

results. Such factors have pronounced implications for what the results of research mean, how widely they can be applied (if at all), and if they can be tested or verified.

Availability and Accessibility

What about the *availability* and *accessibility* of the results of the research? How and where will they be published? Will they be published online, in a printed journal, or both? Is the printed or online journal open to others doing research in the field? Is the online journal in accessible format for readers with disabilities such as blindness (e.g., narrative text properly formatted for a screen reader, text descriptors provided for visuals)? All are central ethical factors the researcher needs to consider when reporting results.

If the research involves human participants, will the results be available and accessible to the participants to review? If so, will they be expressed in language and visuals the participants can understand? And will the results be released “as is” or after having been “laundered” by the special interest agent who commissioned the study? Such factors are key to address, for they not only have important ethical implications, they could also lead to serious legal consequences.

Relevance of Research Topic

One may ask if there are ethical implications to the choice of what subject to research. Does a researcher have an ethical responsibility for his/her research to yield some specific “return on investment” in terms of the importance of the results to the collective body of knowledge (pure research) or its potential for human benefit or avoidance of harm (applied research)?

For example, is it “OK” for a doctoral dissertation to be on a totally obscure topic like the migratory patterns of the speckled Malaysian crayfish, the only tangible benefit of which is to earn the writer a PhD? Be careful before answering that question too quickly: consider how many times human knowledge has ultimately benefitted from discoveries in the most unlikely of areas.

And is personal or corporate profit a legitimate basis for research? Be careful answering that question as well, lest you throw out the baby (the benefitting patient) with the pharmaceutical bathwater (the immense profits on specialized medications).

Reviewers and Editors

The second wheel of the research ethics tricycle involves the process commonly used to share research results via research publications such as journals (e.g., STC’s research journal *Technical Communication*). This process involves *reviewers and editors* in a cycle of activities:

The Review Process

After an author submits a manuscript, the editor acknowledges receipt. The editor then checks the manuscript for anything that might identify the author and deletes any

identifying information from the text or the properties of the file itself. The editor identifies three individuals who would be qualified to serve as reviewers for this manuscript and inquires about their willingness to serve as reviewers.

If they are willing, the editor sends each a copy of the anonymized manuscript and a copy of the reviewer guidelines (i.e., the criteria for evaluation of manuscripts). The reviewers read and comment on the manuscript, sometimes annotating their copies with specific notes, corrections, and suggestions. The reviewers then return their reviews and annotated manuscripts to the editor and note their recommendation in terms of publishing the manuscript. This recommendation usually falls into one of three categories:

- ▶ Accept (publish manuscript as is, except for minor formatting to the journal’s editorial style)
- ▶ Reject (do not publish manuscript)
- ▶ Revise and resubmit (revise manuscript according to reviewer suggestions and submit revised manuscript for a second review)

The editor summarizes the comments of the reviewers and reports to the author (and later the reviewers) on the disposition of the manuscript. If the recommendation is to revise and resubmit, the editor advises the author on how to implement proposed revisions, and the cycle of review proceeds again.

The Ethics of Review

We ordinarily imagine editors and reviewers as perceptive and impartial judges, and the majority deserve this reputation. Dubious behaviors, however, do occur. For this reason, different mechanisms have been developed to ensure ethical behavior during the overall review and publication process. The Committee on Publication Ethics (COPE) represents one such initiative.

Formed in 1997 by a small group of journal editors in the United Kingdom and now 10,000 strong internationally, COPE is dedicated to “promoting integrity in research publication.” COPE advises editors on how to address ethical questions and identifies cases of ethical failures by editors and reviewers, including:

- ▶ Breach of reviewer confidentiality (i.e., a reviewer talking to colleagues about a manuscript he/she is reviewing, using or sharing information from this manuscript)
- ▶ Reviewer directing apprentice to review a manuscript (i.e., instead of the assigned reviewer reading and evaluating the manuscript)
- ▶ Editor favoring certain authors (i.e., the editor chooses reviewers he/she knows will be receptive to the manuscript)
- ▶ Editor as author in same journal (i.e., raising questions about the validity of the anonymous review process)
- ▶ Review of a book written by the journal’s editor (i.e., raising questions about the credibility and objectivity of the journal’s book reviews)

Reviewers and editors have several ethical obligations, including to the study's participants, to make sure the contribution of the participants to the study is valued and respected with conscientious, principled, scrupulous consideration of the submitted manuscript. All of a researcher's efforts to sustain the privacy and humanity of his/her participants is for naught if reviewers and editors act without integrity in their evaluation of a manuscript.

Ethical Review Practices

To achieve such ethical behavior in the reviewing and reporting/publishing of research results, reviewers and editors must:

- ▶ Accept for review only manuscripts on subjects of pertinent expertise that offer no conflict of interest
- ▶ Give a manuscript a conscientious reading in a timely manner (i.e., usually 30 to 60 days)
- ▶ Offer constructive comments to the author about how to revise (i.e., derogatory and dismissive comments make neither the manuscript nor the researcher better and thus contribute little or nothing to the discipline but a hostile environment)
- ▶ Maintain confidentiality about the review process of a manuscript, never discussing the nature or number of revisions or the comments and corrections offered
- ▶ Maintain confidentiality about the information in a manuscript, neither using nor sharing this information until it is published
- ▶ Report possible ethical violations (e.g., plagiarism, fabrication, duplicate submission)

For a detailed list of reviewer responsibilities, check the COPE guidelines at publicationethics.org/resources/guidelines-new/cope-ethical-guidelines-peer-reviewers.

Readers

The third wheel of the research ethics tricycle consists of the *readers*. They may be considered the “steering wheel” because it is their interpretation, acceptance or rejection, and possible distribution of the results that govern where the research results are going next. This could be to the credentialed body of the knowledge within a discipline, back to the research community for replication or further study, or to the boneyard of discredited or irrelevant research.

We, as the readers of research, have important ethical responsibilities to the discipline. We must be meticulous about accuracy in the interpretation and distribution of research findings. We must neither minimize nor exaggerate a study's results but recognize and acknowledge the limits on reliability and validity. We do no service to the discipline if we characterize implications as conclusions or generalize widely from narrow pilot projects, as illustrated in the above discussion of the survey on Helvetica versus Times New Roman typefaces. We must resist the temptation to simplify research findings in the hurried pursuit of practical

applications. A failure to be cautious puts practice on a fragile foundation, generates misguided claims, and makes us look impulsive instead of innovative—superstitious instead of scientific. All of these ethical factors are important for readers to fulfill their vital role in ensuring the integrity of research and the publication of results.

Conclusions

In sum, from test tube to test report, an ethical research project represents honest, accurate, and objective study of a subject of significance to the discipline and potential social benefit. The conclusions or preliminary findings are consistent with the data gathered in research. The results are presented clearly and without bias in an appropriate forum using language and statistics the audience can understand, filtered and refined by expert reviewers and editors. And the reader applies sound judgment in legitimately interpreting and conveying the results to others.

If any one of the three wheels of the research ethics tricycle breaks loose (biased or sloppy researcher, prejudiced or unfair reviewer or editor, impulsive and judgmental reader), the tricycle wobbles and crashes.

If all three wheels are turning smoothly, the tricycle reaches its destination—honest, responsible research that forms a trusted foundation for further exploration. ■

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DAN VOSS (danvoss999@gmail.com) is a “retired” but still active proposal specialist for Lockheed Martin who also provides industry training workshops in business and technical communication. An STC Fellow, Dan is recognized for his publications and presentations on diverse subjects at STC's international conference and was the recipient of the President's Award for his efforts on student outreach. With Lori Allen, he coauthored *Ethics in Technical Communication: Shades of Gray*, published in 1998—for which he became the only non-engineer to receive Lockheed Martin's coveted Author-of-the-Year recognition. He has coauthored four research articles for STC's Technical Communication as well as four articles for Intercom. Dan and Bethany Aguad, then a student at UCF, co-managed STC's student outreach and mentoring initiative from 2012–2014 and presented at Leadership Day at two Summits. They also coauthored Chapter 5, “Teaching the Ethics of Intercultural Communication,” in the anthology of research articles *Teaching and Training for Global Engineering*, edited by Kirk St. Amant and Madelyn Flammia, published in 2017, and already nominated for an award.

Traversing the Gap

BETWEEN

Academia and Industry:

An Interview with Sandy Bartell

BY DARIN WILLIAMS

THE ESSENCE OF technical communication is gathering and conveying information. Broad is the range of our responsibilities, yet we each identify with seeking facts prior to issuing articles, instructions, reports, innovations, etc. Ultimately, profits often drive industry research as design teams are pressured to deliver products. Academic research, by contrast, is an endurance race steered by evolving theory and close investigation.

Reflecting on Research

To examine this research context, I sat down with Dr. Alexandra (Sandy) Bartell, a senior technical communica-

tor with The Boeing Company, to gain her perspectives on this situation as someone who has worked in both realms of the technical communication field.

In addition to being a technical communicator with extensive experience in industry, Sandy also holds both a PhD in human centered design and engineering and an MS in technical communication from the University of Washington, as well as an MBA from Monmouth University. Moreover, Sandy is a change agent in a complex organization that often relies on her research training across both industry and academia. As such, Sandy offers a unique perspective and professional



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evaluation on the topic of research as she moves between academia and the private sector. Researchers sorting through techniques will also appreciate her guidance on choosing methods for enabling feasible project timelines and long-term objectives.

In true technical communicator form, Sandy began the overall interview process by asking about my research and industry ambitions. She then moved to address a series of questions designed to examine how the topic of research connects the industry and academic segments of the field. What follows are excerpts of our overall discussion, and the ideas they cover have interesting insights and important implications for how members of the field view and engage in research.

Background and Experience

Darin: How long have you considered yourself a technical communicator? Did that revelation coincide with your current appointment or was it a personal discovery?

Sandy: The revelation that I should be a technical communicator did not coincide with my current position. And actually, it was a slow process over a number of years rather than a one-time revelation. When I was working on my MBA, one of my professors was very impressed with the way I blended my analytical skills and writing and told me I should consider becoming a technical writer. I didn't even know what a technical writer was at the time!

When I later got a job at the company I'm with now, it was as a project scheduler. One of the programmers asked for a volunteer to write a user guide for an application he had developed. I volunteered and fell in love with that kind of writing. Shortly after that experience, I landed a job as a technical communicator.

Darin: Which technical communication research techniques do you consider the most important or most prevalent in industry? Are they up-to-date?

Sandy: From my vantage point, there appear to be several types of research that are prevalent in industry:

- ▶ Research involving data collection for presentations (mostly descriptive data)
- ▶ Audience analysis research. Mostly accomplished through one-on-one interviews
- ▶ Usability testing, both formal and informal
- ▶ Surveys

Different companies may support other types of research by technical communicators, depending on their particular industry, product types, government restrictions, management structure and imperatives, and other factors. In my current position, I was able to use all of the research techniques I listed here, but I'm in touch with colleagues in other companies that use more rigorous kinds of research in theirs.

Connections to Career

Darin: What kind(s) of research did you do in industry during your career—and, if possible, prior to starting your PhD work?

Sandy: During my career in industry (and prior to my PhD work), I conducted all the types of research I mentioned [previously]. However, I did not have the knowledge, techniques, or tools at my disposal that I received from my doctoral studies. I did a smattering of research in usability, mostly through think-aloud protocol testing and some paper prototyping. The results were shared informally in meetings with project teams.

Darin: What was your research topic? Was your choice driven by an industry need or personal passion?

Sandy: I had originally wanted to do my doctoral research around a topic related to a need within my company. However, given my time constraints I decided against it because of the hurdles I would have had to overcome not only with my university Institutional Review Board (IRB), but also the equivalent to a human subjects organization within my company.

I chose, instead, an area that blended several of my research interests in other smaller studies with which I'd been involved. I was interested in how writing style (in terms of explicitness) might affect the credibility of online medical information for nonnative English speakers.

Darin: What types of minor research studies did you complete in your graduate studies? How did those studies connect to your dissertation?

Sandy: During my doctoral studies, I participated in several small studies that involved Internet-based surveys. All used a mix of quantitative and qualitative techniques. I used these studies as a springboard for my doctoral dissertation because they gave me a good foundation for conducting surveys through the Internet. The topics for some of these studies had to do with various facets of online medical information, such as comprehension, ease of navigation, and so on. The results of these smaller studies were published as conference proceedings, journal articles, and book chapters.

Connecting Academia and Industry

Darin: How did the kind(s) of research you did in industry affect, guide, or contribute to the research you did for your graduate studies and for your PhD/dissertation?

Sandy: The kinds of research I did in industry did not really affect or influence the research I did for my graduate studies. The purpose of my research in industry was to solve specific business problems. The purpose of my research in academia was to contribute knowledge to the field of technical communication that might be applied in

other areas than just industry; for example, health care or information systems in humanitarian efforts.

Darin: How did the kind(s) of research you did in academia—and for your PhD—affect, guide, or contribute to the research you did for your work/job in industry?

Sandy: The kinds of research I did in academia over the course of my PhD studies had a direct effect on the research I've done in my job. While I'm basically conducting the same kinds of research I did previous to getting my doctorate, I have a much broader and deeper perspective on different research techniques, methodologies, and ways of presenting results.

I have not had to conduct any research that involves human subjects approval, but my company does have its own human subjects review board if the need were to arise.

Contributions and Understanding

Darin: How do you think research done in industry can contribute to research done in academia? How can the research done in academia contribute to the research done in industry?

Sandy: Ideally, both types of research should inform each other. Researchers in academia can share new theories, methods, and research tools and applications with their counterparts in industry. And researchers in industry can suggest real-life problems or areas of investigation that would benefit from the rigor of academic research.

Collaborations and Partnerships

Darin: Can industry practitioners and academics collaborate to provide students with the kinds of research skills needed to succeed in today's economy?

Sandy: Collaboration between academia and industry is often not as simple as an agreement to research a topic or problem together. Companies frequently have governmental, legal, ethical, or military restrictions on sharing information or processes with outside entities. Academics are often pressed for time, staffing availability, and funding when wanting to engage with industry in collaborative research.

Having said that, many companies offer internships to students that have been a very effective way to introduce students to the skills they will need to perform well in industry settings. However, most internships seem to be an introduction to the duties and responsibilities of a particular job in industry. Internships that involved research would benefit students by helping them apply their research skills to real-life problems in business, and industry would benefit by taking advantage of academic researchers who are familiar with rigorous research standards and who use the latest research tools, methods, and practices in their field.

Darin: Do you have any suggestions for what individuals in industry and in academia might do to more effectively collaborate on research projects or share research results, interests, and opportunities with each other?

Sandy: The formation of an independent national or global clearinghouse to match industry research needs with academic institutions might be helpful. If posted online, companies and universities could quickly assess whether they have the capabilities, resources, staff, experience, time, and funding to collaborate on a proposed research venture.

Consideration should also be given to conducting collaborative research remotely when possible. While face-to-face collaboration is ideal, we live in an information age where much of the world's business is conducted over the Internet on a daily basis. Collaboration tools such as WebEx and GoToMeeting are commonly used to share ideas and collaborate virtually around the globe while saving time and money.

Collaborative ventures between industry and academia do not need to be on a large scale to benefit both parties. Even small studies can generate large [returns on investment] ROIs for companies and, at the same time, give academic researchers leverage for follow-up studies and future collaboration opportunities.

Concluding Thoughts

Based on the points Sandy raised, technical communicators in academia and industry can use research to work together by using the following collaboration strategies:

- ▶ Participating in research internship programs to develop skills and establish relationships.
- ▶ Establishing a global institution that solely aims to quickly unite researchers with similar interests.
- ▶ Leveraging Web conferencing tools, such as Zoom, GoToMeeting, etc., to cut research costs.
- ▶ Thinking small! Small projects can snowball into large business impact.

Finally, I noted a salient point of encouragement from my discussions with Sandy; don't be distracted by the inevitable bureaucracy associated with inter-organizational collaboration. While academic and industry research cultures have many differences, synergy across both sectors can have limitless societal and commercial significance. Much like this interview, an audacious attempt to traverse the gap between industry and academia will often be met with generosity. ■

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The 2016–2017 Salary Database Is Now Available for Download or Purchase

THE 2016–2017 SALARY Database is now available for download. All 2018 members receive a free copy in their membership confirmation email of the *Salary Database* PDF, which includes charts, maps, and an evaluation by an economist, as well as the Excel Workbook. Nonmembers may purchase the publication for \$149. Visit www.stc.org/salary-database/ for full details.

The STC *Salary Database* is a tool that can be used to conduct more powerful job searches, make a strong case for a raise, or prepare department payroll budgets. The data in the *Salary Database* are drawn from the United States Bureau of Labor Statistics' (BLS) Occupational Employment Statistics (OES), the main resource of human resource departments across the United States.

Use the STC Salary Database if You Are:

- ▶ **An employee** looking for solid facts to back up a raise request
- ▶ **A manager** seeking salary figures to assist with setting budgets or bidding for projects
- ▶ **A freelancer** investigating average hourly fees for a different industry or city
- ▶ **A job-seeker** needing insight on what industries and what geographic areas hold the most new jobs
- ▶ **A global technical communicator** looking for rates to charge or pay for a project or consultant in the United States
- ▶ **Any technical communicator** in need of either annual or hourly wage information

This year's data offers new insights into how the emerging recovery has and will continue to influence the demand for technical writers. In 2016, employment rates for technical communicators increased modestly, but 2016 still represents the highest employment level for the occupation since being individually tracked by the Bureau of Labor Statistics. "Technical writer" as a profession has seen employment growth every year since 2011, with an average annual employment increase of 1.9%. Globalization and export markets continue to be important to the U.S. economy, showing an increase in 2016 in translators and interpreters. The *Database* also highlights the largest and

fastest-growing industries and geographic areas in terms of both wage growth and job growth.

2018 members now receive the Excel Workbook for free, which can be used to format, analyze, and manipulate the data easily. Visit <https://www.stc.org/salary-database/> for more information on the *Salary Database*. (If you did not receive your copy of the *Salary Database*, please email stc@stc.org.)



Welcome to Orlando, Your 2018 Summit Destination



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BY ALEX GARCIA | *STC Member and*
MICHELLE FLORES | *STC Student Member*

THE ORLANDO CENTRAL Florida STC Chapter is excited to welcome you to the 2018 Summit. Most people think of **Disney World** (not be confused with Disneyland), **Universal Orlando**, and **SeaWorld Orlando** when they think of visiting Orlando. However, the city has so much more to offer.

Staying at the Hyatt Regency Orlando (the official Summit hotel), you'll find a multitude of things to see and do within walking distance, particularly on International Drive, also known as I-Drive. There are many restaurants around to satisfy your taste buds, no matter your preferences.

Café Tu Tu Tango combines art, food, and fun with live artists and different events to go along with some excellent food from scratch. Happy hour every Monday through Friday from 3:30–6:30 PM makes the experience all the better. **Mango's Tropical Café** is also less than two miles away if you're looking for dinner and a show. Mango's is like a bar, club, show, and restaurant all wrapped into one. Don't worry though, if the not-so-touristy side of you is craving "regular" food and a normal dining experience, buffets and restaurants like Golden Corral, Cici's Pizza, McDonald's, Tommy Bahama, and

TGIFriday's, are also within two miles of the Hyatt Regency.

Not that you'd need to, but if you'd like to venture a bit farther out, Uber and Lyft are readily available, as well as public transportation (although if you ask the locals, ride sharing is definitely the preferred option). Additionally, the **I-RIDE Trolley** system provides a

convenient way for guests to explore even more restaurants and shopping. Speaking of shopping, Orlando has the distinction of having not one, but TWO separate **Premium Outlets**, one at each end of I-Drive. They will even sell you a suitcase that you can fill up as you shop. Rooms at the Hyatt Regency include a ticket for the I-Ride Trolley.

If you're planning to attend **MegaCon** following STC's Summit, make sure to make your hotel reservations early. STC's room block opened on 1 December.

With so many things close to the Hyatt Regency, it is convenient to find and do just about anything you want. However, Orlando has so much to offer, from themed restaurants with dinner shows to art galleries and museums, along with two self-contained shopping and dining destinations at **Universal CityWalk** and **Disney Springs**, so be sure to make time to explore. You can always find more information at visitorlando.com. We can't wait to welcome you to our beautiful city. **I**

Registration for the 65th Annual Technical Communication Summit & Expo Is Now Open

If you are paying attention to the massive global shifts affecting us as organizations and individuals, not only do we need to meet, we need to attend meetings that provoke thought, define forward-thinking, actionable learning, and provide a toolkit for participants to move ahead in ways which will positively affect business outcomes.

—Tahira Endean, CMP, DES, CED, from Intentional Event Design

Join STC and fellow colleagues at the 2018 Summit, the premier conference for technical communication education and networking, 20–23 May at the Hyatt Regency in Orlando, FL!

Registration for this can't-miss event is now open and STC is offering a special anniversary registration rate of **only \$925 for STC members, a \$800+ savings** from the full rate! Your conference registration includes the Welcome Reception on Sunday, the Opening General Session on Monday, continental breakfast on Monday and Tuesday, the Closing Honors Reception on Wednesday, refreshment breaks, access to unparalleled education sessions, and information on the latest industry tools and technologies.

Visit the website to find exciting news and speakers that will be announced in the coming months. So what are you waiting for? Register today! See you in Orlando! **I**

Stay at the Hyatt Regency Orlando, the Official 2018 Summit Hotel

THIS YEAR'S SUMMIT, 20–23 May 2018 in Orlando, FL, is the 65th Summit in STC's history. Where better to host STC's 65th anniversary celebration than the Hyatt Regency in Orlando, FL?

Hyatt Regency Orlando is an iconic hotel in the heart of everything Orlando has to offer—theme parks, shopping, dining, and nightlife. All Summit events, including education sessions and the Expo Hall, will take place on one level at the Hyatt.

STC has negotiated a **special conference room rate of \$219** for single or double occupancy accommodations at the Hyatt. Rooms in STC's block will also be charged a reduced resort fee of only \$9 per day instead of the regular \$25 fee, which includes:

- ▶ **Two complimentary daily tickets for the I-Ride Trolley** (a value of \$10 each day)
- ▶ **Daily complimentary high-speed wifi for up to six devices** in your guest room
- ▶ **Two complimentary bottles of water** in your guest room each day
- ▶ **Resort-style amenities** including the 24-hour fitness center, and 10% discount on spa and salon services
- ▶ **Bicycle rentals**

The importance of reserving a hotel room at the Hyatt Regency Orlando cannot be stressed enough. STC makes every effort to keep participants' expenses at the meeting, registration fees, and hotel rooms for the meeting as low as possible. We work hard to negotiate the best hotel rates and to make the best use of your registration dollars to keep the conference affordable. When anyone reserves a room with the official conference hotel, he or she is helping to support not only STC in 2018, but also contrib-

uting to its ability to negotiate the best rates for future conferences.

What are you waiting for? Book your room in STC's room block at the Hyatt Regency, Orlando. Hurry, because the best rooms will go quickly!

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2018 Election Preliminary Slate

THE STC NOMINATING Committee (composed of members Jamie Gillenwater, Larry Kunz, Rick Lippincott, Becky Todd, and Chair Adriane Hunt) is pleased to announce the preliminary slate of candidates for the 2018 Society election:

President

Jane Wilson will automatically succeed from the office of Vice President

Vice President

Pam Brewer Ben Woelk

Secretary

Kirsty Taylor

Director (two positions to be elected)

Ramesh Aiyangar Todd DeLuca
Alisa Bonsignore Mak Pandit

Nominating Committee

(two positions to be elected)

Jackie Damrau Li-At Rathbun
MK Grueneberg

Congratulations to the candidates, and thanks to all STC members who expressed interest in running for office. Note that the preliminary slate was prepared in accordance with the current Society bylaws. Individuals who meet the qualifications for Society office and engaged the nomination process,

but were not selected for the slate, may choose to pursue nomination by petition of 5 percent of the voting members of the total membership as of 31 August of the calendar year preceding the election (see Article VIII, Section 2, Part D). Individuals who seek nomination by petition must submit the required materials to the Society office by 8 January 2018. The final slate for the 2018 election will include candidates appearing on the preliminary slate as well as any qualified individuals who are properly nominated by petition and approved by the Board of Directors. The Society election is scheduled to open on 26 February and close on 9 March 2018. To be eligible to vote, members must have paid their dues by 1 February 2018. **i**

In Memory of Dorothy Warshaw Green Saxner Johnson (1924–2017)

BY BARBARA SIMMONS | *STC Fellow*

A FELLOW OF STC, Robert Frank Award recipient in 1978, and STC member throughout her professional career, Dorothy Saxner died 8 October 2017. Dorothy was one of the founding members of the STC Chicago Chapter. She was a great leader, both of the Chicago Chapter and of STC as a whole.

Dorothy received Bachelor of Science and Master of Science degrees in microbiology from the University of Chicago. She held research positions at the university, and was a teaching assistant in English composition at George Williams College; editor of the *Journal of Infectious Diseases* (University of Chicago Press); head of the technical editing unit in the chemistry and life sciences division at IIT Research Institute (IITRI); and retired as Vice President–Books and Corporate Secretary for American Hospital Publishing, Inc., in 1989.

Dorothy was instrumental in building the Chicago Chapter. In 1957, she joined the Society of Technical Writers and Editors. In 1960, STWE merged with the Technical Publishing Society (TWE) to become the Society of Technical Writers Publishers (STWP), which would change its name to the Society for Technical Communication in 1971. At the local level, Dorothy served the Chicago Chapter as Program Chairman, Secretary, and Vice Chairman. She was Chairman of the Chapter in 1962–1963, and Chair of the Nominating Committee in 1964–1965 and 1971–1972.

At the national level, she was Chairman of the Nominating Committee in 1965–1966; Vice Chairman of the Program Committee for the 1966 International Technical Communication Conference in Fort Worth, TX; Chairman of the Printing Coordinating Committee for the 1967 Chicago ITCC; member of the Standards Council; Director-at-Large,



1968–1970; and Assistant to the President, 1974–1975.

Dorothy is survived by her husband, Harold Johnson, of Ann Arbor, MI; her children Bobbie (Hank) Scheff and Amy (Allen) Oseroff; stepchildren Howard Saxner (Elizabeth Peters), Robert Johnson, Karen (Stuart) Downing, and Alan Johnson (Joe Dematio). She is also remembered by her grandchildren, Julian Scheff (Dana Simpson), Jack Scheff, Andy Scheff, Daniel Oseroff, Thomas Oseroff, David Saxner, and Ryan Downing. **i**

Why Ethics?:

Interpreting “Ethics” and What STC’s Ethical Principles (Can) Do

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DEREK G. ROSS | *STC Member*

AS MEMBERS OF the Society for Technical Communication, we are provided a set of six ethical principles designed to help us in our daily decision-making. The principles were first developed in the 1970s (see Cook 2002), and remain a valuable component of the organization. The list, available just off the “resources” tab of STC’s Member Center (<https://www.stc.org/about-stc/ethical-principles/>), begins, “As technical communicators, we observe the following ethical principles in our professional activities.” We are then presented with the following: Legality, Honesty, Confidentiality, Quality, Fairness, and Professionalism.

These are good words. I think any of us would be hard pressed to argue that we do not want to be viewed as honest, fair, professionals who follow laws, observe workplace confidentiality, and create quality work. But ethical principles (can) do more than just give us a shining sense of self.

If we know how to leverage our own principles, these good words can help us support our daily decision-making, help us convince other technical communicators of the rightness of our decisions (and perhaps convince them to take right action themselves when the time comes), and even give us something to lean on when employers ask us to make difficult workplace choices. To understand how we might better operationalize these principles, then, it is worth taking some time to consider the basics of ethics-based decision-making in general.

The Basics of Ethical Decision-Making

Clear understanding of our actions allows us to communicate our reasoning to others. If we ourselves do not fully understand how we come to decisions, we are unlikely to be able to convince others to support our decisions or judgements in similar situations (see, for example, Dombrowski 2000). Thus, when we make ethical decisions, we are making *normative* decisions.

A normative decision is one which makes an argument toward how things *ought* to be. Normative decisions guide our actions and seek agreement from others. So, given a simple situation, I might make an ethical judgement that I suspect most of us can agree with, and say that “punching your coworker is wrong.” Rephrased, I can make an action-guiding statement, and say, “Do not punch your coworker.” Rephrased again, I can seek your agreement: “I think we can all agree that you should not punch your coworker.” I have now made an ethical (normative) decision—not punching your coworker, and agreeing that we should all not punch our coworkers, becomes an action-guiding, agreement-seeking ethical principle.

Ethical situations generally involve four components: a moral agent, an action or series of actions, a recipient, and consequences. The agent takes action, the recipient receives consequences. Ethics comes into play when we consider what actions are appropriate to take in given circumstances, and what consequences are justifiable for recipients of actions—even, in many cases, who or what we will even consider as a recipient for action.

To extend just a bit—skip the next couple of paragraphs if you want to keep to just the basics—if you have heard of “virtue ethics,” you are considering ethics that relate to the agent’s (or action taker’s) moral character. “Deontological

ethics” refers to ethics that consider an agent’s duties or obligations in any given scenario, and “consequentialist ethics” focus on the consequences of action.



This column features ethics scenarios and issues that may affect technical communicators in the many aspects of their jobs. If you have a possible solution to a scenario, your own case, or feedback in general, please contact column editor Derek G. Ross at derek.ross@auburn.edu.

Who or what is considered a viable recipient (worthy of consideration), also matters. In anthropocentric ethics, only humans have moral standing. In non-anthropocentric ethics, non-humans can be a part of that agent-action-recipient-consequence chain: zoocentric ethics assigns moral standing to all animals; biocentric to all living things, including plants; and ecocentric to ecosystems (communities of organisms in conjunction with non-living components like soil, air, and water). We might consider the agent's duty in these cases as well: an *indirect* duty to a nonhuman is a duty owed to a human, and a *direct* duty to a nonhuman is duty directly owed to that non-human. Put simply, if I have the opportunity to pollute your lake, but do not because you do not want me to and I have told you I won't, I am following an indirect duty. I did not pollute the lake because of the way I feel about the lake, but because of our human-human agreement. If I have the opportunity to pollute your lake, but do not, even though you have told me I can (perhaps because I think the lake is better off unpolluted), I am following a direct duty. It does not matter what another human says.

Then we get into issues of value: When I make decisions based on action and consequence, I might consider something's instrumental value (its ability to cause value either through trade, sale, negotiation, etc.), or its intrinsic value (the belief that whatever I'm considering has value no matter what I do with it). All of this—and much more—is why any theoretical discussion of ethical principles and values can get complex very quickly. Add to that considerations of various ethical models such as Aristotelian (virtue-driven, rule-based, decision-making); Kantian (situational, rule-based, motive-driven decision-making); Utilitarian (often described as cost-benefit analysis, or the greatest good for the greatest number of people); Feminist (ethics that show awareness of decision-making repercussion and perceived social

hierarchy); and many more, and our discussions dramatically increase in length (and often volume).

Our Code of Ethics: Day-to-Day Operationalized Decision-Making

Despite what the preceding paragraphs might suggest, “ethics” doesn't have to be complicated on the day-to-day, operationalized level of decision-making. I offer the earlier notes for those of you that might appreciate a starting place for digging deeper into such a rich topic. Thankfully, many of us work in organizations that provide basic ethical guidelines, and, here, we share six ethical principles as members of the STC that give us a basis for making, and supporting, daily ethical decisions. The following explanations might serve as a starting place toward helping us more effectively operationalize these principles. In each case, I begin by directly quoting the text offered by the STC, then offer explanation.

Legality: *“We observe the laws and regulations governing our profession. We meet the terms of contracts we undertake. We ensure that all terms are consistent with laws and regulations locally and globally, as applicable, and with STC ethical principles.”*

As a normative “ought,” “legality” asks that all STC members consider our personal workplace rules and regulations, obligations to contract-holders, laws of state and country, and organizational constraints. If you are a paying STC member, you agree to follow all legal professional restrictions. Choosing to follow a law is an ethical choice—yes, there are consequences for breaking the law, but only if one is caught (ever knowingly gone over the speed limit?). That makes deliberately choosing to follow laws an ethical choice. Additionally, legality and ethics may differ (see Wicclair and Farkas 1984, for example). What might be legal might not be ethical in some circumstances. Just because it is not illegal for me to cut in front of you in line for

tickets to the next Star Wars movie, for example, does not make it ethical.

Honesty: *“We seek to promote the public good in our activities. To the best of our ability, we provide truthful and accurate communications. We also dedicate ourselves to conciseness, clarity, coherence, and creativity, striving to meet the needs of those who use our products and services. We alert our clients and employers when we believe that material is ambiguous. Before using another person's work, we obtain permission. We attribute authorship of material and ideas only to those who make an original and substantive contribution. We do not perform work outside our job scope during hours compensated by clients or employers, except with their permission; nor do we use their facilities, equipment, or supplies without their approval. When we advertise our services, we do so truthfully.”*

As a normative “ought,” “honesty” asks that all STC members think about issues like plain language, credit, and ownership of resources. We often work in environments where we provide our own oversight: “Honesty” asks for a true-ness to profession regarding actions, recipients, and consequences.

“Honesty” includes awareness of audience, and awareness that our actions as technical communicators always influence perceptions of *all* technical communicators. Take the section noting that “we do not perform work outside our job scope,” for example. If I routinely do work other than that assigned by my employer during work hours, or other than that which I am contractually obligated to perform (if freelancing), I create the impression that technical communicators lack focus, or perhaps overcharge for services, or that our work is too simple, or too boring, for my full focus. Any negative perception of my work ethic reflects on other technical communicators, and I ultimately risk creating negative impressions of the profession as a whole. If I

use work equipment to forward a personal agenda (a side website design business, for example), I risk building a reputation for technical communicators as a bunch of mercenaries only out for themselves.

Confidentiality: *“We respect the confidentiality of our clients, employers, and professional organizations. We disclose business-sensitive information only with their consent or when legally required to do so. We obtain releases from clients and employers before including any business-sensitive materials in our portfolios or commercial demonstrations or before using such materials for another client or employer.”*

As a normative (action-guiding, agreement-seeking) “ought,” “confidentiality” asks that all STC members respect others’ boundaries. Much of ethical thought involves thinking about potential repercussions (consequences) of action. Here, we’re asked to think about what might happen to others (or to ourselves) if we share information that has been entrusted to us in confidence.

Many of us work as integral components of what really is an information economy. In designing and articulating information, we may have access to knowledge that could impact an organization or individual’s wellbeing (for better or for worse) if we distribute it outside of the bounds of contractual obligation.

We are often the people that make information tradeable—“confidentiality” asks us to recognize, in many ways, the potential impact of knowledge-work, and, as an extension of “honesty,” argues that we ought to keep an awareness of the way information moves from person to person.

Quality: *“We endeavor to produce excellence in our communication products. We negotiate realistic agreements with clients and employers on schedules, budgets, and deliverables during project planning. Then we strive to fulfill our obligations in a timely, responsible manner.”*

The content for this column was originally presented in a webinar by the same name offered by STC on 20 October 2017. The webinar came about because when we talk about ethics, we often do so in a very general sense. “Do the right thing” seems to be the general perception of what it means to “be ethical,” and, as a result, any meaningful discussion of personal or corporate ethics often seems stagnant. If we all just did the right thing, we wouldn’t have personnel issues, arguments over corporate rights, concerns over privacy issues, or any other problems—unless, of course, we all have a different sense of what is right.

As members of the Society for Technical Communication, we operate under a set of six ethical principles. This column explains how those six principles; legality, honesty, confidentiality, quality, fairness, and professionalism, work against the larger backdrop of ethical theory.

I hope this overview is some use to you. As always, we welcome your responses, and truly enjoying working with the ideas you bring to our attention. Let us know your answers to the questions we’ve posed, your thoughts on our roles as technical communicators in general, or send us your own ethics cases or column ideas. Please send your responses to derek.ross@auburn.edu. Responses will be printed in an upcoming issue of Intercom as space permits.

—Derek G. Ross

As a normative “ought,” “quality” asks both that all STC members remember that our actions reflect the actions of all technical communicators, and that we remember our own (and others’) humanity... and limitations. It asks that we don’t commit to producing work that we knowingly cannot produce, and also asks that when asked to produce sub-par work, we work to increase knowledge of what we are capable of doing.

We are often asked to produce work under deadlines, sometimes in high-pressure environments. “Quality” is, in many ways, a call for us to remember that good work may take time, and asks that we keep the expectations of ourselves and our clients realistic, then produce work that meets or exceeds those expectations. In so doing, we increase the reputations of all technical communicators.

Fairness: *“We respect cultural variety and other aspects of diversity in our clients, employers, development teams, and audiences. We serve the business interests of our clients and employers as long as they are consistent with the public good. Whenever possible, we avoid conflicts of interest in fulfilling our professional responsibilities and activities. If we discern a conflict*

of interest, we disclose it to those concerned and obtain their approval before proceeding.”

As a normative “ought,” “fairness” makes explicit issues regarding implicit shared humanity in the other ethical principles. “Fairness” asks us to treat every individual, regardless of race, color, creed, class, religion, political affiliation, gender, sexual orientation, employer, and more as a moral agent.

“Fairness” also speaks directly back to “honesty” and “quality” by noting that all STC members ought to disclose any instances where we cannot, for whatever reason, act fairly.

Professionalism: *“We evaluate communication products and services constructively and tactfully, and seek definitive assessments of our own professional performance. We advance technical communication through our integrity and excellence in performing each task we undertake. Additionally, we assist other persons in our profession through mentoring, networking, and instruction. We also pursue professional self-improvement, especially through courses and conferences.”*

As a normative “ought,” “professionalism” recaps issues addressed

in every other principle. “Professionalism” argues that all STC members ought to recognize their shared values, and recognize that our actions define technical communication as a profession. Thus, we ought to lift each other up.

As with the other principles, “professionalism” recognizes that our actions are choices that have consequences. If we choose to take actions that support each other and our profession, we—collectively—improve.

Clear Understanding

As I noted earlier, clear understanding of our actions allows us to communicate our actions to others. Sometimes, however, we may find it difficult to find the language to make ethical arguments to others. STC’s ethical principles fulfill an important role here, by offering us a way to justify our actions. Organizationally, they help us preserve integrity. For nonmembers—employers, for example—they give us a reference

tool that allows us organizationally validated power. We can choose to take action (or not) based on these principles, then use them to support our decisions. Our ethical principles give us something to fall back on when we make ethical, job-related decisions, and allow us to justify our actions to others either simply, by pointing others to our own guiding principles, or in a more complex manner by breaking down the explanations offered by the organization. **i**

RECOMMENDED READINGS

This column draws heavily from general overviews of ethics, such as those by Paul Dombrowski (2000) and Andrew Kernohan (2012). Both books are excellent starting points for getting into the real work of ethics-based decision-making. The other works I refer to in this piece, as well as the additional works included here, similarly provide good framing for understanding ethics-in-general.

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- ROSS, D. G. 2012. Why Ethics?: Can Doing the Right Thing Really Change the World?. *Mother Pelican* 8.11, <http://www.pelicanweb.org/solisustv08n11page9.html>.
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Technical Communicators as Advocates: A Quick Reference Guide for Applying Transferrable Skills



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BY BRITNEY ASHFORD

ARE YOU A STUDENT looking for ways to improve your résumé and prepare for entry into the exciting field of technical communication? If so, you're in luck! I've compiled a quick reference guide for technical communication students who seek relevant work experience using the skills they have gained in their degree programs. Also, if you'd like to kill two birds with one stone, I strongly suggest pursuing opportunities that will allow you to work as an advocate and make a positive impact in your community—all while beefing up the “experience” and “volunteer work” sections of your résumé. First, I should start by providing a general definition of what I consider to be “advocacy”

work. For the purposes of this quick reference guide, “advocacy” is the act of providing support to an organization whose mission is either to be the voice for those who cannot speak for themselves, to update outdated and/or unjust laws that alienate a particular group, or to educate the general public on issues that require awareness to gain support.

What transferrable skills can be marketed by technical communication students?

Technical communication students have a lot to offer and can prove to be valuable assets to advocacy organizations. Here is a list of what I consider to be the top five transferrable skills from technical communication studies to advocacy work:

- ▶ **User experience:** technical communication students are conditioned to think from the end-user's perspective and to consider how their decisions will affect others and what they can do to ensure others have what they need when they need it.
- ▶ **Collaboration:** technical communication students are provided with



This column features the work of individuals currently enrolled in or recently graduated from educational programs in the field. Contributors examine how theories and concepts encountered in their classes can be applied to technical communication practices. To submit a column, email the editor at STAMANTK@ecu.edu.

opportunities to participate in cross-functional teams—sometimes including literature, teaching, graphic design, and engineering majors—to complete complex projects.

- ▶ **Technology:** technical communication students are trained and tasked with completing assignments using the tools and resources considered to be the current “industry standard” or “industry trend” in the technical communication field.
- ▶ **Project management:** technical communication students must manage complex projects within the document life-cycle process, such as interviewing, writing, editing, peer review, archival, presentation, publication, and distribution.
- ▶ **Compliance:** technical communication students are groomed to consider compliance issues—such as copyright violations, source validity, plagiarism, etc.—in all aspects of their writing and editing in order to avoid failing grades on class assignments.

How can technical communication students market and apply their transferrable skills?

Technical communication students are often tasked with completing projects where they have the opportunity to work with a real client in search of volunteers. For example, after researching advocacy organizations for a class assignment last semester, I narrowed down my list of potential volunteer opportunities to three based upon my own personal interests and sent an email to each organization’s volunteer point of contact. One organization

responded to my inquiry within a few hours, and another responded within a few days. The third organization never responded. I chose to partner with the President of the Alabama Family Rights Association (ALFRA), Kenneth Paschal, in support of the ALFRA mission statement. I assisted with writing, editing, and formatting ALFRA documentation, such as emails, flyers, brochures, and newsletters. I also assisted with paraphrasing and summarizing legal documentation to ensure that the information is easily accessible and understood by the general public. Finally, I conducted usability testing for ALFRA websites, managed ALFRA social media accounts, and attended ALFRA community events, as needed.

The majority of the work that I completed for ALFRA was done remotely as a matter of necessity so that I could balance the combination of my full-time job, full-time graduate coursework, and volunteer workload. Initially, Kenneth and I both had some concerns as to whether or not our partnership would be successful in a virtual work environment. However, I promised to work flexible hours and be diligent in responding to calls and emails in a timely manner. Kenneth emailed assignments to me, reviewed my drafts, made suggestions, asked questions, and requested final quality reviews before publishing via email, web, social media, etc. If you’re worried about balancing a hectic schedule, I highly recommend pursuing remote volunteer opportunities so that you can work from the comfort of your own home.

Conclusion

My relationship with Kenneth functioned similarly to my relation-

ships with my professors at college. Kenneth and I discussed guidelines and expectations regarding work schedule and volume during my interview, much like a student and a professor would in the first class meeting of a semester. Kenneth described his expectations for the volunteer role, and I responded by explaining exactly what I could do to ensure that I would meet or exceed his expectations. In terms of working with the content produced by ALFRA, Kenneth and I followed a peer review process akin to that of essay peer reviews performed in college classrooms. If you’ve had prior exposure to the peer review process in a college classroom, the same general concepts can be applied in a volunteer advocacy role.

Ultimately, I found my partnership with Kenneth to be mutually beneficial, and I think that Kenneth learned just as much from me as I did from him. For example, I gained a better understanding of how local, grassroots movements can impact major legislative decisions, and Kenneth gained a better understanding of how technical communication concepts can be applied in all aspects of ALFRA’s communication efforts—emails, flyers, brochures, newsletters, social media posts, web content, etc. Additionally, I gained valuable experience to add to my résumé, which has already helped me to further advance in my career as a technical communicator. **i**

BRITNEY ASHFORD (britney.a.ashford@gmail.com) serves as a Senior Technical Writer/Editor for a major aerospace and defense company, and she has ten years of combined experience in the aviation, writing, and editing industries.

FURTHER READING

- CLEARY, YVONNE, and MADELYN FLAMMIA. 2012. Preparing Technical Communication Students to Function as User Advocates in a Self-Service Society. *Journal of Technical Writing and Communication* 42.3, 305–322.
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- RUDE, CAROLYN D. 2008. Introduction to the Special Issue on Business and Technical Communication in the Public Sphere—Learning to Have Impact. *Journal of Business and Technical Communication* 22.3, 267–271.
- WICKMAN, CHAD. 2014. Wicked Problems in Technical Communication. *Journal of Technical Writing and Communication* 44.1, 23–42.

Mark Your Calendar

Organization Events Across the Globe

F.Y.I. lists information about nonprofit ventures only. Please send information to intercom@stc.org.

1 1-4 Nov

The American Medical Writers Association (AMWA) will hold its 2017 Medical Writing & Communication Conference 1-4 November 2017 at the Walt Disney World Swan and Dolphin Resort in Orlando, FL.
AMWA
conference@amwa.org
240-238-0940

2 27-9 Dec

The India Chapter of STC will hold its 19th annual conference in Bengaluru, India. For more information, contact STC India.
STC India
<https://stc-india.org/conferences/2017/sumisree@gmail.com>

4 15-19 Feb

The American Association for the Advancement of Science (AAAS) annual meeting will be held 15-19 February, 2018, at the Austin Convention Center in Austin, TX.
AAAS
<http://meetings.aaas.org/meetings@aaas.org>

3 22-25 Jan

The Annual Reliability and Maintainability Symposium (RAMS) will be held 22-25 January 2018 at the Silver Legacy Resort and Casino in Reno, NV.
RAMS
<http://www.rams.org>
rams2018@rams.org

5 25-27 Mar

The annual Spectrum STC Rochester Conference will be held 25-27 March 2018 at the Rochester Institute of Technology, Rochester, NY. This year's theme is "Hack Into Your Flow."
STC Rochester
<http://stc-rochester.org/spectrum/spectrum@stc-rochester.org>

6 6-7 Apr

The annual Conduit STC-Philadelphia Metro Chapter Mid-Atlantic TechComm Conference will be held 6-7 April 2018 at the Giant Conference Center in Willow Grove, PA.
STC-Philadelphia Metro Chapter
<http://www.stcpmc.org/conferences/conduit-2018/conference@stcpmc.org>

* STC-related event

Fitting Writers into the Framework

SHANNON A. MCCUE | *STC Senior Member*

You have \$20 you're willing to play in a slot machine. Walking the casino floor, you find one that looks like a winner—lights, music, and images of leprechauns promising gold coins. You insert your bill into the note acceptor (that's what they're called) and place your bet. Press SPIN. Round and round the reels go ... hey, you won \$5!

Did you know you just played a game of bingo?

I'M A TECHNICAL WRITER and manager in the software engineering department of a company that produces casino slot machines. Our division creates Class II games, meaning the machine plays bingo in the background and presents you with an entertaining display based on whether your spin matched a winning bingo pattern. Most players don't realize they're actually playing bingo.

When I tell people I'm a writer in the casino industry, they assume I'm telling the player how to play the game, but I'm a typical software technical writer in many respects: my team writes administration, configuration, installation, and end-user guides for a client/server environment. One big difference between my current company and previous ones is working in an Agile environment. If you're familiar with Agile, you know this means core Scrum team members are typically developers, QA testers, product owners, and Scrum masters. Where are the technical writers?

I'm passionate about finding a way for technical writers to fit into the Agile framework.

As the only writer initially, the engineering department had no set standards or processes for documentation. I established methods for how future writers would work with the Scrum teams and SMEs, fine-tuning every aspect of those processes with the teams after each sprint.

To function as a full-fledged team member, first I built rapport with my teams and gained their trust as a seasoned writer who understands their work and output. I actively engaged in all team meetings, contributed to product development, helped determine best ways for developers and QA to provide information to the writer, created an SME review process, and so on. I encouraged the use of existing tools to track documentation similarly to how the teams track their coding and testing work. I became an integral part of development, sometimes providing input that changed the user experience—and thus began my enchantment with the highly-collaborative Agile framework.

We hired more writers, and we tried to keep pace with the growing number of teams and projects. Being team members on multiple teams meant we were vulnerable to spreading ourselves too thin, so the company decided to try using a service organization approach. The technical



writers formed an Agile documentation team using a Kanban approach. Our team, called Comma Chameleons (yes, we have a built-in theme song), provides documentation as a service to 12+ development teams across various projects. To put that in perspective, four writers cover about sixty developers' work, conservatively.

I've been part of shaping and coordinating our place within the framework from day one, so much so that I've expanded my role into a management position. Many of the processes I helped establish earlier transferred to the new structure as well. My 20-year journey from internship to writer, editor, and now manager has led me to being determined to help technical communicators throughout the industry evolve with growing needs for efficiency, speed, and flexibility.

I'm excited to find solutions to some of our largest remaining obstacles so I can help writers in other companies find their place in the Agile framework.

When I'm not on the clock as a Comma Chameleon, I do what musicians in Music City do—sing at local venues. I'm part of a duo who plays classic country and rock favorites around town and at private parties or events. I met the other half of my duo at work! You can also find me and my husband listening to live music, meeting up with friends, heading to a casino, or driving my MINI Cooper with other middle Tennessee MINIs. ■

SHANNON MCCUE (shannonalisha@charter.net) is a technical writing veteran of more than 20 years. She is a hands-on writer, editor, and leader with a strong track record in creating thorough, usable documentation for end users, administrators, and business analysts. At her current company, Video Gaming Technologies, Inc., she manages the technical writing team and writes casino video gaming documentation while immersed in the Agile framework.

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