

Introduction

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HOW THIS COLLECTION EVOLVED

Technical and professional communicators today face a host of challenges, and information about these challenges and ways that we can respond to them is published in a diverse array of sources. This book explores a number of these important areas where technology impacts society and suggests ways that human communication can facilitate the use of that technology.

We perceived the need for this collection after our experience serving as program chair and proceedings chair for the 2005 IEEE International Professional Communication Conference (IPCC 2005) in Limerick, Ireland. We believed that an anthology that would make available essays on the cutting-edge topics presented at that conference by acknowledged experts in their fields would have great value to both practitioners in industry and students preparing for careers in technical and professional communication. We asked the authors of some of the best papers at that conference to revise and update their manuscripts for inclusion in this anthology.

WHY WE SELECTED THE TOPICS

We chose five topic areas based on their importance to our profession: usability, globalization, health and safety, biotechnology, and corporate communication.

Usability has become a foundational discipline in technical and professional communication that grows out of our rhetorical roots, which emphasize purpose and audience. As our appreciation of audience has grown beyond engineers and scientists to lay users of technology, our appreciation of the diversity of those audiences in terms of age, geography, and other factors has similarly expanded. Just as importantly, our focus on usability has established and strengthened connections between technical and professional communication and human/computer interface design, cognitive psychology, instructional design, and other disciplines.

We are also coming to grips with what Thomas Friedman calls the “flat world.” This flat world paradigm influences how we communicate with members of other cultures and speakers of other languages. And because most of the flatteners either are technologies themselves or are technology-driven, technical and professional communicators need to leverage these technologies to serve global audiences.

Similarly, we are inundated with information about world crises involving health and safety issues. These crises are driven by the effects of terrorism, the aging population, HIV/AIDS, and both human-made and natural disasters. These issues are becoming more visible because they are literally matters of life and death. Furthermore, they are of special concern to audiences whom technical and professional communicators have little experience in targeting—the shapers of public policy, seniors, adolescents, and those impacted by disaster. Our awareness of these nontraditional audiences and the need to communicate effectively with them results from communication channels such as cable network news and the Internet. As these nontraditional audiences become increasingly visible, technical and professional communicators need to develop skills to communicate effectively with them.

Biotechnology is another arena that has provided new roles for technical and professional communicators. We are only beginning to understand how to communicate the science accurately without either deceiving or panicking our audience. We need to develop a more sophisticated understanding of how communication can shape reactions to biotechnology developments. Confronting this complex network of issues, we're challenged to fashion both our message and the audience's perceptions ethically.

Finally, today's corporate environment is being shaped by technology and the global nature of business. Technical and professional communicators can play a role in capturing and managing knowledge, in using technology effectively in the virtual workplace, and in understanding how language shapes organizational culture.

These five topics were well represented among the presentations at IPCC 2005. The authors we invited to contribute to this volume were often acknowledged experts on these issues, many of whom had written monographs targeting these issues. We believe that their insights presented at Limerick are worthy of a wider audience, and thus we have prepared this collection of essays that they have revised and updated from the original versions published in the conference proceedings.

WHAT YOU'LL FIND IN THESE PAGES

Usability

In "Making Connections: Teaming Up to Connect Users, Developers, and Usability Experts," Carol Barnum and her colleagues tell the story of a collaboration of stakeholders in redesigning a product to make it more accessible to less technical users. They demonstrate the potential of usability testing as part of a user-centered design process that can actually change an organization's attitudes as it improves the product for customers.

Whitney Quesenbery's "Usability Standards: Connecting Practice Around the World" explores whether choices of usability methods, techniques, and processes depend on context and country. Her examination of national and international standards and guidelines considers how effective they have been in fostering good usability practice and creating international consensus on practice.

To demonstrate how usability studies can leverage technology, seven researchers at the University of Washington analyzed the logs of remote users' Web-browsing behaviors. Their research into how users navigate through complex information, reported in "Conducting an Automated Experiment over the Internet to Assess Navigation Design for a Medical Web Site Containing Multi-Page Articles," is significant because it sampled large numbers of users in a natural environment rather than a usability lab.

Seniors are a new and growing user group for a variety of technical products, and they often experience more problems than other users. Thus, Floor van Horen and colleagues' "Manuals for the Elderly: Text Characteristics That Help or Hinder Older Users" contributes significantly to our understanding of how to make instructions more helpful to this crucial audience.

Globalization

In Reinhard Schäler's "Communication as a Key to Global Business," a summary of his keynote address at IPCC 2005, he argues that communication is the tie that binds our global community. It must be conducted in such a way that its content is accessible to all and respectful of local languages and cultures. Schäler maintains that localization is the key enabler for making connections in the digital world and provides arguments based on mainstream localization practice for those wondering whether they should localize their digital content.

Marie-Louise Flacke also believes that localization is essential. In "The Hidden Costs of Cross-cultural Documentation," she asserts that going beyond translation and providing an effective localization for each target country is the key to successful global marketing. Project managers who neglect cultural, legal, and geographic aspects of a target country might damage the company's image and increase localization costs. She advocates including local experts in the localization team and setting up a direct connection between management and country specialists as a way to achieve cost-effective localization.

Further information on how to minimize translation costs is provided by Margaretha Eriksson in "How to Save Time and Money by Connecting the Writing Process to the Update and Translation Process." She discusses how translation memories, which allow the re-use of phrases that have already been translated, can save both time and money in the translation process. Eriksson offers technical communicators a number of practical tips for incorporating translation memory in the document translation cycle.

In "Technical Communication and Cross-cultural Miscommunication: User Culture and the Outsourcing of Writing," Joseph Jeyaraj discusses another aspect of globalization, which results when individuals in one culture may not only be maintaining business processes and designing new products for those in another, but also producing the documentation for those products and business processes. He argues that when documentation and processes are outsourced, cultural miscommunication often arises because writing is a culturally situated activity, and offers suggestions for making writing more culturally situated.

Finally, in “Presenting in English to International Audiences: A Critical Survey of Published Advice and Actual Practice,” Thomas Orr and his colleagues discuss how English has become the *lingua franca* of presentations to international audiences. As a result, speakers as well as listeners may be required to function in English, with limited abilities in the language. This chapter summarizes a study comparing and contrasting advice from books and journal articles on oral presentations, published in English and Japanese, with actual presentations given by nonnative English speakers. General guidelines for making successful oral presentations to international audiences are included.

Health and Safety

Expert testimony at governmental hearings shapes the perceptions of both policymakers and the general public. In “Public Professional Communication in the Anti-terror Age: A Discourse Analysis,” Catherine Smith demonstrates that when the topic is terrorism, it can be vitally important to recognize the functions of perspective in public discourse to communicate skepticism of or disagreement with prevailing views in helping to formulate policy. Helping prepare this very specialized audience for testimony by giving them the tools that they need to analyze public policy discourse is an important new role for teachers and trainers in the field of technical and professional communication.

Whether the disaster results from tsunamis or famine, from ethnic cleansing or religious persecution, effective information and communication systems play a vital role in saving lives and relieving suffering. In “Challenges to Effective Information and Communication Systems in Humanitarian Relief Organizations,” Christina Maiers and colleagues explore the major issues and challenges inherent in developing an effective system within nongovernmental organizations providing humanitarian relief that involve not only information technology but also people, practices, policies, and organizational environments.

Michaël Steehouder’s “Using Role Sets to Engage and Persuade Visitors to Web Sites That Promote Safe Sex” addresses communication with adolescents about the dangers of unsafe sex. Promoting safe sexual behavior is difficult because of the face-threatening nature of such messages. Steehouder argues that creating appropriate author and reader roles can be an effective way of overcoming this problem.

Finally, in “Physicians and Patients: How Professionals Build Relationships Through Rapport Management,” Kim Sydow Campbell analyses doctor-patient interaction, a very important type of professional communication. Drawing on concepts of rapport management from sociolinguistics, she demonstrates that success or failure in establishing good rapport is often based on the verbal communication techniques employed by physicians.

Biotechnology

In “Connecting Popular Culture and Science: The Case of Biotechnology,” Susan Allender-Hagedorn and Cheryl Ruggiero analyze the influence of biotechnology on popular culture, such as films and cartoons, and then consider how

texts from popular culture appeal to biotechnologists in the scientific marketplace via advertisements that draw on popular films, television shows, and music. Their approach, intended to broaden the appreciation of scientific audience, will be of interest to those who work for companies that manufacture scientific equipment or supplies, that purchase such commodities, or that need to communicate with peer organizations or with the public about research results.

Steven Katz's "Biotechnology and Global Miscommunication with the Public: Rhetorical Assumptions, Stylistic Acts, Ethical Implications" analyzes the assumptions embedded in the language used in reports by the Canadian Biotechnology Advisory Board. He effectively demonstrates that the language used reflects values and assumptions that negatively affect the public, and that the risk model of communication that is commonly used with the public about biotechnology is both rhetorically and ethically flawed.

The last chapter in this section, Dale Sullivan's "The Need for Technical Communicators as Facilitators of Negotiation in Controversial Technology Transfer Cases" examines Monsanto's attempt to release transgenic wheat in the upper midwestern United States and the failure of efforts to accommodate public concern. He explores the potential for technical communicators to facilitate negotiations between stakeholders.

Corporate Environment

Technical and professional communicators often work in complex and technologically sophisticated organizations. The six chapters in this section of the anthology describe various aspects of communicating in such organizations. First, Paul Dombrowski's "Technical Language: Learning from the *Columbia* and *Challenger* Reports" analyzes the consequences of taking technical language as more definite, unequivocal, and agreed-upon than it really is through his study of the communication processes that occurred during the *Columbia* and *Challenger* space shuttle tragedies. His analysis of these tragedies highlights how the vagaries of language use and organizational culture help shape technical discourse.

Judith Strother and Svafa Grönfeldt's "The Theoretical Foundations of Service Leadership: A New Paradigm" provides an example of the challenge of developing a new paradigm and communicating it to the international business community. Service leadership is just such a paradigm, which incorporates a multidisciplinary approach to embedding empowered leadership within a service organization's culture. They discuss how effective communication is essential to helping an organization achieve a high level of service quality and customer satisfaction.

Communication is also essential between members of multidisciplinary teams involved in product development. In "Managing Collaboration: Adding Communication and Documentation Environment to a Product Development Cycle," Laura Batson and Susan Feinberg describe a communication and documentation model used to produce e-learning computer games. Their model provides a process for managing a project with a high turnover rate of multidisciplinary specialists.

Team members or co-workers who are not co-located and who may come from various national and cultural backgrounds face another set of communication challenges. Kirk St.Amant examines five of the problematic communication areas related to international virtual offices (IVOs) and provides technical communicators with strategies for working efficiently in this international environment in “Virtual Office Communication Protocols: A System for Managing International Virtual Teams.”

Knowledge management has been touted as one of the key differentiators in developing, sustaining, and improving technology-dependent businesses. David Harvey and Robert Holdsworth identify and discuss several knowledge management challenges for aerospace companies and the need for such companies to have a clear understanding of what can be achieved (and at what cost) through knowledge management initiatives in their chapter “Knowledge Management in the Aerospace Industry.”

Knowledge management is also key for organizations that are focused on maintaining the environment and the health of individuals. In the last chapter, “Using Their Digital Notes: Three Cases to Make Tacit Knowledge Visible in a Web-based Surrounding,” Liesbeth Rentinck discusses how the National Institute for Health and Environment in the Netherlands is using an XML database extracted directly from the work of scientists to enable the sharing of implicit and tacit knowledge in that organization.

Where the Conversation Goes from Here

We hope that this anthology will provide insights into emerging facets of technical and professional communication practice. These facets, defined by the intersection of technology and people, result in new opportunities for technical and professional communicators to address new audiences and new subject domains. We believe that by connecting people and technology, technical and professional communicators will play a critical role in contributing to the success of businesses and improving the quality of human life.