

Communication Design Quarterly's Statement on Inclusivity and Ethical Data Visualization

Communication Design Quarterly invites work by authors of all ethnicities, colors, faith identifications, genders and sexualities, abilities, and levels of academic and professional expertise. Work will be considered for publication based on its potential value to our readership population, as primarily illustrated by members of the Association for Computing Machinery's Special Interest Group for Design of Communication (ACM SIGDOC), and the article's methodological, intellectual, and ethical rigor, as appropriate. Submissions will be assessed by peer-reviewers chosen by the Editor based on how potential reviewer's expertise relate to the submitted work's area of focus.

Communication Design Quarterly is committed to publishing inclusive and ethical work, and expects that any work on or with human subjects meets Institutional Review Board or Ethics Board approval, as appropriate. We also respectfully request that authors consider the ethical implications of data visualization, including accessibility issues.

Many articles in *Communication Design Quarterly* are fundamentally based in examination of visuals created by a person or persons external to the author(s), contain visuals created by a person or persons external to the author(s), contain visuals created by the author(s) or in service to the author(s) work, or some combination of the above. We ask that, as authors, you please respect the rights, needs, and expectations of those whom you portray in your work. We also ask that you respect the rights, needs, and expectations of your audience.

We at *Communication Design Quarterly* recognize that this statement cannot address all potential vulnerabilities, but ask that you, as readers, authors, and editors in your own right, carefully consider the implications of your work for those whom it engages as both subject and audience.



Communication Design Quarterly

Abstract Showcase March 2020

Featuring Work By

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Communication Design Quarterly (CDQ) is the peer-reviewed research publication of the Association for Computing Machinery (ACM) Special Interest Group for Design of Communication (SIGDOC). *CDQ* is in the ACM Digital Library.

Communication Design Quarterly's new Online First model allows cutting-edge research to be published in a timely fashion. As articles are accepted, *CDQ* will publish an online-accessible version of the article, accompanied by an individual pdf and a DOI (digital object identifier), on the *CDQ* website.

Amplify Your Research!

Communication Design Quarterly

The official journal of ACM-Special Interest Group on Design of Communication (SIGDOC)

sigdoc.acm.org/publication

The advertisement features a background image of a laptop keyboard with a vibrant, multi-colored light effect. The text is overlaid on this background, with "Amplify Your Research!" in a large, white, stylized font. Below it, "Communication Design Quarterly" is written in a smaller, white, sans-serif font. Underneath that, in a very small font, is "The official journal of ACM-Special Interest Group on Design of Communication (SIGDOC)". At the bottom, there is a white rounded rectangle containing the URL "sigdoc.acm.org/publication".

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A Brief History of CDQ

1988

*SIGDOC runs the Journal of
Computer Documentation from
1988-2002*



2001

*ACM chairperson asks Robert
Pierce to publish a quarterly
informational newsletter for
SIGDOC members, email format*



2012

*CDQ is founded: Michael Albers
and Liza Potts take over the news-
letter, transition to stable online
format and restart volume num-
bering, and peer review begins for
research-based articles*



2018

*CDQ begins its
Online First model*

Communication Design Quarterly (CDQ) is the journal-format, peer-reviewed publication managed by SIGDOC, the Association for Computing Machinery (ACM)'s Special Interest Group on Design of Communication. The email-only newsletter that would become *CDQ* published its first issue in March 2001, and since then, more than 17 volumes, each containing approximately 4 issues, have been published.

Prior to 2001, SIGDOC had a peer-reviewed journal entitled *Journal of Computer Documentation*, which continued from 1988 to 2002. When it became difficult to find contributors, the journal shut down. The chair of ACM at the time, Kathy Haramundanis, asked SIGDOC board member Robert Pierce to write a quarterly newsletter as a subscription service to SIGDOC members because he was in the technical communication industry rather than academia, and his views would offer valuable industry/academic crossovers.

The original purpose of Robert Pierce's newsletter was to give the members of SIGDOC something more than a website and yearly conference. Pierce wrote mostly from experience, and the newsletter was not peer-reviewed or research-based. Common topics included software development, user experiences, change management, content design, customer feedback, and information development and delivery.

In September 2012, Liza Potts and Michael Albers transitioned the newsletter to a more stable online format and volume numbering was restarted with Volume 1. It was given the name *Communication Design Quarterly* and began to solicit research-based papers and peer-reviewed articles. Because Liza Potts has a background in research on advocacy for women in the technical communication field, the publication took on a new objective in social justice and cultural awareness in technical communication.

In 2018, *CDQ* began its Online First publication model, allowing your work to become accessible in a more timely fashion. While *CDQ* retains its traditional focus on the ways we engage with, produce, and distribute information, we also welcome your work on accessibility, equality, social justice, and cultural awareness in communication design. If you would like to publish in *Communication Design Quarterly*, please contact **Dr. Derek G. Ross** at derek.ross@auburn.edu.

tices often cannot account for how technologies are used in multi-participant interactions outside of the laboratory. In this article, I review new materialist approaches to usability and consider how CA might be integrated into this theoretical perspective. To do so, I present an example transcript of CA and review CA research on telemedicine in multiparty environments. I use this approach to argue that incorporating CA into a new materialist approach can help usability researchers to reconfigure the technical design of and the sociomaterial practices surrounding technologies.

Author Spotlight

Susan A. Youngblood



Susan A. Youngblood is Associate Professor of Technical and Professional Communication in the Department of English at Auburn University and the director of the Service Learning Opportunities in Technical Communication (SLOT-C) Database. Her research interests include competing communication needs in online environments, risk communication, usability, and web accessibility.

and hosted development sites. The study also explores ways some sites disambiguate between artifacts that represent their organizations versus those of similarly named organizations. The findings lead to several recommendations for best practices.

What is “Obamacare”?: Health Literacy, E-Commerce, and the Affordable Care Act’s Online Content

Dawn S. Opel

This study audits and analyzes the online content provided by the U.S. government for The Patient Protection and Affordable Care Act (ACA). In order to both educate Americans about the ACA and enroll those who needed insurance into plans offered by the U.S. and/or state governments, policy analysts, communication designers, and web developers at the U.S. Department of Health and Human Services (HHS) and the Centers for Medicare and Medicaid Services (CMS) created and published a substantial array of online content. These policy statements, infographics, blog posts, videos, forms, and other resources were designed to engage the public and translate the complexities of the ACA into usable information for patients. However, a content audit and analysis of ACA-related online content reveals the ways that this content did not provide a navigational structure artifacts, such as legacy sites and hosted development sites. The study also explores ways some sites disambiguate between artifacts that represent their organizations versus those of similarly named organizations. The findings lead to several recommendations for best practices.



We want your contributions!

We invite you to contribute in any of the following areas:

Original Research

Articles that cross disciplinary boundaries as they focus on effective and efficient methods of designing and communicating information.

Experience Reports

Reports presenting project- or workplace-focused summaries of important technologies, techniques, methods, pedagogies, or product processes.

Book Reviews

Short reviews of books you think may be of interest to the communication design field. Please query ahead of time before sending.

All submissions except book reviews are peer-reviewed. Book reviews are reviewed by the Book Review Editor.

Special Issues

We are also interested in proposals for guest editing special issues. As a guest editor, you would be responsible for providing three to five peer reviewed articles on a specific topic along with an article-length introduction to the issue’s topic. You may propose a special issue individually, or as a group. Your proposal

should demonstrate expertise on the topic being proposed, and demonstrate the topic’s current interest to members of the design community. Each proposal should include a résumé/CV for proposed guest editors and a draft call for submissions. Guest editors are responsible for publicizing calls for papers, recruiting subject matter experts as peer reviewers, coordinating double blind peer reviews, corresponding with authors and reviewers, editing final drafts, and submitting final drafts and any necessary forms to the *CDQ* editor.

Submission Guidelines

Format all manuscripts for publication consideration according to the following guidelines:

Abstract 100 words.

Keywords 3–5 words that will help readers locate your article.

Length 6,000 to 8,000 words (not including “References” or Appendices). Individuals can submit slightly longer or slightly shorter manuscripts, but they should contact the *CDQ* editor before submitting such slightly longer or slightly shorter entries.

Margins 1” margins on all sides.

Font 11 or 12 pt. Times New Roman.

Spacing Single spaced; do not use tabs to indicate a new paragraph; instead, use a blank line between paragraphs.

Pagination Provide page number in the upper, right-hand corner of all pages (e.g., pg. 2).

Citation style American Psychological Association (APA) — for examples of APA citation style, see Cornell University Library’s APA Citation Style page online.

Headings

- Primary-level headings: Centered, bold text with initial capitals;
- Secondary-level headings: Left-aligned, bold with initial capitals;
- Tertiary-level headings: Left-aligned, italics with initial capitals on first word of heading only.

Visual

- Integrate visual elements into the text of the related manuscript for initial review. (Authors of manuscripts accepted for publication will submit image files

March 2018
Volume 6 Issue 1

Site Identity, Artifact Duplication, & Disambiguation in Alabama Local Emergency Management Agencies (LEMA)

Susan A. Youngblood

Local Emergency Management Agencies (LEMAs) are vital components of the U.S. National Incident Management System (NIMS). As such, their official digital presences need to be identifiable as official and should not have to compete with other digital artifacts, including web pages and whole sites, that can be mistaken for official presences. After exploring the nature of digital identity, this study examines the prevalence of competing digital artifacts and the common sources of these artifacts, such as legacy sites

separately for layout, and receive additional formatting guidelines for visuals upon notice of acceptance).

- Identify all visual elements (e.g., tables, graphs, charts, and figures) via a corresponding, descriptive label (e.g., Table 1, Figure 1, etc.).
- Provide a corresponding descriptive caption for each visual element and format captions (e.g., Table 1: Sample Table Entry).
- Provide a corresponding in-text reference for each visual element and format. For any visual elements that are not the author's own creation, the author must have the express, written permission of the related copyright holder to include the visual element in the manuscript at the time the manuscript is submitted for initial consideration, and provide a corresponding citation or reference noting the origin of the visual element.

Accessibility

- Provide tables as marked-up text and automated lists.
- Check accessibility of Word documents before submission using "Check Accessibility" tool.

Complete CDQ Database



For more information on submissions of articles, reports, or research results, contact **Dr. Derek G. Ross** at derek.ross@auburn.edu.

For queries about book reviews, please contact **Dr. Avery C. Edenfield** at avery.edenfield@usu.edu.

Online First: Get Your Work Out There Faster

Communication Design Quarterly's new Online First model allows cutting-edge research to be published in a timely fashion. As articles are accepted, *CDQ* will publish an online-accessible version of the article, accompanied by an individual pdf and a DOI (digital object identifier), on the *CDQ* website.

Here are a few of the articles that we have published Online First.

Story Mapping and Sea Level Rise: Listening to Global Risks at Street Level

Sonia H. Stephens & Daniel P. Richards

While interactive maps are important tools for risk communication, most maps omit the lived experiences and personal stories of the community members who are most at risk. We describe a project to develop an interactive tool that juxtaposes coastal residents' video-recorded stories about sea level rise and coastal flooding with an interactive map that shows future sea level rise projections. We outline project development including digital platform selection, project design, participant recruitment, and narrative framing, and tie our design decisions to rhetorical and ethical considerations of interest for others developing interactive tools with community participation.

December 2019
Volume 7 Issue 4

Toward a Heuristic for Teaching the Visual Rhetoric of Pitch Decks: A Pedagogical Approach in Entrepreneurship Communication

Sean Williams, Clay Spinuzzi, & Curtis Newbold

This study examined how three successful entrepreneurs/investors assessed the visual rhetoric of actual pitch decks from novice entrepreneurs. We compare their evaluations to the result of a heuristic for assessing visual rhetoric, Color CRAYONTIP.

for health communication.

Not a Cape, but a Life Preserver: The Importance of Designer Localization in Interactive Sea Level Rise Viewers

Daniel P. Richards

Interactive sea level rise viewers (ISLRVs) are an increasingly popular risk communication technology designed to help users visualize the effects of water inundation on their region so as to facilitate more prudent decision-making. Designed by and for a variety of stakeholders, these viewers generally have as their goal affording users a more "localized" experience with climate change and sea level rise data, allowing users to explore as specific as street-level the effects of rising waters in coastal regions. While the rise of these tools mirrors the trend in risk communication scholarship towards more localized messaging, there is still more work to be done in terms of providing a more localized user experience for a broader public audience. This article presents the results of a user experience study conducted with 12 residents of a coastal region, the results of which formulate an attempt to develop more insight into techniques for designer localization. The article concludes with concrete recommendations for scholars and practitioners concerned with designing more effective interactive risk communication technologies that respond to the public need for localized information for decision-making.

How to be Open: User Experience and Technical Communication in an Emerging Game Development Methodology

Luke Thominet

This study builds a model of open video game development, an emerging user-centered design practice where a developer publicly releases an incomplete game and iterate on it while gathering feedback from the player community. It argues that open development is fundamentally a communication and user experience practice characterized by a commitment to access, transparency, and feedback. Ultimately, it shows open development as a practice where game developers are consciously designing a compelling experience of participation in user research.

Contextual Cropping, Collateral Data: Screenshot Methods of UX Research

Cody Reimer

This article presents a novel method for data collection. It relies on a larger case study of the game *League of Legends* to forward the concepts of contextual cropping and collateral data. Contextual cropping gives researchers recommendations for gathering data with screenshots while respecting the in situ ecology of that data. Contextual cropping complements screenshot data with contextual metadata and offers potential collateral data with which to further texture research.

Exploring Usability and User-Centered Design through Emergency Management Websites: Advocating Responsive Web Design

Samantha Cosgrove

This study explores the usability of the Department of Homeland Security and Emergency Management's (DHSEM) website, applying theories of user experience design (UXD) to emphasize the importance of responsive web design in practice. By rhetorically analyzing the usability of their websites, such as FEMA and Ready at the national and local level, DHSEM becomes a model for the needs of future research and application of user centered design principles. Responsive web design within emergency management websites should be considered when first evaluating usability and user experience design because of the real-life implications of these interactions. By reviewing basic design principles on emergency management websites, this article further showcases the capabilities responsive web design, usability and user centered design in digital spaces.

Multimodal Conversation Analysis and Usability Studies: Exploring Human-Technology Interactions in Multiparty Contexts

Mary Clinkenbeard

This article examines conversation analysis (CA) as a methodology for usability research for technologies used in multiparty contexts. Current laboratory-based usability prac-

that consciously shift power to create a more equitable relationship between researcher and participants. This article offers participatory video as a method for UX practitioners that democratizes the design process and creates rich visual data. We detail two cases of participatory video methods and how they were used to explore the potential of participatory methods in UX.

Promoting Inclusive and Accessible Design in Usability Testing: A Teaching Case with Users Who are Deaf

Liz Hutter & Halcyon M. Lawrence

Drawing on an analysis of a usability teaching case with users who are deaf and who communicate using American Sign Language, we argue that there is a need for industry and the academy to refocus on more accessible testing practices, situated more decidedly within the social, cultural, and historical contexts of users. We offer guidelines for more inclusive practices for testing with users who are deaf prompting designers, developers, and students to think about systems of behavior, such as audism, cultural appropriation, and technological paternalism that undermine accessibility in their design and practices. More broadly, we propose ways in which instructors of technical communication can leverage usability tools and research methods to help students better understand their users for any artifact they design and create.

Author Spotlight *Katie Lynn Walkup*



Katie Lynn Walkup is PhD Candidate in Rhetoric and Composition at the University of South Florida. Her research interests include rhetoric of health and medicine, disability studies, and digital rhetoric. She is currently studying how mental health legislation can perpetuate harmful stereotypes about mental illness and enhance stigma toward individuals who need mental healthcare.

Connect with Your Patients, Not the Screen: Usability Claims in Electronic Health Records

Katie Lynn Walkup

This article examined the usability claims that Electronic Health Records (EHRs) make to healthcare providers. Usability claims appear as statements that persuade users to adopt the interface based on usability or

user experience. These claims may show what healthcare providers are presumed to require from online health technologies. Usability claims in this study included intuitive interfaces, adaptability of documentation and records, and supplementing patient communication. Analyzing usability claims then becomes a way of understanding healthcare providers, their patients, and the technologies both use for health communication.

Is Good Enough Good Enough?: Negotiating Web User Value Judgments of Small Businesses Based on Poorly Designed Websites

Heidi L. Everett

This article explores whether amateur Web designs would deter Web users from engaging with a business after viewing a website—and if their expectations and value judgments are influenced by business size and scope. This topic is important to small business owners, make to healthcare providers. Usability claims appear as statements that persuade users to adopt the interface based on usability or user experience. These claims may show what healthcare providers are presumed to require from online health technologies. Usability claims in this study included intuitive interfaces, adaptability of documentation and records, and supplementing patient communication. Analyzing usability claims then becomes a way of understanding healthcare providers, their patients, and the technologies both use

While the pitch deck is recognized as a key artifact in entrepreneurship, no studies have specifically addressed the visual design of the deck nor the key design skills novice entrepreneurs should implement to effectively persuade potential investors of the idea's promise. This preliminary and exploratory case study begins a dialogue on this topic by performing a visual analysis of seven novice decks which were deemed successful by experienced angel investors. The analysis revealed five key skills that appear to account for the success of these decks with the reviewers: rhetorical awareness, typography, color, photography, and contrast.

Humanistic Communication in Information Centric Workplaces

Nupoor Ranade & Jason Swartz

Professional writers adapt their skills to suit expanded professional roles that involve production and management of information, but preparation through mere skill-based training is problematic because that communication work is messy in ways that are not addressable through simple skills training. We must understand how skills “influence and shape the discursive activities surrounding their use” (Selber, 1994). This paper reports the results of a study of people trained in humanities disciplines like communication, English, writing studies, technical communication, etc., on how they have found means to employ their training in their

workplace and keep what is humanistic about writing and communicating at the foreground of their interactions with information technologies. Instead of focusing on technology alone, this research encourages a unified approach to preparing students for the workplace.

September 2019
Volume 7 Issue 3

Game Design Documentation: Four Perspectives from Independent Game Studios

Richard Colby & Rebekah Shultz Colby

Changes in technology, development philosophy, and scale have required game designers to change how they communicate and mediate design decisions. Traditional game design studios used an extensive game design document (GDD), a meta-genre that described most of the game before it was developed. Current studies suggest that this is no longer the case. We conducted interviews at four independent game studios in order to share their game design documentation processes, revealing that, while an exhaustive GDD is rare, the meta-genre functions are preserved in a variety of mediated ways.

Usability Testing for Op-pression

Joseph Bartolotta

This study examines a document produced by the United States Department of Homeland

Security handed out to immigrant parents during the “Family Separation Policy” crisis of 2018. The article examines whether such a document could be ethically tested for usability. Ultimately, the text argues that by the standards of the Belmont Report and the best practices in usability research, such a document would be extremely difficult (if not impossible) to test ethically. It argues that, while usability testing is an excellent tool for exploring how users interact with texts that can have life-changing consequences, it may also be used as a tool to perpetuate injustice and marginalize potential users.

July 2019
Volume 7 Issue 2

Testing the Difference Between Appearance and Ability Customization

Ryan Rogers & Laura Dunlow

Gaming literature largely treats customization as a monolithic concept. This article provides three experiments that test the differences between appearance customization and ability customization. While these three studies provided a degree of replication, they examined between 105 and 147 college students in three different video game scenarios (no game play, non-human avatar, and difficult game). While the results varied slightly based on the scenario, evidence emerged that appearance customization was more likely than ability customization to enhance participant attitude toward the game and

likelihood to spend money on the game. The findings of these studies should inform the types of customization used in a variety of domains and should provide guidance on the design process to offer simple and cost-effective methods to improve sales and attitudes toward content. Specifically, appearance customization is a more effective way for organizations to influence users.

Reducing Harm by Designing Discourse and Digital Tools for Opioid Users’ Contexts: The Chicago Recovery Alliance’s Community-Based Context of Use and PowerBy’s Technology-Based Context of Use
Kristin Marie Bivens

The United States is struggling with an opioid overdose (OD) crisis. The opioid OD epidemic includes legally prescribed and illicitly acquired opioids. Regardless of if an opioid is legal, understanding users’ contexts of use is essential to design effective methods for individuals to reverse opioid OD. In other words, if health information is not designed to be contextually relevant, the opioid OD health information will be unusable. To demonstrate these distinct healthcare design contexts, I extend Patient Experience Design (PXD) to include community-based and technology-based contexts of use by analyzing two case examples of the Chicago Recovery Alliance’s and PwrDBy’s attempts to decrease deaths by opioid OD. Next, I discuss implications of

community-based and technology-based PXD within communities of opioid users, critiquing each method and suggesting four contexts of use-heuristic categories to consider when designing health communication information for users in these contexts.

DJs, Playlists, and Community: Imagining Communication Design through Hip Hop
Victor Del Hierro

This article argues for the inclusion of Hip Hop communities in technical communication research. Through Hip Hop, technical communicators can address the recent call for TPC work to expand the field through culturally sensitive and diverse studies that honor communities and their practices. Using a Hip Hop community in Houston as a case study, this article discusses the way DJs operate as technical communicators within their communities. Furthermore, Hip Hop DJs build complex relationships with communities to create localized and accessible content. As technical communicators, Hip Hop practitioners can teach us to create community-based communication design for more diverse contexts.

How Developers Use API Documentation: An Observation Study
Michael Meng, Stephanie Steinhardt, & Andreas Schubert

Application Programming Interfaces (APIs) play a crucial role in modern software

engineering. However, learning to use a new API often is a challenge for developers. In order to support the learning process effectively, we need to understand how developers use documentation when starting to work with a new API. We report an exploratory study that observed developers while they solved programming tasks involving a simple API. The results reveal differences regarding developer activities and documentation usage that a successful design strategy for API documentation needs to accommodate. Several guidelines to optimize API documentation are discussed.

Queering consent: design and sexual consent messaging
Avery C. Edenfield

For decades, sexual violence prevention and sexual consent have been a recurrent topic on college campuses and in popular media, most recently because of the success of the #MeToo movement. As a result, institutions are deeply invested in communicating consent information. This article problematizes those institutional attempts to teach consent by comparing them to an alternative grounded in queer politics. This alternative information may provide a useful path to re-designing consent information by destabilizing categories of gender, sexuality, and even consent itself.

with four suggestions, such as partnering with industry practitioners and arranging site visits to see project management in action. As well, the concluding suggestions explain recent iterations of the course’s design.

Pedagogical Strategies for Integrating SEO into Technical Communication Curricula
Anthony T. Atkins & Colleen A. Reilly

Preparing students to understand and practice search engine optimization (SEO) teaches them writing skills, technological literacies, and theoretical background needed to pursue a successful technical communication career. SEO employs a multifaceted skill set, including an understanding of coding, skills in shaping and crafting effective user experience (UX), marketing skills, effective research strategies, and competence in accessibility. We argue that instruction in SEO in undergraduate and graduate programs in technical communication prepares graduates for the interdisciplinary and agile profession they seek to enter and enables them to be successful in positions from information architect to technical editor. Our article details how studying and enacting SEO helps students to develop proficiencies and knowledge central to technical communication pedagogies, including technological literacies, an understanding of the interconnections between human and non-human actors in digital spaces, and the ethical

Author Spotlight
Benjamin Lauren



Benjamin Lauren is Assistant Professor in the Department of Writing, Rhetoric, and American Cultures at Michigan State University. He is also a HUB for Innovation in Learning and Technology Fellow. His teaching, research, and service aims to help people learn, create, communicate, and participate in today’s increasingly complex and expansive institutional, organizational, and community networks.

concerns central to work within those spaces. We then detail how SEO can be incorporated into technical communication curricula and share details of client-based projects that can facilitate that integration.

Theory to Practice: Negotiating Expertise for New Technical

Communicators
Jennifer C. Mallette & Megan Gehrke

In technical communication, discussions on how to best prepare graduates to meet workplace challenges range from responding to changing technology and occupational needs to focusing on creating successful in positions from information architect to technical editor. Our article details how studying and enacting SEO helps students to develop proficiencies and knowledge central to technical communication pedagogies, including technological literacies, an understanding of the interconnections between human and non-human actors in digital spaces, and the ethical concerns central to work within those spaces. We then detail how SEO can be incorporated into technical communication curricula and share details of client-based projects that can facilitate that integration.

Summer 2018
Volume 6 Issue 2

Participatory Video Methods in UX: Sharing Power with Users to Gain Insights into Everyday Life
Emma Rose & Alison Cardinal

As technologies proliferate into all aspects of daily life, UX practitioners have the ability and responsibility to engage in research to help organizations better understand people’s needs. We argue that UX practitioners have an ethical commitment to deploy methods

revised curriculum used an interdisciplinary approach to include courses in technical communication, visual design, and public relations. Further, this report discusses the iterative programmatic changes necessary to keep the major current. From alumni interviews and secondary research on changes in technical communication, we continue to reassess the skills students need. As a result our program continues to evolve to equip students with technical communication skills that apply to various, related occupations.

Information Architects: What They Do and How to Become One *Amber Swope*

Every organization relies on information to communicate with prospects and customers—blog posts, articles, whitepapers, user manuals, web portals, videos, tweets, social media posts, moderated forums, and more. This means that many people are creating content and are delivering it in multiple ways. To meet our users' needs, we need information architecture (IA) to provide the framework for developing and delivering this information. Although most content creators do not think of themselves as information architects, many of them perform tasks that are information architecture responsibilities. If you decide what information gets created and delivered, identify keywords to support findability, or organize the hierarchy for a table of contents, you are performing IA tasks.

To learn who was performing these tasks and how they ended up with this role, I conducted a survey. This article presents my analysis of the results based upon my experience and relevant industry sources.

Cultivating Code Literacy: Course Redesign Through Advisory Board Engage- ment *Ann Hill Duin & Jason Chew Kit Tham*

This experience report shares the story of course redesign for cultivating technological and code literacy. This redesign came about as a result of listening to advisory board members as well as responding to recent scholarship calling for more specifics on the teaching of component content management and content strategy. We begin with discussion of code literacy differentiation between code-as-language, code-as-tool, and code-as-structure. We then share detail about our advisory board engagement and the resulting advanced-level technical communication course in which, framed by technological literacy narratives, students produce a static HTML site for a client, develop a repository for this work (GitHub), use XML and the DITA standard for dynamic document delivery, and create a digital experience element to accompany the site. We document and analyze student narratives and online course discussions. We emphasize a more holistic approach to code literacy and that course redesign should be a collaborative endeavor with advisory board

members and industry experts. Through these experiences, students gain requisite knowledge and practice so as to enter the technical communication community of practice.

Preparing Communication Design Students as Facilitators: A Primer for Rethinking Coursework in Project Management *Benjamin Lauren*

Building from previous work by Lauren and Schreiber (2017) and research individually conducted by the author (Lauren, 2018), this brief teaching case provides a rationale for coursework in project management that draws from experiential learning to teach facilitation. The case begins by providing a research context for how communication designers are increasingly focused on practices of facilitation in their work, particularly in fast-paced, distributed work environments. The case presents two metaphors (gardening and cooking) for helping students think about facilitation techniques. Then, the article describes a project management course that emphasizes the importance of facilitation in classroom exercises and major assignments by developing skills in three foundational areas: improvisation, document design, and systems design. Each area is described with examples to help instructors of project management adapt or use similar approaches at their own unique institutional, programmatic, and classroom contexts. The article concludes

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Maps, Silence, and Stand- ing Rock: Seeking a Visual- ity for the Age of Environ- mental Crisis *Ryan Eichberger*

In 2016, the Standing Rock Sioux Tribe founded the Sacred Stone Camp to protest Dakota Access Pipeline construction. The ensuing conflict was constructed both physically and digitally—especially through maps. These maps made strategic inclusions and exclusions, which in turn offered differing concepts of civic, national, and historical identity. In this study, I trace some of these stories, inviting technical and professional communicators to rethink how they visualize systemic issues involving human and nonhuman ecologies. Finally, I suggest the idea of a 'folded rhetoric' to describe a strategic, ethical goal for technical communication in the age of environmental crisis.

Shades of Denialism: Dis- covering Possibilities for a More Nuanced Deliberation About Climate Change in Online Discussion Forums *Lauren E. Cagle, Carl Herndl*

This article explores rhetorical practices underlying productive deliberation about climate change. We analyze discussion of climate change on a Reddit subforum to demonstrate that good-faith deliberation—which is essential to deliberative democracy—exists online. Four rhetorical concepts describe

variation among this subforum's comments: William Keith's distinction between 'discussion' and 'debate,' William Covino's distinction between good and bad magic, Kelly Oliver's notion of ethical response/ability, and Krista Ratcliffe's notion of rhetorical listening. Using a three-part taxonomy based on these concepts, we argue that collaborative climate change deliberation exists and that forum participation guidelines can promote productive styles of engagement.

Communicating Activist Roles and Tools in Complex Energy Deliberation *Barbara George*

This article analyzes online policy tools used by public participants to participate in complex environmental risk deliberation, specifically in terms of HVHF (high volume hydraulic fracturing). This article argues that institutional environmental deliberation tools, which are increasingly found online, are embedded in ideological discourse frames that are often at odds with public user ideologies. This article argues that environmental deliberation tools designed and created by stakeholders through participatory design models are more effective in promoting complex deliberations about environmental risk. Such participatory tools more clearly take into account environmental justice, intersectional and precautionary considerations.

*Author Spotlight
Ryan Eichberger*



Ryan Eichberger teaches writing and environment at St. Olaf College in Minnesota. His research focuses on documenting and narrating the many ways that people bear witness to climate change, with attention to themes of ecological grief and hope as well as the entanglement of human and nonhuman life. Currently, he is researching the multi-century history of people, photography, and ice in the subarctic and arctic north.

Rhetoric, risk, and hydraulic fracturing: one landowner's perspective *Brian Ballentine*

Claims for America's potential for energy independence are

substantiated largely thanks to advancements in an extraction process known as hydraulic fracturing or “fracking.” This article focuses on the negotiations among individual landowners and oil and gas companies as they enter into leasing agreements to permit fracking. The author draws on his own experiences as a landowner in the Marcellus and Utica shale region. Of primary concern is how landowners construct their own understanding of risk amidst a network of local, regional, and global actors. Landowner and oil and gas company relationships are analyzed using theories of rhetoric and risk communication.

Crossing Political Borders: How a Grassroots Environmental Group Influenced a Change in Public Policy

Laura Vernon

This study is a rhetorical analysis of communication design in the Amalga Barrens wetlands controversy during the 1990s. The Bridgerland Audubon Society (Bridgerland) in Cache Valley, Utah, was able to influence a change in public policy that removed the unique wetlands from consideration as a possible reservoir site for water taken from the Bear River. The group tried two times to influence public policy. The first effort failed because the group relied too much on lobbying. The second effort succeeded when the group developed a grassroots communication design. Bridgerland led a successful grassroots effort by (1) educating the public, (2) establishing

credibility, (3) proposing an alternative solution, (4) making decisions based on data, (5) recognizing common ground, (6) getting the media involved, (7) building on what has been done before, and (8) practicing civility. Bridgerland’s experience may be helpful to other environmental groups that are trying to lead efforts in their own communities. Although the communication design presented cannot be generalized to fit all groups and situations, it may serve as a starting point.

Risk Selfies and Nonrational Environmental Communication

Ehren Helmut Pflugfelder

Risk associated with a Pacific Northwest earthquake was expressed through a moderately successful social media risk communication campaign known as #14gallons. #14gallons encouraged people to collect and store 14 gallons of fresh water per person and take a selfie with their water, tagging others to do the same. This article frames the hashtag campaign within scholarship on the rhetoric of risk, defines the genre of the “risk selfie,” and then uses a modified version of Laurie Gries’s iconographic tracking method to produce information about the campaign that can be productively employed by risk communication practitioners.

Earth discourses: constructing risks and responsibilities in Chinese state and social media

Lin Dong

Defining global warming as a rhetorical construct built by stakeholders, this study investigates how Chinese state and social media understand risk and responsibility regarding climate change. This multi-layer, multi-dimensional, statistical and qualitative textual analysis focuses on the ratification and implementation of the Paris Agreement and the U.S. withdrawal from it. Findings indicate that a new green public sphere led by grassroots experts and aided by lay people is burgeoning in China and changing the way people conceptualize environmental risks and engage in environmental protection. With theoretical and methodological innovations, this study contributes to the emerging field of transnational environmental communication.

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Cultivating Virtuous Course Designers: Using Technical Communication to Reimagine Accessibility in Higher Education

Sherena Huntsman, Jared S. Colton, & Christopher Phillips

Technical communicators are often charged with creating access to meaning through technology. However, these practices can have marginalizing effects. This article argues for reimagining accessibility through virtue ethics. Rather than identifying accessibility as an addition to document design or a set of guidelines, virtue ethics situates accessibility as a

habitual practice, part of one’s character. This article describes the application of virtue ethics in a university partnership, which sought to create a culture of accessibility through three goals: to consider accessibility as an on-going process, to consider accessibility as a “vital” part of all document design, and to recognize accessibility as a shared responsibility among stakeholders. Focusing on the virtues of courage and justice, we interpret data from a survey of instructors and then provide suggestions on how others can join the accessibility conversation.

Theorizing Lip Reading as Interface Design: The Gadfly of the Gaps

Kevin Garrison

This article explores what lip reading can teach us about interface design. First, I define lip reading. Second, I challenge the idea that people can “read” lips—an idea that is deeply imbedded in the literate tradition described by Walter Ong (1982) in *Orality and Literacy*. Third, I frame lip reading as a complex rhetorical activity of filling in the “gaps” of communication. Fourth, I present a lip reading heuristic that can challenge those of us in communication related fields to remember how the invisible “gaps” of communication are sometimes more important than the visible “interfaces.” And finally, I conclude with some reflections about how lip reading might “reimagine” disability studies for technical and professional communicators.

Designing for Intersectional, Interdependent Accessibility: A Case Study of Multilingual Technical Content Creation

Laura Gonzales

Drawing on narratives (Jones, 2016; Jones & Walton, 2018) from bilingual technical communication projects, this article makes a case for the importance of considering language access and accessibility in crafting and sharing digital research. Connecting conversations in disability studies and language diversity, the author emphasizes how an interdependent (Price, 2011; Price & Kerchbaum, 2016), intersectional (Crenshaw, 1989; Medina & Haas, 2018) orientation to access through disability studies and translation can help technical communication researchers to design and disseminate digital research that is accessible to audiences from various linguistic backgrounds and who also identify with various dis/abilities.

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Evolving Skill Sets and Job Pathways of Technical Communicators

Nadya Shalamova, Tammy Rice-Bailey, & Katherine Wikoff

Recent research in technical communication (TC) indicates that the field has become more varied than ever in terms of job titles, job skills, and levels of involvement in the de-

sign and production process. Here, we examine this diversity by detailing the results of a small-scale anonymous survey of individuals who are currently working as technical communicators (TCs). The purpose of our survey was to discover what job titles people who identify as TCs have held and the skills required of those positions. The study was conducted using the online survey platform Qualtrics. Survey results found that TCs occupy jobs and use skills that are often quite different from “traditional” TC careers. to design and disseminate digital research that is accessible to audiences from various linguistic backgrounds and who also identify with various dis/abilities.

Responsive Curriculum Change: Going Beyond Occupation Demands

Teena A. M. Carnegie & Kate Crane

This experience report highlights one program’s approach to curriculum revision as the program moved from being an emphasis within a literature degree to a B.A. degree in technical communication. The major curriculum was designed by researching state and regional needs for technical communication education in addition to using research already conducted and published in the field. Through an examination of the skills technical communicators needed to be successful in the workplace and how those skills transfer to other related occupations, we were able to build a successful major. The