Communication Design Quarterly

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COMMUNICATION DESIGN QUARTERLY

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Communication Design Quarterly

Editorial Board

Fernweh Interdisciplinary Research Visualizer: A Data Visualization Tool for Interdisciplinary Research Scoping

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ABSTRACT

The Fernweh Interdisciplinary Research Visualizer is a software tool employing the SCOPUS cross-disciplinary dataset to display the scope of research on interdisciplinary topics across subject areas in a bubble graph format. Researchers can conduct meta-research, discover relevant research across subject areas, and introduce students to the scope of interdisciplinary concepts with this tool. This experience report outlines the process of developing the tool, then demonstrates the results of the tool by visualizing a map of the interdisciplinary research area "social media" across 27 subject areas, 329 classifications, and 42,473 journals.

CCS Concepts

Human-centered computing

Keywords

Data visualization, Research, Discovery, Social media, Interdisciplinary

INTRODUCTION

An increasing number of complex contemporary concerns—such as design of communication, social media, user experience, and sustainability—are researched in many different disciplines. Interdisciplinary scholars working in these areas need ways to understand the scope of work on topics that cross disciplinary boundaries, so that they can best enter ongoing interdisciplinary conversations with their work. Yet the scope of interdisciplinary work on a topic is often hard to assess due to the constraints of existing search, meta-research tools, and database construction.

One prominent constraint on existing search that limits interdisciplinary scoping is the way that search tools present work on a topic: list format. In many search engines, searches for materials on a certain topic will be listed one by one for 20–100 items per page. This list-based approach seeks to identify the most relevant items related to the search query and present them in ranked order, from most relevant to least. For the purposes of scope, the user experience of list-based results is not ideal. Databases that deliver granular lists of articles can make it challenging to know the current state of interdisciplinary topics like social media or user experience, as these lists do not easily translate into a high-level understanding of the contours of a whole interdisciplinary area.

Meta-research tools such as VOSViewer (Van Eck & Waltman, 2010) and CiteSpace (Chen & Song, 2019) eschew the list format and seek to offer researchers different views of relationships between pieces of research. Each meta-research tool offers distinctive functions, such as citation mapping (e.g., VOSViewer) and creation of co-citation networks (e.g., CiteSpace). Yet interdisciplinary scoping has not been a primary function of meta-research tools up to this point. Some databases and tools provide advanced or secondary settings that allow for an understanding of how much work on a topic is in certain disciplinary areas, but even these are rare.

Furthermore: while some prominent interdisciplinary databases exist (e.g., Scopus, Google Scholar) and can help with understanding where research on an interdisciplinary topic lies,

siloing of research in disciplinary databases such as MEDLINE can still make interdisciplinary scoping challenging. Bypassing walls established via field-level academic databases would help interdisciplinary scoping efforts succeed.

We respond to these problems of scoping interdisciplinary work with the Fernweh Interdisciplinary Research Visualizer. Fernweh is a software tool that employs the Scopus cross-disciplinary dataset to display the scope of research on interdisciplinary topics across subject areas in a bubble graph format. Researchers can use this tool to discover relevant research across subject areas, conduct meta-research, introduce students to the realm of interdisciplinary research, and more. Ideally, the interdisciplinary scoping this tool supports can foster awareness of research on interdisciplinary topics in multiple subject areas. This awareness could help connect disparate communities of research working on complex contemporary problems such as social media, user experience, sustainability, and globalization. In this paper, we demonstrate the results and visuals of the tool using social media research across the academy. Ultimately, Fernweh is an open-ended tool that can identify the scope and locations of interdisciplinary research on a topic quickly.

LITERATURE

This study begins with the theoretical position that wicked problems exist. Swarts (2018) has explained that wicked problems are rare problems that are difficult to solve; these problems "are too numerous, situated, and uncertain to be planned for and addressed ahead of users actually encountering the problems" (p. 64). Dealing with wicked problems inside a single domain (such as technical communication) is a challenge on its own. Yet there are large-scale wicked problems that present themselves in ways that which cannot be fully solved or even fully approached by a single academic discipline. To address these large-scale wicked problems and move toward meaningful practical outcomes, scholars must work across disciplinary boundaries: "Wicked problems exist throughout domains in the social realm, such as education, healthcare, poverty, and public planning. Because these problems represent a series of interlocking issues, they must be investigated as design problems through interdisciplinary practice" (Rose, 2016, p. 432). Working across disciplinary boundaries can take many different forms; terms such as multidisciplinary, transdisciplinary, and interdisciplinary offer different views on how scholars, disciplines, and problems can interact (Collin, 2009). In this study, we use Jones's (2016) definition of an interdisciplinary research area: "a fully interdisciplinary research area" is "bounded by practices and approaches rather than traditional academic disciplines" (p. 472), with human-centered design being one such interdisciplinary research area. Given the importance of practices and approaches to interdisciplinarity, we offer a tool that will contribute to one practice of interdisciplinary research: scoping.

Scoping is actually several practices that require scholars to consider many different aspects of work. When beginning a project, researchers must understand the scope of work to be completed: the size and goals of the researcher's data collection and/or analysis. Another aspect of scoping concerns understanding the state of the problem to which the researcher plans to contribute. What aspects of the problem are most salient? Which aspects of the problem are most urgent? Yet another element of scoping includes understanding the range of relevant literature that describes (but is not the same as) the current state of the problem. In a disciplinary approach to

problems, this literature may be accessible through disciplinary journals, disciplinary books, and professional organizations' statements and white papers, among (many) others. The inherent variety of groups and fields researching interdisciplinary topics can make this part of scoping particularly difficult for interdisciplinary researchers.

Discovery of research in multiple subject areas can be a challenge due to disciplinary and user experience constraints. Disciplinary boundaries delimit common topical databases of research, such as Communication and Mass Media Complete or JSTOR, making it difficult to find research on topics outside disciplinary boundaries on interdisciplinary topics in those databases. For example, the interdisciplinary topic of social media is discussed in the research of many academic subject areas, and some of the problems faced in social media research (such as content moderation) are wicked problems. Subject areas as disparate as design of communication and urology contain meaningful work in social media (Calopedos et al., 2017); social media articles in urology may not be immediately available to those not looking in medical databases.

Interdisciplinary databases offer a way past this concern, which leads to a second problem: user experience constraints present in interdisciplinary databases. The results returned from interdisciplinary databases such as Scopus or Google Scholar are often presented in paginated list format and reliant on algorithms that surface materials which the algorithm has classified as most relevant or useful. Articles with potential methodological and content-based usefulness to interdisciplinary wicked problems may not be easily surfaced by algorithms that return "most relevant," most viewed, or most cited work.

Furthermore, the list format itself is not an ideal design for understanding the scope of interdisciplinary research. Seeing the first 50 or 100 results of a survey in a list does not let researchers know the scope of interdisciplinary research efforts: what subject areas, classifications, and journals feature the most work on individual topics? A different user experience must be developed to answer those sorts of questions. Some attempts to address this problem of paginated results do exist, even within existing library databases that follow that format. For example, Scopus allows users to filter search results of journal queries and article queries by subject area, and does preview the number of results that match those filters (Scopus, 2022). However, these tools are often not the primary function and are sometimes tucked away under "advanced" options. Our tool offers a different way forward that foregrounds the scoping problem.

Tools for scoping and visualizing research exist, offering helpful and distinctive elements to interdisciplinary study that vary from Fernweh's functions and goals. VOSViewer (Van Eck & Waltman, 2010) allows researchers bringing their own datasets to investigate relationships between different elements of published research, such as who cites each other and what countries' researchers cite each other (Kotsemir, 2019). CiteSpace (Chen & Song, 2019) visualizes co-citation networks that can be placed in relation to time, assessing who is citing who and when shifts in topics happen. It provides a look at common topics in a subject area through the lens of commonly cited articles, and is also useful for developing systematic literature reviews. CiteSpace does not have the goal of surfacing the whole breadth of work across all subject areas on a topic. HistCite also performs a historical analysis function, with different output visualizations (Garfield, 2009). The recently-

closed Microsoft Academic cross-disciplinary database highlighted the work of an active community of scholars building discovery and visualization tools, but this service and its tools are unavailable for use (Kanakia et al., 2019; Visualizing the Topic Hierarchy, 2020). Thus Fernweh, a tool that displays results from a wide array of subject areas in a visual format for the express purpose of aiding interdisciplinary discovery, would contribute to a distinctive hole in the scoping process.

DEVELOPMENT PROCESS

In this section we detail the multi-stage development of Fernweh, beginning in 2018. A team of six undergraduate students in a 2018–2019 computer science capstone project created a pilot of the tool using scraped data from the interdisciplinary database Microsoft Academic. This was the largest publicly available citation dataset at the time. In 2020, it indexed 48,970 journals and 245,888,971 articles from those journals (Herrmannova & Knoth, 2016; Visualizing the Topic Hierarchy, 2020). We scraped a variety of article metadata, particularly focusing on title of article, abstract, and journal name. We used the SCOPUS categorization schema to categorize the scraped articles. This schema divides research from 42,473 journals into 27 categories and 329 classifications (Scopus Sources, 2022). This classification metadata can be used to build visualizations of article characteristics; in this case, collating where in the academy articles on a topic are published at a high level (category), medium level (classification), or low level (journal) of numerical abstraction. We then sought grant funds for processing power and information storage of this enormous scrape from ACM Special Interest Group on Design of Communication; we are grateful for their support of this project via the Career Advancement Research Grant.

The first author was an outside client for the computer science capstone students and thus a participant in the process. However, the first author's role took on an element of faculty advising due to the uniqueness of the ask: the first author was seeking an open-source academic research tool instead of a company making or continuing development on a product for market. Furthermore, the first author sought an open-source software tool without any technical or coding expertise, and thus did not place any parameters around what coding languages, frameworks, or tools should be used. The open source tool request and lack of coding expertise from the first author meant that the students had a high level of ability to shape the direction of the work on the tool. Thus, the first author was simultaneously a client and a professor training students on how to approach an ill-formed research task.

These six students created a pilot version of the software tool, and passed the code on to a second team. These students used the packages Beautiful Soup 4 (Richardson, n.d.), Selenium (Software Freedom Conservancy, 2023), and psutil (Rodola, 2023) in Python to create the scraper. Other parts of the tool used Javascript (Node. JS) in React and Angular frameworks. All of these materials are available at the CSE485CapstoneArticleVisualizer Github repository (Nou et al., 2019). While these materials are available, the final version of the software does not use them, due to problems that will be discussed shortly.

In 2019–2020, a second team of six undergraduate computer science capstone students encountered challenges developing the pilot into a beta version of the software, until the emergence of the COVID-19 pandemic stalled production in Spring 2020. No materials from this version were used either.

Production restarted in Spring 2021, when the first author discovered an API from Microsoft Academic Knowledge Exploration Service that promised access to 160,000,000 articles (Herrmannova & Knoth, 2016). The API promised better functionality for the tool than the scraped data. At that point, the second author joined the project to rebuild the tool using the API instead of scraped data.

On May 4, 2021, Microsoft Academic announced that "the Microsoft Academic website and underlying APIs will be retired on Dec. 31, 2021" (Microsoft Academic, 2021). From Summer 2021 to Spring 2022, the second author redesigned the project to draw research data from the SCOPUS research database's suite of university-access APIs instead of Microsoft Academic's API. It was very helpful to find another API available to pursue the project with, but the tradeoff was that only users with a particular type of university access to SCOPUS can currently use the tool. The tool was usable in April of 2022; all data for this article are drawn from a data pull conducted on September 30, 2022.

TOOL FUNCTION

The current version of the tool uses PSQL for local storage, Django Python, Vue.JS, v-network-graph, chartJS, and Bootstrap as a design system and style sheet. The tool uses three of Elsevier's Scopus APIs (Elsevier B.V., 2022):

1. The Scopus Subject Classifications API is used to populate the local database with information about current Scopus subject areas and classification codes. This API retrieves a classification code (an identifying number), classification name (full display name), and abbreviated classification (4-letter term).

2. The Scopus Search API retrieves metadata regarding documents within the Scopus database that contain the query phrase in the document's abstract. This API retrieves the Scopus ID (a document identifier), DOI, title, first author, document type, Scopus Source ID (a publication identifier), and publication name. Our tool searched across documents that were coded with a document type of Article ("ar"), Abstract Report ("ab"), Conference Review ("cr"), Conference Paper ("cp"), or Business Article ("bz").

3. Finally, the Scopus Abstract Retrieval API retrieves full abstract text for an individual title once it has been selected in the tool, based on the Scopus ID drawn from the previous API data.

Search terms are treated as exact phrases, with allowance for pluralization and punctuation (e.g., the search term "social media" could include matches for "social media", "social-media" and "social medias").

The tool operates like this:

1. A proximate-term (social media, social-media, socialmedia) query is sent to SCOPUS through the Search API.

2. Abstracts with the proximate term are fetched via the Abstract Retrieval API by matching the Scopus Source ID from results in the Search API to items in the Abstract Retrieval API.

3. Fetched abstracts are then matched to a static source list from SCOPUS that sorts the abstracts into top-level categories,

sub-categories, journals, and an article list.

4. These multiple levels are processed into four layers of visualization: subject areas (what SCOPUS calls "category") view, classification view, journals view, and articles view.

5. The user can click back and forth through the levels to assess where articles about each topic are clustered, or click into individual articles to see the abstract and DOI.

Journals, which were a main source of classifying where an article fit in the schema, can appear in multiple classifications due to being listed in SCOPUS as being about multiple topics. Thus, some journals (and their article counts) appear in two or three different classifications; one must keep in mind that it is the same journal and the same articles in those journals that are necessarily double-listed. This introduces complexity and ambiguity into the data; further versions of the software can work to address this issue. (We considered listing all journals only once, by using only the category where the journal held the highest journal rank. This approach presented complications as well.) However, this approach allows the articles of journals to be listed under the classifications and categories where the journals thought they should be classified, even if that is in two classifications (or even two categories). Comparisons between numbers of materials in categories and classifications should be done with this caveat in mind.

IRB approval was not needed for this project, as human subjects were not involved in any capacity. The code for this open-source project is available on a GitHub repository (Carradini, 2023).

USING THE SOFTWARE

Ultimately, the tool allows rapid movement between levels to help the user identify where clusters of work on topics exist, from the highest level (field) to the lowest (journal) and then the actual article title and abstract. In this section, we will explain what the user experiences when using the software.

High Level View: Category

The flow of the software use starts with the user searching a term within the program's UI (e.g., *social media, Twitter, Facebook, Reddit, sustainability, globalization*). The software then generates a graph showing how many articles use that term in the article abstract within each of the 27 categories (which we would colloquially call subject areas): Agricultural and Biological Sciences; Arts and Humanities; Biochemistry, Genetics and Molecular Biology; Business, Management and Accounting; Chemical Engineering; Chemistry; Computer Science; Decision Sciences; Dentistry; Earth and Planetary Sciences; Economics, Econometrics and Finance; Energy; Engineering; Environmental Science; Health Professions; Immunology and Microbiology; Materials Science; Mathematics; Medicine; Multidisciplinary; Neuroscience; Nursing; Pharmacology, Toxicology and Pharmaceutics; Physics and Astronomy; Psychology; Social Sciences; and Veterinary. Consider Figure 1, a chart visualizing the number of article abstracts referring to social media across all categories.

Figure 1: Subject Areas and their Numbers of Articles. A larger version of this image is available here.

Note: Some field name titles overlap each other due to limitations on the current implementation of the visualization software package.

This number is superimposed on a circle with a title that represents an individual subject area: 29,291 articles in Social Sciences, 13,379 articles in Engineering, and so on. This graph shows users in a visual format what subject areas house work about a particular subject, which provides a quick way to get a sense of the scope of work across fields and make comparisons between subject areas.

The size of the bubbles in the chart was developed carefully, over multiple iterations. The current version of the software includes bubbles that have a minimum radius of 18 pixels for readability's sake; bubbles any smaller make it difficult to read the numbers in the bubble. The bubbles have a maximum radius of 58 pixels; if we made the maximum pixels larger, the large bubbles tended to make it hard to see the smaller bubbles or even totally obscured them.

The size of the bubbles between the minimum and maximum is a proportional scale that is keyed proportionally to the largest bubble (which will always have a radius of 58 pixels). To do this, we divided the number of results in a node by the number of results in the largest node for that query, then multiplied that answer by 40 and added 18 (the minimum backstop for readability). We chose 40 as our multiplier to ensure that the maximum radius would be 58 pixels. Given this formula, the node with the largest number of results would always have a radius of 58 and a node that had 0 results would have a radius of 18. Everything else would have a pixel radius somewhere along the scale of 18 to 58.

This solution is not the only possible solution, but it is one that we felt maximized readability and usability while retaining some level of proportionality. Given the limited range of pixel radii possible and the possibility of one node with an enormous number of results skewing the visuals, other solutions could be configured and made as options in future versions of the software.

While the size of the bubbles is highly organized, the ordering of nodes in the bubble chart is not. The software randomly assigns

positions to each of the bubbles in each chart; we did not order the nodes in any way in the back end or front end of the software. Once the order is randomly set, the software distributes those bubbles at equal intervals around the circle.

However, once the bubble map has been generated, the positions of the bubbles are locked. Data are not be re-ordered when you go back to the same map in the same session or across multiple sessions (the tool does have a "save" feature for future viewing of created bubble maps). Thus, when moving back and forth between the levels of the tool, a bubble map once created will retain the order of its bubbles every time it is returned to.

Further user testing may identify a preferred organization or multiple options for organization that can be applied to future versions of the software. Such methods might include ordering the nodes clockwise starting at 12, from most to least results in a node; ordering the nodes clockwise, alphabetically by node title; staggering large and small nodes to ensure a relatively consistent viewing experience; letting the users set the order for each search; or pinning certain nodes in certain places for their own research purposes. Users may also come up with other strategies. We would be very happy to hear what users think on this issue.

Finally, the colors do not have assigned meanings and are at most intended to break up the visual monotony of what would be many bubbles in monochrome. Thus, the colors are primarily decorative. The colors were generated by creating a hex code out of a hash of the node title (Freeman, 2013). Further versions of the software may develop more robust and meaningful systems of color usage, more inventive ways of breaking up visual monotony besides color, or both.

Second Level View: Classifications

Then, users can click on one of the 27 circles that represent a category to see the amount of articles including that original searched term in the category's attendant classifications. Consider Figure 2. For example, the classifications of Social Sciences are Archeology, Development, Education, Planning and Development, Health (social science), Human Factors and Ergonomics, Law, Library and Information Sciences, Linguistics and Language, Safety Research, Sociology and Political Science, Transportation, Anthropology, Communication, Cultural Studies, Demography, Gender Studies, Life-span and Life-course Studies, Political Science and International Relations, Public Administration, Urban Studies, Unknown, Social Sciences (all), and Social Sciences (miscellaneous). For the classifications view, the bubble proportionality is created the same way as in the Category view.
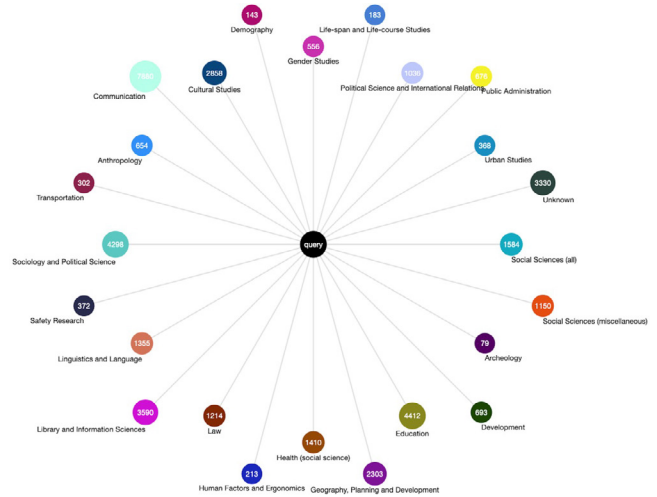
Figure 2: Classifications of Social Science. [A larger version of this image is available here.](#)

Not all records in Scopus' database are fully populated. Documents that are not coded with a subject area are not included in the search, because the original search is performed subject area by subject area. Documents which are coded with a subject area but not second-level classifications are registered as "unknown" in the classification graphs. (In this search, 3330 items fell in the "unknown" classification.)

Third Level View: Journals

Next, users can click on a classification to see all journals within that classification that include articles on the topic and the attendant number of articles within each journal. Due to the number of journals per field, this visual is shown as a bar chart table with the number of journal articles in each journal of that topic represented visually. (Representing this amount of information as a bubble graph results in unreadable and unusable graphs.) The journal with the most journal articles on the searched topic is represented to the far left, with number of journal articles per journal descending to the right. Hovering over the journal's column will show the number of articles in the column. Journals with no articles matching the search term will not appear in the bar chart. The color considerations follow the same logic and technical pattern as the nodes from views 1 and 2. Consider Figure 3.
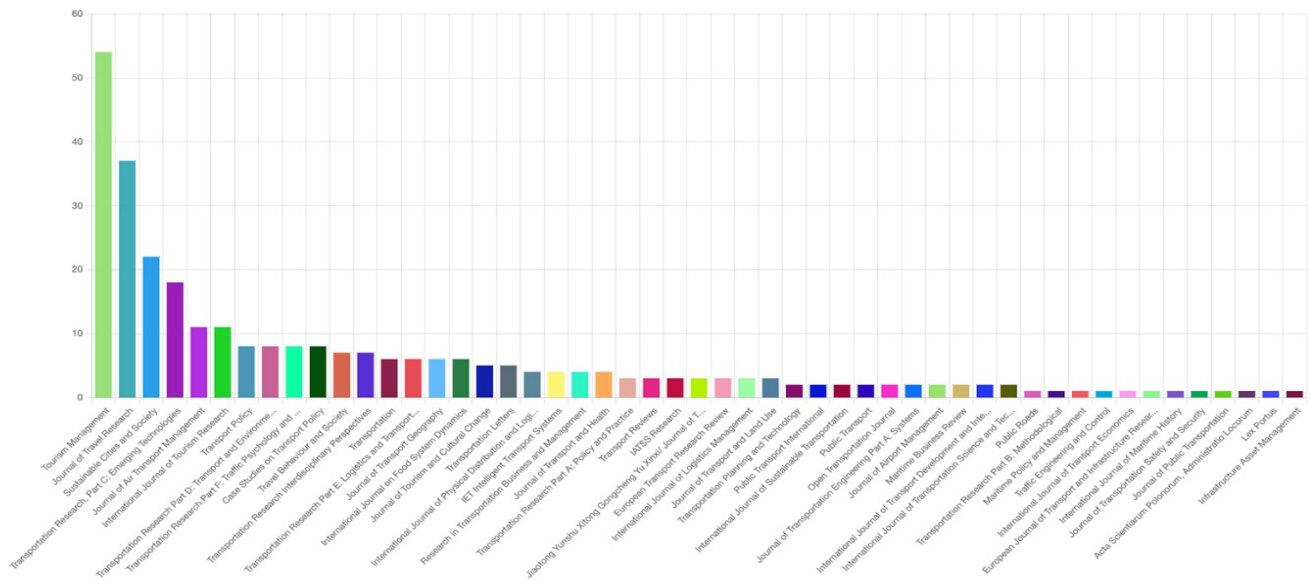
Figure 3: Journals and their Numbers of Articles Featuring Social Media in the Classification Transportation

Fourth Level View: Articles List

Next, users can then click on a bar representing a journal to see each article featuring the topic within the journal via table/list format. The table format for the article view is not an attempt to present a novel design; a list format offered ease of access for these articles. Clicking on an entry in the list format produces a popup that allows the user to see the full abstract, journal title, article title, first author, document type, DOI, and SCOPUS ID of each article.

This view can be used to quickly offer insight into the scope and remit of a journal's articles on an interdisciplinary topic. For example, the articles in the journal *Telematics and Informatics* (listed in the Electrical and Electronic Engineering classification of the Engineering category) offers work that can be meaningful in a variety of subject areas for social media concerns: rhetorical publics in Asia, Facebook marketing, digital public relations, customer-brand relations, nonprofit social media use, social media ads, and more.

WHAT YOU CAN DO WITH FERNWEH

In this section we will demonstrate what type of work can be done with Fernweh.

Its primary goal is knowledge-oriented. Researchers can use it to get a quick sense of where work in an interdisciplinary topic is happening. This quick sense can lead to further steps: comparison across categories, subfields, or journals; identification of articles of interest; and quick evaluations of what types of inquiries are being made into the interdisciplinary topic. With this high-level (and potentially low-level) knowledge about the scope of an interdisciplinary topic in hand, researchers can take on various research and teaching tasks.

Research

Fernweh supports various types of academic research activity.

Scientometric research

Given that the output of the tool surveys the broad scope of a topic across all fields, it can contribute to scientometric research. The tool that can give scientometric analysts a way of looking at how research on a topic is distributed that differs from the outputs of VOSViewer and CiteSpace. It can fit into the existing suite of tools effectively.

For example, Searching Fernweh for *social media* results in distinctive scientometric results. Research on social media is dispersed over a wide area, as expected. All of the subject areas featured articles naming "social media" in the abstract. The amount of work in the categories ranged from Computer Science (39,285) and Social Science (29,291) at the top end to Dentistry (244) and Chemistry (232) at the bottom end. (Consider Figure 1.)

Medicine (13,905) features large numbers of articles about social media. Medical articles are often held in disciplinary databases, and thus medical articles on social media are not as likely to be discovered or cited by people not using those databases. Visualizing an interdisciplinary database helps bypass this problem.

Groundwork

Researchers not conducting meta-research can also find value in Fernweh. One prominent outcome of the tool's output is laying groundwork for a new project quickly. The output of Fernweh on a topic can give a researcher a rapid sense of the very high level overview of the field from a variety of angles; browsing through the subject areas, classifications, and journals that house work on a topic can allow the researcher to lay intellectual groundwork quickly, assessing where the work on a topic is being primarily and secondarily conducted.

For example, in Figure 1, Mathematics features 7630 articles on social media, more than Arts and Humanities (6851). Mathematics journals may not be the first stop on a researcher's mind when considering where to look for research on social media. Visualizing all of the results in a graph instead of a list makes this unusual finding prominent and avoids the problem of algorithms returning only the most cited or what it calculates as the most relevant results.

Clicking down one level: the classifications of Math show that Theoretical Computer Science (3433), Modeling and Simulation

(574), and Applied Mathematics (295) offer large amounts of work. The latter two classifications are areas of applied work that focus on how mathematical methods are applied; these mathematical methods thus need a context (such as social media) to be placed in. Even if demonstration of the method is the goal of the article, findings related to elements of social media are likely present in mathematical articles as an outcome of the method. (The reason for the first classification's high numbers of articles will be discussed below.)

A further step in groundwork can be a rapid evaluation of many abstracts: browsing through the article view allows researchers to see many titles of articles housed in individual journals quickly and can give the researcher a kind of distant reading on the topic (Mueller, 2018). This is particularly useful in Fernweh because Fernweh conducts one large search at the outset of the tool, allowing access to all abstracts in all categories and classifications identified in that search without having to conduct multiple searches.

This type of distant reading can be demonstrated in a search of the engineering category. Looking at the classifications in some subject areas reveals expected classifications with high counts: In Engineering, Electrical and Electronic Engineering (1393), Control and Systems Engineering (1048), and Media Technology (940) rank prominently. Less expected classifications such as Industrial and Manufacturing Engineering (595) and Civil and Structural Engineering (457) also have high counts. Even subject areas seemingly very far from social media show medium-sized amounts: Biomedical Engineering (326) and Mechanics of Materials (260) and feature work that could be useful for interdisciplinary citation. Consider Figure 4. This type of rapid evaluation of subfields can help point researchers in potentially helpful directions quickly.
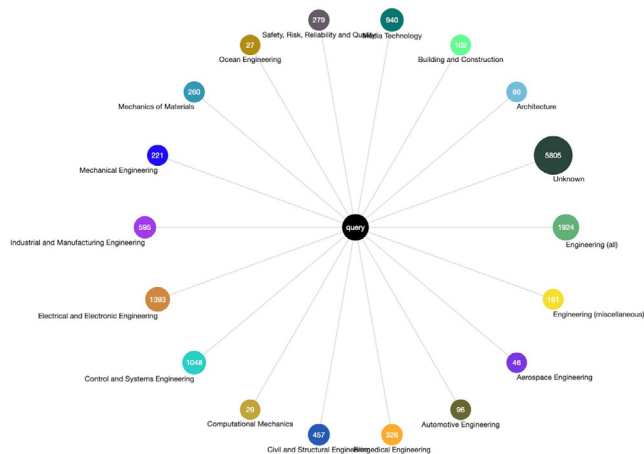
Figure 4: Classifications of Engineering. A larger version of this image is available here.

Another distant reading finding also concerns journals hosting social media articles. Findings regarding individual journals that house social media articles show patterns. Often one or two journals per classification house a disproportionate (sometimes wildly disproportionate) amount of social media articles in relation to other journals in the classification (second level view). In Communication, these are *Social Media and Society* (511), *New Media and Society* (422) and *Information Communication and Society* (341). The next two journals show a drop-off in volume: *International Journal of Communication* (238) and *Public Relations Review* (226). This trend holds in other subject areas and classifications. In Political Science and International Relations, *Journal of Public Affairs* features 53 articles, while *Information Society* (the next most prominent) features only 27. In Electrical and Electronic Engineering, *Telematics and Informatics* (183) and *International Journal of Innovative Technology and Exploring Engineering* (151) are far ahead of *IEEE Transactions on Multimedia* (81) in volume. In Public Health, Environmental, and Occupational Health, *International Journal of Environmental Research and Public Health* features 569 articles, while the next journal (*BMC Public Health*) features only 203 articles. In Information Systems and Management, *Social Network Analysis and Mining* features 180 articles, *Online Information Review* features 155, and *IFIP Advances in Information and Communication Technology* features 151. Many different classifications had a small number of journals that were highly fertile ground for social media studies.

In these ways, Fernweh can support distant reading that helps researchers lay the groundwork for a project quickly.

Citation
Fernweh's goal is to produce a wide-angle view on a topic that is researched in a variety of fields, so it has an unexpected relationship to literature reviews. Fernweh's output collates tens of thousands of article abstracts and helps the researcher parse where they exist; intentionally, this tool does not particularly help identify the most-cited or latest articles in an area. Other tools do this better or are intended to do this: disciplinary databases, current literature, integrative literature reviews, and Google Scholar, for example. However, knowing where the bulk of the work on a topic is housed can help *frame* interdisciplinary literature reviews; knowing that certain journals or certain subfields house lots of work can guide the researcher to new or unexpected areas in the search for appropriate interdisciplinary literature.

Furthermore, Fernweh works with several Boolean operators, which can allow researchers to identify multiple terms needed in an abstract. In this way, researchers could search for a term reflecting a topic and term reflecting a method at the same time, to identify work similar to the researcher's topic and method across disciplinary boundaries.

Partnerships
Finally, Fernweh can help with identifying unexpected fields or programs as partners for research. Using Fernweh to identify multiple fields that are working on an interdisciplinary topic may lead the user to identify other university programs that may house scholars with expertise in the area. This could lead to unexpected collaborations and interdisciplinary projects.

Teaching
Fernweh has teaching applications as well for undergraduate and graduate education.

Introduction to interdisciplinarity
This tool can aid teachers in introducing students to interdisciplinary topics. Helping students understand that engineering journals have a great amount of research about social media and yet

agricultural journals also have research on social media gives them a sense of how interdisciplinary concepts are spread throughout subject areas. Helping students identify interdisciplinary work outside their disciplinary remit offers a point of departure toward interdisciplinary scholarship for our students.

Research placement

Interdisciplinary research can be a difficult fit in disciplinary journals and conferences. Fernweh can help students (and scholars!) understand where their interdisciplinary research may fit in the overall scope of the interdisciplinary research area. Identifying areas that may be outside of the student's primary discipline but still may support the work that the student is doing could be valuable when seeking to publish work that pushes the boundaries of the discipline farther outside the remits of disciplinary journals.

This situation extends to conferences that publish proceedings as journal-style offerings. Even though the goal was to only access journals, some conferences publish their proceedings in a journal (often including the phrase Lecture Notes). In Math and Computer Science, *Lecture Notes in Computer Science* featured 2755 articles using the term social media, demonstrating a wide range of conferences over time that had supported social media research. Similarly, *Lecture Notes in Business Information Processing* featured 147 articles, the second most in its category of Management Information Systems. Thus, this tool points to published work from conferences but also to the conferences themselves as potential venues to place work. These findings from Fernweh can help students develop a sense of where their interdisciplinary work could or may land, which could serve them well over the course of a program and career.

Refining ideas

Another area that Fernweh can help students with is refining ideas in light of what has been done across fields. Students often develop ideas for research by adding their own innovations to disciplinary work: reading the current state of disciplinary research and building on disciplinary coursework. With Fernweh, students can easily identify (through title and abstract) the topics of articles on that issue in journals, subfields, and fields of interest. This function can allow students to rapidly iterate an idea, seeing what has been done and where the areas of further research might be pursued. The interface's ease of moving back and forth between articles, journals, fields, and subfields makes this process potentially faster than it would be in other tools with more linear workflows and interfaces.

Identifying disciplinary similarities and differences

Similarly, Fernweh can help students identifying differences in style and interest across fields on the same topic. Understanding how interdisciplinary work on the same topic varies across fields is instructive to understanding not only fields adjacent to one's own. Identifying differences in adjacent fields can illumine the distinctive practices, topical foci, and concerns of the field, vis a vis their absence or lighter focus in adjacent fields. Understanding the differences in methodological approaches, and even the ways the same overall method is applied in distinctive arenas, can also help students get a sense of how their home discipline and adjacent disciplines vary in approach.

LIMITATIONS AND FUTURE RESEARCH

Using any database means the contents of the tool are subject to the contents of the database; journals that not indexed by SCOPUS are not included in this tool and this study. This limitation is why we have used the largest available database that was available for research. Second, SCOPUS categorization does not uniformly extend to books, so books are not included. Third, SCOPUS does not have a public API (unlike the shuttered Microsoft Academic). Thus, this tool can only be used by other scholars who have institutional access to SCOPUS. Fourth, the tool also has areas of development that could be further addressed. An exporting function for the graphs would be an immediate area of development, as well as a citation graph that could allow for cross-field citation comparison. Fifth, this tool is not mobile accessible; it remains a desktop-only tool at this time. There remains a need to make it available on more devices (Cosgrove, 2018).

One limitation of the SCOPUS category system is that some of the 27 categories contain massive numbers of subfields, while some are more narrowly scoped. For instance, all of Arts and Humanities and all of Social Sciences are reduced to two of the 27 high-level categories, while areas of smaller scope such as Nursing, Dentistry, and Neuroscience receive their own category. (These choices on SCOPUS' part seem to reflect a STEM leaning in their holdings.) There are some workarounds for this problem in the tool. The top-level Subject Area view may be appropriate for getting a sense of scope in some subject areas that are sufficiently tailored, but users may want to go straight to second-level classifications to understand the range of activities in Arts & Humanities and Social Sciences fields. The 27 categories provide a starting place for the analysis, but are not only way to parse the data; the fact that these categories are the only available starting place (due to SCOPUS' API output) is a limitation.

Many areas of future research with this tool exist. Regarding social media in design of communication, one could write an article regarding social media in major design of communication / technical communication journals and assess what we know about social media. The tool can help develop interdisciplinary integrative literature reviews: what do social media researchers know about Twitter influencers? What do faculty outside business schools know about Kickstarter? This tool can also be used for other topics, such as sustainability, the future of work, globalism, and climate change.

Beyond being used for research, several next steps exist on development of the tool. We would greatly encourage technically-oriented scholars and students to start working with the tool and seeing how it works for them. As this is an open-source project, we would also encourage scholars and students with coding experience to contribute to its further development. With further development, it could be made into a standalone program that does not require setting up Python to use. Once that stage of technical development has been reached, user experience work could be undertaken to make this tool ready and accessible for wider use. At that stage, it would be easier to get students to use it in research-oriented classes of all types, as the start-up difficulty of using the tool would be greatly decreased and the number of people who could access the tool would be greatly increased. Ultimately, the authors would like to see this type of tool included in the SCOPUS website, as it would provide a different experience of visualizing academic research data than currently exists there.

DISCUSSION AND CONCLUSION

The Fernweh tool-building project required a wide variety of collaborations over a long period of time. This collection of collaborations stretched over parts of five years, from beginning of the research collaboration with the first group of students to the acceptance of this article detailing the process. The first author learned several lessons with different types of collaborations.

The first type of collaboration was with Computer Science undergraduate capstone students in a research-heavy task. This type of interdisciplinary collaboration was valuable because the first author did not have the skills needed to develop this project, and thus was able to work with those who did instead of learning it all (Lauer et al., 2013). However, asking ill-formed research questions of advanced undergraduate students made the process take longer than it might have with a more experienced research team of master's students, doctoral students, peer professors, or practicing professionals.

Yet the experience of working on a real research project was an opportunity for the students to make meaningful decisions about the software that I trusted them on; the experience of being told "That sounds good, I trust you, let's see if it works," was one that the students may have limited or no previous background in. While it was not my job to mentor their work (as I had no coding capabilities), I was able to mentor their process of deciding what to do in an ill-formed problem space. Ultimately, the students gained this experience, and the first author gained access to skills that would have been prohibitively time-consuming to acquire. The "learn only what you need" project-oriented approach to scraping of Gallagher and Beveridge (2022) is a counterpoint to this argument; while the first author may have been able to scrape the data himself eventually, working with APIs and front-end technology (as the second stage of the process required) would have been a very tough hill to climb alone.

The second type of collaboration with Computer Science undergraduate capstone students was on a much more recognizable problem, thanks to the efforts of the first student group in forming up the problem. Yet unexpected roadblocks (such as the emergence of the COVID-19 pandemic) can throw a wrench in even "easy" collaborations. This collaboration taught the first author mostly about staying the course, even when things fall apart.

The third collaboration, with an industry professional, was the most productive of the collaborations. Given the second author's expertise, we were even able to scale the difficult hurdle of losing access to our primary dataset and conducting a major rewriting of the backend to accompany the new dataset. By this time in the project, I had a clear vision for the problem and the tool to solve it. Working with the limitations of the API information and the data from the API changed some of those goals: early visions of the tool included elements of citation analysis as a goal, something that is not in the current version due to current limitations on the data.

While the second author was able to understand the vision and develop code for the project rapidly, we encountered challenges concerning limited available work time on an out-of-work project for the second author and the complexity of working with an API that needed the first author's university permissions for the second author (who did not have university permissions). Both problems required patience on the part of the authors and the authors' granting agency (which was extremely understanding). Ultimately, the permissions were secured and the coding was completed over time.

Thus, this set of academic tool-building collaborations did not produce a speedy process, but we did create a tool that works.

For those design of communication and technical communication seeking to conduct a project like this, we would suggest that the type of project the researcher wants to take on is critical. The five-year process of building this tool was productive at the end because the type of tool created was niche enough that no other tool for this purpose was completed during the long process of development. Yet the tool is not intended to be a single-user piece of software; the goal of this project was to develop a tool for interdisciplinary researchers and meta-researchers (of which the first author was the first client). While only future use by other researchers can determine whether this tool truly goes beyond its commissioning client, the goal was to build something that people outside of just the first author could use.

While this particular project took several years to come to fruition, other versions of this collaborative process can be imagined that are not as tardy in developing. One intriguing possibility for students in professional writing courses of all stripes would be for students to write out ideas for software tools that they would like to see, then pitch the ideas to computer science students to build. This type of collaboration would require prior coordination between writing and computer science faculty to develop, but it could be a way to involve TPC students in the process of tool-building collaboration. Making groups of students the client organization for computer science students may be a challenge that requires professional and interpersonal guidance by all faculty involved, but this type of collaborative relationship could be a unique learning experience for students in both professional writing and computer science.

Regardless of who is in the collaboration, collaborative tool-building is a challenge. There are many hurdles before securing the end goal of working software. Yet if a tool is specific enough or a problem is overlooked enough, the benefits of conducting collaborative tool-building can go far beyond the work of the collaborators and into the commons of open source computing tools (perhaps that one finds while scouring the internet for *just the thing* that one needs).

And that's what Fernweh is: a tool that advances a specific concern. Fernweh Interdisciplinary Research Visualizer offers interdisciplinary scholars a tool to advance best practices in one area of interdisciplinarity. Understanding where interdisciplinary topics such as social media or sustainability are being researched across the whole range of academia allows researchers to get a better sense of what has already been done, where it is, and how it may be different (or similar to) the work that the researcher wants to do in an interdisciplinary space. This conceptual goal is advanced through the specific tool functionality of allowing interdisciplinary scholars to rapidly identify categories, classifications, and journals throughout academia that may be of long-term interest. We encourage scholars and students to use this tool to discover and cite interdisciplinary work to push interdisciplinary research forward.

ACKNOWLEDGMENTS

REFERENCES

Carradini, B. (2023). research-visualizer. *GitHub*. https://github.com/bcarradini/research-visualizer

Collin, A. (2009). Multidisciplinary, interdisciplinary, and transdisciplinary collaboration: Implications for vocational psychology. *International Journal for Educational and Vocational Guidance, 9*(2), 101–110. https://doi.org/10.1007/s10775-009-9155-2

Calopedos, R. J., Garcia, C., Rashid, P., Murphy, D. G., Lawrentschuk, N., & Woo, H. H. (2017). Citation indices for social media articles in urology. *BJU International, 119*, 47–52. https://doi.org/10.1111/bju.13872

Chen, C. & Song, M. (2019). Visualizing a field of research: A methodology of systematic scientometric reviews. *PLoS ONE, 14*(10): e0223994. https://doi.org/10.1371/journal.pone.0223994

Cosgrove, S. (2018). Responsive data visualization: The National Weather Service and the representation of risk. In *Proceedings of the 36th ACM International Conference on the Design of Communication* (pp. 1–2).

Elsevier, B.V. (2022). Scopus API specification. Scopus. https://dev.elsevier.com/sc_api_spec.html

Freeman, J. (2013). Here's an adaptation… In "Create a hexadecimal colour based on a string with JavaScript." *Stack Overflow*. https://stackoverflow.com/questions/3426404/create-a-hexadecimal-colour-based-on-a-string-with-javascript

Gallagher, J. R., & Beveridge, A. (2022). Project-oriented web scraping in technical communication research. *Journal of Business and Technical Communication, 36*(2), 231–250. https://doi.org/10.1177/10506519211064619

Garfield, E. (2009). From the science of science to Scientometrics: Visualizing the history of science with HistCite software. *Journal of Informetrics, 3*(3), 173–179. https://doi.org/10.1016/j.joi.2009.03.009

Herrmannova, D., & Knoth, P. (2016). An analysis of the Microsoft Academic Graph. *D-lib Magazine, 22*(9/10), 37. https://doi.org/10.1045/september2016-herrmannova

Jones, N. N. (2016). Narrative inquiry in human-centered design: Examining silence and voice to promote social justice in design scenarios. *Journal of Technical Writing and Communication, 46*(4), 471–492. https://doi.org/10.1177/0047281616653489

Kanakia, A., Shen, Z., Eide, D., & Wang, K. (2019, May). A scalable hybrid research paper recommender system for Microsoft Academic. In *The World Wide Web Conference* (pp. 2893–2899). https://doi.org/10.1145/3308558.3313700

Kotsemir, M. (2019). Unmanned aerial vehicles research in Scopus: an analysis and visualization of publication activity and research collaboration at the country level. *Quality & Quantity, 53*(4), 2143–2173. https://doi.org/10.1007/s11135-019-00863-z

Lauer, C., McLeod, M., & Blythe, S. (2013). Online survey design and development: A Janus-faced approach. *Written Communication, 30*(3), 330–357. https://doi.org/10.1177/0741088313488075

Mueller, D. (2018). *Network sense: Methods for visualizing a discipline.* WAC Clearinghouse.

Nou, A., Jorgensen, N., Wong, G. H., Deng, W., Kuo, A., & Freidoon, A. (2019). CSE485CapstoneArticleVisualizer. https://github.com/CSE485CapstoneArticleVisualizer

Richardson, L. (n.d.) *Beautiful soup documentation*. https://www.crummy.com/software/BeautifulSoup/bs4/doc/#module-bs4

Rodola, G. (2023). psutil. https://github.com/giampaolo/psutil

Rose, E. J. (2016). Design as advocacy: Using a human-centered approach to investigate the needs of vulnerable populations. *Journal of Technical Writing and Communication, 46*(4), 427–445. https://doi.org/10.1177/0047281616653494

Software Freedom Conservancy (2023). Selenium automates browsers. That's it! https://www.selenium.dev/

Scopus Sources. (2022). www.scopus.com/sources

Swarts, J. (2018). *Wicked, incomplete, and uncertain: User support in the wild and the role of technical communication.* Utah State University Press.

Van Eck, N., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *scientometrics, 84*(2), 523–538. https://doi.org/10.1007/s11192-009-0146-3

Visualizing the Topic Hierarchy on Microsoft Academic. (2020). Microsoft.com. https://www.microsoft.com/en-us/research/project/academic/articles/visualizing-the-topic-hierarchy-on-microsoft-academic/

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Collaboration as a Shared Value: Instructor and Student Perceptions of Collaborative Learning in Online Business Writing Courses

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ABSTRACT

This article presents a case study of instructor and student perceptions of collaborative learning in multiple sections of an upper-level, online business writing course. Our goals are to understand current attitudes toward collaboration among business writing instructors and students and to examine points of dissonance regarding attitudes, frameworks, and definitions of collaborative writing. Further, we aim to understand how collaboration is valued, how it is framed and valued in terms of either process or product, and various associations between collaboration and community. Our results revealed collaboration to be a shared interest by business writing instructors and students alike but at the same time it is received differently in online versus in-person interactions. In this article, we identify these dissonances and discuss what they mean for collaborative learning.

CCS Concepts

Social and Professional Topics

Keywords

Collaboration, Collaborative learning, Collaboration technologies, Online business writing, Community

INTRODUCTION

Collaboration is a disciplinary assumption in business and technical communication (Tham et al., 2021; Thompson, 2001). In the technical communication workplace, practitioners work in teams to research about products or services (Hackos, 2015), gather information from subject matter experts (Allen et al., 1987; Burnett et al., 2013), create and edit content (Forman, 1991; Jones, 2005), design and develop prototypes (Tham, 2021), test ideas with users (Simpon, 1991), and manage relationships with stakeholders (Anders, 2016; Lay & Karis, 1991). In terms of pedagogy, technical and professional communication pedagogy has long embraced collaborative learning and team projects to instill co-working values in students as rising professionals (e.g., Behles, 2013; Duin et al., 2017; McKee & Porter, 2017, Moses & Tham, 2019, 2021; Paretti et al., 2007). Yet, ongoing discussions among instructors have revealed mixed results in collaborative learning efforts. For instance, technical communication students do not always prefer group work due to an array of reasons (Cella & Restaino, 2014; Chism, 2006; Wolfe, 2010), while instructors presume that collaborative projects could enhance the learning experience. This disparity is further complicated by the changing nature of communication and co-working technologies in the modern classroom (Baker, 2015; Palumbo & Duin, 2018; Spinuzzi, 2007; Wilson & Daugherty, 2018).

Despite such complications, collaboration is increasingly prevalent and necessary. In their workplace research, Clair Lauer and Eva Brumberger (2019) affirmed that collaborative composing is commonplace in today's work culture. This culture, as Clay Spinuzzi and colleagues (2019) found in existing collaboration studies literature, is described in inconsistent terms and expectations. The perceived value for collaboration is unclear and usually told to students through lore (e.g., "Collaboration is good because two heads are better than one"). But underneath this implicit, broad framing of collaboration as inherently valuable, how do we understand and associate collaboration and related concepts of community, product, and process? When we were charged with the task to co-develop an online business writing course with other

instructors, they considered it an opportune moment to study how instructors and students perceive and frame collaboration and collaborative learning in order to address the evolving landscape of collaboration today and in order to better understand how collaboration is valued and defined in business writing courses.

This article presents data gathered from an IRB-approved case study in which five instructors (inclusive of the authors of this article) reflect on their own and their students' values, definitions, and assumptions related to collaborative writing. The case study responds to a departmental assignment to create an online version of an existing business writing course; this task was undertaken (although not assigned) collaboratively, and instructors who had taught sections of this course with their own focus, readings, assignments, and approaches worked together to both create an online template and to consider how the course, which runs between two and four sections per semester, might be more standardized. The case study analyzes the instructors' approaches and emphasis, which are grounded in collaboration as a key, important, valued part of this course, and examines student understandings of collaboration in online and face-to-face classroom environments.

We gathered data during this two-year case study, which followed the five instructors through the creation of the course for one year and then followed these same—and new—instructor and student experiences when teaching and taking the course across two semesters. From being tasked with creating an online version of this course by department administration and then across a year-long process of creating the course template and then a full year (Fall and Spring semesters) offering the course across two modalities (online and face-to-face; pre-COVID pandemic), we gathered data through a combination of survey and email interview. We present our findings from this study, along with our own reflections of the case situation and work, which focuses primarily on 1) understanding collaboration as an almost unanimously shared value/valued practice among teachers and students, 2) understanding how teachers and students define collaboration, its costs and benefits, and finally 3) understanding the relationship between collaboration and community.

The major assignments for the class include a job application packet, a revision memo, a problem-solving communication, a proposal, and a presentation. Of these assignments, three are collaborative team assignments and the other two require peer review. Various minor assignments throughout the semester also require students to work in their groups, which remain consistent. The class is managed through a CMS called Canvas, utilized throughout the University; students are encouraged to use a variety of collaboration tools through the course Canvas site but also tools such as Google suite, Zoom, email, texting, hangouts, Slack, and WhatsApp. Students could choose their preferred communication and collaboration tools with the guidance of their instructor. Along with these collaboration tools, students used Google Docs, Microsoft Word, Google Slides, and Canvas to create and submit assignments. Most students reported using a variety of tools, depending on the assignment.

Just as Spinuzzi et al. (2019) worked to understand how the broad, messy terms of "collaboration" and "community" are defined in coworking and professional spaces, with this case study we work to uncover why collaboration appears to be an inherently accepted shared value among instructors and students, and what collaboration actually means to these same instructors and students.

Our approach to designing a course unanimously emphasized collaboration as a key skill and value in business communication, and attached collaboration to some concept of community. We reflect on our experience within this time bound, specific task of creating and running an online course and work to articulate an understanding of collaboration and community across instructor and student experiences. Finally, we use our data to highlight some shared values and to complicate definitions; as Spinuzzi et al. (2019) argued, when these terms are overly broad and poorly defined, they can become problematic catch-all's that only appear to unify instructional approaches and learning experiences. We argue, then, that there should be more work that steps back from collaboration and community as assumed goals and works to define, understand, and trouble these concepts across various contexts. We hope our work urges instructors to pause and reflect on their own understandings and operationalizations of such key, valued concepts.

Next, we provide a literature review that focuses on the development of collaboration studies in our field and perception of values. Then, we describe our case study approach and specific means of gathering and treating data. Through our findings, we conclude that, while collaboration is indeed a shared value among teachers and students, the connection between collaboration and building community, which appears as an important factor for instructors, is absent for students. We recommend that collaboration be foregrounded and framed as community building. Recognizing that students do not largely view collaboration in terms of community is an important first step for instructors who wish to emphasize community in their courses, particularly when teaching online where so many other traditional ways of establishing community are absent.

LITERATURE REVIEW
Developments of Collaboration Research: A Brief Sketch

Over the last 40 years, collaboration as a qualitative skill has been studied and taught formally across professional and technical communication settings. Here we offer a brief sketch of the field's scholarship on collaboration, drawing from rhetoric and writing studies, technical communication, and business communication. We would like to note that in the literature collaboration has been examined across various activities, such as interpersonal interactions, team decision making, collaborative writing, collaborative learning, and the use of collaboration technologies. Therefore, when we refer to collaboration in this article, we are cognizant of the associations of meaning it has across contexts. We are interested in all of the activities above as they each can be factored into the practice of collaboration by students (e.g., Students are learning about one another in teams, figuring how to share the work, making decisions based on consensus, co-authoring content, critiquing shared work, resolving conflicts, and managing communication).

We begin this sketch with studies about interpersonal interactions. Thanks to the social turn in writing and rhetorical studies, academics who taught composition and professional communication alike had been invested in understanding the role of social interactions and participatory invention in communicative contexts, most notably between the mid to late 1980s. By the end of the 20th century, a few landmark literature had formed the early foundation for collaboration studies in business and technical communication. A

representative voice amid this formative time was Anne R. Gere (1987). In her examination of writer's interdependency in writing groups, Gere noted the social dimension of writing and documented the histories and theories of collaborative learning. Gere effectively traced the movements in late 19th century educational reform that has contributed to the thinking of contemporary collaboration advocates, including Kenneth Bruffee. Bruffee's (1984) "conversation" metaphor for the writing classroom emerged as a popular reference for many who deployed collaborative learning in the early process-theory era. Framing collaboration through this metaphorical lens frames collaboration as part of community building: a focus on "conversation" and on process positions collaboration as likewise focused on community.

For business and technical communication instructors, the elevated attention to collaboration studies has led to increased pedagogical research in terms of collaborative writing in the classroom. In one of the earliest pedagogical instances for collaboration studies, Morgan and colleagues (1987) from Purdue University outlined three crucial aspects for incorporating collaborative projects in business writing courses: the assignment sequence, development of writing groups, and evaluation of student performance. Over in composition studies, John Trimbur (1989) warned teachers who assign collaborative projects of the political dimension of consensus and difference within group interactions, in addition to technicality and logistics. Trimbur's warning has emphasized the community element of collaboration, even while articulating the potential community pitfalls related to group interactions and team dynamics.

At a time when writing instructors were energized to explore innovative ways to facilitate collaborative learning, Andrea Lunsford and Lisa Ede synthesized concepts from rhetoric, cultural studies, and small group communication studies to establish a research agenda in collaborative writing that serves the needs of writing pedagogy (Ede & Lunsford, 1983, 1985; Lunsford & Ede, 1984, 1986). Building on their scholarship in audience awareness and feminist theory, Ede and Lunsford's (1990) book, *Singular Texts/Plural Authors*, ushered in renewed motivation for research on collaboration in the 21st century.

The succeeding wave of collaboration studies in business and technical communication took a critical look at the implicit as well as explicit factors that influenced collaboration and collaborative learning (Allen et al., 1987; Belanger & Greer, 1992). James Porter (1990) identified the ideologies and power relations between members of collaborative teams and their effects on the outcomes of collaboration. In "Collaboration in a Pressure Cooker," Terry R. Bacon (1990) revealed how tight timelines, prescribed solutions, and other bureaucratic factors challenged collaborators to make-shift their workflow and recognize the socio-rhetorical dimension of the collaboration process. Through a Burkean perspective, Janis Forman (1991) showed burgeoning interests for collaboration research in business writing. The demand for more structured framework and strategies, rather than lore, has led to dedicated forums on collaboration through special issues of journals like the *Bulletin of the Association for Business Communication* (later *BPCQ*; Beard & Rymer, 1990), *Technical Communication* (Bosley & Morgan, 1991), and *Technical Communication Quarterly* (Burnett & Duin, 1993). Mary Lay (Schuster) and William M. Karis's (1991) edited collection, *Collaborative Writing in Industry*, provided additional perspectives and strategies learned from workplace collaborators.

As collaborative learning projects become commonplace in business and technical communication pedagogy, scholar-teachers in the pre-2000 classrooms have turned their attention to understanding the effects of collaborative projects on student learning. Of note is Ann Martin Scott's (1995) survey of student attitudes and perceptions of collaboration in a technical communication course. Scott's findings revealed that students favored collaboration but would like more guidance in collaborating with peers and providing peer criticisms. The sense of community required in collaboration often contradicts the conventional ideals of authorship and authority, as Kathleen Blake Yancey and Michael Spooner (1996) argued in their *CCC* article, "A Single Good Mind." As networked communication technologies advance and permeate our classrooms, the dissonance between productivity and identity presents new challenges to collaboration.

Needless to say, the digital age took collaboration studies to a new key. Like many technology enthusiasts, scholars like Mark Mabrito (1992) and Elizabeth Sanders Lopez and Edwin Nagelhaut (1995) showed how networked technologies can take business communication collaborations beyond the walls of the classroom. As evident in the landmark books, *Computers and Technical Communication* (Selber, 1997), *Language and the Internet* (Crystal, 2001), and *Technical Communication and the World Wide Web* (Lipson & Day, 2005), research on collaboration and technical communication in the early 2000s was primarily driven by the affordances of the internet and the Web. Scott Jones (2005) observed that writers take on new roles in information coordination with the implementation of networked technologies. Instructors were curious if and how digital technologies could better facilitate collaborations. For instance, Paul Benjamin Lowry, Aaron Curtis, and Michelle René Lowry (2004) studied emergent collaborative writing technologies and stressed that communication software serves as a mediator of successful collaborations. The "My Favorite Assignment" sessions and sponsored graduate student panels at the Association for Business Communication annual convention frequently featured pedagogical innovations that leveraged the evolving functions of communication and collaborative technologies. In a brief teaching demonstration, Scott Buechler (2010) shared that Web 2.0 provides interactive capabilities that could enhance collaboration among students and other stakeholders in business communication. Undoubtedly, the emergence of social technologies such as social networking sites and collaborative authoring tools like Google Docs and wikis have forever changed the landscape of collaboration in technical communication practitioners as well as students.

Such important studies implicitly frame collaboration in terms of community and process, rather than in terms of product. This focus on collaboration and community guided how the teachers in our case study understood and approached collaboration. Further, the vast majority of research on collaboration we cited frames collaboration and collaborative work in terms of benefits and necessity; such research lays the groundwork for understanding collaboration as inherently valuable both for students and in the workplace, and frame collaboration as an increasingly important skill in the workplace. Finally, such research supports the assumptions made by our instructors regarding collaboration as a valuable and necessary way to create community (in the classroom and workplace) and the inherent framing of workplace writing as nearly always collaborative and community focused. In our case study reflections and in the treatment of our data, we note this

assumed framework and conceptualization of collaboration and community. We found that this implicit way of valuing and framing collaboration and its pedagogical benefits 1) is potentially distinct from the way that students view the benefits of collaboration (as product rather than community focused; further 2) exemplifies the problem noted by Spinuzzi et al. (2019) regarding unclear or assumed definitions of the seemingly universally valued concepts of *collaboration* and *community*. In the following section, we look specifically at how the literature has worked to define various key terms in collaboration studies and introduce our goals of examining key concepts and values in our own case study.

Defining Terms and Understanding Values

Within the last 10 years, business and technical communication researchers have continued to examine the importance and logistics of collaboration. Notably, the literature agrees that collaboration in professional settings is all but ubiquitous (Lauer & Brumberger, 2019). Much of the communication and writing and work that professionals engage in, across industries, involves collaboration and rests on building community.

For the purposes of this study, we define community as a sustained network of individuals working together to achieve a common goal. The implications of "community" include supportive relationships and positive interactions among team members. We understand community as cooperative and as relational and link community with one potential goal of the collaborative process: making mutually beneficial and supportive connections among teammates. Community might refer to building supportive connections, similar to what Elbow (1973) described as a "community of writers" or to what Spinuzzi et al. (2019) described as cooperative social collectives. The opposite of "community" might include teams that are fragmented or disconnected. In particular, instructors noted "community building" as an inherent benefit of collaborative student projects in an online asynchronous environment, since these projects provided space for students to build relationships and connections with classmates they might not otherwise interact with in an online classroom. As we discuss below, collaborative work does not necessarily do this work of community building, based on student response.

In terms of pedagogy, there is a return to focusing on how students perceive collaboration as a learning activity. Rebecca Pope-Ruark and colleagues (2014), for example, explored student motivations to collaborate with peer teams and community partners. Similarly, Stephanie Swartz, Belem Barbosa, and Izzy Crawford (2019) identified the challenges with international collaboration through the lens of intercultural competency in virtual teams. Postmillennial scholarships are conscious about the effects of technologies for collaboration but continue to explore new ways to enrich the learning experience for our students. Regardless of technological advancement, team projects and collaborative writing remain to be a frustrating experience for many instructors and students (Cella & Restaino, 2014). In response, William Duffy (2014), in "Collaboration (in) Theory," revisited the social dimension of collaboration and presented entrancing rationales for a return to Bruffee's transactional framework.

Taken as a whole, the development of collaboration research within business and technical communication showed that collaboration studies are influenced by evolving technologies as well as ideologies for working together. Collaboration is widespread and

the importance of building collaboration practice into business writing courses is apparent; however, what it means to collaborate, how collaboration looks in various contexts, and how collaboration is linked to community are important questions that warrant further investigation. Collaboration presents as a *shared value*, and it is often understood as necessary not only in preparing students for the work they will do beyond the university but in building communities within the classroom.

While much research has investigated collaboration tools, methods, and justifications in writing courses, our study picks up on an undertheorized aspect, which Spinuzzi et al. (2019) took on in their research into coworking communities: what is the relationship between collaboration and community building, and how are each of these things imagined and valued, both by instructors and students of business writing courses? What initially sparked our case study investigation was an immediate, seemingly unanimous *valuing* of collaboration, to the point that each instructor, with their distinct pedagogical approach and course emphasis, highlighted collaboration as a fundamental, necessary component of the business writing course. Further, each instructor seemed to value collaboration: collaboration among students was framed as not only useful or necessary, but as inherently beneficial and valuable to students and to the course.

In this study, we analyze data collected over the course of two years (refer to Figure 1) from questions that asked both students and instructors to reflect on collaboration as a shared value and that reflects on perceived connections between collaboration and community building. Our values and assumptions were, in part, rooted in such research that values the importance of collaboration and the relationship between collaboration and community. Our case study compared instructor values and assumptions with student responses to collaborating in online and onsite spaces and situations. Rather than focusing on tools and sites, we reflected on how collaboration is positioned, described, and commonly understood as inherently valuable or beneficial. We positioned collaboration as a shared value, among teachers and students, and we called into question how that value is operationalized differently. We took up the problem articulated by Spinuzzi et al. (2019) that collaboration and community are loosely defined terms and, as such, potentially difficult to "pin down" or operationalize. In other words, while students and instructors today agree that collaboration is "valuable," "necessary," or generally "beneficial," how are they actually understanding the fuzzy concept of "collaboration"? Further, how do students and instructors understand collaboration and community?

Based the above concerns, we have formulated the following research questions for this study:

1. How do students and instructors value and weigh the importance of collaboration in the context of a business writing course?

2. How do students and instructors define collaboration?

3. How do students and instructors frame the various costs and benefits of collaborative work?

4. How do students and instructors understand the relationship or connection between collaboration and community?

METHODS

We took a case study approach to this project, describing and reflecting on the process of five business writing instructors tasked with developing an online section of an existing business writing course. We followed this case of creating and implementing an online business writing course over a two-year period, reflecting specifically on how collaboration and community emerged as a value throughout the process. We investigated how collaboration and community were defined, framed, and valued among the instructors working to create the course and among the undergraduate students enrolled in various sections of this course across two semesters.

Within our case study framework, which examined this specific project over time, we collected data through various methods over the course of two years during the creation and initial run of the online course. We reflected on our assumptions, challenges, choices, and values. We report in this article on survey results gathered from students who enrolled in this business writing course over two semesters. Through describing and reflecting on our processes as instructors and reporting the survey data from enrolled students, we highlight here moments of dissonance and alignment among students and instructors.

Case Study

The case study approach (Yin, 2018) allowed us an in-depth reflection and analysis of how a business writing course was collaboratively developed, and how this collaborative project reveals shared values and assumptions among business writing instructors who each take a unique approach to teaching and designing this course. We focused on consistencies across our courses, as these suggest core assumptions and beliefs not only related to this course but to how we frame business writing, collaboration, and online instruction more generally. Figure 1 shows a visual schematic of this case study.
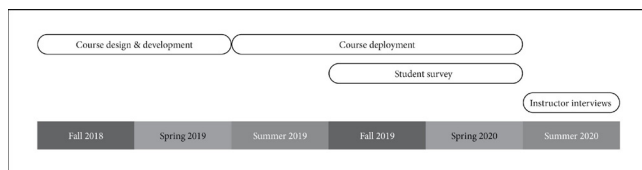
Figure 1: Timeline of our case study.

Our project emerged out of a collaborative effort to develop and launch an online business writing course at a large midwestern research university. In Fall semester 2018, we were tasked with developing an online section of an existing, onground business writing course. Initially, five current and previous course instructors met to discuss standardizing the course across sections and to decide how we might develop this course in a fully online environment.

We met as a team of five instructors over the course of one academic year: we worked together to design the course during Fall and Spring semester of 2018/2019, and the online section of the course launched during the summer semester of 2019. Our survey data were collected during the Fall and Spring semester of 2019/2020. In total, this case study took place over the course of two academic years, beginning with the request from our department chair that an online section of our business writing course be developed. This request came from observations that 1)

this is a popular course (based on how quickly each section and enrollment waitlists fill every semester), 2) online sections of other courses in our department tended to fill quickly, and 3) incentive from administration to meet student needs and college initiatives related to online and technology enhanced learning.

While the task of developing this online course was not originally assigned as a collaborative project, it immediately became collaborative as the lead author of this article reached out to instructors who were currently teaching or had recently taught the course. Of the instructors she reached out to (including the second author), most were willing to collaborate. We met in person 3-4 times during the fall and spring semesters and did much of our work online and asynchronously. This work included:

- Meeting in person to talk about shared approaches and core components of the course;
- Collecting and sharing readings and assignments;
- Developing an online course "shell" using our university's learning management system (LMS), Canvas; and
- Using email and updating a shared Google drive between meetings to share resources, thoughts, suggestions, reflections, and schedule meetings.

Over the course of our meetings, both in person and through shared Google Drive and Canvas LMS course development, we established that we approached this course distinctly: we used different texts, focused on different assignments, etc. We also noted and built on what we shared in common, despite our distinct approaches. During our conversations, along with some shared readings, assignments, and core genres, we noted a focus on student collaboration as a common, shared approach and component. Through our discussions, collaboration became a key value, and we focused on ways to make collaboration a successful, meaningful focus for the online section of this course.

As we showed earlier, there is already a wide range of literature that demonstrates the importance and value of collaboration in business and technical communication. In addition to the rich tradition of collaborative learning in our field, Lauer and Brumberger (2019) argued that many instances of professional writing are not only collaborative across time and distance, but are also what they refer to as "multimodal editing"; according to their study of workplace writing, folks often work together on documents that they did not originate. Specifically, they contended that it is important to

- Understand what tools students already use;
- Teach the "right" tools/emphasize use of tools for various types of collaboration;
- Understand that workplace collaboration happens often and happens over distance and space—folks collaborate without being in the same room; and
- Define collaboration as working together on all aspects vs. dividing up the work.

In light of strong evidence that workplace writing is collaborative, and based on our own experience and values surrounding collaboration, we designed this online course and our student survey with collaboration as a central, important component. Beyond an important component or crucial skill, we frame collaboration as a *value*. We understand value as something that is assumed to be inherently beneficial, good, or useful. In the context of this

case study, we also understand values as oftentimes unspoken or assumed worldviews that frame how we make decisions regarding what students "need" or what makes writing—either the product or process—"better." The values attached to writing, to pedagogy, etc. shape the way we understand how writing functions and how it shapes (and is shaped by) various realities. As we present our case study, we also reflect on collaboration not only as an act or a teachable skill but as a value, both for ourselves and for our students.

During our initial meetings, we agreed that collaboration—group work and collaborative writing—is a valued component across each of our sections of this business writing course. We agreed that collaboration should be a central component of the online section of this course. Collaboration seemed to be a shared investment for both business writing as a subject matter and for our pedagogical approaches. As such, our early discussions of adapting this course to an online environment centered around questions of how best to focus collaboration in a business writing class and how to *do* collaboration in an online class.

Throughout our discussions of the importance of collaboration in a business writing course and of the ways to make collaboration "work" in an online course, we realized that our valuing and understanding of collaborative writing and collaborative work more generally was framed by our roles as writing teachers and researchers. We knew why we felt collaboration was important, in other words, and we could make decisions regarding how collaboration might be handled online. However, we wanted a better understanding of how students felt about collaboration, as it relates to a business writing course, to online environments, and their daily academic and non-academic lives.

Gauging Instructors' Perceptions

In this article, we comment on our recollections regarding the decisions we made during our collaboration and designing of this course. We also conducted a brief email interview consisting of five questions, which we asked all collaborating instructors (including the authors of this paper) to respond to after having worked together. So, the interview took place after the course design project had wrapped up and after the student survey (described below) was completed.

The survey asked instructors to respond, in writing, to the following questions:

1. How do you value and practice collaboration (in any context, for your students and in your own work)?

2. How do you value and weigh the importance of collaboration in the context of a business writing course?

3. How do you prefer to collaborate (in person, digitally, some combination, etc.)? What tools do you consider essential in your own collaborative work?

4. In your experience as an instructor, describe how your students approach collaborative projects. Consider their attitudes, methods, preferred tools, and finished projects.

5. How would you describe the costs and benefits of collaboration (in your own work and for your students)?

These questions were not directly tied to the creation of the online business writing course; rather, the questions focus on how instructors value collaboration, both in their students' work and in their own work. The five instructors who worked together to build this online course were contacted via email during the summer of 2020; of those five, four responded. Our goal with the email interview questions was to, again, better understand how instructors involved in designing this course perceived the benefits and drawbacks of collaborative work, and how they value and participate in collaboration. We use their responses to highlight differences and similarities regarding student responses to similar questions about collaborative work, both within and outside their courses.

In addition to this more formal gauge of instructor perceptions and relationship to collaboration, we reflect throughout this article on how the decisions we made during our course design reflect our feelings toward collaboration and its importance to business and technical communication. While it falls outside the scope of this project, we might question whether some of our attitudes towards and emphasis of collaboration in writing courses is a reflection of the university department culture, or whether it is in part an instance of sampling bias, as we each agreed initially to take part of this collaborative project ourselves. Our very engagement in this project, as we mention above, suggests an implicit valuing of or bias towards collaborative work as yielding "better" results.

Gauging Students' Perceptions

In order to gauge student perceptions across two years and 10 sections of this course, we employed a survey method. A questionnaire was distributed digitally to students enrolled across four face-to-face and three online sections of the business and professional writing course. The same survey was administered during the first 4 weeks of fall and spring semester; instructors briefly introduced the project and allowed class time for their students to complete the survey. The rationale for distributing the survey towards the beginning of the semester was to capture student attitudes and perceptions of collaboration in a business writing class before they had completed many collaborative assignments. In other words, we hoped to understand student attitudes towards the beginning of, rather than after having taken, this business writing course.

During the Fall semester, across four sections of 24 students enrolled in each section, the survey had 52 individual responses. Spring semester yielded a lower response rate of 26 responses, and most respondents were enrolled in the online course. Overall, the survey respondents included 28 (35.9%) students enrolled in a face-to-face section of this course, and 50 (64.1%) students enrolled in an online section.

The 15-question survey included multiple choice responses, Likert scale questions asking students to rate experiences, multiple selection questions that allowed students to select more than one response, and some open-ended response questions. The survey asked students to reflect on several key components (see Appendix A for full survey questionnaire):

- General conceptions of collaboration and group work (i.e., how they define or understand collaboration, the benefits and pitfalls of collaboration, whether they enjoy collaborative work, and their expectations of collaborative work in a business writing) course.

- Collaboration tools/technologies.

- Collaborating in online and face-to-face environments.

The survey was created and distributed using Google Forms, and students responded online using their university Google email accounts. We did not retain any email addresses or other identifying student information.

Analyzing Data

We took a grounded-theory approach but modified it with iterative analysis approach (Tie et al., 2019) to make sense of the data collected both from the student survey and the instructor questionnaire. We looked over the answers to the student survey separately, noting and coding for response patterns and paying special attention to language use in the short response questions. The student survey responses impacted the questions we developed for the instructor questionnaire; once we collected and analyzed those responses, we looked again at student survey responses.

This iterative process allowed our data coding to grow organically: Each set of data impacted how we saw and coded the other set. Along with the grounded-theory approach, we utilized reflection and rhetorical analysis both in shaping our survey and questionnaire and in understanding the data. Our initial reflections regarding how we worked together and stressed the importance of collaboration led to our investigation of collaboration as a shared value.

Using the principles of grounded theory (Glaser & Strauss, 1967), we looked for themes to emerge from the initial data collected through student surveys. We found that themes of community building through collaboration and emphasis on final products of collaboration were consistent across student responses. Given these emerging themes, we re-coded the data for collaboration framed either as positive or negative and for collaboration associated with either process or product. We then applied these same categories to instructor reflections. Finally, we coded student and instructor responses that emphasized collaboration as community building–associated with positive experiences throughout the process and as a means to create interpersonal connections or networks.

RESULTS AND DISCUSSIONS
Case Study Observations

Overall, our case study highlighted the perceived value placed on collaboration. Some major observations from our interactions include:

- Our tendency to prioritize or privilege collaboration as a fundamental value.
- Our tendency to associate collaboration with community building.
- Our tendency to place collaboration as a core skill for students to develop *and* as a necessary tool for building community online.

First, we observed collaboration as a core value in the way we approached the assigned task to develop an online course. Although this task was assigned to one faculty member, that individual chose to reach out to other instructors and to pursue the task collaboratively. At no point did the instructors question the value of collaboration as a way to create an online course; rather, the benefits of collaborating seemed apparent. We opted to spend time meeting together and workshopping ideas rather than developing the online course individually. There was an inherent trust in our collaboration that by pooling our resources we may optimize the design process and create richer course contents for our students. This perceived implicit valuing of collaboration—that it would yield a better product—framed our case study and various data collection methods. After investigating this perceived value, we found a similar overall sentiment among students: collaboration may be difficult for a variety of reasons, but it is inherently valuable because collaboration leads to a better finished product.

Second, collaboration appeared as a core value in our pedagogy and work with students as, early during our meeting stages, we acknowledged that we each place importance on student collaboration in our individual approaches to teaching business writing. As instructors we agreed that collaboration is a required competency for the modern workplace regardless of the profession. Thus, we were keen to include at least one collaborative project in the assignment sequence for the new online course. We also committed to giving students the tools to facilitate collaboration, including its theories, technologies, and best practices.

Finally, collaboration remained a guiding value or core tenet in the ongoing deploying of the online business writing course. While we acknowledge difficulties of building an online course around collaborative student projects, at no point did we raise the idea of foregoing collaborative assignments. Rather, much of our work became focused on the best or most effective ways to help students collaborate in an online course. We shared stories of successes and failures in our own pedagogies, exchanged teaching strategies, and shared student examples as a way to establish a shared toolkit for sound pedagogy.

As noted above, we observed that collaboration was valued among instructors both in its ability to yield better projects (in terms of building a new course or in terms of students producing better papers) and in its ability to build community. A key concern among business writing instructors, throughout our case study, was building community among students, particularly in an asynchronous online course. We understood collaboration among students, and collaborative writing projects, as a way to build that community that might happen more organically in a face-to-face classroom that could rely on real time student discussions and relationship building. Despite this shared understanding of the connection between collaboration and community building among instructors, students tended to only value collaboration as a way to create better products. In fact, students tended to associate any negative aspects of collaboration with what might be understood as community (i.e., group members not participating, the difficulty of having to rely on others, the difficulty regarding communication and workload).

Below, we describe our findings regarding instructor perceptions and compare those to our findings regarding student perceptions, making a special note of this dissonance between students and instructors regarding the relationship between collaboration (which both groups overwhelmingly frame as valuable) and community building.

Instructor Perceptions

Noted earlier, all five instructors agreed that collaboration is a key component of business writing and observed collaboration to be an expectation in the workplace. This sentiment was shared in the instructors' reflections as well. The instructors were all invested in incorporating collaborative learning and writing components in their respective business writing courses, even in the online version of the course. It is worth noting that prior to this case study, collaboration was not a required part of the course. However, all five of the instructors surveyed here have included collaborative projects in their business writing courses as they believed that collaboration yields diverse perspectives and expertise, and thus may lead to more meaningful learning and exchanges among students. As one instructor put it, collaboration helps foster "a

sense of community" in the classroom, be it onsite or online. This instructor also argued that the lack of collaboration can be a "very limiting and frustrating experience for students. In addition, it limits their ability to learn skills."

One instructor expressed that he used collaborations "as a means to expand my own horizons." This instructor noted that collaboration benefits his learning by being exposed to more viewpoints and skill sets to a project. For this reason, he is motivated to help students learn the same way. This sentiment is shared with another instructor who saw collaborations as rewarding because it can generate a sense of collegiality, a feeling that is "most welcome since so much of academic work seems to be done in relative isolation."

The above observations from instructors frame the benefits of collaboration in terms of community building, or something we might call *process*. Instructors emphasized the benefits of collaboration in their own growth or learning and in forming relationships with colleagues; this link between collaboration and community, in the sense of relationships, personal growth, and a relief from isolation, is present as instructors describe both how they benefit and how students benefit from collaboration.

In addition to the benefits of collaboration associated with community, instructors noted that student collaboration tends to produce better finished products. The "inevitably different experiences, lenses, perspectives that are brought to a collaborative project" can contribute positively to the quality of the collaborative project, another instructor noted. In reflecting on their own practices, the instructors recognized the benefits of collaboration in producing scholarship and in designing and teaching courses. One instructor reflected in length:

> Collaboration is very integral to my work as a scholar and as a teacher. As a scholar/researcher, I find that the collaboration process makes the work better in most cases. Co-researchers often will ask questions about the work that I would not have considered if I were working on the project myself. […] In teaching, collaboration helps me to learn about readings, lessons, course design strategies, and assignments that enhance students' learning. […] I try to help colleagues develop their own teaching strategies in a similar way—often by sharing assignment ideas or course design strategies with them when they first start teaching the course.

Even when focusing on product, instructors still tended to return to the connection between collaboration and community. Collaboration yielded better products, as noted above, because they provided a connection among individuals who could then learn and grow together. The "better product" was, in fact, framed as a reflection of this community.

In addition to noting the various benefits, and while collaboration was continually understood as valued and valuable, we also noted the challenges or costs to collaborative work. Interestingly, these costs were also strongly associated with the relationship between collaboration and community. Among the biggest "costs" of collaboration, according to the five instructors, was time. All instructors in some respect reflected about the concerns for varying work habits and speed when collaborating with others. "Collaborative projects can take longer because there is the work of coordinating schedules and holding other team

members accountable," one instructor's response summed it up. Any seasoned instructors who have assigned collaborative assignments would agree that student conflicts are common in team processes. Our instructors' reflections also captured this concern: "Collaboration does not necessarily mean dividing the workload and making things easier… it usually is the opposite of that." Indeed, the difficulties of periodic disagreement can be seen as a disadvantage of collaboration even for instructors. Even though it's been observed by early research in the last century (see Bosley & Morgan, 1991; Burnett & Duin, 1993), both time and interpersonal conflict remain the top concerns in collaborative learning today. One of our instructors borrowed an African adage to iterate this conviction, "If you want to go fast, go alone. If you want to go far, go together."

Throughout our data, a key and repeated point is the way that instructors consistently valued collaboration and the way that this value was tied to community. Implicitly, collaboration was believed to be beneficial and valuable because of this link between collaborative work and building community. When teased apart further, community—developing projects with other people, avoiding isolation, drawing on others' experiences and points of view—was also understood as inherently or implicitly valuable. Even as the costs or struggles came up in our conversations and email interviews, these costs were understood as always outweighed by the benefits of community building. When comparing differences between collaboration costs and benefits in online versus face-to-face settings, instructors acknowledged increased potential difficulty in online spaces, but also an increased need for collaboration in online spaces. Specifically, because online courses carry the potential for increased isolation among students and because there is less room for organic community building in an online course, instructors emphasized the specific need for collaborative projects in an online version of our business writing class. The underlying assumption that collaboration provides the opportunity for community building rests on the ways that instructors associate collaboration with community and the ways that they value both collaboration and community.

Student Perceptions

With the underlying assumptions that 1) collaboration is valuable and the benefits outweigh the costs, 2) collaboration is inherently tied to community building, and 3) community building is necessary in online courses, our student survey focused not only how they perceived the value of collaborative work but also on their perceptions of collaboration in online and offline spaces. The results of the survey mostly confirmed what we suspected regarding student attitudes towards collaboration in online and face-to-face business writing courses. Namely, students generally reported that they found collaborating easier in face-to-face settings. Before we discuss the findings that stood out from the survey, we present the following the major takeaways:

- Students reported more comfort or ease collaborating in face-to-face settings compared to online settings.
- Students reported using a variety of tools to collaborate both in and out of the course.
- Overall, students did not prefer using the Canvas LMS site for collaboration and instead preferred to collaborate using other platforms or tools with which they were already familiar.
- Students reported that the major benefit to collaborative writing was multiple perspectives/stronger quality of work.

- Students reported that a major pitfall of collaborative writing was "social loafing," or the perception that some group members would not pull their own weight.

Among the questions that students were asked in the survey, we wanted to better understand student expectations related to collaboration and how they would describe their comfort level regarding collaboration. Further, we wanted to know the student comfort level regarding particular collaborative environments and various collaborative tools. Finally, we wanted students to define collaboration and to articulate specific costs and benefits that they associate with collaborative work. In this way, we gauge whether students, like instructors, value collaboration or view collaboration as inherently valuable, and whether they associate collaboration with community building (in either positive or negative ways).

Regarding expectations, students were asked to select an amount of collaborative writing that they were expecting to complete in a business writing course. Students were then asked to articulate their own definitions of collaborative writing, the major benefits and challenges, and to rank various methods or tools for collaborating.

Interestingly, although most of the student responses (64.1%) to the survey came from students enrolled in an online section, most students (a combined 71.4%) preferred to collaborate in a face-to-face, in person setting (either primarily verbally or through a combination of verbal communication and online tools). Student response rate may have been impacted by instructor encouragement and enthusiasm for the project: instructors teaching online sections encourage their students to respond to the survey. Further, students were already used to interacting with the course material and instructor in an online environment, so completing an online survey aligned with their expectations of the course. Students in onsite sections were also asked to complete the survey online, but may have lacked the framework to participate in asynchronous course related activities. The lower response rate certainly presents a limitation for our data collection.

To learn about students' use of the course LMS, we asked students how "easy is it to collaborate with [their] classmates using the course Canvas site (and any features available through that site)", and 45.4% of the students do not find the LMS to be a convenient platform for collaboration (Figure 2).
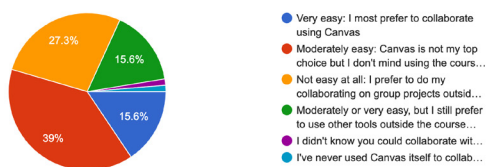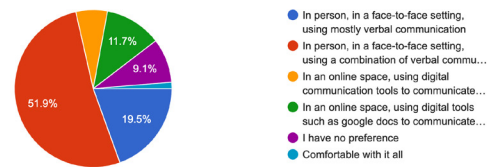

Figure 2: Student responses to the question regarding use of Canvas LMS for peer collaboration.

When designing our course, we assumed that most of our students would be comfortable using online tools to collaborate. Our survey results appear to reinforce that assumption, as 85.9% of respondents

replied that they already use digital or mobile communication tools 6 or more times per week to communicate. While this finding was not surprising, it is interesting that students still reported a preference for collaborating "in person," despite their frequent use and reported comfort with digital and mobile communication technologies.

Only 18.2% of survey respondents said that they feel more comfortable collaborating "in an online space"; this question was broken up between two potential responses of "In an online space, using digital tools to communicate synchronously" and using digital tools to communicate "asynchronously" (see Figure 3). The questions of collaborating using either asynchronous or synchronous digital tools suggest that there is something about working "face-to-face" that is not replicated even using synchronous digital communication tools, and that the "face-to-face" collaboration is overwhelmingly preferred, even among students who self-select an online version of this course. In other words, we found it interesting that, given students have the option to take this class face-to-face, and given that the online course appears to be the most popular format, and even given that the majority of survey respondents were enrolled in this online course, students still preferred collaborating offline.

Figure 3: Student responses to the question about their comfort level with in-person (physical) versus online collaboration. More than 50% of the responses indicated preference for in person, face-to-face meetings

The majority of students surveyed indicated a preference for in-person collaboration, but using various digital tools to supplement or during in-person meetings. A smaller percentage (19.5.%) indicated a preference for in-person collaboration using mostly verbal communication. Whereas 29.9% replied that they had no preference/felt comfortable with any type of collaboration. Only 18.2% preferred to collaborate in an online space, and of that 18.2%, 11.7% preferred to do so asynchronously. The most interesting finding, for us, was a preference for collaborating in person *and* using digital tools such as google docs. So, much in the same way that framed our own collaborative project of developing this online course, students preferred a combination of in-person meetings and digital, asynchronous tools when collaborating on projects.

Similarly to a preference for face-to-face collaboration, students reported increased ease with face-to-face collaboration. Students were asked how easy it is for them to collaborate in an online course, ranking their level of ease between 1 (very easy) and 5 (very difficult). While few students said that it was "very difficult," most fell between a 3 and a 4 (see Figure 4).

Overall, how easy is it for you to collaborate on a group assignment in an online course?
77 responses
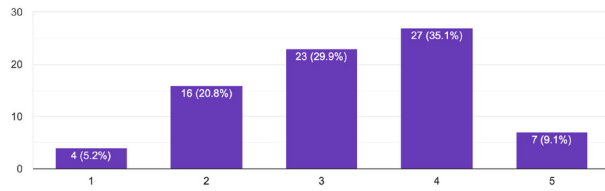
Figure 4: A comparison of students' rating for ease of collaboration in an online course. More than one-third of the responses rated it four (difficult) out of five (very difficult).

Figure 5 shows almost an inverse of responses for ease in collaboration in a face-to-face class. When asked how easy it is to collaborate in a face-to-face course, students rated their level of ease between 1 (very easy) and 5 (very difficult). While again most students avoided selecting either a 1 or 5, most students selected a 1 or 2. The trends of the two charts, taken together, suggest increased ease in face-to-face collaboration and decreased ease of online collaboration.
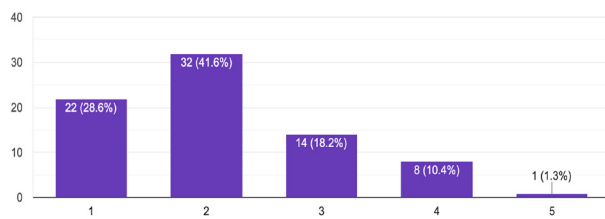
Overall, how easy is it for you to collaborate on a group assignment in a face-to-face or "onground" course?
77 responses

Figure 5: A comparison of students' rating for ease of collaboration in a face-to-face/"onground" course. More than one-third of the responses rated it two (easy) out of five (very difficult).

The data from the previous two questions indicate that students were more comfortable collaborating in a face-to-face than in an online setting. While this particular finding matched our assumptions, we did note that overall students find it easy to collaborate in a face-to-face course. When asked how comfortable students felt, in general, collaborating in their courses, 50% rated their comfort a 1 or 2 (highest level of comfort). When asked how easy it was collaborating specifically in a face-to-face classroom setting, 70.2% rated their ease level a 1 or 2 (highest level of ease).

The level of ease or comfort collaborating in a face-to-face setting was higher than we had assumed, and informs how we frame online collaboration going forward. For example, knowing that students find collaboration easy, but find online collaboration more difficult, could impact how we design online collaboration in ways that draws on their comfort collaborating face-to-face. These findings also warrant further investigation into comfort or ease of online collaboration. Further, while students indicated high levels of dis-ease collaborating in an online course, they also indicated a preference for collaborating in a hybrid manner: Combining

both face-to-face meetings and digital tools. These findings could inform various ways to frame collaboration in online courses, encouraging students to create some hybrid way to work despite the class meeting fully online.

Perceived Costs and Benefits

Although our case study began with a focus on the *hows* of collaboration, specifically in an online course, examination of our own data led us to reframe our project as an attempt to better understand the implicit *whys* of collaborative work. In other words, we take on a similar task to Spinuzzi et al. (2019) in that we recognize a tendency to value collaboration without understanding specifically why it is useful and, further, to assume some positive connection between collaboration and community building.

Along with asking about preference and ease related to student experience with collaboration, the survey asked about benefits and drawbacks of collaboration. These questions were posed as short answer questions, and students could write any benefits or drawbacks that they associate with collaborative work.

Students tended to focus their comments about perceived benefits of collaboration on the finished product; instructor interviews, on the other hand, focused on benefits related to the experience of collaboration and on the role that collaboration plays in building community. For example, student responses to the question "What do you consider some of the biggest benefits of group assignments?" one student responded "the experience of working in a group environment," and another responded with "Learning to balance leadership and following skills, as well as being willing to delegate, share the task, and remember to share and take in opinions respectfully." These are examples of responses that indicated a connection between collaboration and the value of community, or that associated positive elements of collaboration with community. Two similar comments that we tied to the value of collaboration and community are "working on communication skills" and "learn things from others." While most of the answers to this question pertained to the final assignment or finished product being "better" when completed collaboratively, these sample responses suggest that, like instructors, some students do understand collaboration benefits beyond the finished product.

While students more frequently tied the benefits of collaboration to the product, instructors focused more on process, specifically tying the benefits of their own and their students' collaborative work to the value of building community. Instructors did also remark that the benefits of collaboration included both a better finished product and a richer experience. For example, several instructors noted such benefits as "the conversations you have," "the feelings of collegiality," and "the fact that you can share the labor involved."

As for perceived costs, both students and instructors mentioned increased time and potential group member conflicts. Neither group mentioned costs of collaboration associated with the finished product: for both groups, any costs or negative perceptions of collaboration had to do with navigating differences of opinion, differences in work ethic, certain group members not contributing equally, and the need to spend extra time on a collaborative project (as compared to an individual one). For example, one instructor noted that "collaborative projects will slow me down" and another noted that "it may take longer to accomplish something because of varying work habits." Both of these costs are associated with time; we also associate these costs with process rather than product.

Understanding how students and instructors frame the costs and benefits of collaborative work in terms of either focusing on the process or the community benefits (i.e., working with others, learning to communicate, making connections and building community with others) or by focusing on the final product (i.e., a better piece of written work, a more polished text, a more nuanced or substantiated research project) could inform further research into collaboration. It is interesting to note distinctions among instructors and students in where the focus lies, and it is worth reflecting on how we discuss these costs and benefits with our students. While it seems evident that both students and instructors do recognize both benefits and costs of collaborative work, framing the costs in terms of process/community (students) and the benefits in terms of finished product (students) could illustrate a need to further emphasize the benefits of collaborate work attached to the process and to building a community/learning to communicate. It is possible that, as instructors, we anticipate our students will run into trouble working in groups, and (as an attempt to navigate those concerns) we emphasize the benefits of a "better paper" or emphasize how to overcome to costs of working with others rather than stress the inherent benefits of working collaboratively, even in situations where problems arise.

These data suggest that, while both students and instructors in this case study placed inherent value in collaboration, and while both instructors and students agreed that collaboration is both necessary in a business writing course because of the demands in the field, there was a distinction between how instructors and students associated collaboration and community building. Instructors focused on an assumed connection between collaboration and community building; students placed more emphasis on collaboration as beneficial because the final product is "better." In fact, students tended to frame any community aspects of collaboration (working with other students who may not pull their own weight or difficulties with communication and work styles) as costs rather than benefits. Instructors, on the other hand, assumed that collaboration builds community among students, and the instructors involved in this case study individually assumed that an online course could use more collaborative work as a way to build that community.

This dissonance between instructors and studies warrants further research and reflection, as it indicates a disconnection regarding how collaboration is framed and understood. Further, this dissonance and disconnection presents an opportunity for more explicit work on the part of instructors as they build collaboration into their courses regarding framing collaboration as community building; in other words, instructors might consider how they can be more explicit about how students can participate in collaborative work with an emphasis on community and process rather than product. Extra readings or activities can help to do this work, along with conversations with students that state expectations regarding how collaboration might work to create community.

Finally, an interesting point for further research may be in the agreement that collaboration yields better work. Both students and instructors, overwhelmingly, referred to the final product and quality of work when listing the benefits of collaboration, while there were mixed results related to costs and benefits of the collaborative process. Any broad assumption—that collaboration yields a better final product—is worth reflection and further discussion both among instructors as they design assignments and with our students as we frame the costs and benefits of collaboration.

CONCLUSION
Limitations
The small sample size of our study poses constraints on what we can say about the generalizability of our findings. While the student survey was somewhat representative of the population of students we served in our online sections, the instructors' responses were limited by a convenience sample and their potentially biased opinions about online teaching due to their role in the deployment of these online courses. The instructors who agreed to participate in this study were the ones who were invested in online pedagogy plus the two authors. We recognize this positionality and how they might inform the perception of collaboration by students in online courses. We also recognize potential biases that may have skewed our perceptions on the data given the authors' involvement in the reflections. However, we were confident the ground-theory method and iterative analysis helped neutralize our subjective perspectives.

Dissonances
While our case study confirmed many assumptions that we shared at the beginning of our course development project, we noted some key dissonances and so we suggest further research and reflection on such observations. Students self-selected an online version of this course; there are 2-3 onsite/face-to-face sections offered each semester, typically including an evening once per week section. Further, as mentioned above, the online sections typically fill much more quickly: the course caps at 24 students, and while it is open to any undergraduate student, because juniors and seniors can register earlier, the course typically fills with juniors and seniors. Each section of the course typically fills and the waitlists for each course also fill. All of this data points to the conclusions that 1) this is a popular course and 2) the online section is more popular or more desirable than the face-to-face sections. As such, students prefer or self-select the online section over the face-to-face section, either due to scheduling or because they prefer an asynchronous, online format.

Despite such evidence to suggest preference for enrolling in an online section of a business writing course, the survey data suggest that students prefer collaborating in face-to-face situations, even with the aid of online collaboration tools. One important point to consider regarding the context of our course case study is that most students live on or near campus; so, even students enrolled in online courses very typically have easy access to campus. Further, while students can select some online classes, the majority of undergraduate courses are offered onsite. Students enrolled in one or two online courses but who are taking a full credit load will likely still take most of their classes in a face-to-face format. There are very few fully online students, and in our department, it would not be possible to only enroll in online courses. So, students taking this course online likely are still able to meet up with group members in person.

The shift to online learning that happened in March 2020 due to the COVID-19 pandemic may have significantly changed how students engage each other, since stay-at-home/shelter-in-place mandates and university campus closures make it challenging, or impossible, for students to collaborate in person. Moreover, the shift to online instruction has likely changed the comfort level—and perhaps preference—regarding certain online collaboration and video-conferencing tools.

The major potential dissonance, here, is that students seem to

prefer, based on enrollment data, the online section of this course. However, students reported a preference for in person collaboration. The survey also suggests that most students expected collaborative writing or collaborative projects to be part of this business writing class, and so, presumably enrolled in the online section knowing that they would need to collaborate.

Perceived Values

According to our survey data, students saw the value in collaboration. They identified collaboration as valuable in that it allowed students to draw on various expertise and knowledge and ultimately led to a "better" end product. Instructor responses to the questionnaire—and our discussions during course development—indicated the same assumption. So, collaboration is a value tied to a better product or a better paper. Various values or assumptions that tie into this way of valuing collaboration include beliefs that more "voices" or more insight leads to a stronger project—working together is preferred over working alone. Going forward, we will be more transparent with students by discussing this assumption or value attached to collaboration. Is it always the case that more input or multiple authors yields a better project? If we generally accept that collaborative work is "better" or stronger than individually developed projects, why is that the case? What can these beliefs and values tell us about communication, research, and writing more broadly?

As instructors, our collaboration took place in a face-to-face setting, but we also worked together in an online space by sharing resources and by creating a course learning management site, like Canvas. Further, we used email and Google Drive to brainstorm, share resources, schedule meetings, and follow up on conversations or ideas. However, most of our conversations and decisions took place in a face-to-face setting.

There is an interesting connection, both among students and instructors, between collaboration and *community*. For instructors, community is expressed as a value associated with collaboration: one benefit of collaboration includes fostering a sense of community. For students, however, the perceived benefits of collaboration focus heavily on product rather than experience. However, while a positive association between collaboration and community seems missing from student responses, both students and instructors express the costs of collaboration in ways that tie collaboration to negative community experiences. In other words, the costs for both (such as conflicts among team members, difference in work ethic, extra time spent on the process) are tied to the experience and to the collaborative community. The benefits, however, are distinct for instructors and students; for instructors, community is an expressed benefit, as well as a motivating factor for developing effective collaboration experiences (in their own work and for their students). For students, the product remains the main benefit.

Finally, the data gathered from this case study indicated a strong tendency for both students and instructors to see the value of collaboration—rather framed in terms of the finished product or the process. They also indicated a strong preference, from both students surveyed and instructors involved in this case study, for a hybrid model of collaboration. Going forward, we can work to frame collaboration and design collaborative assignments with that hybrid model in mind. Some questions for future consideration might be:

• If students prefer a hybrid approach to collaboration, how can we create that environment in an online course?

• In what ways can we enhance the experience of distance collaboration in a hybrid situation?

• How can we reframe collaboration from working together to working as a community?

• If we value collaboration, what does that say about how we understand the importance and work of the field?

Our case study has provided an opportunity for instructors to reflect on their own practices, values, and assumptions regarding not only how students prefer to collaborate, but also *why* or *how* collaboration might emerge as a shared value or core tenet of business and technical communication. Further, our study opens up a conversation about how, and whether, collaboration and community are clearly defined concepts among business writing teachers and students. While the understanding of what collaboration means appears consistent across instructor and student responses and practices, the relationship between collaboration and community was not consistent. While the instructors in our study strongly connected collaboration with community building, students valued collaboration almost exclusively in terms of creating a better finished product, not as a way to foster community. In fact, students tended to associate any "drawbacks" or "challenges" with the community aspects of collaborative work. This disconnection warrants further research, as well as increased reflection and conversation among instructors and students.

APPENDIX A: STUDENT SURVEY

Please take this brief survey for a project measuring student engagement with Canvas and student understanding of and feelings toward collaborative writing.

1. Are you currently enrolled in a section of WRIT 3029W that meets in an online or a face-to-face (onground) format? Mark only one.

   • I am enrolled in an online section of WRIT 3029W
   • I am enrolled in a face-to-face (onground) section of WRIT 3029W
   • Other:

2. How do you define "collaborative writing?"

3. How much collaborative writing do you expect to do in a business writing course? Mark only one.

   • A lot (3 or more assignments)
   • Some (1-2 assignments)
   • None (all assignments written individually)
   • Other:

4. How often do you already use digital or mobile communication tools (such as slack, google hangouts, texting, snapchat, etc.) to communicate with friends or peers? Mark only one.

   • Often (6 or more times per week)
   • Sometimes (3-5 times per week)
   • Rarely (1-2 times per week)
   • Almost never (fewer than 1 time per week

5. In general, how comfortable do you feel collaborating on written assignments for your courses? Mark only one.

Very comfortable 1 2 3 4 5 Not comfortable at all

6. Complete the following sentence: I feel more comfortable collaborating...Mark only one.

- In person, in a face-to-face setting, using mostly verbal communication
- In person, in a face-to-face setting, using a combination of verbal communication and digital tools (such as google docs)
- In an online space, using digital communication tools to communicate synchronously (at the same time/in real time)
- In an online space, using digital tools such as google docs to communicate asynchronously (not at the same time, but each contributor participating in their own time)
- I have no preference
- Other:

7. When collaborating on a group assignment for a course, which tools do you prefer to use? Check all that apply.

- Canvas
- Google Drive
- Google Hangouts
- Skype or Zoom
- Slack
- Texting
- Email
- Other:

8. Overall, how easy is it for you to collaborate on a group assignment in an online course? Mark only one.

- Very easy 1 2 3 4 5 Very difficult

9. Overall, how easy is it for you to collaborate on a group assignment in a face-to-face or "onground" course? Mark only one.

- Very easy 1 2 3 4 5 Very difficult

10. What do you consider some of the biggest benefits of group assignments?

11. What do you consider some of the biggest difficulties or drawbacks of group assignments?

12. Overall, how easy is it to collaborate with our classmates using the course Canvas site (and any feature available through that site)? Mark only one.

- Very easy: I most prefer to collaborate using Canvas
- Moderately easy: Canvas is not my top choice but I don't mind using the course site for collaboration
- Not easy at all: I prefer to do my collaborating on group projects outside the course canvas site, using other tools
- Moderately or very easy, but I still prefer to use other tools outside the course Canvas site
- Other:

13. How often do you log in to your course Canvas site? Mark only one.

- Multiple times per day
- Every day
- Several times per week
- Once per week
- Less than once per week

14. How do you most often access your course Canvas site? Mark only one.

- Desktop or laptop computer
- Mobile device (such as smartphone or tablet) using the Canvas app
- Mobile device (such as smartphone or tablet) using a web browser
- Other:

REFERENCES

Allen, N., Atkinson, D., Morgan, M., Moore, T., & Snow, C. (1987). What experienced collaborators say about collaborative writing. *Journal of Business and Technical Communication, 1*(2), 70–90. https://doi.org/10.1177/105065198700100206

Anders, A. (2016). Team communication platforms and emergent social collaboration practices. *International Journal of Business Communication, 53*(2), 224–261. https://doi.org/10.1177/2329488415627273

Bacon, T. R. (1990). Collaboration in a pressure cooker. *The Bulletin of the Association for Business Communication, 53*(2), 4–8. https://doi.org/10.1177/108056999005300202

Baker, B. (2015). The science of team science: An emerging field delves into the complexities of effective collaboration. *BioScience, 65*(7), 639–644. https://www.jstor.org/stable/90007310

Beard, J. D., & Rymer, J. (1990). *The Bulletin of the Association for Business Communication, 53*(2), 1–3. https://doi.org/10.1177/108056999005300201

Behles, J. (2013). The use of online collaborative writing tools by technical communication practitioners and students. *Technical Communication, 50*(1), 28–44.

Belanger, K., & Greer, J. (1992). Beyond the group project: A blueprint for a collaborative writing course. *Journal of Business and Technical Communication, 6*(1), 99–115. https://doi.org/10.1177/1050651992006001004

Bosley, D. S., & Morgan, M. (1991). Special issue: Collaborative writing: Introduction. *Technical Communication, 38*(4), 474–475. https://www.jstor.org/stable/43095821

Bruffee, K. A. (1984). Collaborative learning and the "Conversation of Mankind." *College English, 46*(7), 635–652. https://www.jstor.org/stable/376924

Buechler, S. (2010). Using web 2.0 to collaborate. *Business and Professional Communication Quarterly, 73*(4), 439–443. https://doi.org/10.1177/1080569910385381

Burnett, R. E., Cooper, A., & Welhausen, C. A. (2013). What do technical communicators need to know about collaboration? In J. Johnson-Eilola & S.A. Selber (Eds.), *Solving problems in technical communication* (pp. 454–478). University of Chicago Press.

Burnett, R. E., & Duin, A. H. (1993). Collaboration in technical communication: A research continuum. *Technical Communication Quarterly, 2*(1) 5–21. https://doi.org/10.1080/10572259309364520

Cella, L. J. C., & Restaino, J. (2014). Lean on: Collaboration and struggle in writing and editing. *Literacy in Composition Studies, 2*(2), 66–76. http://dx.doi.org/10.21623%2F1.2.2.5

Chism, N. (2006). Challenging traditional assumptions and rethinking learning spaces. In D. G. Oblinger (Ed.), *Learning spaces* (pp. 2.1–2.12). Educause.

Crystal, D. (2001). *Language and the internet.* Cambridge University Press. https://doi.org/10.1017/CBO9781139164771

Duffy, W. (2014). Collaboration (in) theory: Reworking the social turn's conversational imperative. *College English, 76*(5), 416–435. https://www.jstor.org/stable/24238154

Duin, A. H., Moses, J., McGrath, M., Tham, J., & Ernst, N. (2017). Design thinking methodology: A case study of "radical collaboration" in the Wearables Research Collaboratory. *Connexions: International Professional Communication Journal, 5*(1), 45–74.

Duin, A. H., Tham, J., & Pedersen, I. (2021). The rhetoric, science, and technology of 21st century collaboration. In M. Klein (Ed.), *Effective teaching of technical communication* (pp. 169–192). The WAC Clearinghouse/University Press of Colorado; Utah State University Press.

Ede, L., & Lunsford, A. (1983). Why write… together? *Rhetoric Review, 1*(2), 150–157. https://www.jstor.org/stable/465586

Ede, L., & Lunsford, A. (1985). Let them write—together. *English Quarterly, 18*(4), 119–127. https://eric.ed.gov/?id=EJ331282

Ede, L., & Lunsford, A. (1990). *Singular texts/plural authors: Perspectives on collaborative writing.* Southern Illinois University Press.

Forman, J. (1991). Collaborative business writing: A Burkean perspective for future research. *The Journal of Business Communication, 28*(3), 233–257. https://doi.org/10.1177/002194369102800304

Gere, A. R. (1987). *Writing groups: History, theory, and implications.* CCCC/Southern Illinois University Press.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research.* Weidenfeld and Nicolson.

Hackos, J. (2015). Changing times—Changing skills. *Communication Design Quarterly, 3*(2), 7–12. https://doi.org/10.1145/2752853.2752854

Jones, S. L. (2005). From writers to information coordinators: Technology and the changing face of collaboration. *Journal of Business and Technical Communication, 19*(4), 449–467. https://doi.org/10.1177/1050651905278318

Lauer, C., & Brumberger, E. (2019). Redefining writing for the responsive workplace. *College Composition and Communication, 70*(4), 634–636.

Lay, M. M., & Karis, W. M. (Eds.) (1991). *Collaborative writing in industry: Investigations in theory and practice.* Baywood.

Lipson, C., & Day, M. (Eds,) (2005). *Technical communication and the World Wide Web.* Lawrence Erlbaum Associates.

Lowry, P. B., Curtis, A., & Lowry, M. R. (2004). Building a taxonomy and nomenclature of collaborative writing to improve interdisciplinary research and practice. *The Journal of Business Communication, 41*(1), 66–99. https://doi.org/10.1177/0021943603259363

Lunsford, A., & Ede, L. (1984). Audience addressed/audience invoked: The role of audience in composition theory and pedagogy. *College Composition and Communication, 35*(2), 155–171. https://www.jstor.org/stable/358093

Lunsford, A., & Ede, L. (1986). Why write… together: A research update. *Rhetoric Review, 5*(1), 71–81. https://www.jstor.org/stable/466021

Mabrito, M. (1992). Real-time computer network collaboration: Case studies of business writing students. *Journal of Business and Technical Communication, 6*(3), 316–336. https://doi.org/10.1177/1050651992006003003

McKee, H., & Porter, J. (2017). *Professional communication and network interaction: A rhetorical and ethical approach.* Routledge.

Morgan, M., Allen, N., Moore, T., Atkinson, D., & Snow, C. (1987). Collaborative writing in the classroom. *The Bulletin of the Association for Business Communication, 50*(3), 20–26. https://doi.org/10.1177/108056998705000305

Moses, J., & Tham, J. (2019, February 25). Four ideas for creating a collaborative writing environment that works. Medium. http://bit.ly/2Uk8X7w

Moses, J., & Tham, J. (2021). *Collaborative writing playbook: An instructor's guide to designing writing projects for student teams.* Parlor Press.

Palumbo, G., & Duin, A. H. (2018). Making sense of virtual collaboration through personal learning networks. In B. Mousten, S. Vandepitte, E. Arno, & B. Maylath (Eds.), *Multilingual writing and pedagogical cooperation in virtual learning environments* (pp.109–136). IGI Global.

Pope-Ruark, R., Ransbury, P., Brady, M., & Fishman, R. (2014). Student and faculty perspectives on motivation to collaborate in a service-learning course. *Business and Professional Communication Quarterly, 77*(2), 129–149. https://doi.org/10.1177/2329490614530463

Porter, J. (1990). Ideology and collaboration in the classroom and in the corporation. *The Bulletin of the Association for Business Communication, 53*(2), 18–22. https://doi.org/10.1177/108056999005300204

Sanders Lopez, E., & Nagelhaut, E. (1995). Building a model for distance collaboration in the computer-assisted business communication classroom. *Business Communication Quarterly, 58*(2), 15–20. https://doi.org/10.1177/108056999505800203

Scott, A. M. (1995). Collaborative projects in technical communication classes: A survey of student attitudes and perceptions. *Journal of Technical Writing and Communication, 25*(2), 181–200. https://eric.ed.gov/?id=EJ521429

Selber, S. A. (1997). *Computers and technical communication: Pedagogical and programmatic perspectives.* Greenwood/Ablex Publishing.

Spinuzzi, C. (Ed.). (2007). Technical communication in the age of distributed work. *Technical Communication Quarterly, 16*(3),

265–277. https://doi.org/10.1080/10572250701290998

Spinuzzi, C., Bodrožić, Z., Scaratti, G., & Ivaldi, S. (2019). "Coworking is about community": But what is "community" in coworking? *Journal of Business and Technical Communication, 33*(2), 112–140. https://doi.org/10.1177/1050651918816357

Swartz, S., Barbosa, B., & Crawford, I. (2019). Building intercultural competency through virtual team collaboration across global classrooms. *Business and Professional Communication Quarterly, 83*(1), 57–79. https://doi.org/10.1177/2329490619878834

Tham, J. (2021). *Design thinking in technical communication: Solving problems through making and collaboration*. Routledge.

Tham, J., Rosselot- Merritt, J., Veeramoothoo, S. C., Bollig, N. W., & Duin, A. H. (2020). Toward a radical collaboratory model for graduate research education: A collaborative autoethnography. *Technical Communication Quarterly, 29*(4), 341–357. https://doi.org/10.1080/10572252.2020.1713404

Tham, J., Duin, A. H., Gee, L., Ernst, N., Abdelqader, B., McGrath, M., (2018). Understanding virtual reality: Presence, embodiment, and professional practice. *IEEE Transactions on Professional Communication, 61*(2), 178–195. https://ieeexplore.ieee.org/abstract/document/8316900

Thompson, I. (2001). Collaboration in technical communication: A qualitative content analysis of journal articles, 1990-1999. *IEEE Transactions on Professional Communication, 44*(3), 161–173. https://doi.org/10.1109/47.946462

Tie, Y.C., Birks, M., & Francis, K. (2019). Grounded theory research: A design framework for novice researchers. *SAGE Open Med, 7*. N.p. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6318722/

Trimbur, J. (1989). Consensus and difference in collaborative learning. *College English, 51*(6), 602–616. https://www.jstor.org/stable/377955

Wilson, H. J., & Daugherty, P. R. (2018). Collaborative intelligence: Humans and AI are joining forces. *Harvard Business Review, 96*(4), 114–123. https://hbr.org/2018/07/collaborative-intelligence-humans-and-ai-are-joining-forces

Wolfe, J. (2010). *Team writing: A guide to working in groups*. Bedford/St. Martin's.

Yancey, K. B., & Spooner, M. (1996). A single good mind: Collaboration, cooperation, and the writing self. *College Composition and Communication, 49*(1), 45–62. https://doi.org/10.2307/358559

Yin, R. K. (2018). *Case study research and applications: Design and methods (6th edition)*. SAGE Publications.

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Publicly available, transparent, and explicit: An analysis of academic publishing policy and procedure documents

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ABSTRACT

This article forwards a document analysis of the University Press of Colorado's publicly available academic and scholarly publishing policies and procedure materials. This analysis utilizes the online heuristic "Anti-Racist Scholarly Reviewing Practices: A Heuristic for Editors, Reviewers, and Authors," (ARRH) and a framework developed by the author that works to pinpoint places within publishing policy and process documents that may allow for discriminatory and oppressive practice. To conclude, this article forwards tangible changes to academic publishing process documents to ensure that inclusion remains an important consideration in the drafting of publishing policy and guideline documents.

CCS Concepts

Social and professional topics

Keywords

Inclusion, Social justice, Editing, Academic publishing, Policy analysis

INTRODUCTION[1]

Despite an increased awareness of the ways in which humanities and social sciences as an academic pursuit could continue communicating about how the publication process can be more inclusive, there is a gap that remains regarding the academic publishing process and the policies and regulations that dictate the process. Moreover, there is a disconnect between the role of an editor, the role of reviewers, and the role of the author, which directly represents a policy issue. Technical and Professional Communication (TPC) is uniquely positioned to rethink the ways that we communicate about what publishing is, and what the various roles consist of. Moreover, it's important that technical communicators consider the dual roles of an editor as both a guide to an author through this process and ultimately an interpreter of the policy, which can be particularly problematic when we consider inclusion[2] in the publishing process.

The primary goal of this research was to better understand the objectives and procedures of the academic publishing process through a partnership with the University Press of Colorado (UPC), which allowed me to explore and analyze their policies and processes. In particular, I worked to identify specific policy documentation that allows for (or perhaps veils) oppressive and discriminatory systems that specifically work against the career and overall advancement of Black, Indigenous, and people of color (BIPOC) and multiply marginalized and underrepresented (MMU) authors and scholars. Leaders at UPC have approved the publishing of this research, as they recognize this move to be one toward accountability and another inclusive move forward. The following research questions guided my analysis and gathering of data.

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1 Content warning: In the section titled "Analysis Based on the Framework" this article quotes examples of language that mentions oppressive publishing structures and specific terminology. These instances have been placed in footnotes, so readers can choose whether or not to read them.

2 In this article, I adopt Walton, Moore, and Jones's (2019) explanation of inclusion, which stated "inclusion exists where everyone's contributions are sought and valued and where difference is preserved, not assimilated" (p. 9).

RQ1: How and in what ways do University Press of Colorado's author guideline documents (e.g., style guide, formatting guidelines, submission guidelines, etc.) and peer review guidelines address issues of inclusion, oppression, and discrimination in academic publishing?

RQ2: In what ways can these publishing documents/process/policies be revised and rebuilt to avoid discriminatory practice moving forward?

This article offers a brief literature review with a focus on the disparities that are ever present in academic publishing. Additionally, I give a brief overview of university presses (UPs), including the inner workings of UPC, and how UPs overall differ from other sectors of academic publishing.

In the "Methodology" section, I describe the document analysis performed of UPC's publicly available academic and scholarly publishing policies and procedure materials (i.e., submission guidelines; author materials; reviewer guidelines; diversity statements, etc.). This analysis utilizes the online resource "Anti-Racist Scholarly Reviewing Practices: A Heuristic for Editors, Reviewers, and Authors," (ARRH) and a proposed framework (which I explicate in the framework section below) that works to pinpoint places within publishing policy and process documents that may allow for discriminatory and oppressive practice.

Within the "Assessment based on the framework" section of this article, I offer actionable, tangible changes to UPC's documentation to better address issues of diversity, equity, and inclusion in their policies and procedures. At the close of the analysis, it's made apparent that UPC has made multiple inclusive moves in their publicly available documents.

In the conclusion, I reiterate that though UPC has enacted many of the tactics as per the framework, there is still work to be done, particularly as it relates to acknowledging how academic publishing reinscribes racism.

LITERATURE REVIEW

Policy has been an important research topic in technical and professional communication (TPC) particularly relating to specific public policy issues such as sexual harassment policy or environmental policy (Cargile-Cook, 2000; Moore, 2017; Ranney, 2000; Sackey, 2019; Spoel et al., 2008), public policy in pedagogy (Martin & Sanders, 1994; Moore, 2013; Smith, 2000), and public policy discourse (Knievel, 2008; Petersen & Moeller, 2016; Sidler & Jones, 2008). However, there is a gap that remains regarding the academic publishing process and the policies and regulations that dictate the publishing process. Moreover, research into issues of racism and discrimination in the publication process, and the policies that allow for, or perhaps veil, racist and discriminatory action remains undertheorized.

Racial Disparities in Academic Publishing

In 2018, *The Scholarly Kitchen* published two posts under the title "On Being Excluded: Testimonies by People of Color in Scholarly Publishing," which included anonymous testimonials and stories from individuals who work, engage, and/or position themselves within the scholarly publishing industry (Coggins et al., 2020). These stories made it clear that racism is pervasive within the scholarly publishing industry and the need for change is urgent. In other words, academic publishing has existing exclusionary and oppressive practices "grounded in white ignorance and a white epistemology" (Buggs et al., 2020) that limit the publishing and overall career enhancement of particularly Black, Indigenous, and people of color (BIPOC) and multiply marginalized and underrepresented (MMU) scholars that need to be reassessed, illuminated, and rebuilt.

Regarding inclusion and equity in academic publishing, research has shown that there are tremendous racial disparities in the publication process as many characteristics of white supremacy culture — or "the widespread ideology…that whiteness holds value, whiteness is value… [the] defining [of other races/racial groups] as inferior to the white group" (Okun, 2021)— and white male epistemologies (Buggs et al., 2020) continue to be the default. BIPOC, particularly women of color, face disparities in the publication process in multiple ways including exceedingly more white author's publishing on racial issues and uneven citation patterns (Buggs et al., 2020; Krayden, 2017; Ray, 2018; Roberts et al., 2020), repeated desk rejections of publishable work (Williams, 2020), and the gatekeeping of what constitutes academic research (Buchanan, 2019; Delgado, 1984; Selfe & Hawisher, 2012). Keeping these disparities in mind, academic publishing, with the onset of the COVID-19 pandemic and the upheaval of academic processes, is in a unique position to recognize, reveal, reject, and replace (Walton et al., 2019) inequity and injustice in the publishing process.

As the field TPC upholds advocacy as a core tenet (Jones, 2016) technical communicators have a responsibility to insert themselves into issues of oppression and injustice, especially issues that directly revolve around written policy and processes. Technical communicators have a responsibility to revise and replace oppressive practices, which often appear in written texts, particularly regarding academic publishing.

ABOUT THE UNIVERSITY PRESS OF COLORADO

Founded in 1965, the University Press of Colorado is a nonprofit cooperative publishing enterprise with four total imprints[3]: University Press of Colorado, Utah State University Press, University of Wyoming Press, and University of Alaska Press. UPC is a refereed scholarly publishing entity that publishes forty to forty-five new titles each year. A University Press (UP), at its most basic level, performs the same tasks as any other publisher including acquiring, developing, designing, producing, marketing, and selling books and journals. Darrin Pratt, the Director of the University Press of Colorado (UPC), relayed that what distinguishes UPs from more commercial presses (such as Simon and Schuster) is the peer review process. The rigorousness of peer review is more at an UP and UPs generally are highly regarded for the veracity and impact of the information that they publish. Pratt emphasized a couple points that a UP considers when publishing a manuscript including: is this new? It is moving the field forward? And overall, what is the contribution? At the end of the day, UPs are generally

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3 An imprint (in publishing) represents what's called a trade name that is used to publish a book. Different imprints are often used to appeal to different demographics and market different books to different audiences or areas. So, Utah State University Press is the imprint under University Press of Colorado, the publisher.

considered the "gold standard" of peer review when it comes to academic publishing.

According to the "about us" page, "Vital also to our mission is publication for a broader community, including students, who use our books in their studies, and general readers, who find in them enjoyment as well as enlightenment" (para. 4). Darrin Pratt, the Director of the UPC, relayed that the mission of the Press would be important to emphasize in any sort of introduction to "who we are." The UPC's mission is "To advance and disseminate knowledge globally by publishing significant scholarly works and making them accessible" (para. 1), and they are a proud member of the Association of University Presses and share a commitment to the core values of the Association, which are diversity & inclusion, integrity, intellectual freedom, and stewardship" (Our core values, 2020).

FRAMEWORK

The framework used to assess the inclusivity of UPC's documentation has been adapted from the ARRH and works as a checklist[4] to search for if this particular information is available publicly and in what form. Though this framework works as the basis for my analysis of the UPC publicly available documents, it's important to note the different contexts for the ARRH and UPC as I would be doing a disservice to the scholars of the document and the heuristic itself if I didn't. First, the ARRH was developed by technical communication scholars[5] and is thus written for this specific context (academic publishing primarily as well as reviewing promotion and tenure materials) by technical communication scholars. The authors of the ARRH note that "As scholars of technical communication, our perspectives are connected to that field's history and contemporary practices" (para. 5).

Additionally, the heuristic emerged directly from challenges made by three scholars of technical communication, Angela Haas in her 2020 ATTW "Call to Action to Redress Anti-Blackness and White Supremacy," and Natasha Jones and Miriam Williams's 2020 blog post "A Just Use of Imagination." However, the contexts described here are similar in that both the UPC and the ARRH are entities that exist in unique structures within the same broad context (i.e., academic publishing). To this end, I utilize Haas (2020) and Jones and Williams's (2020) text and enact and engage with the tenets of the ARRH in a way that works to shift perspective and "ensure the realization of justice and equality" (para. 5) with the context of the UPC. Thus, despite the different contexts, the ARRH can apply to a broad range of professional publication situations, including policies and process documents. The ideas, stories, and scenarios expressed in the heuristic are applicable to many publishing situations, which is perhaps best shown by the author's citing of Ibram X Kendi and utilizing of Kendi's definitions of racist policies

vs. Anti-racist policies, racist ideas vs. anti-racist ideas, and racism vs. antiracism.

The heuristic guide is split into six different themes:

- Recognize a range of expertise and encourage citation practices that represent diverse canons, epistemological foundations, and ways of knowing;
- Recognize, intervene in and/or prevent harmful scholarly work—both in publication processes and in published scholarship;
- Establish and state clear but flexible contingency plans for review processes that prioritize humanity over production;
- Make the review process transparent;
- Value the labor of those involved in the review process;
- Editors commit to inclusivity among reviewers and in editorial board makeup.

Extending this research, I analyzed UPC's public policy documents looking for explicit inclusion of equity-based policy and procedure, based on a modified 6-tactic framework that works to address the themes of the ARRH. It is worth noting that I did not include tactics related to theme f, as editorial board makeup for UP's may differ from the context of the ARRH (i.e., academic journals). To replicate this analysis in an academic journal context, it would be important to include tactics related to theme f and commitments to inclusivity among reviewers and editorial board makeup. Below, the framework is introduced, noting the theme(s) from the ARRH to which each tactic relates:

1. Explicitly acknowledge in public policy and procedure materials that publishing processes reinscribe racism (theme b).

2. Explicitly state in public policy and procedure materials the recognition of the range of expertise and citation practices that represent diverse canons, epistemological foundations, and ways of knowing (theme a).

3. Clearly state flexible contingency plans for review processes that prioritize humanity over production (theme c);

4. Publicly describe review processes and timelines to increase transparency around the peer review process (theme d);

5. Document and recognize the labor of those involved in the review process throughout publication policies and procedure documents (theme e);

6. Clearly state in publicly available materials the requirement of inclusive language use (including preferred terms, particularly for marginalized identities) (theme b).

METHODOLOGY

To further contextualize the methodology for this study, I made the following moves to code, analyze, and offer suggestions to the documents in question. I showcase this methodology for the benefit of academics moving forward (particularly those involved in publishing) to further analyze publicly available process and procedure documents.

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4 As Oswal and Melonçon (2017) note regarding Universal Design and accessibility, "While checklists are meant to help…by providing faculty a starting place on issues where they may not have a lot of experience, unfortunately they [checklists] are often both the starting and ending place for accessible course design" (p. 63). With this consideration in mind, it's important to note that I do not intent for this "checklist" to be a one and done type of inclusive work; throughout my research it will be made explicit that this process is iterative and should be revisited often by editors and publishing groups in order to refrain from falling into a checklist mindset that may "perpetuates an ideology of normalcy" (Oswal & Melonçon, 2017, p. 61).

5 Contributors include Lauren E. Cagle, Michelle F. Eble, Laura Gonzales, Meredith A. Johnson, Nathan R. Johnson, Natasha N. Jones, Liz Lane, Temptaous Mckoy, Kristen R. Moore, Ricky Reynoso, Emma J. Rose, GPat Patterson, Fernando Sánchez, Ann Shivers-McNair, Michele Simmons, Erica M. Stone, Jason Tham, Rebecca Walton, and Miriam F. Williams.

First, I worked with UPC, particularly my contact at the USU Press imprint Rachael Levay, who indicated webpages[6] that would be particularly important to my analysis. From this initial conversation, the following were chosen based on their location on the website (as their own drop-down links under "publish with us" and "about us") as well at the perceived importance of the information included on each page (e.g., the "submissions" page includes the only button to submit a manuscript, and is thus a highly visited, important page):

- Submissions: The webpage titled "Submissions" is split up into three sections that includes the following: Information about specific areas of interest to each imprint (which is included in an accordion menu); General Guidelines (including word counts and what a book prospectus should include); Information on images (how many are allowed, when to use images); Timeline for when the Press will respond to book prospectus submissions; and a brief discussion of manuscript review.

- Author Materials: This webpage is split into two sections: "Solicited Manuscripts for Peer Review," which includes information for authors who have had their manuscript solicited by an editor, and "Final and Contracted Manuscripts," which includes information for authors submitting a final, contracted manuscript, including 10 additional Microsoft Word, PDF, and Excel documents with information on figures, permissions, and formatting.

- Our Publication Processes and Timelines: This webpage is one long section highlighting a "Successful path to publication," which includes information hidden by five accordion menus with the headers: proposal submission (up to 6 weeks), peer review (~8-12 weeks), Faculty editorial committee approval (~2-3 weeks), Contract (~1-2 weeks), and Publication (~12-14 months from submittal of final manuscript to publication).

- Our Commitment to Diversity: This webpage is a short paragraph highlighting UPCs commitment to diversity and inclusion.

Though Levay directed me toward these documents, it was important to me as a researcher to try to approach this analysis much like a potential UPC author would (with little to no context) for a couple of reasons. 1) I am positioned as an early career scholar whose field is a focus of the Press. Thus, it benefits UPC as well as myself to approach the documents as a potential author would as I represent a member of the target audience for these documents (i.e., a potential author who has never published with UPC before). 2) approaching the documents with little to no context allowed me to further prevent researcher bias. It was important to me and the Press to have as well-rounded an analysis as possible, so approaching the documents without any sort of Press influence, as much as possible, was key. To do this, I set a scenario for myself each time I approached a document (e.g., reading through the "Our Publication Processes and Timelines" document I situated myself as an author publishing a book for the first time and weighing the pros and cons of publishing with UPC).

After choosing the documents under analysis, I read through each document two times to make sure I understood the document. From there, I began to explore the idea of content analysis. As stated above, I wanted to approach each document as a prospective author would. Throughout this analysis, I worked to balance

being an advocate for potential authors as well as giving the press credit for work they've done, and it would do a disservice to the Press to imply that a tactic had not been enacted if it had been, and the information was just in a location I was not expecting. Thus, I decided to perform preliminary work to help focus my reading of my analysis through the concordance tool, AntConc. Rather than analyze this dataset, it worked as a starting place to the rest of my analysis.

To produce a content analysis of the UPC documentation, I first saved each webpage as a PDF, including five different iterations of the "Our Publications Processes and Timelines" page with each of the five dropdown menus showing[7]. All documents were read and downloaded initially on August 15th, 2022. From there, the documents were input into AntConc software to search directly for phrases within the documents that would be of interest to this research including Anti-racism, diversity, racism, commitment, labor, Black (both capitalized and not), Indigenous, BIPOC, marginalized, MMU[8]. For example, when "diversity" was input in the "collocate" tab the words "respect," "preserve," "broad," "range," "encourage," and "language," were given as collocate words with their rank, frequency, range, and likelihood.

A collocate, "reveals the words most closely associated with a particular keyword" (Friess & Lam, 2018, p. 336). Thus, this collocate not only indicated to me that diversity would appear in the documents under analysis but revealed that "diversity" would appear next to (left or right) of these words above, which appear in six of the files (range). With this information, I could then look at the word in context. Through this data, I was able to analyze more accurately based on the framework and be positive whether the tactic was explicitly represented in UPC's documentation and in what context.

From this content analysis, I then more explicitly analyzed based on the framework looking first for explicit inclusion based on each tactic (i.e., an explicit acknowledgement that publishing reinscribes racism). I read through each document twice and memo-ed information (utilizing direct quotes) that I was noticing that may be related to the framework. I also took note of information that I felt was surprising in certain locations (such as style information included on the webpage "Our Publication Processes and Timelines"). From there, I categorized and coded the information I highlighted and made note of which tactic it would fall under and why or why not. Based on whether or not each framework was enacted, I then worked to provide tangible, clear, and actionable revisions to the publishing process and policy documents.

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6 It's important to note that each webpage was consulted from July 2022 to August 2022.

7 It was not possible to have all five dropdown menus appear at once on the webpage. In other words, once you click on one drop down menu, another closes, which is why I saved multiple versions of the webpage for each drop down to accurately code this particular page.

8 I chose these particular words over other possibilities (Person of Color, African American, etc.) primarily because they appear in the ARRH, as well as have gained traction in conversations of guidelines for inclusive language (refer to APA, Conscious Style Guide, etc.).

ANALYSIS BASED ON THE FRAMEWORK

The following analysis reports on whether each tactic has been enacted (assessment), includes a description as it relates to the framework (interpretation), and offers tangible ways for UPC to enact, or further enact, each tactic (recommendations).

1) Explicitly acknowledge in public policy and procedure materials that publishing processes reinscribe racism;

Assessment

Across the website and publicly available materials there are many different inclusive statements made by UPC, which is where, as a reader, I would have expected to read a statement acknowledging that publishing reinscribes racism, as the tactic implies.

Interpretation

However, without an explicit acknowledgement of publishing reinscribing racism, as per the framework, this tactic has not been enacted.

UPC makes a few strong statements. For instance:

> We also ask our peer reviewers to read manuscripts inclusively, meaning that we as a Press respect language diversity, require equitable citational practices and accessible texts, and reject the idea that manuscripts must always adhere to long-standing expectations of what disciplinary bounds or practices should be (Our Publication Processes and Timelines).

This statement is a good move that begins the work of addressing disparities particularly in citational practices (i.e., uneven citation patterns; Buggs et al., 2020; Krayden, 2017; Ray, 2018; Roberts et al., 2020). However, without a specific identification of a specific facet of oppression (i.e., racism), this statement does not represent an explicit inclusive move.

The statement below works similarly:

> We invite critiques on ways in which these pro-cesses, timelines, and efforts could be improved and acknowledge that, as a publisher, we have long participated in systems and structures that have not always welcomed[9] MMU scholars or made publication accessible to them (Our Publication Processes and Timelines).

Though this statement makes a strong move toward recognizing ways in which publishing is oppressive, a specific facet of oppression is not included, and thus has not been enacted as per the framework.

It should also be noted that further in the diversity statement, the Press indicates that it strives for transparent and equitable peer review, a step toward recognizing some of the issues with peer review and forwarding actionable moves: "As part of our commitment to transparent and equitable peer review and publication processes, we have included guidance for current and prospective authors regarding those processes and our publication timelines on our website here" (para. 2).

Recommendations

My strongest recommendation to UPC regarding this tactic is to push for a more actionable diversity statement that includes an acknowledgement of the pitfalls of the publishing process, and ways to be more anti-racist. Carnes et al. (2019) has recommended framing a diversity statement around "aspirations" and further recommended an organization "Emphasize that the organization and its members recognize and are working hard to overcome stereotype-based bias and that the institution is striving to provide a nondiscriminatory, fair, and equitable work and learning environment for all its members" (Carnes et al., 2019, p. 21). Many of the statements in the table above begin this work. However, beyond aspirations, UPC might consider following the lead of some of the journals in TPC who have adopted anti-racist policies. For example, though this statement appears in a different context (i.e., an academic journal), UPC might consider adapting some of the statements of the academic journal Kairos, particularly their "Inclusivity Action Plan."[10]

Throughout this statement, Kairos addresses specific anti-racist moves including mentoring during the submission and peer review process, asking all authors to ensure they are drawing from MMU scholars in their methodologies, inviting and training editorial board members from diverse backgrounds, and overall supporting Black linguistic justice. All of these moves represent actionable moves toward redressing some of the oppressive moves that are embedded into the publishing process.

Furthermore, though the Press acknowledges and thanks Cagle et al.'s (2021) article "Participatory Coalition Building: Creating an Anti-Racist Scholarly Reviewing Practices Heuristic," I recommend that the Press also develops a specific statement adopting the Anti-Racist Scholarly Reviewing Practices: A Heuristic for Editors, Reviewers, and Authors and adds the organization to the commitment page, much like acquisitions editor, Levay, has done. Adding UPC to this public document adds another layer of acknowledgment that UPC is recognizes racist and oppressive publishing processes.

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9 It's important to recognize the implications of the idea of "welcoming" in this context. As Sara Ahmed (2012) stated, "to be made welcome by an explicit act of address works to reveal what is implicit: those who are already given a place are the ones who are welcoming rather than welcomed… to be welcomed is to be positioned as the one who is not at home" (p. 42–43). Though welcoming may seem like a strong move toward inclusion, it's important to note the inherent hierarchies within the idea. Not only the term, but the idea may need to be rethought in a publishing context.

10 "Kairos recognizes that scholarly publishing traditionally functions within white supremacy and works to actively reject those systems of oppression by creating anti-racist publishing practices that are inclusive and equitable for authors, staff, and peer reviewers. For Kairos, anti-racism interrupts systemic racial injustice that dismisses the capacious view of who can be a scholar–expert, regardless of their race, ethnicity, gender identity, ability, sexual identity, and other identity markers. That is, anti-racism is intersectional in its approach to diversity, equity, and inclusion" (Ball, 2022, para., 1).

2) Explicitly state in public policy and procedure materials the recognition of the range of expertise and citation practices that represent diverse canons, epistemological foundations, and ways of knowing;

Assessment

Across its webpages, UPC successfully points potential authors to information that relates to citation practices, as well as information that relates particularly to style guides (refer to table 2).

Webpage/ location	Data (quote)
"Our Publication Processes and Timelines"	University Press of Colorado, Utah State University Press… are committed to transparent and equitable peer review and publication processes. In both processes, we require the usage of inclusive language, meaning our house style precludes the use of ableist language in our books; we capitalize Black, Indigenous, and related terms and use self-identified descriptors for multiply marginalized and/or underrepresented (MMU) scholars and groups of people; we respect and will preserve language diversity; we encourage a broad range of writing styles; we require the usage of alt-text and transcriptions of any multimodal projects; and we require respectful engagement and inclusive citational usage in our reviews and publications. Reviews that engage in hostile language or reinforce stereotypes in citations or identities will be redacted or rejected and will not be used in the evaluation of a work for publication.
"Our Publication Processes and Timelines"	We also ask our peer reviewers to read manuscripts inclusively, meaning that we as a Press respect language diversity, require equitable citational practices and accessible texts, and reject the idea that manuscripts must always adhere to long-standing expectations of what disciplinary bounds or practices should be.

Table 1: Assessment of tactic 2.

Both statements are actionable, clear, and explicit, so as per the framework this tactic has been enacted.

Interpretation

All three statements are clear, and explicit, giving examples of styles (i.e., capitalizing Black, using alt text), as well as stating explicitly that UPC "respect[s] and will preserve language diversity; we encourage a broad range of writing styles."

Recommendations

One of the strongest pieces of the first statement is "Reviews that engage in hostile language or reinforce stereotypes in citations or identities will be redacted or rejected and will not be used in the evaluation of a work for publication." One recommendation I have is to be more specific when it comes to "hostile language," and "reinforc[ing] stereotypes in citations or identities." For example, in the ARRH it states, "Reviewers resist requiring the existing canon be cited and recognize that some canonical work may be purposefully uncited because of oppressive and harmful actions taken by those authors" (para. 34). As an outsider looking in, I identify the idea of resisting requiring harmful canonical works to be a bit more specific than "reinforce stereotypes in citations."

In addition, UPC might consider further "recognizing problematic reviewers, resisting the use of scholarly reputation and other excuses as justification for racist review comments. Editors trust BIPOC authors who identify a review as racist," and implementing a contingency plan (refer to tactic 3) for authors who identify problematic reviews/reviewers, which may move beyond, editors "censor[ing] or redact[ing] parts [of the review] that could be harmful or are not constructive" ("Our publication process and timelines," para. 6). For example, would authors be able to appeal a particular review and request another reviewer? What could that process look like?

3) Clearly state flexible contingency plans for review processes that prioritize humanity over production;

Assessment

Under "Peer Review (~8-12 weeks)," UPC begins the work of prioritizing humanity throughout the publishing process (refer to table 3).

Webpage/ location	Data (quote)
"Our Publication Processes and Timelines"	Because we value the labor of both our authors and editors and the scholars who review our work, our timelines are often flexible. While we strive to move projects forward as quickly as possible, we recognize that the labor involved in reading and evaluating work can be in conflict with institutional labor, caretaking responsibilities, and unforeseen complications and, as such, acknowledge that timelines can extend. If there are external pressures, such as job market needs and tenure and promotion deadlines that we should be aware of, please communicate this to your editor and we'll do our best to assist with the timing in whatever ways we can.

Table 2: Assessment of tactic 3.

Interpretation

This statement is clear, and transparent in that it shows a glimpse into that fact that peer reviewers and authors are people, who have

other priorities in their lives. As such, this tactic, based on the framework, has been enacted.

The strength in this particular statement is "while we strive to move projects forward as quickly as possible, we recognize that the labor involved in reading and evaluating work can be in conflict with institutional labor, caretaking responsibilities, and unforeseen complications and, as such, acknowledge that timelines can extend," which prioritizes both the timeline of the author (in considering institutional structures that depend upon and prioritize publishing like promotion and tenure), as well as peer reviewers' timelines, who, as the statement says, may be disrupted by a variety of factors.

Recommendations

One of the most significant recommendations I have for UPC is to be more transparent with the statement "we'll do our best to assist with the timing in whatever ways we can." For instance, if an author were to voice their concerns about deadlines, would the peer review process be expedited? What would that look like for the peer reviewer? Answers to these questions, or a brief example of how an editor would assist with timing, would enact this tactic that much further.

In addition, it's important to note the ways in which transparent statements such as the recommended ones above could put the Press in a position of promising something it may not be able to deliver. For instance, expediting peer reviews. It's important to be as clear as possible with policy related statements, such as peer review process policies, and to be as transparent as possible about the inner workings of processes that UPC engages in. An important move might be to emphasize speaking with editors and the people involved in production every step of the way. This emphasis on communication will surely place more labor on those involved in book production, but transparency and clarity in these processes is such an important move toward inclusive publishing processes.

4) Publicly describe review processes and timelines to increase transparency around the peer review process;

Assessment

UPC includes a page on "our publication processes and timelines," which offers two paragraphs of relevant information on the review process, five bullet points about timeline for review, which is "~8-12 weeks," and information on guidelines for peer reviewers (refer to table 4).

Webpage/ location	Data (quote)
"Our Publication Processes and Timelines"	Because we value the labor of both our authors and editors and the scholars who review our work, our timelines are often flexible. While we strive to move projects forward as quickly as possible, we recognize that the labor involved in reading and evaluating work can be in conflict with institutional labor, caretaking responsibilities, and unforeseen complications and, as such, acknowledge that timelines can extend. If there are external pressures, such as job market needs and tenure and promotion deadlines that we should be aware of, please communicate this to your editor and we'll do our best to assist with the timing in whatever ways we can.
"Our Publication Processes and Timelines"	We view peer review as a generative and constructive process, not a means of gatekeeping or enforcing canonical ideas or ideals of disciplines. We invite scholars and scholarship to move and grow and become more inclusive. Your editor will share your peer reviews with you but may censor or redact parts that could be harmful or are not constructive. We also ask our peer reviewers to read manuscripts inclusively, meaning that we as a Press respect language diversity, require equitable citational practices and accessible texts, and reject the idea that manuscripts must always adhere to long-standing expectations of what disciplinary bounds or practices should be. We ask our peer reviewers to join us in setting new expectations for this work.
"Our Publication Processes and Timelines"	• UPC | USUP | UWP | UAP peer reviews full manuscripts and enlists a minimum of two anonymous readers for each project (with a suggested 6-8-week review period). • Authors/editors are welcome to suggest possible appropriate reviewers for their projects (please don't include mentors, mentees, colleagues within your department, or scholars with whom you have closely collaborated on previous publishing projects) although we are under no obligation to query those scholars. We also encourage authors/editors to share scholars with whom they would not want their work shared and we will not query those scholars. • Your editor will share an anticipated timeline with you and will make every effort to contact you proactively if the timeline changes substantially (more than one week beyond). • Each reviewer is provided a set of guidelines and a checklist, along with a set of expectations for inclusive approaches to reviewing. Our editors commit to ensuring that these expectations are followed and, in the event of bias, will redact harmful comments and/or reject the review. • When reviews are split, i.e. one reviewer supports publication and another does not or suggests a revision and resubmission, editors will likely seek a third review to provide clarity on revision needs, either before or after manuscript revisions.

Table 3: Assessment of tactic 4.

Interpretation

This information is clear and transparent. As such, this tactic has been enacted.

One of the strongest examples of this tactic is the first statement, particularly as it relates to describing the potential for flexibility in timelines. Potential authors are given an estimated timeline for peer review (~8-12 weeks) but are also given a glimpse into the ways that UPC prioritizes the fact that peer reviewers are humans, and thus timelines necessitate flexibility. This is a great balancing of transparency and being realistic. All of the information included in the table is particularly important to relay to early-career scholars, first-generation scholars, and scholars who may be unfamiliar with the peer review process.

Recommendations

To enact this tactic further, UPC could be more specific as it relates to "our internal review" under "proposal submission (up to 6 weeks)." What specifically does that internal review look like? What information might be relevant for authors to know beyond "Once submitted, manuscripts are reviewed by the press editor or by an appropriate series editor" ("Submissions," para. 8). What specifically would an editor look for? Is it more contextual? What specifically could be shared? Answers to these questions would enact this tactic that much further.

5) Document and recognize the labor of those involved in the review process throughout publication policies and procedure documents;

Assessment

Under "our publication processes and timelines," UPC includes a statement regarding the labor involved in the peer review process (refer to table 5).

Webpage/ location	Data (quote)
"Our Publication Processes and Timelines"	Because we value the labor of both our authors and editors and the scholars who review our work, our timelines are often flexible.
	While we strive to move projects forward as quickly as possible, we recognize that the labor involved in reading and evaluating work can be in conflict with institutional labor, caretaking responsibilities, and unforeseen complications and, as such, acknowledge that timelines can extend. If there are external pressures, such as job market needs and tenure and promotion deadlines that we should be aware of, please communicate this to your editor and we'll do our best to assist with the timing in whatever ways we can.

Table 4: Assessment of tactic 5.

Interpretation

As discussed under tactic 3, recognition of the humanity of peer reviewers is an excellent inclusive move. As such, this tactic has been enacted.

This particular statement makes clear that UPC values the time and labor of peer reviewers as well as authors and those who work for the Press. This is an excellent move toward humanizing the publishing process and making transparent the values of the Press.

Recommendations

To enact this tactic further, I recommend that UPC draft a sample statement to be placed more prominently on their website that states similar to what is already included on the page. For example, like the "Our Commitment to Diversity" section on the website, UPC could include an "Acknowledgement of Labor" or something of the like that further illustrates the Press' acknowledgement of the labor required throughout the publication process.

6) Clearly state in publicly available materials the requirement of inclusive language use (including preferred terms, particularly for marginalized identities).

Assessment

As referenced under tactic 1, UPC gives potential authors a glimpse into the internal style guide of the Press (refer to table 6).

Webpage/ location	Data (quote)
"Our Publication Processes and Timelines"	In both processes, we require the usage of inclusive language, meaning our house style precludes the use of ableist language in our books; we capitalize Black, Indigenous, and related terms and use self-identified descriptors for multiply marginalized and/or underrepresented (MMU) scholars and groups of people; we respect and will preserve language diversity; we encourage a broad range of writing styles; we require the usage of alt-text and transcriptions of any multimodal projects; and we require respectful engagement and inclusive citational usage in our reviews and publication.

Table 5: Assessment of tactic 6.

Interpretation

This statement does a good job of giving potential authors a preview into the internal style guide of the Press and includes moves toward indicating specific, inclusive, anti-racist language (such as capitalizing Black and Indigenous) and has thus enacted this tactic.

To take this tactic a step further, the Press might consider a broad statement about not publishing slurs or other derogatory language, as well as the recommendations below.

Recommendations

My strongest recommendation for UPC is to draft a more explicit statement and presenting specific guidelines for language usage[11].

Moreover, UPC might include further resources on why anti-racist language use is important. For example, the "Racial Equity Tools Glossary" states, "Language can be used deliberately to engage and support community anti-racism coalitions and initiatives, or to inflame and divide them" (n.d., para. 2). Hardy (2016) further stated, "In such an occasion where inexperience is the predecessor to using insensitive language, it is necessary to make people aware of the appropriate vocabulary. Otherwise, ignorance will continue to breed intolerance" (para. 4). In a publishing context where words are practically permanent, it's important to discuss why words matter.

Furthermore, regarding "a statement welcoming a broad range of writing styles" it might be helpful to take the lead of Kairos, and their "Inclusivity Action Plan."[12] UPC might overall choose to also support Black linguistic justice and be more specific about preferred terms for marginalized identities.

FURTHER INCLUSIVE MOVES: Supporting MMU and BIPOC scholars

One important consideration for Press's beyond policy and procedure is the recruitment, retention, and overall support of MMU and BIPOC scholars particularly throughout the publishing process. One way to support MMU and BIPOC scholars is to cite underrepresented scholars in research. Citing MMU and BIPOC scholars not only helps scholars get the recognition they deserve, but it also makes research and writing more comprehensive, well-rounded, and resists highlighting selective views of a field (Ahmed, 2013).

One option for UPC would be to include more specificity about the citation practices they are hoping to forward within the reviewer guidelines. UPC asks in their reviewer guidelines "Do you feel the manuscript has engaged diverse voices and considered perspectives beyond a limited view?;" however, they could take it a step further and be explicit about how to engage diverse voices and consider perspectives beyond a limited view. For example, Technical Communication Quarterly states, "Suggest additional sources--especially by multiply marginalized or underrepresented scholars--that could inform and improve the manuscript." This statement indicates what type of sources could inform and improve the manuscript and offers explicit direction for reviewers and authors.

UPC could take this conversation about citation practices a step further and include relevant lists of MMU and BIPOC scholars such as Cana Uluak Itchuaqiyaq's MMU Scholar List. I imagine that UPC could develop their own list of relevant MMU and BIPOC scholars that have published with them not only as a way to highlight underrepresented scholars, but to prompt the citing of UPC authors and texts. Furthermore, if UPC is asking for specific

11 For example, The University of Arizona library includes an "anti-racist language guide" that discusses example language with racist roots or connotations and provides further sources for information, such as the "The University of British Columbia Indigenous Peoples: Language Guideline" developed in collaboration with the University of British Columbia and the First Nations House of Learning.

12 "In the peer-review and copy-editing process, Kairos supports Black linguistic justice and other cultural knowledge enactments. Where editorial work in English has historically attempted perfection in its publications, we have come to recognize that perfection is part of a white supremacist agenda. Our copyediting attends to grammar and usage issues insofar as the author's meaning needs to be made clear, as we recognize the plurality of styles and welcome that in submissions" (para. 4).

demographic information from authors they might also explain why, and further cite research on why citing MMU scholars is important. As Itchuaqiyaq and Frith (2022) stated, "university machines, whose infrastructures…are based on colonial…white supremacist, structures… are also sites of resistance whose smallest parts, such as academic citational practices, can be repurposed and reconfigured to disrupt and dismantle structures based on white supremacy" (p. 11). Being aware of and working to change traditional citation practices is a step toward redressing oppressive publishing (and academic) processes.

Additionally, developing a program to directly support MMU and BIPOC scholars would be helpful with not only retention but perhaps overall satisfaction with the publishing process. As an example, the University of California Press has a "FirstGen Program," which supports, "the work of first-generation scholars… [who] often confront a range of intersecting inequalities across race, class, immigration status, and more" (para. 2). This program includes financial support, publishing workshops/webinars, online resources, and an email list to encourage regular communication with first generational scholars navigating the publication process.

CONCLUSIONS

Based on the framework, tactics 2, 3, 4, 5, and 6 have been enacted, where tactic 1 has yet to be enacted. Though UPC has produced inclusive documentation for many of their processes and procedures, there is still work to be done, particularly as it relates to acknowledging how publishing reinscribes racism. Moreover, there are ways in which UPC could take each tactic they have enacted a step further and be that much more inclusive.

As Stevens (2022) stated, "policy documents cannot fully resolve implicit and explicit discrimination" (p. 115), and particularly as it relates to publishing, more work is needed. However, there are important moves that all publishing entities can include in their publicly available policies and procedures that improve the inclusivity of the publishing process:

- Including publicly available and explicit timelines for both authors and peer reviewers that balances valuing the labor of peer reviewers as well as the timeline of authors.

- Making style guides, reviewer guidelines, and other relevant documents publicly available to increase transparency.

- Drafting a "inclusivity action plan" that highlights explicitly what the Press, journal, etc., is doing to increase inclusivity (refer to Ball, 2022).

- Adding the journal, Press, etc. to the Anti-Racist Reviewing Heuristic's "Signaling Your Commitment" page to "signal your commitment to engage in anti-racist academic reviewing practices" (ARRH) and adding this commitment to publicly available materials.

One important concluding point is that much of this inclusive work must be iterative and requires annual (at the very least) revision, which can often be performed by someone knowledgeable in DEI work. It isn't enough to draft the documents once and move on; inclusive work is a continuous process.

ADDENDUM

As of the writing of this article, UPC has made specific anti-racist changes to their publicly available policy and procedure materials. Perhaps of most note are the changes made to the webpage

previously titled "Our Commitment to Diversity," which has been retitled to "Our Commitment to Diversity, Equity, Inclusion, and Justice." Within this page, UPC has included multiple strong inclusive moves, many of which are discussed in this article including: "Establish a new and dedicated funding program to support publications by MMU scholars," "Produce and publish externally facing process documentation that align with antiracist and antiableist priorities," and "Meet the Association of University Presses best practices for accessibility with our website, social media, and all our publications."

It is worth noting that UPC has continued to prioritize inclusion within their public policy and procedure documents. I commend and call others to emulate their example.

REFERENCES

Association of University Presses. (n.d.). *About University Presses*. https://aupresses.org/the-value-of-university-presses/about-university-presses/

Ahmed, S. (2012). On being included. *Racism and Diversity in Institutional Life.* Duke University Press.

Ahmed, S. (2013). *Making feminist points*. https://feministkilljoys.com/2013/09/11/making-feminist-points/

Anti-racist scholarly reviewing practices: A heuristic for editors, reviewers, and authors. (2021). https://tinyurl.com/reviewheuristic

Ball, C. (2022, August). *Inclusivity action plan*. https://praxis.technorhetoric.net/tiki-index.php?page=PraxisWiki%3A_%3AInclusivity+Action+Plan

Buchanan, N.T. (2019). Researching while Black (and female). *Women & Therapy, 43*(1–2), 91–111. https://doi.org/10.1080/02703149.2019.1684681

Buggs, S. G., Sims, J. P., & Kramer, R. (2020). Rejecting white distraction: A critique of the white logic and white methods in academic publishing. *Ethnic and Racial Studies, 43*(8), 1384–1392. https://doi.org/10.1080/01419870.2020.1718728

Cagle, L., Eble, M., Johnson, M., Johnson, N. R., Lane, L., Mckoy, T., Moore, K. R, Walton, R. (2021). Participatory coalition building: Creating an anti-racist scholarly reviewing practices heuristic. *SIGDOC '21: The 39th ACM International Conference on Design of Communication.* 281–288

Cargile-Cook, K. (2000). Writers and their maps: The construction of a GAO report on sexual harassment. *Technical Communication Quarterly, 9*(1), 56–76. https://doi.org/10.1080/10572250009364685

Carnes, M., Fine, E., & Sheridan, J. (2019). Promises and pitfalls of diversity statements: Proceed with caution. *Academic Medicine, 94*(1), 20–24. https://doi.org/10.1097/acm.0000000000002388

Coggins, N., Dawson, J., Dolechek, M., & Fosado, G. C. (2020). *Guest post—An antiracist framework for scholarly publishing.* The Scholarly Kitchen. https://scholarlykitchen.sspnet.org/2020/08/06/guest-post-an-antiracist-framework-for-scholarly-publishing/

Delgado, R. (1984). The imperial scholar: Reflections on a review of civil rights literature. *University of Pennsylvania Law Review, 132*(3), 561–578. https://doi.org/10.2307/3311882

Friess, E., & Lam, C. (2018). Cultivating a sense of belonging: Using Twitter to establish a community in an introductory technical communication classroom. *Technical Communication Quarterly, 27*(4), 343–361.

Hardy, A. (2016). *The importance of being politically correct*. The Odyssey. https://www.theodysseyonline.com/importance-politically-correct

Itchuaqiyaq, C. U. (15 March, 2022). *MMU scholar list.* https://www.itchuaqiyaq.com/mmu-scholar-list

Itchuaqiyaq, C. U., & Frith, J. (2022). Citational practices as a site of resistance and radical pedagogy: Positioning the multiply marginalized and underrepresented (MMU) scholar database as an infrastructural intervention. *Communication Design Quarterly, 10*(3), 10–19. DOI: 10.1145/3507870.3507872

Jones, N. N. (2016). The technical communicator as advocate: Integrating a social justice approach in technical communication. *Journal of Technical Writing and Communication, 46*(3), 342–361. https://doi.org/10.1177/0047281616639472

Jones, N. N., & Williams, M. F. (2020). *The just use of imagination: A call to action.* ATTW. https://attw.org/blog/the-just-use-of-imagination-a-call-to-action/

Knievel, M. S. (2008). Rupturing context, resituating genre: A study of Use-of-Force policy in the wake of a controversial shooting. *Journal of Business and Technical Writing, 22*(3). 330–363. https://doi.org/10.1177/1050651908315984

Krayden, D. (2017). *University professor says 'microaggressions' don't exist.* Daily Caller. https://dailycaller.com/2017/03/31/university-professor-says-microaggressions-dont-exist/

Martin, W., & Sanders, S. (1994). Ethics, audience, and the writing process: Bringing public policy issues into the classroom. *Technical Communication Quarterly, 3*(2), 147–163. https://doi.org/10.1080/10572259409364563

Moore, K. R. (2013). Exposing hidden relations: Storytelling, pedagogy, and the study of policy. *Journal of Technical Writing and Communication, 43*(1). 63–78. https://doi.org/10.2190/TW.43.1.d

Moore, K. R. (2017). The technical communicator as participant, facilitator, and designer in public engagement projects. *Technical Communication, 64*(3), 237–253.

Okun, T. (2021). *What is white supremacy culture?* White Supremacy Culture. https://www.whitesupremacyculture.info/what-is-it.html

Oswal, S. K., & Melonçon, L. (2017). Saying no to the checklist: Shifting from an ideology of normalcy to an ideology of inclusion in online writing instruction. *WPA: Writing Program Administration, 40*(3), 61–77.

Petersen, E. J., & Moeller, R. M. (2016). Using antenarrative to uncover systems of power in mid-20th century policies on marriage and maternity at IBM. *Journal of Technical Writing and Communication, 46*(3). 362–386. https://doi.org/10.1177/0047281616639473

Racial Equity Tools. (n.d.). *Racial equity tools glossary.* https://www.racialequitytools.org/glossary

Ranney, F. J. (2000). Beyond Foucault: Toward a user-centered approach to sexual harassment policy. *Technical Communication Quarterly, 9*(1), 9–28. doi:10.1080/10572250009364683

Ray, V. (2018). *The racial politics of citation.* Inside Higher Ed. https://www.insidehighered.com/advice/2018/04/27/racial-exclusions-scholarly-citations-opinion

Roberts, S. O., Bareket-Shavit, C., Dollins, F. A., Goldie, P. D., & Mortenson, E. (2020). Racial inequality in psychological research: Trends of the past and recommendations for the future. *Perspectives on Psychological Science, 15*(6), 1295–1309. https://doi.org/10.1177/1745691620927709

Sackey, D. (2019). One-size-fits-none: A heuristic for proactive value sensitive environmental design. *Technical Communication Quarterly, 29*(1), 33–48. doi:10.1080/10572252.2019.1634767

Selfe, C. L., & Hawisher, G. E. (2012). Methodologies of peer and editorial review: Changing practices. *College Composition and Communication, 63*(4), 672–698.

Sidler, M., & Jones, N. N. (2008). Genetics interfaces: Representing science and enacting public discourse in online spaces. *Technical Communication Quarterly, 18*(1), 28–48. doi:10.1080/10572250802437317

Smith, C. F. (2000). Writing public policy: A practicum. *Technical Communication Quarterly, 9*(1), 77–92. doi:10.1080/10572250009364686

Spoel, P., Goforth, D., Hoi, C., & Pearson, D. (2008). Public communication of climate change: Engaging citizens through apocalyptic narrative explanation. *Technical Communication Quarterly, 18*(1), 49–81. doi:10.1080/10572250802437382

Stevens, H. L. (2022). 'I don't have a gun stop shooting': Rhetorical analysis of law enforcement Use of Force policy documents. *IEEE Transactions on Professional Communication, 65*(1), 104–117. https://doi-org.dist.lib.usu.edu/10.1109/TPC.2022.3144824

The University of British Columbia. (2021). *Indigenous Peoples: Language guidelines, version 3.0.* http://assets.brand.ubc.ca/downloads/ubc_indigenous_peoples_language_guide.pdf

University of California Press. (n.d.). *Learn about our firstgen program.* https://www.ucpress.edu/resources/firstgen-program

University Press of Colorado. (2022). *Who we are.* https://upcolorado.com/about-us/our-press

Walton, R., Moore, K. R., & Jones, N. N. (2019). Technical communication after the social justice turn: Building coalitions for action. Routledge.

Williams, M. T. (2020). *Racism in academic publishing.* Psychology Today. https://www.psychologytoday.com/us/blog/culturally-speaking/202007/racism-in-academic-publishing

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Developing Asynchronous Workshop Models for Professional Development

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ABSTRACT

Asynchronous workshops have potential as a flexible and accessible tool for instructor professional development. Translating synchronous workshops into asynchronous versions represents an opportunity to expand access to training materials, but translating across modalities is a challenge. As facilitators of the Colleges Online Learning Academy summer fellowship program, we outline our process for developing asynchronous workshops focused on pedagogy and digital learning for graduate student instructors. We evaluated participant engagement and accessibility based on survey responses (n=10) and workshop artifacts. Our four asynchronous workshops consisted of multimodal modules with video clips from the synchronous sessions and engagement opportunities on Jamboard. We found low Jamboard engagement from asynchronous participants, but high engagement in multimodal modules. Potential barriers to access included mental health, Wi-Fi access, English language comprehension, and a lack of discussion, but many participants (4 of 9) reported no access barriers. We provide recommendations for developing engaging, accessible, and content-rich asynchronous workshops from synchronous workshop materials.

CCS Concepts

Social and professional topics

Keywords

Asynchronous workshops, Multimodality, Professional development, Remote learning

DEVELOPING ASYNCHRONOUS WORKSHOP MODELS FOR PROFESSIONAL DEVELOPMENT

Workshops are key components of professional development in many spaces, including for university instructors. University instruction is carried out by multiple groups, including tenure-system faculty, teaching-focused faculty, and graduate students. As a collaborative learning experience team, we focused on developing a series of asynchronous workshops for graduate students to aid in their preparation for teaching in online and digital spaces.

Amidst increasing reports of faculty burnout and dissatisfaction (Chessman, 2023), we have noticed a decrease in attendance at our synchronous workshop offerings. Participant attendance at any single workshop does not necessarily indicate the interest or need for that topic in supporting university instructors. With the shift toward increased online learning following the onset of the COVID-19 pandemic, more flexibility in professional development offerings is becoming essential. One way of offering such flexibility—and addressing challenges in workshop attendance—is through developing and sharing asynchronous learning materials with an emphasis on accessibility, engagement, and comparability to synchronous versions.

Accessibility in learning requires multiple means of engagement, of representation, and of action and expression (https://udlguidelines.cast.org). These considerations represent why to learn, what to learn, and how to learn, respectively, and serve as a heuristic for developing robust, equitable learning experiences. Following CAST's UDL guidelines requires flexibility and creativity in learning development.

One challenge with online asynchronous workshops is the increased difficulty of facilitating collaborative, interaction-oriented learning across time and space. While the most common and simplest way to create asynchronous learning materials from a synchronous workshop experience is to disseminate a recording of the synchronous session, the effectiveness of this

INTRODUCTION

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Amidst increasing reports of faculty burnout and dissatisfaction (Chessman, 2023), we have noticed a decrease in attendance at our synchronous workshop offerings. Participant attendance at any single workshop does not necessarily indicate the interest or need for that topic in supporting university instructors. With the shift toward increased online learning following the onset of the COVID-19 pandemic, more flexibility in professional development offerings is becoming essential. One way of offering such flexibility—and addressing challenges in workshop attendance—is through developing and sharing asynchronous learning materials with an emphasis on accessibility, engagement, and comparability to synchronous versions.

Accessibility in learning requires multiple means of engagement, of representation, and of action and expression (https://udlguidelines.cast.org). These considerations represent why to learn, what to learn, and how to learn, respectively, and serve as a heuristic for developing robust, equitable learning experiences. Following CAST's UDL guidelines requires flexibility and creativity in learning development.

One challenge with online asynchronous workshops is the increased difficulty of facilitating collaborative, interaction-oriented learning across time and space. While the most common and simplest way to create asynchronous learning materials from a synchronous workshop experience is to disseminate a recording of the synchronous session, the effectiveness of this approach is limited. Prior scholars have documented best practices, successful outcomes, and challenges in developing asynchronous workshops, including how to create contextualized, accessible, and participatory asynchronous offerings (Cummings, 2016; Muljana et al., 2020; Towle, 2022). Successful asynchronous workshops require both effective use of technology and deliberate experience-planning—neither of which is easily achieved through sharing a workshop recording. Beth Towle (2022) has written about the need to develop online workshops that were suited to the contexts in which they would be used. Towle's workshops were developed similarly to in-person workshops but with increased emphasis on accessible delivery. In examining instructional designers' participation in online asynchronous learning, Muljana et al. (2020) offered multiple levels of participation to accommodate the varying abilities and constraints of participants, which further speaks to the need for accessibility and interaction.

Advantages of online asynchronous learning models include ability to revisit recorded content and share resources with ease (Towle, 2022). In successful asynchronous learning models, Muljana et al.'s (2020) crew of instructional designers reported greater engagement when they experienced knowledge-sharing efficacy, bonding among peers, open communication, and high perceived value of learning from others. However, there are also many challenges associated with asynchronous learning, including measuring student engagement and understanding, ensuring fair labor and compensation for student workers and faculty, and providing additional technological support for participants (Towle, 2022). Additional barriers to effective learning come from participants' personal factors and perceptions of the workshop design. In Muljana et al.'s study (2020), instructional designers were less likely to participate in asynchronous professional development events when they faced a lack of time; issues with trust, bonding, and open communication through workshop engagement and activities; and lesser enjoyment of some activities.

To foster active participation in asynchronous online learning, instructional designers should focus on emphasizing trust and open communication (Yoon et al., 2020), be aware of potential time constraints (Muljana et al., 2020), provide multimodal material in short chunks (Harris & Greer, 2017), and be aware that not all participants may be able or willing to engage with the content and materials at the same level (Muljana et al., 2020).

In this experience report, members of the Enhanced Digital Learning Initiative (EDLI) team outline the systems and methods we used in developing asynchronous workshops from our synchronous workshop content for the College Online Learning Academy (COLA) summer workshop series. EDLI is an interdisciplinary team associated with the colleges of arts and letters, natural science, and business focused on research, evaluation, and implementation of digital pedagogies and educational technologies. Within and beyond our own institution, many asynchronous workshops are converted from synchronous versions by simply providing a recording of the synchronous event to participants. Recording synchronous workshops is a seemingly easy way to allow asynchronous learning, but doing so often comes at the cost of meaningful engagement and interaction. However, developing born-asynchronous workshops is often time-consuming, and it is more difficult to utilize the synchronous workshop planning and implementation when designing an asynchronous workshop from scratch. For this reason, we developed and tested a model to create asynchronous workshops *from* the synchronous offerings to be more efficient for workshop designers while effectively responding to participant needs and best practices.

PROJECT GOALS AND OBJECTIVES

The Colleges Online Learning Academy summer fellowship (COLA) is a mentored teaching fellowship where students work in peer cohorts to complete projects related to online and digital teaching and learning. COLA began in summer 2020 as a response to the shift to emergency remote instruction due to the COVID-19 pandemic. In the first month of the fellowship, students are introduced to a series of workshops focused on online and digital pedagogical frameworks and tools, such as incorporating backward design into planning course modalities, accessibility and equity in online classrooms, and developing digital teaching portfolios. In 2020 and 2021, all workshops were offered synchronously, with recordings of the workshops later available to attendees who were unable to attend the synchronous sessions. In 2022, we expanded on the workshop offerings by developing fully asynchronous versions of each of the COLA workshops. Our goal in developing a new model of asynchronous workshops was to ensure we were offering accessible materials, providing content highly similar to the synchronous workshop versions, and encouraging maximum participant engagement. Our focus on flexibility for participants and engagement with one another is important as a component of our program's desire to promote graduate students' wellbeing

throughout the fellowship (Clem & Buyserie, 2023). There were two primary components to this work:

- develop models for asynchronous workshops;

- evaluate the effectiveness of these models in terms of student engagement and access.

COLA'S ASYNCHRONOUS MODEL

We worked with the following three workshop models during the 2022 COLA fellowship:

1. **Designed synchronous**: speaker delivering content to participants synchronously. Designed synchronous workshops are common in both academic and professional spaces. In a designed synchronous workshop, all information and material is intended to be delivered directly from the presenters to the participants in real-time. Designed synchronous workshops tend to be one-time events that are fully self-contained. Designed synchronous workshops may occur in a series, with the topic of each successive workshop building and expanding on the one before it, but the content is delivered fully during the workshop time.

2. **Soiree style**: participants and facilitators have an initial meeting, followed by individual asynchronous work, then individuals report out to groups (either online or in-person). The soiree style was a model developed and named by those in educator professional development at Michigan State University during the shift to emergency remote instruction at the beginning of the COVID-19 pandemic. Soiree-style workshops were intended to facilitate instructors' professional development quickly and at scale. Soiree-style workshops involve a blend of synchronous and asynchronous learning. The initial meeting runs similar to a designed synchronous workshop, but rather than concluding after the presentation ends, the workshop continues as individual participants complete a learning activity on their own time before coming together in small groups to report on their learning development. A soiree-style workshop may take place over a matter of hours or days, depending on the amount of time needed to complete the individual asynchronous work.

3. **Fully asynchronous**: Participants work individually at their own pace on workshop materials. Rather than being a simple recording of a synchronous workshop, a fully asynchronous workshop is deliberately designed for asynchronous delivery. Components of fully asynchronous workshops may vary but can include audio, video, reading, and interactive activities. Fully asynchronous workshops place emphasis on engagement and interaction that isn't possible with a simple recording of a synchronous workshop.

In this article, we highlight the unique features and processes we used when developing asynchronous workshops from both synchronous (i.e., "synchronous-to-asynchronous") and soiree style (i.e., "soiree-to-asynchronous").

Workshop Format and Content

COLA's summer workshops had three components: slides and linked materials, interactive activities, and recordings. Each of the asynchronous workshops we developed included elements of reading, watching and listening, and interacting. We invited participants to read from PowerPoint slides, watch focused video clips from the synchronous sessions, and respond to discussion prompts using Jamboard.

To develop these workshops, we began by recording the synchronous online sessions, most of which were approximately 90 minutes long. After the workshop, we reviewed the videos and clipped the most important segments with content that could not be drawn from reading the slides or linked materials. We used a combination of the Zoom auto transcript and our institution's auto-captioning service and corrected any captions or transcripts in our clipped videos. We then embedded the video content into a copy of the workshop slides. Each asynchronous workshop contained three or four video clips ranging from one to ten minutes in length, with most clips falling in the three-to-four-minute length. The amount of time required to convert each workshop from synchronous to asynchronous varied based on workshop content, but we estimate that each workshop required anywhere from one to six hours to reformat.

Within the slides, we removed any content that was redundant from the videos or that required synchronous attendance. We left the slides that contained prompts for planning, reading, practicing, or reflecting. For our asynchronous materials, all activities were reported out on a Jamboard or on a worksheet that students copied from Google documents and edited on their own. These worksheets were the same for participants in the synchronous and asynchronous versions, and given that we could not access participants' worksheets, we discuss here only engagement with the Jamboards. We ensured that relevant input from synchronous attendees was visible on the linked Jamboard and that asynchronous participants would have access to add their own thoughts as they progressed through the workshop activities. We also added an instructional slide at the beginning of each workshop slide deck to explain what types of content would be included and how participants should interact with that content (Table 1).

Section Title	Instructional Text
Reading	Some slides have written instructions, prompts, and ideas that you can read through at your own pace. Follow the instructions on the slide and move to the next slide whenever you're ready.
Videos	Some slides have video clips from the synchronous version of this workshop. When you get to a video slide, click play to see the video. Move to the next slide when the video is finished.
Jamboards	You can engage with others in the workshop by commenting on a Jamboard. For each prompt, go to the appropriate Jamboard page and add a sticky note or two with your response to the prompt. Be sure to spend some time reading through others' responses as well!

Table 1: Content of instructional slide titled "How to Engage with this Workshop."

We developed a total of four asynchronous COLA workshops. The topics included multimodality, student engagement, student motivation, and reflective practice.

The multimodality workshop was delivered in the soiree style originally, with a synchronous kick-off session that delivered content, asynchronous assignments for participants to explore further, and a second synchronous session to debrief and provide further content. The workshop focused on how instructors can adopt a multimodal lens with their future educational experiences. Due to the length and complexity of this workshop, both the synchronous and asynchronous versions were offered in two parts. The first asynchronous segment provided an overview of multimodality and explained its context in teaching during the height of the COVID-19 pandemic. Participants were invited to complete a course reimagining exercise at the conclusion of the first part of the workshop, which was presented via a worksheet in Google Drive and was suggested to take one hour to complete. The second part of the workshop provided more information about how to teach with multiple modalities as well as possible impacts on students.

The remaining three workshops demonstrated our synchronous-to-asynchronous model. The student engagement workshop directed COLA fellows to consider how active learning online could facilitate student engagement. This workshop helped COLA fellows develop a conceptual understanding of student engagement, explore active learning as a feasible approach to facilitate student engagement, and develop ideas for a problem-based learning approach in online or hybrid contexts. The student motivation workshop introduced COLA fellows to self-determination theory and offered a way to understand student motivation through competence, autonomy, and relatedness. This workshop helped COLA fellows form frameworks for helping students understand their own motivations and develop structures for following through on coursework and activities. The reflective practice workshop encouraged COLA fellows to cultivate a habit of reflective practice in their own work. The workshop included prompts to consider current reflection practices in terms of frequency and public versus private sharing. It also provided frameworks for starting and enacting reflective practice.

Survey Responses

Of the 25 summer 2022 COLA fellows, 21 completed an end-of-fellowship engagement survey that asked about their experiences in the fellowship overall and their participation in the asynchronous workshops. We asked which asynchronous workshops they participated in, how they engaged with the workshop, how they interacted with others around the workshop content, and any barriers they experienced to engaging. Of 21 respondents, eight participated in at least one workshop asynchronously. Four students participated in one workshop asynchronously, and four students participated in two workshops asynchronously. Participants' responses give us insight into the effectiveness and future improvements of our asynchronous workshop models.

Participant engagement

According to post-program survey responses, interaction with asynchronous workshops concentrated primarily on following the materials presented directly within the workshop. Of seven valid responses, six reported reading the text on the slides and/or watching the video recordings. Less than half of respondents reported taking notes or reflecting on the materials. There was only one response each for following links to further resources, engaging passively with the Jamboard, or engaging actively with

the Jamboard. These responses demonstrate a pattern of significant engagement with primary workshop materials but low engagement with supplemental materials.

The first prompt was an open text box asking participants to "describe how you interacted with the asynchronous workshops you completed." Methods of engagement described by the respondents are listed in Table 2.

Engagement Method	Participants
Reading the text on the slides	6 of 7
Watching the recorded videos	6 of 7
Taking notes while interacting with the materials	3 of 7
Reflecting on the learning materials	2 of 7
Following links to additional resources	1 of 7
Passive engagement with the Jamboard (reading what others wrote)	1 of 7
Active engagement with the Jamboard (contributing to the knowledge space)	1 of 7

Table 2: Participants' methods of engagement.

Use of Jamboard

All four asynchronous workshops included embedded comments from the synchronous workshops to begin the conversation. Asynchronous participants were invited to read what others had shared and to record their own thoughts. Our measurement of participation and engagement sought to determine how many COLA fellows participated in each asynchronous workshop as well as how many of those participants engaged with the Jamboards as a means of interacting with other asynchronous participants. Of the asynchronous workshops offered, Reflective Practice had the second most participants as well as the highest level of engagement. The highest level of participation was for the Student Motivation workshop, but there was no engagement. Table 3 represents the number of asynchronous participants per workshop and the number of participants who contributed to the Jamboard discussion for each workshop.

Asynchronous Workshop Title	Asynchronous Workshop Participants	Participants who contributed to the Jamboard
Reflective Practice	4	3
Student Motivation	5	0
Student Engagement	2	1
Multimodality	1	0

Table 3: Asynchronous participants per workshop and

engagement per Jamboard.

Interaction with other participants

Responses to survey questions about interaction with other COLA fellows during asynchronous workshops showed that participants valued multiple factors of engagement. Although the asynchronous workshops suggested interaction via Jamboard, only two of eight fellows reported using the Jamboards as a means of interacting with one another. Instead, four respondents used Microsoft Teams, the primary communication medium for the COLA program, to interact with one another. Two respondents used alternate means of communication, and two reported not interacting at all with the other fellows. One fellow reported that they looked at the Jamboard but did not contribute to it. Table 4 represents the distribution of respondents' interactions with other fellows while participating in the asynchronous workshops.

Interaction Method	Participants
Interacting with other COLA fellows through Microsoft Teams	4 of 8
Interacting with other COLA fellows through Jamboard	2 of 8
Interacting with other COLA fellows through other discussion mediums	2 of 8
Looking at the Jamboard but not contributing	1 of 8
No interaction with other COLA fellows during asynchronous workshops	2 of 8

Table 4: In what ways did you interact with other COLA fellows during asynchronous workshops?

Another measure of interaction considered the value COLA fellows placed on engaging with their peers' ideas as a contributing factor to their own understanding, represented in Table 5. Four of ten fellows believed that engagement with other fellows' ideas was important for gaining new perspectives, with an additional two fellows stating that such engagement was important for understanding the material. Another two respondents said that engagement was important but did not specify how or in what ways. Finally, two respondents claimed that engagement with others' ideas was not important at all in the asynchronous workshops.

Interaction Importance	Participants
Important for understanding the material	2 of 10
Important for gaining new perspectives	4 of 10
Important in non-specific ways	2 of 10
Not important	2 of 10

Table 5: How important was engaging with other fellows' ideas to your sense of learning from your workshops?

Accessibility and barriers

The final question asked COLA fellows to report any barriers to learning they may have encountered while participating in the asynchronous workshops.

Of participants who engaged in asynchronous workshops, one reported lack of access to reliable Wi-Fi, and one reported English as a Second Language concerns. Of participants who did not complete any asynchronous workshops, two reported barriers with mental health and one reported a barrier with lack of discussion. Four participants did not encounter any barriers to completing the asynchronous workshops.

DISCUSSION

In developing and implementing the COLA asynchronous workshops, we were concerned with developing accessible materials, providing content with high similarity to that of the synchronous workshops, and magnifying participant engagement. Given that each of these workshops was offered synchronously before the asynchronous versions were created, the number of asynchronous participants may reflect the number of COLA fellows who were not able to participate in the synchronous versions. We did not find any significant accessibility barriers throughout our research, and ensured that our videos were captioned and reading materials followed best practices for accessibility. Because COLA fellows participated in either the synchronous or the asynchronous versions of each workshop, we cannot assess how well the fellows believe the asynchronous versions replicate the content of the synchronous versions. However, using video and audio clips and slides directly from the synchronous workshops did help keep content consistent across modalities.

Perhaps the most interesting data is related to participant engagement. The higher engagement in the interactive components of the Reflective Practice workshop may be due to the personal nature of the topic. Participants in the Reflective Practice workshop were asked to consider their own practices, goals, and thoughts. The remaining workshops were more content-oriented and asked participants to brainstorm ideas based on the concepts. Additionally, not all COLA fellows had previous teaching experience, so they may have found it easier to respond to questions about their own reflective practice than prompts related to working with students.

Students' lower level of engagement with additional resources and other fellows in the asynchronous versions indicates that students engaging in the asynchronous and synchronous workshops are not likely having equivalent experiences. Prior studies showed that learners are less likely to participate in asynchronous online discussions when there are no clear deadlines for posting (Pena-Shaff & Altman, 2015) or the expectations for their engagement in such activities are not clear (Kim, 2013).

In the synchronous workshops, students were directly engaged with one another through video chat and breakout rooms, and they had a high percentage of participation in Jamboards and other collaborative activities. This pattern indicates that participants may be more willing to spend time with prompts and activities directly embedded in the main workshop than they are to pursue external, additional materials on their own time.

We achieved accessibility and similarity of content, but we need to revise our synchronous-to-asynchronous model to increase participant engagement. We have considered multiple avenues

for promoting engagement in these asynchronous models. For engagement in brief reflective activities (for example, those that participants might report out in Zoom chat), asynchronous participants could write down their own thoughts, share them on a Jamboard or other collaborative online space, or be asked to write them in a reflection that they share with facilitators. For activities that require greater engagement, such as developing their own materials or critiquing example materials, we currently use Jamboards or worksheets shared in Google Docs that the participants copy and complete. To encourage engagement in these types of activities, we have discussed creating Qualtrics or Google Forms submissions to accompany the asynchronous workshop slides, scheduling small working group sessions for asynchronous workshop participants, or suggesting that asynchronous workshop participants complete the workshop with a colleague and share responses with them. In future iterations, we will also implement facilitation strategies such as incorporating deadlines for asynchronous collaborative activities, following up with completion reminders, and clearly communicating the learning objectives and expectations at the beginning and end of each workshop.

TAKEAWAYS/IMPLICATIONS

The process of creating asynchronous workshops from our synchronous material became streamlined as we gained experience. Some prior planning of materials for the synchronous workshop also facilitated a smooth transition to asynchronous materials. For example, auto transcription was a valuable tool in ensuring accessibility of our workshops, and creating slides for the synchronous workshops with more text than we normally would to ensure points conveyed in asynchronous versions. Following our experiences described above, the basic process that we recommend in improving asynchronous materials over a simple recording is:

1. **Clip videos**. Ideally, short video or audio clips with captions or transcripts of presenters delivering content that cannot be understood by reading the slides, links, or other workshop materials. At a minimum, dead space, introductory chatter, or audio and video of participants who did not consent to be involved in future workshop materials should be removed.

2. **Streamline materials.** Remove any redundant materials from the presented video clips. Include as many materials as possible within the slide deck or presentation of asynchronous materials to reduce participants' need to move back and forth between materials.

3. **Develop asynchronous engagement opportunities.** Consider the sharing setting of linked materials, ways to connect participants with one another, how to share prior participants' input as examples, and setting deadlines to create buy-in for engagement in the asynchronous components.

It's worth noting that our experience was based on using online synchronous workshops in creating asynchronous materials, but the process would be similar for in-person synchronous workshops. Ensuring that the audio and video recording of in-person workshops is high quality would be important and potentially more challenging than in online workshop recordings for translation of the activities.

Through examining participants' self-reported engagement, we also found that our model should be adjusted to promote greater engagement with supplemental materials, as very few COLA

fellows chose to interact with the supplemental materials during this initial asynchronous study. We also need to focus additional attention on providing means for conversational interactions in familiar spaces rather than one-time posts in a tertiary platform. Finally, we need to consider variables in engagement levels, Wi-Fi requirements, and pausability/pacing for English learners.

Further study is needed regarding participants' reasons for choosing asynchronous versus synchronous workshops as well as participants' preferred means of interaction.

REFERENCES

Chessman, H.M. (2023). Effective strategies for combating faculty burnout. *Higher Education Today.* https://www.higheredtoday.org/2023/05/18/effective-strategies-for-combating-faculty-burnout/

Clem, S., & Buyserie, B. (2023). Questioning Neoliberal rhetorics of wellness: Designing programmatic interventions to better support graduate instructor wellbeing. *Communication Design Quarterly, 11*(1), 32–41. https://doi.org/10.1145/3563890.3563893

Cummings, L. (2016). Flipping the online classroom with Web 2.0: The asynchronous workshop. *Business and Professional Communication Quarterly, 79*(1), 81–101. https://doi.org/10.1177/2329490615602250

Harris, H. S., & Greer, M. (2017). Over, under, or through: Design strategies to supplement the LMS and enhance interaction in online writing courses. *Communication Design Quarterly, 4*(4), 46–54. https://doi.org/10.1145/3071088.3071093

Kim, J. (2013). Influence of group size on students' participation in online discussion forums. *Computers & Education, 62*, 123–129.

Muljana, P.S., Luo, T., Watson, S., Eufueno, W. D., & Wright Jutzi, K. N. (2020). Promoting instructional designers' participation in free, asynchronous professional development: A formative evaluation. *Journal of Formative Design in Learning, 4*, 74–87. https://doi.org/10.1007/s41686-020-00044-4

Pena-Shaff, J., & Altman, W. (2015). Student interaction and knowledge construction in case-based learning in Educational Psychology using online discussions: The role of structure. *Journal of Interactive Learning Research, 26*, 307–329.

Towle, B. A. (2022). From in-class to online: Developing asynchronous and hybrid writing center workshops. *WLN: A Journal of Writing Center Scholarship, 46*(7–8), 11+. https://link.gale.com/apps/doc/A697614541/AONE?u=anon~7d923155&sid=googleScholar&xid=7f5b2701

Yoon, S.A., Miller, K., Richman, T., Wendel, D., Schoenfeld, I., Anderson, E., & Shim, J. (2020). Encouraging collaboration and building community in online asynchronous professional development: Designing for social capital. *International Journal of Computer-Supported Collaborative Learning, 15*, 351–371. https://doi.org/10.1007/s11412-020-09326-2

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Introducing the Method of Exhibit-Based Research

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ABSTRACT

This paper introduces a method, Exhibit Based Research (EBR), in which we deploy standalone gallery exhibits as a central component of our research program. We adopt this method to distill complex visual research problems and problematize technological affordances. In the two case studies outlined in this paper, we deploy this method to articulate the role played by algorithms in processes of inspiration, design, and curation. EBR includes a practice-based component, the co-design of an exhibit, a participant engagement component, and interactive, multimodal data collection. The EBR approach creates a dynamic engagement between the public, academia, and creatives, increasing the relevancy of findings across audiences and advancing public understandings. This methodological paper aims to encourage other researchers in the community to consider EBR as an inclusive, immediate, and effective means of revealing opaque concepts and mechanisms via exhibition design.

CCS Concepts

Human-centered computing, Software and its engineering

Keywords

Elicitation methods, Exhibits, Practice-based research, Participant recruitment, Visual elicitation

INTRODUCTION

The technological systems used in creative production are often poorly understood by researchers, creatives, and the public. In two recent projects, we developed a practice-based research approach to articulate the roles played by algorithms in processes of inspiration, design, and curation. In most practice-based research approaches, researchers use technology to create or generate artifacts, and their findings describe their personal experience of creating those artifacts (e.g,. Berio et al., 2016; Soon, 2018). Such practice-based approaches do not incorporate a) processes other than creating, such as curating or inspiration-gathering, which are key sites of technological implications and b) participant involvement beyond the standard experience of a research team. In this paper, we present a new methodological approach that we used to engage a broad community in the consideration of technological implications across the creative process: Exhibit-Based Research (EBR).

The exhibit is central to EBR, as a site of co-design where key research questions are shaped and animated, and an experimental space in which those research questions are performed and data collected. EBR includes three core components: (i) *research co-design*, a practice-based component where researchers co-design and co-curate a gallery-based exhibit, (ii) *participant engagement*, where researchers invite public participants into the exhibit for an embodied elicitation experience, and (iii) *data collection*, where multimodal, interactive data is collected from participants. EBR leverages embodied exhibits to surface the role of technological affordances, value-laden design elements that both intake and influence users' input into a technological system (Norman, 2004).

By physically displaying interactive visuals that explain and enact complex concepts, and by using them as an elicitation mechanism with participants, the proposed EBR approach provides a situated, dimensional environment to deepen participants' understanding of what are often opaque technological systems. This allows us to facilitate a deep and clear understanding of the research problem for participants, in order to enable them to productively confront research questions in collaboration with researchers. It heeds Glăveanu and Beghetto's call for a more embodied, contextual

approach to considering creativity (Glăveanu & Beghetto, 2021). In our method section, we describe in more detail how the practice-based component of EBR answers this call.

EBR draws upon a synthesis of visual elicitation, data visualization, and co-design methods. In effect, this approach uses images instead of language as a first step toward communicating research questions and contextualizing them for participants. In so doing, EBR is inspired by visual elicitation, an established qualitative research method in which researchers use photos to deepen qualitative interviews, especially across cultural contexts and with marginalized populations (Rose, 2016). This method's use has grown in recent years to study tacit knowledge and non-traditional knowledge (Tötzer et al., 2011). Technology, which is often opaque to those who engage with it, is particularly well suited to using elicitation methods, as evidenced by Eslami et al.'s work (2016) on understanding newsfeed content.

Building upon visual elicitation methods, EBR then draws from data visualization's focus on narrative storytelling (Segel & Heer, 2010). Data visualization boosts learning and engagement for users but is often overlooked as a legitimate output within research (Hohman et al., 2020). However, as a device for conveying complex concepts, data visualization can be incredibly clear—and easy for experts and non-experts alike to interpret. The combination of visual elicitation and data visualization methods is an effective epistemological device for knowledge transmission (Engebretsen & Kennedy, 2020). In EBR, we expand upon this method by using interactive exhibits to elicit contextualized participant conceptions of technological affordances.

The EBR method described here offers a fresh approach that serves the communication and design community's mission of promoting research on interdisciplinary practices of communication design. This methodology fosters an inclusive, immediate, and effective means of simultaneously gathering and communicating research results, empowering researchers to elicit and convey findings in innovative ways that resonate with a wide range of audiences. EBR's methods and presentation formats allow researchers to co-create projects. This enables findings that are both affirming and empowering (Pain, 2012). In the two case studies outlined in section 2, researchers were able to use visual art as a device to understand contemporary societal issues. At the same time, EBR requires being mindful of the limitations of researchers' positionality (Rose, 1997). Thematic choices made in co-designing the exhibitions and activities shaped subsequent conversations between researchers, artists, designers, and the audience. Ultimately, the EBR approach resonates with the community's goals of producing a dynamic engagement between the public, academia, and creatives, increasing the relevancy of findings across audiences and developing public understandings.

CASE STUDIES

In this section below we outline the two exhibits we staged as we developed EBR as a methodological approach.

Design, Interrupted

Inspiration is instrumental to what is sketched, prototyped and ultimately produced. This means the images accessed for inspiration are ultimately widely influential in shaping visual culture. Despite its influence on subsequent steps of the design process, the use of algorithmic images in searching for inspiration on platforms like Pinterest and Instagram is poorly understood. *Design, Interrupted*

focused on understanding algorithms' role in inspiration search for design ideation through an interactive gallery exhibit. The exhibit took place over ten days at Kiosk N1C in Kings Cross, London in June 2022.

The exhibit's pedagogical aim was to teach visitors about the differences between analog and algorithmic search before having participants engage in making interactive research artifacts and providing semi-structured interviews.

The design and implementation of the exhibit involved *research co-design* with a team including author Maggie Mustaklem, exhibition designers Parasite 2.0, curator Vickie Hayward, graphic designer Elena Jarmosh, and fine artist and motion graphics designer Eve Allen. Building upon pilot interviews, researchers Mustaklem and Allen developed six themes used in both the film and the exhibit displays to distill top level concepts around analog and algorithmic search methods. Mustaklem and Jarmosh developed corresponding visuals to support these themes. They served to organize the exhibits' visual design. Colors and fonts further delineated the exhibit's content between the analog and algorithmic displays. The interactive exhibit included displays, a short film, and space for creating the interactive task. In developing example content for the displays, Mustaklem completed an autoethnographic exercise using the designated prompt to generate an analog mood board. Through this practice-based method co-designing the exhibit, our collective understanding as researchers, artists and curators developed, advancing the relationship within our team between teaching and understanding.

The timing and location coincided with a large digital design conference, CogX, such that the gallery space would have additional relevant foot traffic. After viewing the exhibit, *participant engagement* included inviting participants to make research artifacts (mood boards) and then provide semi-structured interviews reflecting on their experience of making and the topic problematized through the exhibit. Professional designers were also invited to workshops where they participated in an extended, collaborative version of the same task. Engagement was gamified, with participants invited to choose between analog and algorithmic approaches, and then select between two keywords to structure their inspiration search.

Data collection from the exhibit included visual analysis of the research artifacts, digital and analog mood boards, in conjunction with coding the interviews and workshops. The practice-based exercise of inviting participants to make mood boards before reflecting on algorithmic image search procured richer findings. Through making, especially within the context of visually driven explanations, participants identified a range of dimensions to image search that would not have surfaced otherwise.

Figure 1: An image of the *Design, Interrupted* exhibit in a gallery space in London. Here, the analogue display board and the table where participants completed their interactive task are displayed. Image and exhibit design credit: Parasite 2.0.

The Algorithmic Pedestal

Algorithmic recommendation systems are increasingly taking on curatorial roles, determining which visual content is being rendered visible to whom and when, and we were keen to probe the "black boxes" underlying these decisions. For better or for worse, these algorithmic systems are gaining outsize power in the art world, and many young artists experience pressure to attract an algorithmically-mediated "following" before they are deemed eligible for gallery representation. This project involved embedding within Instagram's algorithmic system to reflect on how this site of cultural gatekeeping makes curatorial decisions—and how those decisions influence our society's visual ecology.

In order to do this, authors Laura Herman and Caterina Moruzzi produced an exhibit that would contain multiple curatorial realities. We conducted *research co-design* by inviting both Instagram's algorithm and a London-based artist to curate a selection of images for public display. Our material was the Metropolitan Museum of Art's Open Access collection; we gave each "curator" access to the same randomized subset of ~1,000 images from the collection. In the case of Instagram, each image was uploaded to a new Instagram account (@thealgorithmicpedestal), and the "Home" feed revealed which of the ~1,000 images were selected for display—in which order and layout. Similarly, artist Fabienne Hess selected certain images to display in a particular order and layout.

Authors Laura Herman and Caterina Moruzzi were intimately involved in each stage of the *research co-design* process—observing and supporting both Instagram's and Fabienne Hess' curatorial practices. Valuable results emerged from two primary aspects of this Exhibit-Based Research: first, the differences and similarities between the curatorial *processes* that the machine and the human engaged in. For instance, Instagram engaged in seemingly simultaneous perception and instantaneous selection, while Fabienne Hess spent months engaging with the collection, gradually making selections and then changing her mind. Both curators, however, did not disclose or abide by publicly-available metrics to make their decisions, rendering each process non-replicable and unexplainable, albeit for different reasons. Second, we were able to analyze the similarities and differences between the

curatorial outputs themselves. For instance, Instagram's curation prioritized instantly recognizable objects, in comparison to Hess' tendency to select images with inscrutable subjects. This, of course, can be explained by computer vision approaches to object detection. As another example, Instagram appears to prioritize images that follow widely-accepted design principles—symmetry, the rule of thirds, color balance, etc. Hess, on the other hand, was clearly attuned to the materiality of each image, thinking beyond screen-based displays.

Furthermore, the selected images were displayed at an exhibit at J/M Gallery in London in January. Called *The Algorithmic Pedestal*, the exhibit evoked Marcel Duchamp decreeing a urinal as art by simply putting it on display. Each set of images was arranged on silk fabric hanging from a curved metal rail dividing the exhibit space; on one side of the fabric, the algorithmically-curated images were displayed in Instagram's grid-like format. On the other side of the fabric, Hess laid out her selected set of images, which overlapped and varied in size. Both sides were clearly labeled, such that the audience was invited to reflect on the differences between algorithmic and human curation. Due to the timely nature of conversations surrounding art & artificial intelligence, the exhibit received widespread press coverage, including by arts (ArtNet, Wallpaper*, Apollo) and general media (BBC, Forbes, New Scientist) publications. This yielded an influx of visitors and subsequent *participant engagement*, as visitors participated in questionnaires, workshops, surveys, and semi-structured interviews in the exhibit space as part of our Exhibit-Based Research. This qualitative and quantitative *data collection* affords an in-depth and rigorous reflection on the different dimensions that curation assumes when carried out by both humans and algorithms.

Figure 2: An image of *The Algorithmic Pedestal* exhibit in a gallery space in London. Here, the algorithmic curation is displayed on one side of the silk fabric. Image and exhibit design credit: Parasite 2.0.

METHOD

In the section below we outline the EBR methodological approach in more detail. We break EBR into its three key sections: research co-design, participant engagement, and data collection (see Figure 3).
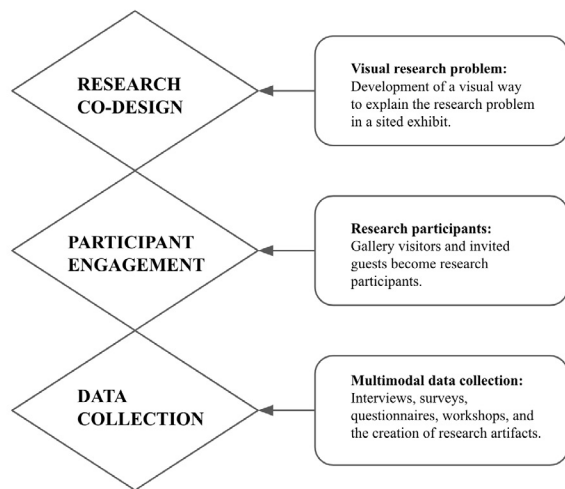
Figure 3: Flow Chart illustrating the implementation of the EBR's method

Research Co-Design

The first stage of EBR is the research co-design (see Figure 3). In this case, it is a practice-based co-design approach that involves the researcher(s) and a network of curators, exhibition designers and others to develop the exhibit's content and exhibition design. A close collaboration with curators and/or exhibit designers helped researchers to achieve a more practical understanding of the research topic, bridging gaps between theory and practice.

The design of the exhibits themselves thus became an opportunity for an enriching research experience. Indeed, using technology central to the exhibits' topics allowed researchers to better understand its limitations and challenges. For instance, leveraging an algorithmic newsfeed as an exhibit "curator" contextualized the curatorial process occurring for artworks in online contexts.

De Rojas and Camarero (2006) also stress the importance of the affective experience of exhibitions and the impact this has on positive responses to stimuli. In order to garner compelling responses and information from research participants, careful consideration of the presentation of data in the exhibit is crucial. EBR is therefore grounded within a body of literature that promotes the embodied, affective potential of the exhibition. At the same time, EBR contributes to and extends this literature by proffering the exhibit as a method of physical elicitation—one which is key to the understanding of complex questions that extend from software platforms to real world cultural engagement. The physical exhibit that results from this practice-based research can be subsequently used to engage the public in various research activities, which are described in the next section.

Participant Engagement

The second stage of EBR develops when the exhibit is staged. Once the exhibit is live, visitors, with their consent, can participate in the research protocol. Exhibits are desirable sites of cultural engagement, yielding a natural inflow of visitors.

While exhibit-goers are typically geographically and socioeconomically bound, they do tie research to the local community beyond academic walls. Perhaps most importantly,

visitors are choosing to participate in this cultural experience. In this way, the research becomes a mutually beneficial experience in which the participants are given the time, space, and tools to reflect and engage culturally, while researchers yield ready participants for their studies. As a site of participant recruitment, idea sharing, and public engagement, EBR enables the transmission of insights between researchers, artists, designers, and the audience.

Staging an exhibit allows us to draw on ideas of embodied learning from museum studies, such as Falk and Dierking's Contextual Model of Learning (Falk & Dierking, 2004), which stresses that all learning is contextual, cannot be isolated in the laboratory, and involves the personal, the physical, the sociocultural and the flow of time (Falk & Dierking, 2004). Through this form of data gathering, EBR operationalizes a "contact zone" in which ideas and materiality are brought together to promote a deeper understanding of the questions under study (Geismar, 2018).

Data Collection

The third stage of EBR involves data collection from research participants. The images, text, and videos that are displayed became multimodal prompts for visitor reflections that were collected through interviews, surveys, questionnaires, workshops, and the creation of research artifacts. These various data streams were collected on site, with researchers and facilitators interacting directly with their audiences, creating an ongoing, iterative form of engagement.

With EBR, the exhibit becomes a participant-facing embodied elicitation mechanism. In our case studies, the research artifacts that emerged through participants' responses illuminated knowledge about practice derived directly from reflection in practice (Candy, 2021). Using the exhibit as a place to stage research-through-making yields rich, dynamic data about participant reactions in real-time. The incorporation of interactive, multimodal data collection within EBR reflects the community's interest in mixed, qualitative, and quantitative studies of communication design and usage.

CONCLUSION

In sum, we propose a new methodology, Exhibit-Based Research, that enables researchers to use exhibition design as a mechanism to examine how the public responds to technological affordances in sociocultural contexts. We have vivified this approach through two recent practice-based research projects into AI in the context of design.

Some of the types of findings that we uncovered through the EBR method included more productive interviews, as participants were responding not only to researcher's questions but their own experience of seeing the exhibits and making their own research artifacts. Furthermore, on-site activities allowed for an immersive environment where participants were not just responding to workshop prompts but also to the collective environment. For example, in *The Algorithmic Pedestal*, holding interviews in the exhibition space allowed participants to physically engage with artifacts that demonstrated the algorithmic curation effect, thereby begging the research questions. The hanging silks showed images selected by Instagram, which could be directly compared— on the other side of the installation—with images selected by a human artist. This physical interaction with the environment afforded reflections on the socio-technical impact of human and algorithmic curation which could hardly be replicated outside of the exhibition space.

This methodology provides multisensory insights into human relationships with technology. EBR advances a unique and inclusive approach to communicating research results, offering an alternative to traditional forms of research communication, which can be exclusive, slow, and less effective in engaging diverse audiences. Indeed, by providing immediate and embodied experiences, EBR allows researchers to effectively engage with a wide range of audiences beyond the academic community. While initially developed within the context of art and design, EBR offers an innovative approach to communication design and theory-to-practice connection that can be applied by researchers in the community across various disciplines. It can empower them to transcend the boundaries of traditional modes of dissemination and, in so doing, expand their reach and render their findings accessible to a broader audience.

REFERENCES

Berio, D., Calinon, S., & Leymarie, F. F. (2016). Learning dynamic graffiti strokes with a compliant robot. In *2016 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 3981–3986. IEEE. https://doi.org/10.1109/IROS.2016.7759586.

Candy, L. (2021). Reflective practice variants and the creative practitioner. In C. Vear (Ed.), *The Routledge international handbook of practice-based research* (pp. 415–425). Routledge.

Engebretsen, M., & Kennedy, H. (2020). *Data visualization in society.* Amsterdam University Press.

Eslami, M., Karahalios, K., Sandvig, C., Vaccaro, K., Rickman, A., Hamilton, K., & Kirlik, A. (2016). First I "like" it, then I hide it: Folk theories of social feeds. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems (CHI '16)*, *Association for Computing Machinery, New York, NY, USA,* 2371–2382. https://doi.org/10.1145/2858036.2858494.

Falk, J. H., & Dierking, L. D. (2004). The contextual model of learning. Reinventing the museum: Historical and contemporary perspectives on the paradigm shift. In Anderson, G. (Ed.), *Reinventing the museum: Historical and contemporary perspectives on the paradigm shift* (pp. 139–142). Rowman Altamira.

Geismar, H. (2018). *Museum object lessons for the digital age.* UCL Press.

Glăveanu, V. P., & Beghetto, R. A. (2021). Creative experience: A non-standard definition of creativity. *Creativity Research Journal, 33*(2), 75–80. https://doi.org/10.1080/10400419.2020.1827606.

Hohman, F., Wongsuphasawat, K., Kery, M. B., & Patel, K. (2020). Understanding and visualizing data iteration in machine learning. In *Proceedings of the 2020 CHI conference on human factors in computing systems,* 1–13. https://doi.org/10.1145/3313831.3376177.

Norman, D. (2004). Affordances and design. *Unpublished article, available online at:* http://www. jnd. org/dn. mss/affordances-and-design.

Pain, H. (2012). A literature review to evaluate the choice and use of visual methods. *International Journal of Qualitative Methods, 11*(4), 303–319. https://doi.org/10.1177/160940691201100401.

Rojas, M. D. C. D., & Camarero, M. D. C. (2006). Experience and satisfaction of visitors to museums and cultural exhibitions. *International Review on Public and Non Profit Marketing,* 3, 49–65. https://doi.org/10.1007/BF02893284.

Rose, G. (1997). Situating knowledges: positionality, reflexivities and other tactics. *Progress in human geography, 21*(3), 305–320. https://doi.org/10.1191/030913297673302122.

Rose, G. (2016). *Visual methodologies: An introduction to researching with visual materials.* Sage Publications.

Segel, E., & Heer, J. (2010). Narrative visualization: Telling stories with data. *IEEE transactions on visualization and computer graphics, 16*(6), 1139–1148. https://doi.org/10.1109/TVCG.2010.179.

Soon, W. (2018). Executing liveness: An examination of the live dimension of code inter-actions in software (art) practice. *Leonardo, 51*(5), 530–530. https://doi.org/10.1162/leon_a_01669.

Tötzer, T., Sedlacek, S., & Knoflacher, M. (2011). Designing the future—a reflection of a transdisciplinary case study in Austria. *Futures, 43*(8), 840–852. https://doi.org/10.1016/j.futures.2011.05.026.

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The Political Impact of the Default of GenAI

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CCS Concepts

Social and professional topics

Keywords

Artificial intelligence, Authenticity, Writing

INTRODUCTION

The first time I recall encountering artificial intelligence was in the early 2000s while working in a recording studio. After singing a take of a song, I watched as an engineer opened a plug-in called Auto-tune and then listened as he worked on tuning my vocals. I recall him explaining to me that the vocal had to be pretty close to the note I was trying to sing, otherwise the tuned version would sound fake. He demonstrated by tuning my vocal too sharp and then too flat. The sound of the stressed vocal created a distorted tremolo effect, with maybe even a bit of delay. It no longer sounded like me. It sounded like a robot who was impersonating me. I bristled. "No, not like that," I said uncomfortably laughing. "That doesn't sound like me."

Using Auto-tune didn't feel like cheating to me that day in the studio. Instead, I felt a sense of relief that I didn't need to sing perfectly in tune all the time. The machine could help me get there when I needed it. I also wondered how the plugin worked. It didn't occur to me that an algorithm could be written to recognize and correct pitch, especially in an automated way that wasn't entirely destructive of the original sound file. Up until this moment, I believed myself a recording purist, using tape or ADATs in my studio experiences. I thought what you heard on the tape was what the artist actually sounded like. In other words, no studio magic. After some more professional experience in the studio, I realized technological innovation had always contributed to recording performances of songs. When computers became a part of the recording process, so much more experimentation became possible. It became very easy to undo ideas that didn't work. Listening to the engineer tune my vocal felt like adding reverb or EQ to it. Auto-tune seemed like another tool I could use if I needed it, even though, like all tools, it had limitations. I encountered one that day. The engineer reported my vocal take was too flat and I'd need to try singing the next take "more" in tune. So I did (and then he probably Auto-tuned that take instead).

Over twenty years later in winter of 2022, I first attempted to work with a new tool I'd learned about called ChatGPT, made by OpenAI. ChatGPT was an interface for generative artificial

intelligence (GenAI) and could produce relatively polished prose very quickly. Metaphorically speaking, it could take existing prose and "tune" it. You can see why I'd be intrigued. GenAI could tune prose through revision guided by intentional prompting by the user, or what we call prompt engineering. First, I asked GenAI to complete several writing tasks for me to see how it would respond. Many of my early prompts were playful, like write a sonnet in the form of Shakespeare about cheesecake. I asked it to draft a literacy narrative at one point. Eventually, a colleague encouraged me to have it produce a weekly menu of food for my family. I immediately realized GenAI's ability to produce writing so quickly could be a huge help in planning weekly meals (which was a real win at that moment). I also thought student writers would likely find the technology exciting, so I decided to design an activity so that I could experiment with the technology with my students.

In spring of 2023, I taught an advanced professional writing course, so just after students had finished writing their resume and cover letter for a future internship opportunity, I asked them to prompt GenAI to write their cover letter from scratch by feeding it details about themselves they believed were significant. I also asked them to share key words and phrases with the machine from the job ad and to prompt it to include that terminology. I taught them very basic prompt engineering skills. Most hadn't heard of GenAI yet. Many of the students seemed stunned by the writing the machine produced, and how quickly it was able to do so. One student commented that some of the language used by the system provided more clarity than they had been able to achieve after several rounds of revision and feedback. In other words, they could see the value of having their writing "tuned" by GenAI. They wondered out-loud if they could use the machine's writing in their own materials. I didn't have a good answer for them just yet, but the class had a great discussion about the importance of disclosing usage of GenAI in their work and taking responsibility for what it produces. We asked questions like, is GenAI a tool like a calculator? Or is something more evolved than that? Would it be dishonest to pretend you had written the work GenAI produced? Was it still you in an authentic sense?

Something left me unsettled about that classroom activity, though. I went home and started working with GenAI again. I asked it to write my professional biography. As the biography appeared line by line, what I was feeling suddenly became clear. When Richard and Cynthia Selfe (1994) wrote about the politics of the interface, they reminded us that technologies and their interfaces are not neutral. They wrote what I still understand as a warning against uncritical adoption of emerging technologies: "Primary interfaces [...] also generally serve to reproduce the privileged position of standard English as the language of choice or default, and, in this way, contribute to the tendency to ignore, or even erase, the cultures of non-English language background speakers in this country." Their point about standard English is clearly demonstrated by GenAI. In my treatment of the technology as exciting, I never stopped to critically evaluate it as part of the history of other writing technologies that have surfaced since ancient times.

I remembered Safiya Noble's (2018) work in *Algorithms of Oppression*, particularly wondering how the AI robot was trained and by whom and for what purposes. She wrote, "...some of the very people who are developing search algorithms and architecture are willing to promote sexist and racist attitudes openly at work and beyond, while we are supposed to believe that these same employees are developing 'neutral' or 'objective' decision-making

tools." The point that algorithms and architecture are not neutral emphasizes that GenAI is not a neutral system that simply produces prose at a rapid pace. It's programmed with default settings that represent some, but not all, language learners and writers.

Ruha Benjamin (2019) explains this phenomenon in *Race After Technology*, reminding us that people code their identities into the technologies we use (and abuse) every day. Benjamin explains, "As it happens, the term 'stereotype' offers a useful entry point for thinking about the default settings of technology and society." Of course, we see evidence of this every day when we encounter technologies that don't recognize darker skin. For example, the Los Angeles Times recently published a story about how most pulse oximeters can't read oxygen accurately for Black patients, and this issue really created problems during the COVID-19 epidemic (Purtill, 2024). There are so many more examples of technologies that are encoded with their creators' identities and ideologies, such as facial recognition systems or automated faucets that cannot (or will not) recognize dark skin.

Having read April Baker-Bell's (2020) important work on the impact of language instruction on Black students' sense of self and identity, I prompted the GenAI engine to produce a text written in African American Vernacular English (AAVE). I found the idea of a robot recreating AAVE unsettling but also felt compelled to test how the machine would respond to the prompt, especially since its default mode is to reproduce standard written English. While my own identity, positionality, and English language experiences make me wary of my ability to evaluate the authenticity of AI-generated AAVE, I also feel it is important to say that it was at this moment, as I read the first few lines of the prose generated by the machine, that I realized GenAI had the very real potential to do significant harm to people. The default setting comes across as the preferred setting, and the negative effect of this design is something we cannot turn away from–not as teachers, writers, or communication designers.

I'm certain at this point I'm not the first person to bring up these issues or to notice that the default settings of GenAI reinforce narratives of standard written English as "good" writing. I can't help but think about the phenomenon of "the power of default," which holds that the default settings for technology frame how people understand it (Lohr, 2011). As writing itself is a technology, I wonder if GenAI perpetuates further harm about how "good" writing functions as a form of gatekeeping. Lohr (2011) also discusses how much inertia keeps humans from changing the default settings in other areas of their lives. The result is the default settings become the settings most users adopt.

The above work led me to a series of questions: How many users are actually making changes to the default settings of GenAI technologies? Is changing the default settings something we are teaching? Are we reminding students of Selfe and Selfe's (1994) point to interrogate the politics of the interface? Do we consider how the technology communicates who it represents and who it does not? Are we thinking enough about the danger these technologies pose to what we communicate about identity, linguistic diversity, or even what it means to automate foundational aspects of our humanity and sense of belonging?

When I've presented or discussedthese ideas about identity, authenticity, or the power of the default in different academic spaces, I've heard a range of feedback. Some see the speed with which GenAI works as irresistible, especially for actions like coding websites or programming applications—things you might

have good reason to automate and then later tweak to improve upon. Others have shared they believe GenAI can be a tool that provides access, creating an entrance to professional spaces some were excluded from. Others have assured me that the technology is becoming so effective, you wouldn't be able to tell if a robot had produced AAVE or not in its most recent update. And still others have explained how the technology learns, so it can get better at convincing us of its humanity, and that we just need to feed it the right corpus to produce more inclusive responses to our prompts.

Yet, each time I hear a robot pretend to type on a phone call I make to customer service, I understand that I'm part of a (often frustrating) simulation. I realize that I can eventually speak with a human if the robot cannot help me. Or, when I type an email and the system recommends, I revise "in order to" into "to," I comply to get rid of the red squiggly underline, but I'm the one in control (or at least, I want to believe that is true). My point is: GenAI is here already and has been. We accepted it into our homes, workplaces, and classrooms long ago. Have we already internalized some of its default settings? Probably, yes. However, what happens when I realize a human did not write the text I'm reading? Would I still read a novel written by a robot? What if you suddenly realized this essay was actually written by GenAI instead of me? Could I be so bold to expect you to read it? Could I trust it with something as personal as my identity?

When I listen to a song, I believe in my heart the songwriter experienced something transformative, and that transformation is most often what I can relate to. It may be that my experiences are totally different from the songwriter's, but the emotions we share are enough in alignment that we both can think "this song sounds how I feel." There's an authenticity to songs that cuts down to the bone. Such authenticity, I want to believe, cannot be generated by a robot. It comes from human experience. Except, I also know vocals can be tuned (and today, frighteningly well). Drum takes can be edited to swing or be straight - they can be sped up or slowed down and the average listener wouldn't be able to discern the difference. Guitars, played out of time or tune, can be edited and made to sound perfect. A good engineer can make it sound like real trumpets or violins played on a track using a midi controller and samples. And engineers do this in the service of communicating human experience. Even though, there's a lot of music that uses these same "neutral" tools to appropriate culture in harmful ways.

While emerging technology, like GenAI, creates so much interest in our field at the moment, I also want us to recognize it has the very real potential to continue perpetrating longstanding systems of oppression. I do think GenAI offers exciting potential. But, I also think as we work with these technologies and teach students to experiment with them, we also must imagine all the ways the technology communicates to fellow humans they don't belong. That the default settings of the system exclude voices, ideas, identities, people. When we bring GenAI into the classroom we should teach students to interrogate and change the default settings to suit their communication design goals.

REFERENCES

Baker-Bell, A. (2020). *Linguistic justice: Black language, literacy, identity, and pedagogy.* Routledge.

Benjamin, R. (2019). *Race after technology: Abolitionist tools for the new Jim Code*. Polity.

Lohr, S. (2011). The default choice, so hard to resist. *The New York Times*. https://www.nytimes. com/2011/10/16/technology/default-choices-are-hard-toresist-online-or-not.html

Noble, S. (2018). *Algorithms of oppression: How search engines reinforce racism.* NYU Press.

Selfe, C. L., & Selfe, R. J. (1994). The politics of the interface: Power and its exercise in electronic contact zones. *College Composition and Communication*, *45*(4), 480–504. https://doi.org/10.2307/358761

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Book Review

Salt of the earth: Rhetoric, preservation and white supremacy
by James Chase Sanchez

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In *Salt of the earth: Rhetoric, preservation, and white supremacy*, James Chase Sanchez examined rhetorical processes that sustain white supremacy: identity construction, storytelling, and silencing. This cultural rhetorics project used narrative inquiry, autoethnography, and constellation to explore "hegemonic storytelling" (p. 47–48). Sanchez centered narratives about growing up "Brown" (p. 10) in Grand Saline, Texas and returning to his hometown years later to create a documentary film, *Man on Fire*, about minister Charles Moore's self-immolation in a local parking lot. Ultimately, Sanchez argued that a deeper understanding of oppressive rhetorics is useful for rhetorical scholars, communications practitioners, and storytellers of all types (historians, journalists, filmmakers, archivists, etc.). He guided rhetoric and communications design towards more thoughtful consideration of embedded communicative norms and the harmful practices they conceal.

First, Sanchez introduced readers to the town of Grand Saline, its famous salt flats, and its overwhelmingly White culture. Salt, Sanchez wrote, preserves "purity" (p. xx), "[kills] off multiculturalism" (p. xxii), and guards Whiteness against an unfounded fear of cultural death. He argued that white supremacy is not only promoted by hate groups and those who hold openly racist views. Rather, Sanchez highlighted "covert rhetorical practices" that serve as "building blocks for explicit white supremacy" (p. xxii) to "discuss the way Grand Saline constructs racial identity and forces assimilation" (p. xxvii). Chapters one, three, and five centered personal narratives

about racial identity, racist storytelling traditions, and the silencing experienced making *Man on Fire*. Chapters two, three, and six focused on rhetorical techniques of white supremacist storytelling evident in the previous chapter. Finally, Sanchez asked whether and how Grand Saline might change.

In Chapter one, Sanchez retold his school experiences to understand racial identity formation in Grand Saline. Football skills allowed him racial acceptance, even though his last name marked him as a non-white person; football also offered a screen for anti-Black racism and did not prevent him from being recognized by his friends as "Brown" (p. 5), which he described as "between races, between colors, between identities" (p. 14). Sanchez recognized racial and class divides that determined how (and why) he chose to identify with whiteness, writing that "I could more readily assimilate into Grand Saline and the culture of the town if I chose whiteness. However, whiteness didn't always choose me" (p. 6). He recounted how his Brownness caused others to question his whiteness, and how he chose to perform whiteness against other Brown people. These experiences positioned him "always at the edge of the divide" (p. 12) between white bodies and othered bodies.

Sanchez analyzed the narratives in Chapter one as assimilation rhetorics which created pressure to "assimilate into whiteness and bigotry" (p. 13). Two rhetorical techniques, personalization and institutionalization, led him towards the "institutional performance" (p. 15) of whiteness. Through personalization, Sanchez's proximity to whiteness defined his identity. He experienced assimilation as "being white enough to get to the table but still… questioned about whether I belonged there" (p. 20). These experiences would not have been possible without the institutionalization of racism in Grand Saline, which ensured white supremacy "thriv[ed]" in "interrelated institutions" (p. 23) like schools, athletics programs, museums, and local press. Racism is a tradition (p. 25) supported by authorities creating spaces for, and encouraging participation in, racist practices (p. 24). In this way, "white supremacy became cultural knowledge for anyone who entered school grounds" (p. 26). Assimilation meant taking up the curriculum of white supremacy and continuing to spread its stories.

Chapter three examined racist storytelling traditions, focused on lynchings at Poletown, the KKK at Clark's Ferry, and Grand Saline as a sundown town. Sanchez related these stories to "what a society chooses to remember," which helps to "substantiate identity" (p. 30). Poletown, a "poor" area of town, is rumored to be a site of anti-Black lynchings, although evidence cannot corroborate these claims. Clark's Ferry, an area north of Grand Saline, was rumored to be a KKK meeting place. Sanchez enlisted this mythology to play a prank with his friends that drew on fears of the KKK to scare young women into thinking they had been attacked. Finally, interlocutors told stories about Grand Saline being a sundown town; though many claimed to have seen a sign, none agreed on its location or contents. When confronted, storytellers termed these narratives "unfounded" (p. 41), "jokes" (p. 42), or "old wives' tales" (p. 43), but residents continued to spread them. Sanchez found that the truth (or lack thereof) rarely figured in a storyteller's decision to repeat a racist story.

To understand the "rhetorical power" of storytelling to "delineate culture and white supremacist ideology" (p. 47), Sanchez turned to indigenous and Latinx scholars Thomas King, Joyce Rain Anderson, Lisa King, Rose Gubele, Aja Martinez, and Carl Gutierrez-Jones. Sanchez introduced the term *hegemonic storytelling*, which foregrounds "how storytelling becomes a means of community building and knowledge production that aids a culture of white supremacy" and explains "how some hegemonic communities… keep marginalizing others" (p. 48). These traditions perpetuate white supremacy, even if the stories locals repeat are not true. Sanchez identified three rhetorical moves "embedded" (p. 61) in locals' stories: "ambiguity and stock formulas to hide white supremacist viewpoints" (p. 61); *apophasis* as a defense against accusations of racism; and how racist stories constitute locals as white supremacists. These moves affect how the town is perceived as a collective, perpetuating a continued belief that Grand Saline is racist.

In Chapter five, Sanchez recounted making *Man on Fire*, which explored Methodist minister Charles Moore's death by self-immolation in 2014. The chapter considered Moore's last moments and interviewed people who witnessed his immolation. Sanchez interweaved his personal experiences learning about Moore's death, searching for information about it in the local press, and ultimately choosing the incident as the subject of his dissertation project. While creating the film, Sanchez witnessed and experienced silencing. In one incident, Sanchez lost an interviewee because she didn't want to be "ousted from the town" (p. 87) for participating. Residents were hostile towards him for filming a homecoming event in town (p. 89) and local editors refused to promote showings of his film (p. 92). This chapter explored the harm of rhetorical silencing and asked storytellers to have open conversations about the stories we choose to tell about ourselves and others.

Using the scholarship of Cheryl Glenn, Cynthia Ryan, J. Logan Smilges, Shelby P. Bell, and Byron Hawk, Sanchez revealed how silencing sustains whiteness. Silence and silencing "can be an act of power" (p. 97) that "exists as a form of control" (p. 99). He examined how the town attempted to erase Charles Moore's death through repainting the parking lot in which he died and removing public memorials left at the location. This form of silencing allowed residents to "live their lives without dealing with the effects of Moore's death" (p. 101). Sanchez also accounted for self-silencing, which happens "when a person wants to speak but

fears what a community might say or do in response to this speech act" (p. 107). Silencing and self-silencing allowed Grand Saline to maintain the status quo by refusing to talk about underlying white racism and bigotry.

In the conclusion, Sanchez emphasized how white supremacy is perpetuated through the repetition of narratives like the ones he has recounted throughout the project. He argued that "White supremacy is built to thrive and evolve" (p. 116). The appropriate response for rhetoricians, communication designers, and members of the public is "to confront [racism] wherever possible" (p. 116). He described a process through which he believes Grand Saline could change – yet, without listening and a willingness to be vulnerable, Sanchez argued that it will be difficult for the town to create meaningful changes. To this end, Sanchez promised to file paperwork to memorialize Moore's death with a permanent marker in Grand Saline, an act which, he hopes, will make the town confront its racist culture.

Salt of the earth: Rhetoric, preservation, and white supremacy is useful to a broad audience, extending from academics to communication practitioners to members of the public. The book deftly models how to ask questions that move beyond so-called "neutral" communicative norms and towards naming practices that continue to support white supremacy. Sanchez created a robust example of cultural rhetorics scholarship about hegemonic rhetorics, one which serves an audience of early career cultural rhetoricians and seasoned practitioners alike. The text challenged technical communication practitioners to understand the import and effect of narratives, and how narratives are situated within a particular culture. As Sanchez's project made clear, cultural rhetorics work requires time, care, and risk. This work is not easy, and it requires attentive consideration of each rhetorical situation we examine, in addition to the rhetorical situations in which our work operates. *Salt of the Earth* reminded us that, although this work is time-consuming, fraught, and difficult, it must be done in order to fully understand "hegemonic storytelling" (p. 47) and the practices that support it.

REFERENCES

Sanchez, J. C. (2021). *Salt of the earth: Rhetoric, preservation, and white supremacy*. Conference on College Composition and Communication, NCTE Press.

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Book Review

Privacy matters: Conversations about surveillance in and beyond the classroom

edited by Estee Beck and Les Hutchinson Campos

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Privacy matters: Conversations about surveillance within and beyond the classroom presents a salient investigation into the impacts of surveillance upon writing education, embodiment, and culture. Authors Estee Beck and Les Hutchinson Campos set out to constellate surveillance-focused rhetoric, writing, and technical communication scholarship to empower educators, administrators, and professionals to "subvert the state" by investigating how privacy and surveillance impact writing practices, agency, community, identity formation, and citizenship. Organized thematically into three parts—surveillance and classrooms, surveillance and bodies, and surveillance and culture—this 2020 edited collection presents a snapshot in time of surveillance in writing technology as it is broadly defined, inviting scholars to continue the discussion as surveillance and cultures continue an entangled evolution.

The introduction contextualizes surveillance within Edward Snowden's classified information leaks, outlining subsequent conversations across industries regarding the purpose and ethics of surveillance and state claims of necessitated surveillance practices in ensuring sovereignty and "homeland security". At the time of publication, there was little mainstream discussion around surveillance in writing studies; the editors highlight adjacent conversations within the computers and writing community (Crow, 2013; Hawkes, 2007; Purdy, 2009; Zwagerman, 2008) before outlining the ways everyday people regard notions of privacy and surveillance. Beck and Hutchinson Campos discuss the collection's call for decreasing digital surveillance's pervasiveness,

and for practicing user agency against surveillance policies and practices. They contrast this call with user ambivalence toward surveillance and data collection, in part due to the nature of the internet, ecommerce, and global capital's claim to necessitate this pervasive use of surveillance and collection of user data. Herein lies the tension the edited collection seeks to address, highlighting the complicity of users in the surveillance state and the impacts of surveillance upon multiply marginalized populations. The editors assert that "everyone remains entrenched in a data-brokerage system that largely goes unchallenged or modified without active, collective resistance and protest." The editors undergird this claim with the call to empower ourselves, our students, and our broader communities with critical digital and technological literacy.

In "Part One: Surveillance and Classrooms," authors focus on critical digital literacies in online spaces, surveillance as it applies to collaborative digital writing, and the ethics of big data and surveillance in academic grading systems (Reilly; Cohn, Fahim, & Peterson; Johnson). In Chapter one, Colleen A. Reilly begins with an argument for the necessity of student digital literacy, specifically in understanding how "the information they receive is invisibly shaped by the digital tools they use to answer their research questions" (p. 17). From here, the author outlines research-based assignments designed to investigate search engines and highlight data trackers through browser add-ons designed to share websites' data tracking and infrastructure information, and finally empower students to advocate for legal reforms that protect individuals from data commodification. In Chapter two, Cohn, Fahim, and Peterson discuss the ethics of online collaborative writing spaces, highlighting the benefits created by collaborative digital writing spaces like Google Docs, alongside their drawbacks. Collaborative writing spaces allow for authoritative and self-aware writing, but also open students up to potential digital overreach and surveillance. The authors provide a compelling solution in their call for "instructors' continued pedagogical action to foster critical, functional, and rhetorical awareness of surveillance technologies" (p. 37). In Chapter three, Gavin P. Johnson explores the impacts of surveillance technology within grading systems upon students and learning through a Foucauldian lens. Johnson describes the

gradebook as a "panoptic [...] technology of surveillance" (p. 57). and describes the (de)normalization of students as an effect of their grade scores. The author then discusses the flow of gradebook data from "local surveillance," scaled into larger datasets utilized to enforce control over students. Johnson weighs the dangers of big data alongside the methodological excitement it brings to some writing scholars, calling for an ethics of care that values student and educator safety over the excitement and ease of data use in the classroom.

"Part Two: Surveillance and Bodies" focuses on the tensions between circulation and surveillance; digital literacy, surveillance, and wearable technology; and "social and digital writing in augmented reality gaming platforms" (Edwards; Tham and Duin; Vie and Miller). In Chapter four, Dustin Edwards illustrates the nuanced and pervasive ways his body is surveilled and collected upon as he exercises at his local YMCA. The author explains that the expansive nature of collection and surveillance is not always apparent. Edwards employs the extended metaphor of the body in focused exercise as the circulation of data, describing deep circulation as "the multiplicity of flows produced through acts of embodied composing," and asserting that deep circulation requires more ethical questions, and "deep citizenship" (p. 90).

Tham and Duin, in Chapter five, take up similar questions around ethics in a case study focused on Oral Roberts University and its "Whole Person" Fitbit program. The authors explore how ideologies around notions of the "whole person" play into the way those in power use and analyze wearable technology's data. A major takeaway of the case study consists of evidence that community dissent can create change—the university population didn't agree to have mandatory fitness tracking part of the ORU graduation requirements. Subsequently, the practice was discontinued. The authors argue that in an age of increasingly expansive and evolving surveillance technology, writing instructors must ensure digital literacy among students (p. 102). They contend that in addition to awareness and critical analysis of digital surveillance technologies, students should fully understand the concept of agency in relation to their use of technology.

Vie and Roth Miller's chapter, "Gotta Watch them All: Privacy, Social Game Play and Writing in Augmented Reality Games," presents an illustration of augmented reality (AR) games as embodied digital play rife with data collection quandaries and opportunities for agential dissent. One case study examines the ways Niantic, the company behind the popular game "Pokemon Go," practiced invasive terms of service (ToS) and privacy policies (PP). These policies, at one time, required full access permission to user Google accounts due to a programmer error. Users' practices of refusal in this case brought about change in Niantic's policies (p. 123). Taken together, the three chapters in Part Two: Surveillance and Bodies first present convincing evidence of the invasive collection of data focused on bodies and movement, and then provide a strong case for the ways literacy, agency, and refusal provide means for subverting power in instances of technological surveillance.

Part Three, "Surveillance and Culture," focuses on the impacts of surveillance upon identity formation among academic professionals; rewriting Latinx narratives of surveillance through "cultural and political organizing" (Cedillo, p. 145; Ramos, pp. 157–164). In Chapter seven, Christina Cedillo presents three case studies demonstrating how "surveillance fosters the online vulnerability of academics from minoritized communities [. . .]

reliance on datafication and dataveillance bolsters social regulation targeting members of vulnerable populations through identity avoidance" (p. 131). While much of the discussion in this collection focuses on surveillance as observation and regulation, Cedillo posits that surveillance also contributes to "unseeing" marginalized populations, through data segmentation, particularly in digital communities, as a means of denying and perpetuating abuse based on marginalized identity rooted in histories of colonial erasure and control (pp. 133–134). The author ends the chapter calling for further research into the ways historical colonizing methodologies perpetuate in digital spaces.

Santos Ramos likewise reminds us in Chapter eight, that while surveillance lies below the visible surface, it is not a simple "act of passive observation" (p. 151) but undergirds agendas rooted in colonialism, continuing to further imperialist aims as technology develops. Further, he underscores the fact that surveillance is not singularly based in technology, but on "the ways surveillance is created and produced within social interactions in everyday life" (p. 152). He argues for a scholarly focus on how communities impacted by surveillance engage with technology, to decenter the technology and highlight the importance of agency. He situates his arguments in the historical and contemporary practices of surveilling indigenous and Latinx communities to create narratives of criminal and degenerate communities that in/visibilize Indigenous populations, furthering the colonial project. He gives an example of political organizing in the form of "surveilling back," using surveillance practices to subvert power in instances of INS abuse of migrant populations (pp. 157–158).

In *Privacy Matters*, Beck and Hutchinson Campos mainstream the discussion of surveillance in our classrooms, bodies, and cultural spaces. In the three years since publication, the need for conversations around digital surveillance has intensified in terms of the rapid growth and pervasiveness of generative AI, the broad movement of classrooms into digital spaces, and the increase of academics moving into industry roles. As technical communicators and communication designers move into industry roles, it is imperative that they take theoretical foundations grounded in justice, user agency, and anticoloniality into their work. Of particular interest to technical communicators is the idea presented in multiple chapters that users have agency to impact design. User experience (UX) professionals and educators will benefit from design thinking that forefronts justice and user agency. Similarly, as we learn in Vie and Roth Miller's account, developer and designer error can hold grave ethical consequences for consumer privacy. Future privacy and surveillance scholarship in writing, rhetoric, and technical communication will benefit from taking the foundations presented in this collection, expanding discussions further into design beyond the classroom.

REFERENCES

Beck, E, & Hutchinson Campos, L. (Eds.). (2020). *Privacy matters: Conversations about surveillance in and beyond the classroom*. Utah State University Press.

Crow, A. (2013). Managing datacloud decisions and 'big data': Understanding privacy choices in terms of surveillant assemblages. In H. A. McKee and D. N. DeVoss (Eds.), *Digital writing assessment & evaluation*. Utah State University Press / Computers and Composition Digital Press. https://ccdigitalpress.org/book/dwae/02_crow.html

Hawkes, L. (2007). Impact of invasive web technologies on digital research. In H.A. McKee and D. N. DeVoss (Eds.), *Digital writing research: technologies, methodologies, and ethical issues* (pp. 337–351). Hampton Press.

Purdy, J. (2009). Anxiety and the archive: Understanding plagiarism detection services as digital services. *College Composition and Communication 26*(2), 65–77.

Zwagerman, S. (2008). The Scarlet P: Plagiarism, panopticism, and the rhetoric of academic integrity. *College Composition and Communication 59*(4), 676–10.

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Book Review

Embodied Environmental Risk in Technical Communication
edited by Samuel Stinson and Mary Le Rouge

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Embodied Environmental Risk in Technical Communication, edited by Samuel Stinson and Mary Le Rouge, is a timely collection of essays addressing the ways that humans conceptualize and interact with their environment when attempting to communicate the dangers of crises—such as climate change and COVID-19. Explicitly responding to the work of Jeffrey Grabill and Michelle Simmons (e.g., in their seminal 1998 essay, "Toward a Critical Rhetoric of Risk Communication"), this collection offers a broad variety of lenses for thinking about humans' relationships to their surroundings, especially while communicating environmental risk. The 14 chapters in this volume apply methodologies including rhetorical and discourse analysis, ethnography, integrated risk communication, and antiracist framing to topics ranging from university communications about the pandemic to groundwater pollution to upcycled art installations, in the process complicating traditional understandings of risk as something that exists "'out there,' independent of our minds and cultures, waiting to be measured" (Slovic, 1999, p. 690). Considered broadly, the collection offers human bodies and ecological impact as more effective barometers for risk than abstract calculations; individual chapters offer heuristics grounded in human experience or environmental considerations, along with discussion questions and assignments for use in classroom settings. The diversity of topics and methodologies represented ensure that the collection offers something of interest to most scholars and practitioners of risk communication, environmental communication, or embodiment in technical communication.

Several important themes emerge across the collection's chapters that promise to enrich discussions of environmental risk communication in particular. The first is the failure of existing models of risk communication to address the lived experiences of nonexperts; as the editors themselves note, institutional communication often assumes the public will be rational, but "[p]eople understand the environment primarily through their physical bodies and through metaphors and symbols that reflect this embodiedness" (p. 1). Diane Martinez's "Evaluating Ecological Perceptions and Approaches in the Fourth National Climate Assessment Report" critiques the deficit model underpinning official communication about climate change, recommending that writers of environmental reports instead employ "an ecological and ethical approach […] that focus[es] on scale, interrelationships, and climate justice as ways to improve their efficacy in transforming human activities that continue to exacerbate climate change" (p. 171). Zachary Garrett's "Changing Places: Understanding Climate Change Risk Communication and Comprehension through Socially Constructed Features of Place" offers a model of *place* as a socially constructed but embodied space as a heuristic for developing effective risk communication, noting that "the scale of climate change as typically presented (a global phenomenon) does not match with an individual's perception of place" (p. 248). Focusing on the local rather than the global, Garrett writes, "has enormous value for describing the proximal impacts of climate change and developing a climate change conceptualization strategy that is meaningful to non-expert users" (p. 256). In one of the collection's more effective critiques of current risk communication practices, Le Rouge critiques the plain language movement:

> This style of documentation subjugates the embodied experience of humans to an objective, flattened rendition of what is deemed scientifically accurate and necessary toward the ends of efficient communication. […] Success in communicating that information becomes measured by its

adherence to the traditional style guidelines previously set for that genre of text, not by how well that information is received by the intended audience or the public. (p. 156)

Instead, Le Rouge recommends constructing embodied metaphors that relate to the public's lived experiences. Other chapters in the collection offer potential solutions to risk communication breakdowns that emphasize the role of gesture (Sauer), appeals to common sense (Weedon), and rhetorical listening (Stinson), in some cases laying out specific rhetorical practices that should be of interest to technical communicators tasked with communicating environmental risks to the public.

Another compelling theme to be found within this collection is an examination of humankind's conception of the environment while addressing and communicating risks to that environment. Several chapters within the collection push back against models of the environment that view risk through the lens of effects on humans. George and Manzo critique administrative rationalism and Promethean discourse models that treat waterways such as the Ohio River "as matter, or part of a commodity system, driven by markets with little to no acknowledgment of the interactions between bodies of water and other bodies" (p. 108). Instead, they suggest a "green politics discourse" that addresses "complex ecosystems and interconnections between humans and nature" (p. 108)—for example, by considering the Ohio River as a "natural asset" rather than as a resource to be exploited (p. 113). In a similar vein, Day and Scheidler ask, "[H]ow might a petition to end mountaintop removal mining be changed if we started from the inherent right of the mountain to exist relatively unbothered, rather than starting at the cruel economies of resource extraction?" in a chapter that focuses on the ways that objects are reanimated through human interactions (p. 213). By considering the Earth as a body rather than merely as a setting for human bodies, these authors offer a unique perspective for technical communicators and environmentalists alike.

While the collection does include some important contributions to the field of environmental risk communication, there are some limitations to its utility for scholars of the field. Connections between the essays are often loose, in some cases consisting of limited gestures to embodiment or technical communication, and outside of a broad focus on the environment, no particular topic or approach is explored in great depth. The collection's purpose, as stated in the editors' introduction, is to promote an "embodied, situated understanding of risk that promotes social justice" (p. 2), but only a few of the collection's 14 chapters make direct reference to underserved communities. And while the variety of methodologies and theoretical frameworks represented is impressive, those methodologies are rarely explicated at length in these relatively short essays, which likewise present limited data and few examples to support their conclusions. Individual chapters may be of value to scholars examining topics such as risk communication during the COVID-19 pandemic (the collection features two chapters on this topic) or the rhetoric surrounding public waterways, but ultimately, the collection opts for breadth in perspective rather than depth in exploring any specific topic or approach. In a classroom setting, this could be overcome by pairing the volume with texts that foreground a specific methodology, or with more in-depth explorations of particular cases (for example, Schneider et al.'s *Under Pressure: Coal Industry Rhetoric and Neoliberalism*, 2016).

In the end, this collection provides a number of compelling interventions into both risk communication practices and rhetorical framing of the environment. Many chapters offer specific recommendations for technical communication practice, policy, or public participation in environmental decision making, and the discussion prompts and exercises included at the end of each chapter make the collection appealing for a course themed around human relationships with the environment or communicating environmental risk. In their contribution to a recent special edition on critical approaches to climate justice, Pflugfelder et al. (2023) call for "dynamic models [of risk] that appreciate the differential risk exposures and futures that humans, nonhuman species, and ecosystems shoulder when living within locations across near- and long-term time frames" (p. 225), and this collection is a meaningful step in that direction.

REFERENCES

Grabill, J. T., & Simmons, W. M. (1998). Toward a critical rhetoric of risk communication: Producing citizens and the role of technical communicators. *Technical Communication Quarterly, 7*(4), 415–441.

Plugfelder, E. M., Amidon, T. R., Sackey, D. J., & Richards, D. P. (2023). Expanding the scope and scale of risk in TPC: Water access and the Colorado River Basin. *Technical Communication Quarterly, 32*(3), 224–241.

Schneider, J., Schwarze, S. Bsumek, P. K., & Peeples, J. (2016). *Under pressure: Coal industry rhetoric and Neoliberalism*. Palgrave.

Slovic, P. (1999). Trust, emotion, sex, politics, and science: Surveying the risk-assessment battlefield. *Risk Analysis, 19*(4), 689–701.

Stinson, S., & Le Rouge, M. (Eds.). (2022). *Embodied Environmental Risk in Technical Communication*. Routledge.

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Book Review

Update culture and the afterlife of digital writing
by John R. Gallagher

Gallagher, J. R. (2019). *Update culture and the afterlife of digital writing.* Utah University State Press.

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Update culture and the afterlife of digital writing represents an ambitious project in which John R. Gallagher explores two primary claims. First, he introduces the idea of "*interactive and participatory internet* (IPI) *templates*" (p. 8) as structures that allow for constant rewriting and rereading of digital content. He argues that these templates foster communication by providing a model that encourages users to compose to each other based on certain characteristics, and arguably constraints, unique to digital environments. Second, he explores the idea that digital writers have developed new strategies that impact how they (re)compose, as well as interact, with participatory audiences who are closer to writers than ever before. In order to analyze these claims, Gallagher performs a series of interviews with forty writers who are top performing Redditors, Amazon reviewers, and online journalists/bloggers. Through these interviews, Gallagher connects common writing strategies that are employed by the writers as they work within the framework of specific templates and interact with their different audiences.

Gallagher's book can be roughly organized into three different sections. The first section includes the introduction to the book and a first chapter that provides an overview on the methods and the participants used. In particular, the introduction provides definitions for key concepts that are explored more in-depth throughout the book. While the bulk of chapter one is an extensive table that offers a brief introduction of the writers interviewed for the project, it also provides the reader with a clear sense of why these individuals are

noted as top performers within their specific digital environments. Additionally, the first chapter provides a more detailed look at the methods used for *Update culture* compared to other monograph projects, which many researchers and scholars will find beneficial.

The second section consists of chapters two through six that define new concepts related to digital writing: template rhetoric, textual timing, textual attention, and textual management. I found these four chapters to be the most valuable content in the book for reconceptualizing new ways to explore how writing is understood and performed in digital environments. Early on, Gallagher describes how template rhetoric offers a "basis for user-centric behavioral rules while allowing users to employ the rules flexibly and work creatively inside the rules" (pp. 40–41). In this description, Gallagher takes a step back from the act of writing in digital environments to analyze the systems in which digital writing occurs. By doing this, Gallagher is then able to explore the relationship between digital writers and readers, as well as how the interactions between writers and their audiences have evolved in digital environments.

The last three chapters represent the final section in which Gallagher takes the concepts he builds and shows how they are changing digital writing as they relate to ethics, pedagogy, and how the roles of writers continue to change with the evolution of digital technologies. While this last section incorporates concepts from earlier in the book, the focus of these chapters seems to emphasize the importance of looking ahead. Ultimately, Gallagher leaves the reader with areas he'd like to see this research extended in the future by shifting the focus away from individual writers to the economic role of template writing, organizations or groups interacting with audiences and their respective commenting, the role of commenters in digital writing, and the idea of machines and algorithms functioning as new types of audiences.

The ideas and concepts that are discussed in *Update culture* certainly make it worth reading. However, I also wanted to highlight what I thought were key strengths of the book: the quality of the writing and the ethos of Gallagher's argument. The quality of the writing

stood out as I used this work in a graduate course on writing for electronic environments. Throughout *Update culture*, Gallagher introduces and presents in-depth discussions on many challenging concepts as they pertain to writing, digital environments, rhetoric, audiences, among others. Despite the sheer number of complex ideas being discussed, my students consistently addressed how Gallagher does an excellent job of navigating the reader through each point through his clear writing and effective signposting.

A second key strength is the ethos of Gallagher's argument, which is readily apparent through the overview of all of the writers interviewed. In the opening chapter, Gallagher discusses how he stopped interviewing individuals for *Update culture* because he hit data saturation or "the point at which participants began to provide answers that repeated prior participants' responses" (p. 30). While the number of writers is impressive, the fact that Gallagher was able to gather insights from so many top performers across multiple platforms creates a scholarly work that is unique in its collective expertise of prominent digital writing practitioners.

While I appreciate Gallagher's work, the closing chapters lack the same level of detail as the earlier ones. Gallagher provides a rich setup not only introducing but walking readers through new concepts in the mid-chapters, but his analysis of these concepts in relation to ethics, learning, and pedagogy feel like they lack the same level of depth. It may be unfair to construe these chapters as feeling somewhat rushed because Gallagher presents them from the perspective of looking to the future, but as a reader I would be very interested to see Gallagher use these chapters to bridge from a more theoretical perspective to a grounded application, especially in relation to ethics and pedagogy. Ultimately though, I do not believe that is his intent with this specific work.

Gallagher sets out to have readers understand how we write in digital environments from a new framework that also includes a central focus on how we perceive and interact with digital audiences. To this end, I believe that Gallagher more than succeeds throughout *Update culture*. For practitioners working in digital environments, *Update culture* could essentially function as a *how to* book when writing for digital media and doing any kind of interaction with an audience since Gallagher is drawing upon knowledge and strategies from some of the most successful writers on the Internet. Even though the writers that Gallagher interviews are drawn from select roles, the ideas are still relevant and malleable to a broad assemblage of digital writing. Similarly, I believe academics will find significant value within Gallagher's work based on my own experiences as well as seeing how students interacted with the ideas in a graduate level course. In particular, the chapters detailing template rhetoric, textual timing, textual attention, and textual management offer new tools to analyze, discuss, and understand digital writing within communication design and technical communication. Additionally, while I thought that the later chapters lacked the same level of detail, those chapters left me with a lot of questions that I had never considered and continue to reflect on still. Gallagher notes how IPI templates, a space in which the bulk of digital writing takes place, "are rhetorical of course, but it's easy to miss their profound influences since we often look *through* them rather than *at* them" (p. 37). *Update culture* fills in that gap by presenting a close examination of digital writing and audiences and showing us ways to be more thoughtful and adept within our own digital writing.

REFERENCES

Gallagher, J. R. (2019). *Update culture: And the afterlife of digital writing.* Utah University State Press.

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