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PREFACE

FROM THE CO-EDITORS …

The Proceedings look different this year! In response to evolving member needs and thoughtful discussions within the ABC Executive Committee and Board of Directors, the format of the Annual Conference Proceedings has undergone a significant revision for 2025. Historically, the Proceedings have included a wide range of submissions, often resulting in several hundred pages of content. While this approach offered breadth, it did not reflect the academic rigor to which conference proceedings typically adhere.

This year, we have adopted a dual-format model designed to better serve our business communication community. Conference presenters were invited to submit either a brief, edited version of their conference proposal (up to 500 words) or a full-length paper (minimum 4,000 words). By offering these two options, our goal is to provide meaningful publication opportunities for both those seeking visibility through concise summaries as well as those wishing to share more extensive research. Additionally, we adopted a detailed rubric that rated submissions' contribution to the advancement of business communication.

As a result of these changes, the 2025 Proceedings are more streamlined yet still rich in content and reflective of the high-quality scholarship presented at our annual international conference. We believe this format enhances accessibility, encourages broader participation, and maintains the academic rigor our members value.

As the Proceedings Co-Editors, we are sincerely grateful to the reviewers listed on the cover page. They spent countless hours reviewing submissions and worked diligently throughout the summer months to provide their thoughtful evaluations and constructive feedback. Participating members of the Proceedings Editorial Review Board continue to ensure the highest quality Proceedings.

We are also grateful to all of the presenters who participated in the 90th Annual International Conference of the Association for Business Communication both in Long Beach, California, and online during the virtual conference. Their contributions continue to be the cornerstone of the ABC Conference Proceedings.

Veronica Rice McCray, Western Michigan University
Lisa Gueldenzoph Snyder, North Carolina A&T State University

TABLE OF CONTENTS

Peer-Reviewed Full Paper Proceedings

Bridging the Gap:
Adaptation Strategies of New College Graduates in
the Professional Workplace

Bolatito Abolade
Iowa State University

A persistent challenge for business and professional communication instructors is linking the concepts, theories, and skills taught in our courses to the workplace practices students will inevitably encounter. For many decades, college graduates have faced uncertainty and a demanding job market in which they are likely to encounter an evolving skillset, reduced hiring, and heightened competition (Eisner, 2010). Understanding how new college graduates overcome these challenges and adapt to professional environments has become critical to enhancing productivity, retention, and workplace integration.

This study investigates the adaptation strategies of new college graduates when faced with challenges in the professional workplace. Understanding these strategies will enable business communication instructors to better prepare upper-class students for real-world communication challenges. Using Jablin's (2001) Organizational Socialization theory and Weick's (1995) Sensemaking framework, this study interprets workplace adaptation strategies of thirteen recent graduates across diverse industries within their first five years of employment, interviewed via Webex and analyzed using Tracy's (2020) qualitative method.

The findings from this study indicate two dominant strategies: Adaptive Socialization and Maladaptive Socialization. Having developed soft skills through business communication courses in college, participants experience reality shock and mismatch between educational and professional values (Baharun et al., 2023). During the encounter stage (Jablin, 2001), participants use adaptive strategies developed through the course, such as confidence, open communication, collaboration, and active listening. Most of the participants also adopted other strategies such as openness to learning and modeling supervisors and mentors. Other participants, after observing their new environment, seek feedback from peers and colleagues to equip themselves with the necessary resources to thrive. All participants valued persistent questioning to gain clarity.

The adaptation process took three to eighteen months, based on individuals' perception of their environment. Within this period, some participants with maladaptive socialization strategies felt isolated, interpreted the organization culture and norms as toxic and unwelcoming, personalized challenges, and avoided communication due to mismatched expectations and fear of failure. Though most recent graduates have anxieties, how they respond to these issues will determine whether they stay or leave. Having the right mindset and skills is crucial for workplace survival.

Students' experiences in organizations during internships or training were used to create pedagogical materials in Gettings and Meluch's (2021) study. The findings from this study can be applied to business communication curricula for upperclassmen by focusing on adaptation strategies as learnable skills and teaching workplace

transition stages (anticipatory, encounter, adjustment) to help students anticipate emotional, relational, and communication shifts. Using case studies to differentiate classroom communication and real-world professional communication, such as case studies, where students must interpret the situation and decide on a communication response to learn how to make sense of similar situations they may encounter in the workplace.

Overall, due to participants' adaptive and maladaptive socialization strategies, business communication curricula should integrate the organization and sensemaking framework to ease students' transitioning, minimize challenges, and enhance retention in the organization.

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From Classrooms to the World:
Mastering International Teaching and Learning Strategies

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This on-site workshop equipped faculty with strategies to strengthen students' intercultural communication skills through three primary approaches: enhancing curricular design, initiating global collaborations, and developing courses that culminate in study tour experiences. Facilitators shared proven approaches, including integrated preparatory classes on global communication, the design and execution of international study tours, the use of Collaborative Online International Learning (COIL) projects, and the establishment of partnerships with institutions abroad. The overarching objective was to foster a comprehensive understanding of cross-cultural interactions and global educational practices.

Teaching intercultural communication offers significant pedagogical benefits: it enhances cognitive skills such as critical thinking and problem-solving, prepares students for diverse workplaces, improves cross-cultural competencies, broadens worldviews, and promotes civic engagement (Aririguzoh, 2022). Collectively, these outcomes contribute to a more inclusive and globally aware academic environment.

Workshop Goals

1. **Enhance Intercultural Communication Skills** – Strengthen educators' ability and confidence to teach effective cross-cultural communication, emphasizing cultural sensitivity and international business etiquette.

2. **Promote International Collaboration** – Encourage the formation of partnerships with global institutions to facilitate brief study abroad programs and collaborative projects.

3. **Integrate COIL Methodologies** – Introduce COIL as a cost-effective, impactful approach to global engagement and collaborative learning (Hackett et al., 2023).

4. **Prepare for International Study Tours** – Provide practical guidance for planning and leading experiential learning abroad, including logistical, safety, and academic considerations (Rust & Austin, 2015).

Methodology

The workshop featured interactive discussions, case studies, and facilitator-led examples illustrating key pedagogical strategies. Faculty presenters shared experiences from collaborations in diverse contexts, including Thailand, Germany, and Argentina, highlighting both benefits and challenges. Step-by-step guidance was provided for organizing international study tours, from planning and safety protocols to academic integration. Participants engaged in small group brainstorming to develop actionable strategies for incorporating intercultural communication into their existing courses, designing study tours, or initiating COIL partnerships. Sessions included Q&A opportunities, encouraging facilitators and other attendees to exchange their personal experiences and best practices in global education.

Outcomes

At the conclusion of the workshop, participants were prepared to organize and lead successful international study tours, develop and implement COIL projects within their courses, and establish partnerships with institutions abroad. They also strengthened their own intercultural communication skills, enabling them to more confidently and effectively integrate global perspectives into their teaching. Collectively, these outcomes position attendees to foster a globally engaged, culturally competent academic community that extends the impact of their work beyond the classroom.

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The Gateway to Transformation — A Systems Thinking Mindset: An Exploration of How to Leverage AI & What Makes Us Human

Mikelle Barberi-Weil and Hailey Gillen Hoke
Weber State University

This panel discussion aims to ignite an interactive conversation that revisits the marvels of the human condition and explores how business communication professors can better guide students toward a humanistic, systems-thinking approach to leveraging AI. "The history of technology is littered with cautionary tales of what goes wrong when new tools yield superficial convenience but are poorly matched with fundamental human nature" (Newport, 2021, para.16).

In the rapidly evolving landscape of business communication, the evolution and rise of AI writing and communication tools, as well as large language models (LLMs), have sparked excitement and innovation. However, what about the unique human capabilities essential to effective teaching and learning? "Humans are not network routers" (Newport, 2021, para. 16). Newport goes on to say, "Technologies serve us best when we deploy their new efficiencies with intention, with an aim to improve the human condition" (para. 16). While professional communication channels have become more demanding in our everyday workflows, some could argue that the efficiencies and effectiveness have diminished nuance, uniqueness, and the technicolor of interpersonal communication. "The AI age has turned us into rather more boring and predictable creatures, diluting the range and richness of experiences that once characterized human life. AI may be diminishing our intellectual and social curiosity, feeding us rapid and simple answers to everything, and discouraging us from actually asking questions" (Chamorro-Premuzic, 2023, p. 2).

Through meaning-making, this panel discussion will illustrate how educators can become as energized about leveraging human strengths—such as empathy, creativity, critical thinking, storytelling, and adaptability—as they are about the power of AI (Thanh, 2024). According to the World Economic Forum (2025), employers are expecting the following core *now* skills and competencies to increase by 2030:

- AI and big data
- Technological literacy
- Resilience, flexibility, and agility
- Curiosity and lifelong learning
- Leadership and social influence
- Talent management
- Analytical thinking
- Systems thinking
- Motivation and self-awareness

It is clear that AI and tech comprehension intervention is paramount for the future of work; however, seven of the nine core skills mentioned above maintain, promote, and elevate the human position. The World Economic

Forum Core Skills for 2025 will provide subsets for discussion that will include a look through the Aristotelian lenses of:

- Ethos (credibility)
- Pathos (making the heart leap)
- Logos (true comprehension)

In an effort to emphasize human-centric applications along with AI support, the learning resides in cultivating a culture of innovation intersection rather than replacement (Bradt, 2023; Cardon et al., 2024). Leveraging human skills alongside technology advancements optimizes productivity while stimulating cognitive processes (Nguyen et al, 2024). Panelists will discuss systems thinking strategies (Senge, 1990) for balancing technological advancements with human-centered pedagogy, share examples of how AI can amplify (rather than replace) the human elements of communication instruction, and invite participants to reimagine business communication classrooms as spaces of collaboration.

In a discussion format, let us not unravel the competition between AI and humans, but rather, investigate how both are to be leveraged and celebrated. The overall objective is to ask big questions that will help us navigate how to cultivate, elevate, and honor the human component before, alongside, and after employing AI.

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Policy Meets Pedagogy: Exploring the Impact of State Legislation on Business Communication Classrooms

Sarah Clark, Emily Dutton, Joseph Morgan, Angela Perry, and Chris Thomas
Kelley School of Business, Indiana University

This panel examines the pedagogical impacts of Indiana Senate Enrolled Act 202 (SEA 202), legislation mandating intellectual diversity, neutrality, and transparency in higher education (Center for Evaluation and Education Policy [CEEP], 2024). Scholarship on SEA 202's classroom impact is still emerging, yet instructors are already grappling with its demands in real time. Rather than presenting a single research study, the panel is designed to open dialogue among faculty navigating these new pressures. Drawing from their own communication and professional skills courses, five panelists will each focus on one domain of adaptation—curriculum, assignments, classroom discussion, generative AI, or assessment—sharing practical changes they have made in response to the law.

Institutional responses point to how pedagogy is being reshaped even in the absence of a fully developed body of scholarship. Indiana University has released faculty guidance and FAQs on SEA 202 (Indiana University Faculty Council, 2024), and faculty report uncertainty about compliance (Patterson, 2024). In August 2025, an IU professor was sanctioned under the new law, underscoring the stakes tied to classroom speech (Indiana Public Broadcasting, 2025).

The purpose of this panel is not to provide final answers but to surface urgent questions, foster exchange, and develop collective strategies. Attendees will leave with concrete examples from panelists' classrooms as well as insights generated through discussion with peers. In this way, the panel becomes both a showcase of early pedagogical adaptations and a forum for shaping future scholarly inquiry.

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Communicating AI Strategy: A Case Study of AI Governance and AI Literacy Initiatives in a Mid-Sized Organization

Christina Davidson
University of Louisville

This presentation examines the critical role of communication in the effective implementation of AI strategies within a mid-sized organization. Drawing upon Brandt's (2015) assertion that workplaces are crucial sites for the negotiation of new literacies, this case study investigates how organizations communicate their overall AI strategy through AI governance policy documents and employee training. The purpose is to explore how organizations manage the practical challenges and opportunities associated with integrating Generative AI tools into existing workflows, while investigating potential harms from these changes, such as staff reductions (Goldman Sachs, 2023), information bias (Van Poucke, 2024), data insecurity (Computerworld, 2023), plagiarism (Vetter et al., 2024), disruption of company culture (Coman & Cardon, 2024), and environmental impacts (Dobrin, 2023). Given the dual potential of Generative AI for organizational benefit and stakeholder risk, this research underscores the necessity of responsible AI integration through developing employee AI literacy and using effective communication strategies.

Goals

The primary goals of this research were to analyze the process of developing and implementing an AI policy tailored to a mid-sized organization and to assess the effectiveness of AI literacy training programs. Specifically, this case study aimed to answer the following research questions:

1. What was the process of creating an AI policy tailored to the organization's needs, and how did it evolve over time?
2. How effective are the company's AI training programs in increasing AI literacy across different roles within the organization?
3. How did this organization communicate AI strategy to employees through AI governance documentation and delivery?

Methodology

This research employed a case study approach, utilizing in-depth interviews with several key stakeholders within a mid-sized organization. Data was collected from a project manager and two IT department members and analyzed alongside drafted AI policy documents. This qualitative methodology provided for a detailed examination of the organizational processes and stakeholder perspectives involved in AI governance and literacy initiatives.

Outcomes and Implications

This case study contains valuable insights for scholars and practitioners in business communication, AI governance, and AI literacy. By documenting the practical implementation of AI governance in a mid-sized

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organization, this research makes connections between existing theoretical frameworks and real-world applications. The findings contribute to the growing body of knowledge on AI governance in mid-sized companies, offering a model for organizations navigating AI integration. For educators, this case study research may serve as a teaching tool for business communication, organizational communication, or change management courses, providing students with a practical scenario to analyze AI governance challenges and practice developing implementation strategies. Ultimately, this presentation will be of interest to those seeking practical strategies concerning the challenges of communicating responsible AI practices.

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The Better Letters Association: Three Years that Shaped the Study of Business Communication

Sam H. DeKay
BNY Mellon Corporation (Retired)

At this, the 90th anniversary of the founding of ABC, it is appropriate to examine the historical context within which our organization—and the study of business communication as an academic discipline—emerged in the early twentieth century. It is the purpose of this presentation to study a significant piece of that context.

Our official history, brief and fragmentary though it be, is posted on the ABC official website. Here, in her "The First Year" essay, Kitty O. Locker (1995/2002) cites sources that explain how, prior to 1935, college and university teachers of business communication had affiliated with numerous organizations prior to the formal founding. The first of these groups was the Better Letters Association (BLA).

Locker's history, citing former Executive Director C.R. Anderson, maintains that the Better Letters Association was an unsatisfactory venue for communication instructors because this group was overly focused on business concerns, rather than teaching. However, as will be demonstrated in this presentation, Anderson's assessment is inaccurate. In fact, for the duration of its existence, the BLA provided a national forum for the study and teaching of writing business letters. This association later provided a model for ABC, a professional organization similarly focused upon business communication research and pedagogy.

For three years—from approximately October 15, 1917, until October 21, 1920— the Better Letters Association served as a true "gateway to transformation." This organization, comprised of more than one thousand business correspondence specialists and also college instructors of business letter writing, represented the first attempt to organize business communication professionals. In addition, the BLA served as catalyst for establishing a coherent body of knowledge that emerged as curriculum for the nascent field of business communication as an academic discipline. Finally, the BLA provided the model that directly inspired a small group of college professors to establish their own professional organization, now known as ABC. In fact, the idea of creating a professional group of college-level business communication instructors was first introduced at the October 20, 1920, meeting of the BLA.

This presentation will briefly discuss the history of the BLA. In addition, the continuing legacy of the BLA will be considered, including how ABC has been shaped—both to its benefit and its detriment—by its predecessor. Now, ninety years after its founding in 1935, ABC continues to be influenced by the issues articulated originally by the BLA more than one hundred years ago. ABC, for example, has perpetuated the BLA research focus upon language as a rhetorical tool, rather than upon grammar and mechanics.

The research method adopted for this historical study is triangulation, the investigation and comparison of multiple primary sources. I have especially relied upon The *Proceedings* of the Better Letters Conference (1917) and the *Proceedings* of the Better Letters Association (1918-1920). In addition, I have incorporated content derived from professional journals, newspaper articles, and books published by academic and non-academic authors.

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The Uses and Abuses of Generative AI in the Workplace

Sponsored by the ABC Business Practices Committee

The December 2024 issue of *Business and Professional Communication Quarterly* published several studies concerning the implications of generative artificial intelligence for business communication classrooms. These articles explored a range of relevant topics: AI literacy, the ethical dimension of working with AI, acceptable AI usage policies in higher education, and the development of students' critical thinking and problem-solving skills via AI. Several of these studies carefully balance the considerable value of this technology with cautionary advice concerning potential abuses.

This panel continues that discussion but focuses upon AI as a tool within actual workplaces. Presenters will describe how generative AI is frequently used profitably to perform significant functions within work environments, including law offices and small businesses. In addition, the discussion of legitimate uses will be accompanied by consideration of real-world abuses, some of which have reflected negatively upon businesses. Recommendations for avoiding these abuses, including the concept of "ethical authorship," will also be considered.

The panel includes three presentations:

The Best and Worst of Times: AI in Current American Legal Practice
Gina Genova, University of California—Santa Barbara

No longer an infant, generative AI has matured into an invaluable workplace assistant, even in cautious law firms. This presentation will discuss how attorneys use specialized genAI to process tedious legal tasks absent ethical issues that plagued early adoption yet still can't avoid those irrepressible teenage temper tantrums.

Rethinking Authorship in the Age of AI: A Post-Structural Analysis
Paula Lentz, University of Wisconsin—Eau Claire

This project uses Barthes's and Foucault's post-structural lenses to examine how AI requires us to rethink the concept of authorship in the business communication classroom to better align our pedagogy with workplace practices. It contrasts business and academic responses to AI use, highlighting evolving rhetoric around AI and practices in business communication in the workplace and classroom. Applying post-structuralist theory shows how business practitioners navigate complex authorial identities and how educators can prepare students for workplaces where authorship is fluid, distributed, and often shared, and where information is organizationally owned.

AI for Business: Powerful Tool that Requires Human Quality Control
Edward Paulson, DePaul University/ProChango

Industry uses AI for good reasons: It makes many things simpler, better and faster. But it cannot be fully trusted. This presentation will discuss the ways that the presenter and his clients use AI for image generation, stock trading, writing, and idea generation with emphasis on the role of critical thinking.

Panel presenters bring to this discussion many years of experience within both business communication classrooms and workplace environments. They also invite audience members to share their knowledge and opinions concerning our ongoing understanding of the powerful potential of AI positively—and negatively—to affect business communication practices.

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Think Before You Click: Teaching Students How to Use AI Ethically, Critically, Creatively and Cautiously

Katie Gerst, Temple University
Minna Logemann, Baruch College, City University of New York
Ryan Sheets, University of Arkansas

According to the World Economic Forum's 2025 *Future of Jobs Report*, 94% of U.S. respondents said that AI/Generative AI literacy and Big Data is the technology trend likely to drive business transformation (World Economic Forum: Future of Jobs, 2025). Business communication instructors from three American colleges discuss how they integrate generative AI (GenAI) into their business communication courses. This panel invites participants to discuss innovative instructional methods to develop students' AI literacy needed in modern workplaces (Cardon et al., 2023; Cazzaniga et al., 2024; Fleischmann et al., 2024). The panel contributes to the discussion regarding development of higher education curricula to foster student learning of fundamental skills of creative, ethical, and critical thinking while enforcing AI skill development (Rajgobal, 2025).

The three colleges vary with respect to student populations. The first example showcases a business school Honors class in a semi-private/public urban university in the Northeastern U.S. The second one exemplifies an introductory writing course open to all majors with varying degrees of comfort, openness to, and experience with GenAI tools in a public, land-grant, R1 university in the southern US. The third one, in turn, provides insight into a public university of an East Coast metropole ranking among the most diverse colleges with its student cohort embracing over 150 nationalities. We first describe how the contexts impact AI integration and then provide examples of how we are teaching students to use AI. The example from the Honors course demonstrates how students learn to use GenAI for prompt-based writing, GenAI-assisted research, brainstorming, and visual design. First the students learn about the limitations of AI with activities critiquing output from GenAI, fact-checking it, and tweaking their prompting to get better results. There is also a semester-long project that requires students to write and present a persuasive proposal. Students learn to use GenAI to brainstorm, research, and for visual and slide design. Finally, the Honors course also includes an assignment requiring students to write a "bad news" email. The assignment teaches prompt-based writing, ethics in using AI, and the importance of editing GenAI-output into the writer's voice.

The introductory writing course open to all majors at the southern land-grant institution starts the semester with students' reflections on their communication preferences and explores the values and effects they seek in their messages. The first AI use practice involves an assignment of writing on behalf of and to unfamiliar audiences (healthcare and research professionals) and using GenAI to create audience profiles that ensure appropriate content, tone, and genre conventions. This assignment draws on the research by Pham et al. (2024). Students then analyze peer-reviewed research and practitioner surveys to assess how their GenAI personas align with actuality. A follow-up rewriting assignment and reflection emphasizing intentionality/values alignment and the occurring situational tradeoffs finalizes this scaffolded Gen AI use case practice.

In the interdisciplinary course "Executive Communication," GenAI is integrated progressively to the coursework to develop students' GenAI literacy equally in a scaffolded series of assignments. It starts with low-stake assignments inclusive of all levels of AI users and ends with a final team project and an individual reflective essay produced in human-AI collaboration with GenAI as a teammate (agentic use, see e.g., Ling et al., 2025; Sargsyan, 2025). Students explore GenAI resources and apply them to assignments to understand ethical GenAI use (copyrights, privacy, transparency of citing with prompts according to APA 7.0); to learn creativity, context, and clarity in prompting; and to apply critical thinking in assessing the accuracy and biases in the outputs. During the term, students learn to distinguish GenAI as productivity assistant and as collaborator/teammate: the last essay and team project integrate the human-AI-collaboration into these assignments, and students learn to ask GenAI: "put the cognitive load to the user and be my teammate asking questions, challenging my thinking and guiding the creative process."

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Communicating Personal Power

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Countless proverbs promote the power of communication. But what words actually convey power? Although posture and presence are often emphasized as signals of power that lead to status (Cuddy, 2012), research increasingly shows that verbal language is a key channel through which power is communicated and status attained (e.g., Wakslak et al., 2014).

Many qualities associated with effective communication such as clarity, persuasion, and storytelling may fail to influence others when not accompanied by the verbal language of power (e.g., Huang et al., 2021). By understanding power in verbal language, we can more accurately answer such fundamental questions as: (1) whose ideas will carry the most weight in conversations regardless of title, and (2) who is most likely to be chosen for leadership based on the words they use.

At the core of communicating power is the construct of a personal sense of power, or simply *personal power*, the belief that one has the capacity to influence others (Anderson et al., 2012; Keltner et al., 2003). The stronger this personal power, the more individuals adopt both non-verbal and verbal expressions of power that signal status.

This presentation summarizes empirical research on how personal power is conveyed through verbal language, drawing on over 100 studies, including experiments on power priming, survey research on leadership communication, and naturalistic analyses of leaders' speeches (Lipp, 2024). We will examine the psychology of personal power, how this psychology affects language, and how that language signals status within hierarchies. We will also debunk common myths about communicating power such as the belief that powerful people speak with deeper voices and dominate conversations (Ko et al., 2015; Owens, 1998).

The goal of this presentation is to highlight personal power as a foundational concept in leadership communication. Personal power runs through nearly every domain of communication (Lipp, 2024). Personal power underlies persuasion, strengthens crisis communication, and can counter acts of exclusion. Communicating power increases status in groups, enhances respect in leadership, and improves success when pitching new ideas (Huang et al., 2021; Lee & Tiedens, 2001; Owens, 1998).

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Integrating Data Analytics and Consumer Psychology for Small Business Success

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According to the U.S. Chamber of Commerce (2023), approximately 99.9% of businesses in the U.S. qualify as small-to-medium-sized enterprises (SMEs). On a global scale, this number hovers just over 90% (World Bank, 2019), making the prosperity and success of SMEs vital to the world economy. Questions regarding how best to ensure the survival of SMEs in a global market that is increasingly being dominated by multinational corporations is prompting both researchers and industry leaders to identify methods for increasing SME revenue, thereby ensuring their long- term viability. In this panel, we draw upon our knowledge of data analytics, consumer psychology, and digital marketing to examine how the design of one SME's professional webpage influences consumer behavior.

The website at the center of our analyses is for Inception Consulting, a SME specializing in procuring global talent, job training, and HR consulting. The company uses Wix for its web hosting. Wix has become a popular platform for SMEs, in large part because of its easy-to-use design tools, which allow even novice web builders to interface with their intended audience with relative ease (Maarouf, 2024). Another reason Wix has become beloved among SME owners is due to the data analytics it uses to inform businesses about traffic to their site. Not only does Wix track how many visitors a site and its respective pages receive, but it notes how long a visitor spent on each page. Therefore, with this data, business owners can infer about how a page's design may encourage or discourage consumer follow through (i.e., purchasing).

To test the extent to which data-driven web design affects sales, we created a controlled experiment, wherein visitors to Inception's website were presented with one version of its design one week and another version the next week. In our panel discussion, our group consisting of business professors, data analysts, and psychology students will present the two different web designs for this particular SME's website, along with the results of this study. In line with the conference's theme emphasizing both transformation and innovation, we hope that our findings can be used to transform the current marketplace, in which SMEs often fail (Carter & Thomas, 2021; McDowell et al., 2016), and instead, use data-driven solutions and thoughtful design to help them thrive.

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AI: Use, Guidance and Ethical Concerns

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AI and its uptake in the business world have been breathtakingly fast. Yet even as ChatGPT and similar AI platforms were being introduced to the public, many voices from both inside and outside the tech industry were voicing ethical concerns (Heaven, 2024; Smiley, 2024; Sundberg, 2024). Our research offers insights into AI tools working professionals are using, the ethical guidance organizations are offering, and the level of ethical awareness professionals express over their AI use. Our research will inform the development of organizational policies on ethical AI use.

While there has been much news coverage about AI adoption by businesses, including cases where companies are facing lawsuits over copyright infringement (Brittain, 2025; Knibbs, 2024; Nicolas, 2025) and insurance claim denials (Clason, 2025), we have yet to see reporting of large-scale study results relating to how AI is actually being used at work. While there have been some small studies regarding AI use at work (e.g. Solita, 2023), most have not reported on specific uses or functions where AI is being applied (e.g., Santa Clara University, 2023; SDSU, 2023). Likewise, we have identified only a handful of surveys which address what executives report as their companies' efforts to develop and implement ethics and use guidelines (e.g. Conversica, 2023; Deloitte, 2024; KPMG, 2024). This leaves many questions about the extent of AI adoption and organizational guidance for AI use as reported by employees (not executives' intentions).

In the studies cited, we also found very limited data on levels of concern relating to environmental impacts (e.g. Santa Clara University, 2023). These impacts are already being felt in energy markets and communities where AI server farms are located (Brown, 2025; Kimball, 2024; Stauffer, 2025). However, it is also unclear whether companies and individuals are fully aware of the energy intensiveness of AI and the climate costs associated with using it. For example, surveys conducted at SDSU (2023) and Babson College (Gilleran et al., 2023, 2024) made no connection to climate costs. It is important to understand the level of awareness people have regarding AI's climate risks.

We will report results from a survey of working adults identifying and measuring the following:

    1) which platforms and for which functions people are using AI in the workplace;
    2) what kinds of guidance and training employees are being given to use AI in their jobs;
    3) what level of ethical concern people have about various aspects of AI, including:

        a) environmental impacts of this energy-intensive technology;
        b) negative impacts on human workers building AI platforms;
        c) issues regarding consent, credit and compensation for data used in AI, especially but not limited to large-language models (LLMs);
        d) biases reproduced in AI responses; and
        e) potential impacts on livelihoods for workers whose jobs are impacted by AI.

We connect our findings with employees' exposure to AI-related knowledge via formal news sources, company training and informal social media sources to determine participants' access to knowledge about AI and how that affects productivity gains and ethical dilemmas.

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The Career Breaking Point: Mid-Career Women's Perceptions of Organizational Communication and Their Career Disruptions

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Background

When women in leadership experience career disruptions, both they and their organizations lose. Companies forfeit experienced, mission-aligned talent, while women face instability and professional setbacks. Recent reports show that women remain underrepresented in leadership: although they comprise nearly half of the U.S. workforce, they hold just 42% of management positions, with representation dropping sharply at senior levels (GAO, 2023; Schaeffer, 2024). Organizations with more women leaders, however, consistently outperform their peers, with firms where women hold at least 30% of leadership roles being 12 times more likely to be top financial performers (Kruse, 2023). Yet even after overcoming systemic barriers to reach leadership roles, mid-career women continue to face cultural and communicative obstacles that drive career disruption (Almeida & Salas-Betsch, 2023). While barriers to women's advancement have been widely studied (AAUW, 2016), less is known about how organizational communication contributes to derailment and disruption.

Method

This qualitative study explores that gap by asking: How do mid-career women perceive organizational communication as a factor contributing to career disruptions? Career disruption is defined here as a significant, often involuntary shift in professional trajectory. Guided by the cultural approach to organizations (Pacanowsky & O'Donnell-Trujillo, 1983) and constructivist grounded theory (Charmaz, 2014), the study draws on semi-structured interviews with 14 U.S.-based mid-career women across diverse industries. Participants ranged in age from 35 to 54, with professional experiences spanning higher education, healthcare, technology, and the nonprofit sector. Interviews were coded and analyzed iteratively to develop themes that reflect women's lived experiences of communicative harm and organizational misalignment.

Findings

Full results have been published in *The International Journal of Business Communication* (Miller & McCullough, 2025). The study identified three interrelated communicative forces driving career disruption: mission-driven overwork, gaslighting, and value incongruence. Mission-driven overwork was reinforced by implicit messaging that equated commitment with self-sacrifice, echoing recent research on burnout culture (American Psychological Association, 2023). Gaslighting emerged as a subtle but pervasive erosion of credibility and psychological safety, consistent with recent work on manipulative communication in organizations (Graves & Spencer, 2023; Kukreja & Pandey, 2023). Value incongruence — where organizational messaging no longer aligned with participants' personal ethics — was exacerbated by vague, shifting, or contradictory communication, reflecting broader patterns found in studies of career shocks and disillusionment among

women leaders (Masdonati et al., 2022; Vaz et al., 2023; Visentini et al., 2023). Together, these dynamics formed a cycle of overextension, invalidation, and misalignment that pushed women toward exit decisions.

Contribution

Rather than treating communication as a neutral conduit for information exchange, this study situates it as the symbolic and structural medium through which organizational culture is enacted and sustained. Praise for late-night availability, silence in response to voiced concerns, or inconsistent narratives about mission and purpose were not incidental — they constituted the very culture that undermined women's career sustainability. By centering women's lived accounts, the study provides a diagnostic foundation for both scholars and practitioners. It does not prescribe immediate solutions but argues that effective interventions must begin with recognizing and reflecting on the communicative dynamics women themselves identify as destabilizing. Only by listening to these accounts can organizations imagine more supportive cultures and prevent mid-career women from reaching their career breaking points.

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Making Reader Copies & Accessibility Copies:
Teaching a Range of Perspectives in Business Communication

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I teach a range of perspectives by focusing on skills that my business communication students need to effectively communicate with audiences across differences.

Background

Approaching business communication as a form of problem-solving that meets the needs of audiences (Lentz, et al 2024) requires consideration of the needs of listeners and readers with disabilities (Bennett & Hannah, 2022). In addition to "the written, digital, and spoken genres integral to business and professional writing, instructors must also make students aware of the transformative power of accessibility" (Nielsen, 2018, p. 67).

Teaching communication practices that align with disability justice (Piepzna-Samarasinha, 2018; Sins Invalid, n.d.) equips emerging business professionals with presentation skills that enhance their ability to communicate effectively across differences. Using a microphone, including verbal descriptions of on-slide images (UC Boulder, n.d.), using contrast and larger font sizes on slides, and enabling captioning are some examples of how presenters can meet the needs of a range of audience members.

Well-prepared speakers can be ready to meet additional needs of their audiences by providing print and digital access to their content before, during, and after their presentation.

Assignment Description

This assignment focuses on creating *reader copies* and *accessibility copies*. It follows and builds on an individual *presentation materials* assignment, where students have created slides and full speaker notes with image descriptions in preparation for a face-to-face or synchronous virtual presentation.

Using PowerPoint's notes page feature, students create *reader copies* as PDFs. Each reader copy document is organized with slide images in presentation order, with 18-point font speaker notes included below each slide image.

Using Google Docs, students create *accessibility copies* for their presentations. The slides-plus-notes content is organized similarly to the reader copy, then enhanced with alt text for each slide image and document outline formatting for use by screen reader technology.

Use of Deliverables

Reader copies can be shared with interpreters in advance of the presentation. Reader copies can be available in print for audience members who do not easily follow or process auditory information or who have limited

vision. Reader copies can also be made available in digital form via a presenter adding a QR code to their title slide. As polished texts, reader copies are the best response to requests for a speaker's "slides" after a presentation. Accessibility copies make a speaker's content available to screen reader users and can be shared before, at, or after a presentation.

Students practice these skills by making *reader copies* and *accessibility copies* from a set of slides and speaker notes from an earlier presentation materials assignment.

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SHOW ME YOUR WORK!
Business Communication Rubrics for Analyzing, Composing, and Evaluating (ACE) Students' AI-Generated Content

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The integration of AI in education has transformed the landscape of business communication instruction, presenting both opportunities and challenges. Rubrics can be used to assess students' ability to effectively utilize AI-generated content in business communication tasks using the ACE Communication Model—Analyzing, Composing, and Evaluating (Shwom & Snyder, 2025). These rubrics aim to measure students' critical thinking, ethical use of AI, writing clarity, and more. The goal is to equip faculty with tools to help students *responsibly* leverage AI technologies.

Shifting Assessment from Product to Process

Traditionally, faculty have evaluated students' final products to assess their understanding and mastery of communication concepts. However, the widespread use of AI-generated content necessitates a shift from merely assessing outcomes to evaluating the processes students use to reach those outcomes (Bower et al, 2024). AI tools can generate coherent and professional-looking documents with minimal input, making it difficult to gauge students' original contributions and depth of understanding from the final product alone. Therefore, a new assessment approach is needed to emphasize the importance of assessing how students analyze information, compose content with AI tools, and evaluate the appropriateness and ethical considerations of their use of AI (Salinas-Navarro et al., 2024).

The Role of Critical Thinking in AI-Enhanced Communication

Critical thinking remains at the heart of effective communication and is particularly significant in the context of artificial intelligence (Szmyd & Mitera, 2024). AI-generated outputs can be persuasive but are not immune to inaccuracies, bias, or ethical concerns. Students must be equipped with the ability to scrutinize these outputs, identify potential flaws, and make informed decisions about how to use them in real-world business scenarios. The ACE rubrics prioritize this analytical process, encouraging students to engage deeply with AI-generated content rather than passively accepting its outputs.

ACE Rubrics: A Multifaceted Framework

To address these needs, the ACE rubrics incorporate three predominant formats—holistic, analytic, and single-point rubrics—to provide a comprehensive framework for evaluation (Latif & Saeed, 2024). Holistic rubrics offer a broad overview of student performance, ideal for tasks requiring a summative assessment. Analytic rubrics break down the evaluation into detailed criteria, offering granular feedback on each step of the process. Single-point rubrics, on the other hand, focus on a single criterion of success while encouraging

constructive, individualized feedback. These varied formats allow faculty to choose the most appropriate assessment tools for specific learning objectives and business communication tasks.

Bridging Theory and Practice in AI Assessment

By integrating both theoretical and practical applications of rubric assessments, business communication faculty can foster their students' higher-order thinking skills while also counteracting the risk of over-reliance on AI tools. These rubrics can be adapted to different business communication assignments, ensuring that students develop both communication proficiency as well as ethical judgment.

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ProfessionY'allism: Perceived Image and Credibility of Southern and Appalachian Accents

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While accents are a natural and often celebrated aspect of cultural identity, they can also carry implicit biases that affect how individuals are judged in terms of intelligence, competence, and trustworthiness. Prior research supports that accented speech can influence perceptions of employment suitability, and often, education lacks in preparing students to recognize and mitigate the impact (O'Brien et al., 2024). Research also suggests that there is consistent bias in favor of standard-accented candidates over those considered non-standard, potentially rooted often in unconscious social prejudices and stereotypes (Spence et al., 2024). However, there is a silver-lining to these potential barriers as presented in prior research. In particular, one study found that regional accents had no impact on memory, credibility, or the perceived value of the message provided that the speech was intelligible (Frances et al., 2018).

Expanding upon prior research, the purpose of this proposal is to examine the perceived image and credibility associated with particular accents—Southern and Appalachian—with a focus on how these regional dialects influence listener perceptions in professional settings. By exploring existing research and developing a research project to evaluate the variation of these perceptions across persons with differing accents, the authors' aim is to better understand the complex relationship between accent, perceptions of professionalism, and credibility, particularly as it pertains to speakers from the Southern and Appalachian regions of the United States.

Proposed Study

Building upon prior literature surrounding the impact of accents, the proposed study will create an experimental survey with embedded video vignettes. Different actors will read a self-introduction statement along with a short persuasive pitch, which will also include information about their profession. Vignettes will also be accompanied by a short biography of the speaker. Respondents will be randomly assigned to a treatment where they will view some combination of the following conditions:

- Gender: Male, Female
- Accent: Appalachian Traditional English, Southern American English, Neutral Non-Identifiable Accent
- Age: Young Professional (20-40 years), Middle Aged Professional (40-60 years of age), Seasoned Professional (60+ years of age); *note: age will not be explicitly disclosed, rather only evident in the physical view of the actor*

The vignette content and background bios will be as close to identical as possible; the only differences will lie in the speaker's gender, accent, and age. Afterward, respondents will be asked follow-up questions to evaluate the credibility of the speaker along with their perception of the speaker's professionalism and perceived competence.

Contribution to Business Communication Education

While, admittedly, the authors encounter and teach students on a day-to-day basis with students who have Appalachian and/or Southern accents, the application of this study's potential findings expand well beyond just one institution. By gaining a better understanding of the perceptions and impact of these native accents, educators can better help students prepare for their professional careers.

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Iconic and Concrete: Using Poetry and Cartooning Pedagogy to Improve Student Slides [No Artistic Ability Required!]

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Abstract

With PowerPoint becoming no less ubiquitous in the classroom and workplace, and as AI offers students the ability to create slide decks without fully understanding their function, in-classroom instruction on the best practices of slide design is as important as ever. Frustrated by student misunderstanding of these practices—typified by overreliance on "space-filler" visuals—I developed a set of in-class lessons based on foundational pedagogy from cartooning and poetry.

Icons

In his seminal 1994 book, *Understanding Comics*, Scott McCloud introduces the reality-language axis at the bottom of what he calls "the total pictorial vocabulary of… visual arts":
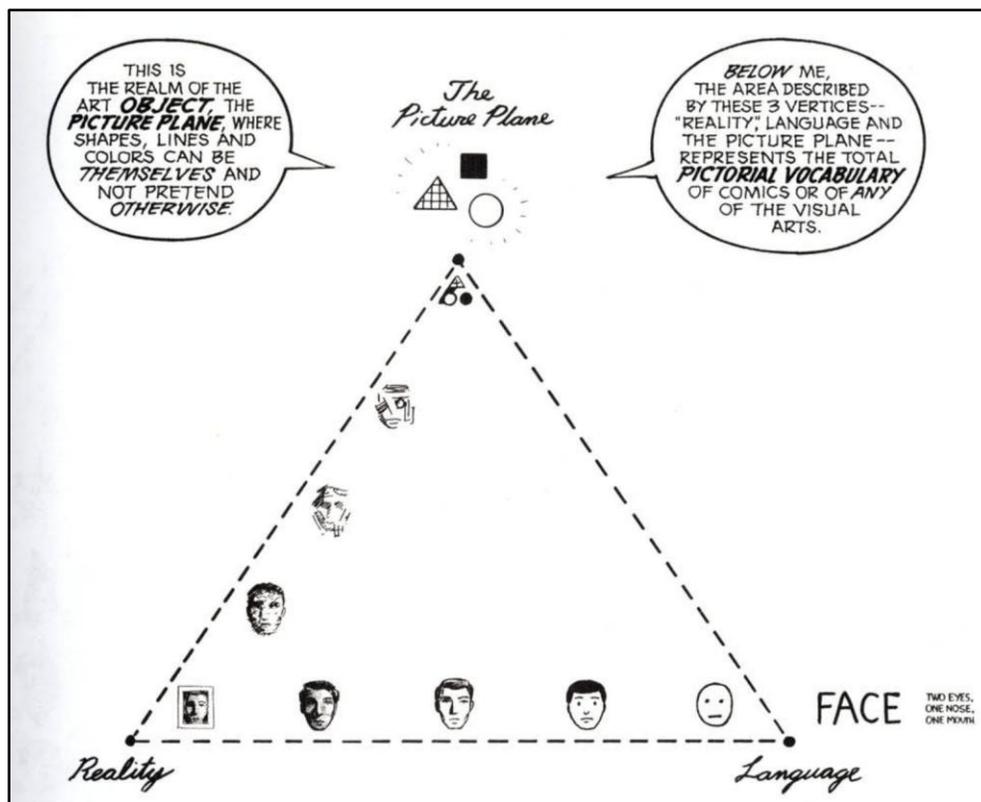
(McCloud, 1994, p. 51)

McCloud argues that, while every figure at the base of the triangle is recognizably a face, the image on the left-hand side of the page is photorealistic—an image of a specific man—whereas the faces on the right become less specific, more universal, more *iconic*, and approach the realm of language ("FACE") more so than imagery. As McCloud illustrates:
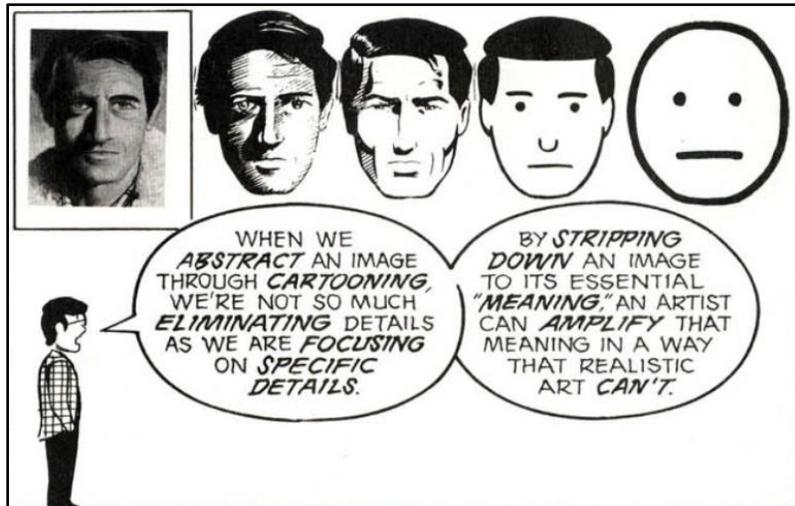
(McCloud, 1994, p. 30)

In other words, the icon ☺ has more in common with the word *face* than it does with a photo-realistic image of a face. I argue that, when crafting slide decks, we best serve our audience by aiming for *icons*, not realism.

Concrete Nouns

Poetry courses often begin with discussions of concrete nouns vs. abstract nouns: **concrete nouns** are tangible items or people, while **abstract nouns** are intangible or non-imagistic things (Ellis, 2022). A fruitful in-class exercise is to create a list with students matching pairs of abstract and concrete nouns:

Abstract	Concrete
education	school
government	White House
wisdom	brain
marriage	chapel
health	medicine
death	coffin

Poetry, though often thematically concerned with grand abstract concepts, is more vibrant when executed with imagistic concrete nouns. Similarly, slide decks featuring *concrete* noun icons—as opposed to abstractly connected images—are more winning.

Students are prone to include on their slide decks images that simply fill space instead of clarifying content, as shown below:
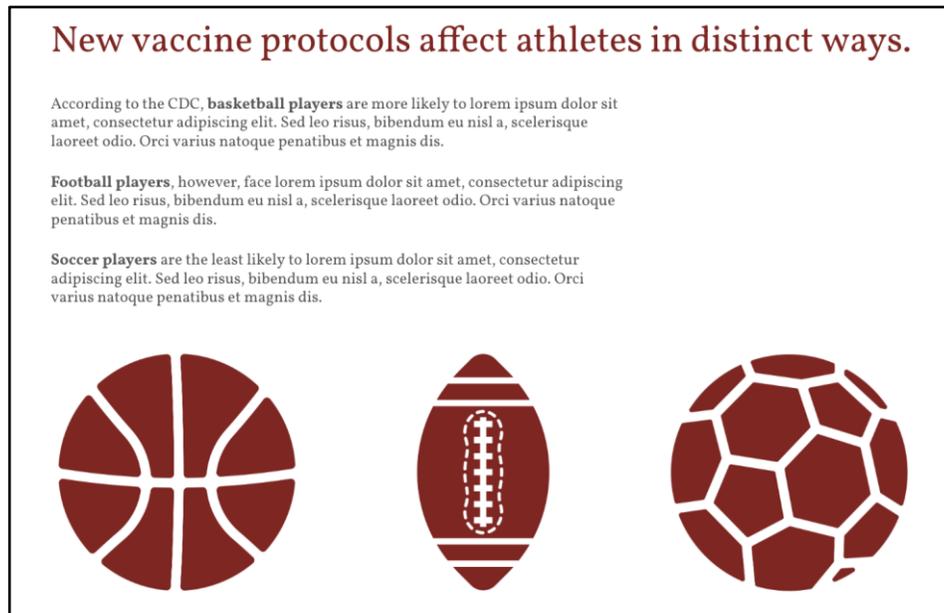
These images connect to the content thematically, but the viewer's eye is torn between looking at the text or at the image. This design violates the Proximity Principle, which states that content should appear *closer to* (not farther from) related content (Williams, 2015), and in this spirit I show students how to rearrange these images for greater rhetorical effect:
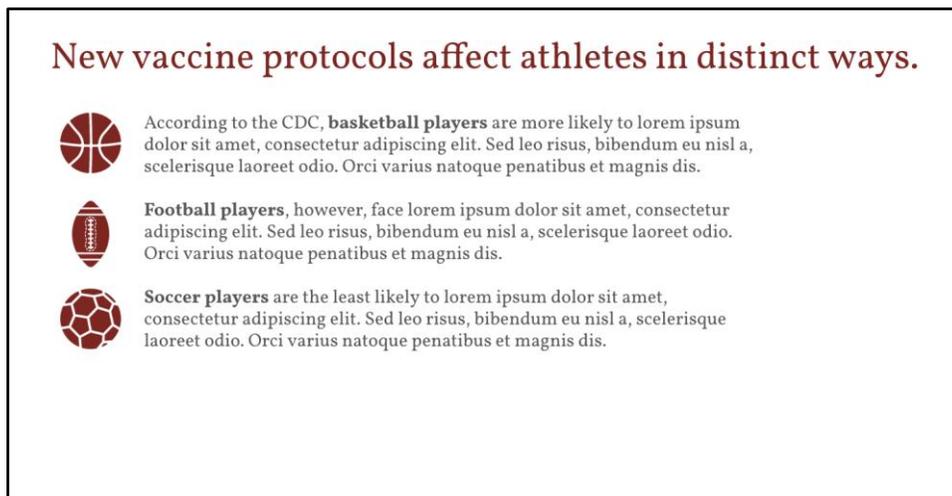
The slide improves dramatically when like elements appear together. The images here guide the viewer rather than distract them, respecting the English-language reader's impulse to read left-to-right and top-to-bottom (rather than bottom-to-top).

These three maroon images are *icons*, not pictures. They exist on the McCloudian reality-language axis much closer to *language* than *reality*, and it's *language* that presenters strive for. In my presentation and pedagogy, I go on to offer design alternatives with increasingly photo-realistic icons—though I ultimately reject them, as photo-realism decreases viewer engagement and increases misunderstanding through distraction.

Ultimately, students leave this lesson with a clear understanding of why—and how—to fill their slides with only precise, concrete, and frictionless graphics.

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Beyond Professionalism: Participatory Research to Revise How We Talk to Students About Being "Professional"

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This participatory research project provides suggestions for how educators can address the tension of teaching students to meet employer expectations while acknowledging injustices professionalism upholds. Business and professional communication (BPC) instructors often teach career development and thus are concerned with professionalism (Doan, 2021). However, scholars have increasingly questioned values of professionalism as standards of appearance, communication, and work styles can oppress (Gelms & Johnson, 2024; Gray, 2019). As BPC instructors should use inclusive pedagogies (Melonçon, 2018; Oswal, 2018), this tension around professionalism led me to ask how can educators talk about professionalism to students while accounting for, as Margaret Hsiao (2024) writes, "both 'student's future success' and society's future success through social justice" (297).

Methods

This IRB-approved participatory research and design project (Agboka, 2013; Costanza-Chock, 2020; Jones, 2016) builds on Kristin Bennett's (2024) work which calls for professional communicators to partner with career services to "challenge the rhetorical pairing of ableism and professionalism" (323). I partnered with three career and student support specialists to take up Bennett's call and extend it to address professionalism's oppressions in addition to ableism. Using Rebecca Walton et al.'s (2019) 4Rs of Recognize, Reveal, Reject, and Replace, participants and I reconsidered and revised language around professionalism for a large public university's career services. I collected data through recorded conversations with participants.

Discussion

Through weekly discussions sharing lived experiences and analyzing career services' current rhetoric of professionalism, we constructed an understanding of professionalism emphasizing professionalism's context-specificity. For example, one participant explained about dress expectations: "Don't have too much makeup, but don't have no makeup. It's…this fine line, and then it changes, depending on the setting and environment…Which is what makes it so confusing." Participants also noted how culture, race, gender, etc. can further intersect with professionalism and how this complicates how professionalism is taught to students.

Next, we used our new understandings of professionalism to revise language on our career services websites. For example, we changed demands of "firm handshakes" and "eye contact" when meeting employers to suggestions of "making a connection with the employer" in order to avoid ableism. We also recognized a responsibility to inform students of employer expectations (even when these expectations might be oppressive) and included nods toward these expectations; for example, adding that, in a career fair, "The people you meet will likely want to shake hands." Shaking hands is no longer framed as a requirement, but students are aware it may be expected.

This project calls for BPC scholars to collaborate with career services specialists to revise language around professionalism. I suggest framing the process of revising language as a work-in-progress as this invites participants to tackle a shared challenge together. These partnerships can also facilitate sharing of career knowledge, valuable to both scholars and career services specialists. Rethinking the language educators use around professionalism works toward building inclusive career pedagogies that empower instead of unintentionally oppress students.

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Speak Up!: A Faculty Workshop
on Coaching Graduate Communication for the Job Market[1]

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Abstract

This paper describes the design and implementation of a dynamic, skills-based workshop series delivered to help prepare doctoral students—particularly international students—for the evolving demands of the global academic job market. Grounded in communication theory and informed by generative AI tools, applied improvisation, and interactive reflection, the workshop series supported students in building adaptability, authenticity, and confidence. Through hands-on activities and collaborative exercises, participants explored learner-focused strategies for professional storytelling, spontaneous communication, and audience-centered messaging. Participants left with actionable tools and frameworks, and facilitators developed a set of adaptable materials that can be used or modified by practitioners at other institutions.

Facilitators' observations and feedback from students revealed three key outcomes: improved communication skills through practical strategies, increased confidence and self-awareness in professional settings, and a pleasantly surprising sense of culture and connection among peers. Students reported gaining valuable tools for refining their tone, body language, and delivery, while also appreciating the opportunity to reflect on their academic identity in a supportive environment. The workshops not only enhanced their readiness for the job market but also fostered a collaborative space for mentorship and mutual encouragement.

Introduction

In the fall of 2024 at a top 20 business school in the United States with an overall enrollment of 70+ doctoral students, we developed and led a series of three workshops designed specifically for students preparing for the academic job market. Twenty-three students participated in the workshop series, representing a mix of third-, fourth-, and fifth-year doctoral students. The idea for these workshops emerged from a conversation with the director of the doctoral program, who highlighted a growing recognition among business school faculty of the need for more comprehensive job market preparation for students. Faculty observed that students were eager for opportunities to practice, receive actionable tips, and build confidence in their professional presentation skills. Moreover, faculty observed a need for student improvement in presenting and networking skills, initiating conversations, and answering questions. Ultimately, the workshops were intentionally structured to build upon one another and target each of these areas.

Figure 1: Speak Up! Workshop Series: A scaffolded journey to confident communication

01   **"Tell me about your audience"** – focused on audience awareness and presentation skills

02   **"Tell me about your research"** – emphasized communicating complex ideas to non-expert audiences

03   **"Tell me about yourself"** – helped participants craft compelling personal narratives for interviews and networking

Figure 1: The Speak Up! series began with *"Tell me about your audience,"* which focused on enhancing general presentation skills through the lens of audience awareness. Next came *"Tell me about your research,"* where students practiced communicating their work to non-expert audiences—an essential competency for job interviews, interdisciplinary collaboration, and public engagement. The final session, *"Tell me about yourself,"* helped students develop a compelling personal narrative for interviews and networking, aligning their self-presentation with their professional goals.

Literature Review

The transition from doctoral study to academic employment presents a complex set of challenges for PhD students, particularly in business disciplines where communication, cultural fluency, and interdisciplinary engagement are critical. Scholars have increasingly called for more structured, practical preparation to bridge the gap between academic training and job market expectations.

Anastas (2012) underscores the disconnect between traditional doctoral education and the realities of academic employment, noting that students often lack exposure to the "trade secrets" of teaching, research communication, and professional self-presentation. This gap is especially pronounced in areas such as job interviews, grant writing, and interdisciplinary collaboration—skills that are rarely emphasized in standard curricula but are essential for success on the academic job market.

Diehl (2021) further contextualizes this issue within the broader structural shifts in higher education, including the decline of tenure-track positions and the rise of contingent faculty roles. These changes have intensified competition and increased the need for PhD candidates to distinguish themselves through polished communication, adaptability, and cultural awareness. In response, many programs have begun to implement workshops and coaching sessions focused on job talks, publishing, and professional networking.

An applied and experiential extension of the scholarly concerns raised by Anastas (2012) and Diehl (2021) can be found in *The Hidden Curriculum*[2] (2025) podcast, where hosts Hollingsworth and Teotrillo conduct interviews to share insights into the academic job market for economics doctoral students. Anastas's (2012) call for more transparent, skills-based preparation is echoed in Episode 10, which offers insider guidance on crafting job market papers and navigating interviews (Hollingsworth & Teotrillo, 2020). Episode 42 further reinforces this theme by modeling how to deliver a compelling research pitch, emphasizing clarity, structure, and audience engagement (Hollingsworth & Teotrillo, 2022).

Diehl's (2021) emphasis on adaptability and cultural awareness is reflected in Episode 31, which explores the unique challenges faced by international graduate students, including cultural adjustment and institutional support needs (Hollingsworth & Teotrillo, 2021). This call for support aligns with the workshops' focus on audience awareness and inclusive design, particularly for international scholars. Episodes 6 (Hollingsworth & Teotrillo, 2020) and 8 (Hollingsworth & Teotrillo, 2020) offer strategies for initiating interdisciplinary conversations and maintaining professional networks—skills essential for collaboration and visibility in today's academic landscape. Episode 12 reinforces the idea that networking is a learnable and strategic skill, vital for career development and long-term success (Hollingsworth & Teotrillo, 2020).

These recommendations on interdisciplinary communication and networking skills closely align with our argument that effective job market preparation must include relational and strategic communication. By integrating technology (e.g., Google Notebook LM, Orai), applied improvisation, and interactive worksheets, the workshops address both the content and delivery aspects of academic communication. The workshops also pay particular attention to the needs of international students, who often face additional barriers related to language and cultural expectations. This multifaceted approach reflects a growing consensus in the literature: that effective job market preparation must go beyond content mastery to include audience awareness, adaptability, and authentic self-presentation (Anastas, 2012; Diehl, 2021; Hollingsworth & Teotrillo, 2020; Hollingsworth & Teotrillo, 2022)

Contribution

The outcomes of the workshop series described in this paper directly connect to three key elements: practical communication training, confidence-building through structured reflection, and—perhaps most notably— cultivating community and peer mentorship. The first two outcomes align with existing literature that demonstrates the need for skill development and self-awareness in academic preparation. However, the third outcome—the emergence of a supportive peer network—adds a novel contribution to the field. While not an explicit goal of the workshops, this sense of connection proved to be a powerful and unexpected benefit. It does echo Lightfoot et al.'s (2021) emphasis on the value of informal mentoring and shared vulnerability, suggesting that community-building may be an underutilized yet essential component of job market readiness as we will discuss later.

By combining various innovative instructional methods (improvisational techniques, interactive worksheets, and digital tools—all discussed below), the workshops created a space where students could not only refine their professional narratives but also support one another in the process. This collaborative environment fostered a sense of shared purpose and mutual investment, encouraging participants to engage more deeply with their own stories while learning from the experiences of their peers. Such peer-to-peer engagement proved especially valuable in demystifying academic and professional pathways, reducing isolation, and

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[2] The Hidden Curriculum

cultivating a culture of openness and reflection. This finding contributes to a growing body of literature that positions doctoral education as not just a technical endeavor, but a deeply social and developmental one—where community building is not a byproduct but a central pedagogical aim. For instance, PhD students with an advisor that is an editor at a top journal have better post-graduation publication outcomes (Carrell et al., 2024). Additionally, assessments of females' contributions to coauthored articles are less than their male counterparts (Card et al., 2022). Each of these results comes in conjunction with evidence that indicates editors themselves tend to promote submissions from earlier career academics in comparison to advanced career academics (Card & DellaVigna, 2020). In this context, the workshops served as micro-communities of practice, where trust, vulnerability, and collective growth were actively nurtured, reinforcing the idea that scholarly development flourishes most fully in connection with others.

Importantly, while a dimension we did not intentionally design our workshops around, Lightfoot et al. (2021) advocates for a more holistic approach to job market preparation, one that includes not only technical skill-building but also mentoring and emotional support. Their work highlights the value of experiential learning methods—such as mock interviews, improvisational exercises, and reflective writing—as tools for developing confidence and clarity in professional communication. Taken altogether, our own workshops in combination with Lightfoot et al. (2021) indicate that a critical and perhaps unnoticed dimension of a PhD curriculum is the cultivation of professional communication skills, confidence and self-awareness, and community building.

This paper offers a set of practical, adaptable activities suitable for a wide range of learners—from first-year undergraduates to doctoral students. In addition to providing ready-to-use workshop content, it aims to inspire readers to design and implement a similar workshop series at their own institutions or organizations in order to better support doctoral student success and development.

Methodology

To get the students *doing* and *practicing* concepts we were teaching, we employed three innovative pedagogical methods: technology, improvisation, and interactive worksheets. Additionally, following each session, we asked participants to complete a survey.

Pedagogical Methods

Technology

We implemented a comprehensive suite of digital tools to support both research communication and global business awareness. These included Google Notebook LM[3], Orai[4], and PowerPoint Rehearse with a Coach[5] for presentation development and delivery, along with Hofstede Insights[6], GlobeSmart[7], and MarketLine Advantage[8] to build cross-cultural and market knowledge. Together, these tools helped students—particularly international students—develop the clarity, confidence, and cultural intelligence needed to succeed in academic interviews, job talks, and professional interactions. This emphasis on communication as a core

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[3] Google Notebook LM
[4] Orai
[5] PowerPoint Rehearse with a Coach
[6] Hofstede Insights
[7] GlobeSmart
[8] MarketLine Advantage

element of adaptation reflects findings from Wilczewski and Alon (2022), who highlight language and communicative competence as central to international students' academic success.

Google Notebook LM was integrated into the workshop as a core tool for helping students translate technical research into language accessible to broader academic audiences. Research indicates that AI tools can enhance intercultural communication competence and help non-native speakers adapt to global academic audiences (Klimova & Chen, 2024). By uploading their job market papers, students received AI-generated summaries—in the form of an engaging podcast—which clarified key contributions and emphasized relevance across subfields. This was especially valuable for international students, who used the tool to practice aligning their research with the rhetorical expectations of U.S. academic discourse and to frame their work in terms of impact and interdisciplinary significance.

We recommended both the Orai app and PowerPoint's "Rehearse with Coach" feature as self-guided tools to support oral communication skills. AI-infused oral communication tools yield measurable improvements in fluency and confidence for students with language and cultural adaptation challenges (Grab, 2025). Although not used during workshops, it reinforced concepts taught and practiced in the sessions by providing real-time, AI-powered feedback on pacing, filler words, vocal clarity, and confidence. By rehearsing job talks and interview responses, students—especially international students—improved fluency, reduced nervous habits, and developed a more polished, audience-ready delivery.

In addition to communication-focused tools, we introduced three global business resources to support students' cultural awareness and global literacy. While these tools were not used extensively during the workshops, they were recommended for continued, self-directed use.

1. Hofstede Insights allowed students to compare cultural dimensions—such as power distance and individualism—to better understand how values shape communication, decision-making, and organizational behavior. This was especially helpful when preparing for international interviews or working in diverse academic settings.

2. GlobeSmart offered practical guidance on global business practices, communication styles, and professional expectations. For international students, it provided a valuable bridge between their home culture and the norms of U.S. or global institutions.

3. MarketLine Advantage complemented these tools with detailed country profiles and PEST analyses, helping students situate their research and teaching within broader global trends. For instance, those focused on emerging markets could assess local economic and regulatory contexts to enhance job materials and interview responses.

Together, these tools extended the impact of the workshops by offering students—particularly international students—flexible ways to build cultural intelligence, adapt their messaging, and prepare for the global academic job market.

Improvisation

When we refer to improvisation, we are specifically talking about applied improvisation—the use of games and exercises that improvisers rely on to collaborate and create spontaneously. These activities are designed to teach active listening—the practice of staying present and receptive rather than letting the inner critic dominate the mind. Improvisation also fosters adaptability, helping individuals adjust in real-time to new

information or shifts in direction, and it builds confidence in one's message, encouraging individuals to express themselves without overthinking or self-doubt. Research shows that these improvisational techniques promote spontaneity, attentive listening, collaboration, and deep learning in the classroom (Berk & Trieber, 2009).

To highlight the impact of nonverbal communication, we used Uncertain Dialogue, an activity in which student pairs perform the same neutral script under different assigned scenarios—such as ex-romantic partners or bank robbers. The dialogue (e.g., "Hello," "So, what do you think we should do now?") stays constant, while meaning is conveyed entirely through body language, tone, and posture. Without knowing the scenario, the audience interprets the scene based solely on these nonverbal cues (see Appendix A for full script).

Afterward, students reflect on how they conveyed meaning beyond the words of the script —for example, how posture or tone shaped audience perception. The exercise reinforces how nonverbal communication influences real-world interactions like networking, interviewing, and public speaking—often more powerfully than language alone.

To help students explore status in social interactions, we used Status Hierarchy, an activity in which students drew a playing card to represent their status—2 as the lowest, Ace as the highest—and participated in a simulated networking event. Students embodied their assigned status through posture, eye contact, and tone, with higher-status roles adopting confident, open body language and lower-status roles appearing more reserved.

The exercise encouraged reflection on how nonverbal cues shape interactions and convey status. It also opened a discussion on cultural norms—for example, how eye contact may signal warmth and competence in Western contexts but can be inappropriate when directed at higher-status individuals in other cultures. Our goal was to help students better understand how such cues are interpreted across cultural settings, particularly in professional environments.

The Sell the Thing exercise required students to think quickly, remain in sync with their groupmates, and respond to spontaneous questions—skills that mirror the adaptive communication strategies fostered in improvisation training. Such exercises have been shown to reduce performance anxiety and reframe mistakes as opportunities for growth (Grayson & Napthine-Hodgkinson, 2020).

For this activity, each group was given a random object—often one with an unclear or unconventional purpose, such as a shower hook or an old air freshener container. Groups had 3 minutes to work together to develop a creative name and new purpose for the object. Once the group had decided on their product's identity, they had 30 seconds to present the object and its new use to the audience. After the presentation, the rest of the group's time (about 5-10 minutes) was spent answering questions from their peers. These questions ranged from who the target audience was, to where the object was manufactured, and even how it could be marketed. Students needed to think quickly, remain in sync with their groupmates, and provide spontaneous, consistent answers.

Figure 2: Sell the Thing collaborative activity
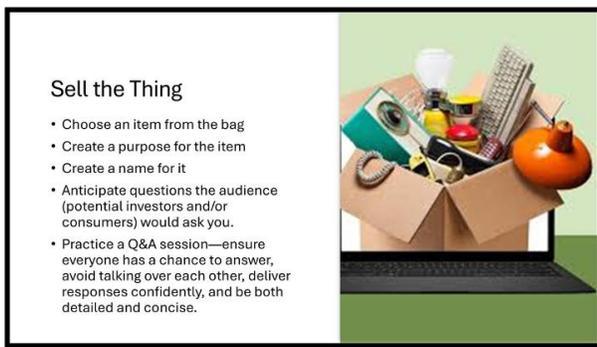
Figure 2: This exercise emphasized the value of collaboration and the ability to think and speak quickly. By answering questions in real time, students also learned to be flexible in adapting their responses, a crucial skill in both business pitches and public speaking situations.

Interactive Worksheets

Our final method was to integrate a series of interactive worksheets into the workshop curriculum. Designed to promote reflection, strengthen communication skills, and build confidence for interviews and job talks, the worksheets drew from established frameworks and resources—including Duarte's *Slide:ology* (2008), Osborne and Turner's *Public Speaking: Finding Your Voice* (2017), and the STAR method - Situation, Task, Action, and Result for behavioral interviews. They provided structured, hands-on practice that reflected the principles of experiential learning—*learning by doing*—where reflection serves as the critical link between experience and understanding (Bui, 2023).

One foundational worksheet used in the workshop was "Distill Your Research," adapted from Nussbaumer Knaflic's *Storytelling with Data* (2015). This activity guided students through a reflective process to articulate the core message of their job market paper in a clear and compelling way for a broad academic audience. Students began by identifying their target listener—such as a faculty member outside their subfield—and considering what that audience values and what action they want to inspire. They then reflected on what is at stake: the potential benefits if their research is understood and the risks if it is not. Finally, they distilled their work into a single sentence that captured their point of view, emphasized relevance, and conveyed the essence of their research. This exercise clarified students' messaging and strengthened their ability to speak persuasively in interviews and job talks. It was especially valuable for international students working to align their communication with U.S. academic expectations.

Figure 3: Distill your Research interactive worksheet process

WHO is your audience?	List the primary groups or individuals with whom you'll be communicating.	What does your audience care about?
WHAT keeps them up at night?	What are the benefits if your audeince acts in the way you want them to?	What are the risks if they do not?
Distill your Research	Articulate your point of view in ONE sentence.	Remain audience-centered.
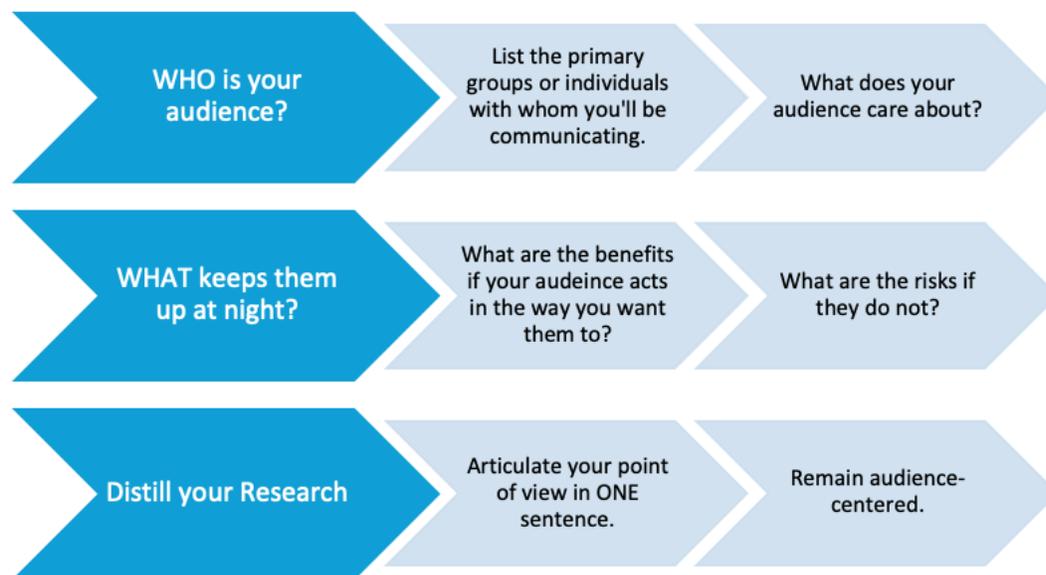
Figure 3 shows the process participants followed to both articulate their research to a general audience and prepare for the quick pitch while on the academic job market.

One student gave permission to share their example:

> "My current favorite research stream examines how AI transforms microtasks on volunteer websites, where AI performs parts of the tasks that volunteers used to do. I've found that while AI makes tasks simpler and increases productivity for volunteers, AI can negatively impact task engagement and their eventual intent to do more tasks."

One international student shared how she is already applying her learning outside of the workshops:

> "It has only been one month, but the sentence that I wrote down as a part of the first workshop output has already help[ed] me start many in-person conversations, including a few with external seminar speakers."

To support interview preparation, we introduced a worksheet based on the STAR method, a common framework for answering behavioral interview questions. The worksheet guided students through each step, helping them recall and structure real-life examples from their academic or professional experiences. It was especially effective for prompts like "Tell me about yourself" or "Describe a time you overcame a challenge." By practicing multiple STAR stories in advance, students built a ready set of examples to use in interviews. For international students, the framework offered a clear, culturally familiar structure that reduced ambiguity and supported confident, outcome-focused storytelling—even for those less accustomed to self-promotion.

To help students prepare for job talks and conference presentations, we incorporated principles from Duarte's *Slide:ology* (2008), particularly her "Seven Questions to Know Your Audience." These questions—such as "What keeps them up at night?" and "How might they resist your message?"—were embedded in a worksheet that guided students in analyzing their audience and anticipating how their message might be received. The exercise encouraged strategic thinking about how to frame research, choose examples, and design visuals that

resonate across disciplines. For international students, it was especially valuable in developing audience awareness—a skill not always emphasized in other academic cultures—and in learning how to connect with listeners beyond their field.

In addition to content development, we emphasized delivery—particularly extemporaneous speaking, which is essential during Q&A sessions and informal interviews. Drawing from Osborne and Turner's *Public Speaking: Finding Your Voice* (2017), we developed worksheets to help students use keyword outlines and live practice techniques. Instead of scripting full talks, students organized their ideas into concise, flexible outlines that supported natural delivery. The worksheet included space to draft outlines, mark transitions, and rehearse in front of peers, helping students build fluency, receive feedback, and gain confidence in speaking without reading. This approach was especially valuable for international students, offering a safe environment to refine delivery and adapt to U.S. communication norms.

Together, these interactive worksheets formed the backbone of our workshop series. They offered a structured yet adaptable framework for reflection, practice, and growth—and served as tangible takeaways to encourage continued practice beyond the workshop. By engaging with these tools, students gained clarity about their research and experiences while building the confidence and adaptability needed for high-stakes academic communication. This outcome reflects recent research emphasizing that experiential learning frameworks foster intercultural awareness and improve communication skills in diverse academic settings (Wibowo et al., 2024).

Survey Methodology

At the end of each session, we asked participants to complete a short survey. Below are the survey questions asked following each session.

Post-session survey questions from *Tell me about your audience* during year one:

1. On a scale of 1-10, how confident do you feel about your communication skills in the job market?

2. What are three key takeaways or insights you gained from today's workshop?

3. What recommendations do you have for improving this workshop? Please be as specific as possible.

Post-survey questions combined Likert scale questions with 1 "not confident at all" to 10 "extremely confident" and two open-ended questions.

Post-session survey questions from *Tell me about your research* during year one:

1. On a scale of 1-5, how confident are you in your ability to communicate about yourself after completing this workshop?

2. On a scale of 1-5, how confident are you in networking after completing this workshop?

3. On a scale of 1-10, how confident do you feel about your communication skills in the job market?

4. What are three key takeaways or insights you gained from today's workshop?

5. What recommendations do you have for improving this workshop? Please be as specific as possible.

Post-survey questions combined two Likert scale questions with 1 "not confident at all" to 5 "extremely confident," one Likert scale question with 1 "not confident at all" to 10 "extremely confident," and two open-ended questions.

Post-session survey questions from *Tell me about yourself* during year one:

1. On a scale of 1-5, how confident are you in your ability to answer and ask one-on-one interview questions after completing this workshop?

2. On a scale of 1-10, how confident do you feel about your communication skills in the job market?

3. What are three key takeaways or insights you gained from today's workshop?

4. Would you encourage other PhD students to participate in these workshops if they have the opportunity?

5. Please briefly explain your answer to the previous question.

6. What recommendations do you have for improving this workshop? Please be as specific as possible.

Post-survey questions combined one Likert scale question with 1 "not confident at all" to 5 "extremely confident," one Likert scale question with 1 "not confident at all" to 10 "extremely confident," and three open-ended questions.

Post-session survey questions in all three sessions during year two:

1. On a scale of 1 (not at all) to 5 (immensely), how much has your confidence improved in explaining your research to non-specialists?

2. On a scale of 1 (not at all) to 5 (immensely), how much has your confidence improved in communicating across disciplines?

3. On a scale of 1 (not at all) to 5 (immensely), how much has your confidence improved in preparing for job market talks and interviews?

4. On a scale of 1 (unlikely) to 5 (on more than 5 occasions), how likely are you to apply what you learned in the next six months?

5. Which activity or concept was most valuable to you?

6. What suggestions do you have for improving this workshop?

Post-survey questions combined four Likert scale questions with two open-ended questions. Post-survey questions remained consistent for all three sessions. Question 4 aimed to quantitatively measure student perception of practical implementation of communication skills on the job market.

<center>**Results and Implications**</center>

Three key outcomes emerged from post-session surveys, qualitative participant anecdotes, and feedback from the director of the doctoral program: improved communication skills through practical strategies, increased confidence and self-awareness in professional communication, and—somewhat unexpectedly—an appreciation for the culture and connection that developed.

Improved Communication Skills Through Practical Strategies

Students gained concrete tools to enhance how they present themselves and their research, especially in terms of tone, body language, and audience awareness. Here are a few quotes pulled from the surveys, showing the qualitative impacts of the workshops:

> "Breathing strategies, points of inflection using the red dot strategy—how delivery can have an impact even if the script is the exact same."

> "The tone of the speaker can influence how the same script could be perceived by the audience."

> "Nonverbal communication matters a lot… Be aware of default gestures or facial expressions."

Students emerged from the workshops with a heightened awareness of how delivery—through tone, body language, and audience engagement—can significantly shape the reception of their research narratives. This can quantitatively be seen in the year two survey results to question 4, "On a scale of 1 (unlikely) to 5 (on more than 5 occasions), how likely are you to apply what you learned in the next six months?" where responses averaged a 4.8 out of 5. The emphasis on embodied communication strategies empowered them to move beyond content mastery and toward more intentional, persuasive self-presentation. These insights underscore the importance of integrating performance-based techniques into academic training, not only to enhance individual confidence but also to foster more dynamic, responsive scholarly communities.

Increased Confidence and Self-Awareness in Professional Communication

The workshops helped students feel more confident, intentional, and self-aware in high-stakes academic settings such as job talks, interviews, and conference presentations. Through structured reflection, guided practice, and real-time feedback, participants developed not only the technical skills of academic communication but also the mindset needed to present themselves authentically and persuasively. Quantitative results to post-workshop Likert scale survey questions with the word "confidence" in them show a progressive improvement as participants progressed through the series. For example, during workshop one *Tell me about your audience* during year one, the mean response was 6.2 to the question:

On a scale of 1-10, how confident do you feel about your communication skills in the job market?

During workshop two *Tell me about your research* during year one, the mean was 7.7 and during workshop three *Tell me about your audience* during year one, the mean response improved to 8.5 to the same question. We have not delivered all three workshops during year two and do not have data analysis available at this time.

A particularly resonant concept introduced during the sessions was the framework of "warmth and competence." This dual-focus model offered students a concise yet powerful reminder: to make a lasting

impression, it is not enough to simply demonstrate expertise. Audiences—whether hiring committees, colleagues, or students—respond most positively when a speaker conveys both warmth, which fosters trust and connection, and competence, which establishes credibility and authority.

Participants appreciated how this framework helped them reconsider their approach to communication. Rather than focusing solely on delivering polished content, they began to see the value in showing enthusiasm, empathy, and approachability—especially during moments of improvisation or uncertainty. At the same time, they learned to ground that warmth in clarity, structure, and confidence in their message. This balance is particularly important in academic contexts, where candidates must demonstrate intellectual rigor while also building rapport with a diverse audience. By practicing this balance in a supportive environment, students left the workshops better equipped to navigate the interpersonal dynamics of the academic job market with authenticity and poise.

Community and Connection

One unexpected and deeply rewarding outcome of the workshops was the strong sense of community and informal mentoring that naturally emerged among participants. The workshops created a rare and valuable space for connection. Through shared exercises, group discussions, and moments of vulnerability during practice sessions, students found opportunities not only to refine their communication skills but also to connect, laugh, and build relationships with peers from different disciplines and backgrounds.

The collaborative nature of the workshops fostered a spirit of mutual encouragement and mentorship. Students began to see each other not just as fellow job market candidates, but as allies in a shared journey. This connection extended beyond the sessions, with students staying after the session ended to rehearse, discuss concepts, and offer support. What began as a series of skill-building workshops evolved into a community of practice, where students could grow together, celebrate progress, and navigate the challenges of the academic job market with a greater sense of belonging and shared purpose.

In his letter of support, the director of the doctoral program emphasized the workshops' impact on student success:

> "Another strength of Becca and Dawn's work was their emphasis on providing opportunities for peer-to-peer feedback. Students practiced with one another, offering constructive comments and learning by observing approaches. This structure not only increased the amount of practice each participant received but also deepened their ability to give and receive feedback—an essential academic skill in its own right. The result was a collaborative learning environment where students learned from each other's strengths and challenges, and many remarked that the workshops helped them feel part of a supportive community during what is often a stressful and sometimes lonely stage of the doctoral program."

Overall Impact

In their reflections on the workshop series as a whole, students shared the following:

> "I found all the workshops very helpful! I would have attended more if I could. Coaches taught us many methods, explained the reasons behind them, and let us practice and receive feedback."

"Sometimes in the swing of things we pay less attention to these presentation skills, and the workshops reminded me how important they are."

"We need more sessions."

We are excited to give them more sessions this fall!

Conclusion: Continuing to Speak Up!

We are offering the same set of workshops again in Fall 2025, with two important enhancements: more intentional and supportive messaging around the experience, and increased opportunities for practice and tailored feedback. These enhancements are grounded in our commitment to continuous improvement and our recognition that effective academic communication requires not only technical skill but also confidence, adaptability, and a strong sense of personal voice. By integrating innovative technologies, improvisational techniques, and interactive worksheets, we aim to create a dynamic learning environment that meets students where they are and helps them grow.

Intentional and Supportive Messaging

Feedback—both formal and informal—confirmed that participants found the workshops valuable, particularly the opportunities to reflect on their research and practice communicating it in new ways. At the same time, we recognize that students are managing heavy workloads and that this kind of reflective, personal work can provoke anxiety. In response, we are placing greater emphasis on the psychological safety of the coaching space. Our messaging will clearly communicate that the workshops are designed to be low-stakes, supportive environments where experimentation is encouraged, and mistakes are viewed as part of the learning process. This is especially important as we ask students to engage in improvisational speaking exercises and real-time feedback sessions—activities that can feel vulnerable but are essential for building authentic, confident communication.

Strong Student Demand for More Practice and Tailored Feedback

Students consistently expressed appreciation for the experiential nature of the workshops and asked for even more opportunities for individualized coaching and practice. In response, we are expanding the use of interactive worksheets and improvisational speaking activities to maximize engagement and skill development. Worksheets such as "Distill Your Research" and the STAR method guide students through structured reflection and storytelling, helping them clarify their message and prepare for interviews. These tools are paired with live practice sessions where students use keyword outlines and rehearse in front of peers, drawing on techniques from Osborne and Turner's (2017) *Public Speaking: Finding Your Voice*. This combination of structure and spontaneity helps students develop the flexibility needed for extemporaneous speaking, a critical skill for job talks and Q&A sessions.

We are also continuing to integrate technology in innovative ways. Tools like Google Notebook LM, Orai, and PowerPoint Rehearse allow students to refine their content and delivery outside of workshop hours, providing personalized feedback and opportunities for self-paced practice. These tools are particularly beneficial for international students, who may benefit from additional time and support to adapt to U.S. academic communication styles. By blending in-person coaching with digital resources, we ensure that students have multiple pathways to success.

At their core, these workshops are about more than presentation skills—they are about empowering students to share who they are and what they care about with clarity, confidence, and authenticity. Through a combination of intentional messaging, interactive learning, improvisational practice, and cutting-edge technology, we are creating a space where students can grow not only as scholars but as communicators and professionals.

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Appendix A

The Uncertain Dialogue script:

> A: Hello.
> B: Hello.
>
> A: So, uh, how are you?
> B: About the same. You?
>
> A: Nothing new to report.
> B: I thought maybe you might have something to tell me.
>
> A: Has anything changed?
> B: Not that I know of. Do you know of a change?
>
> A: No.
> B: So, what do you think we should do now?
>
> A: I suppose we could go ahead and ...
> B: Yeah, seems like it's a good plan.
>
> A: Are you sure?
> B: As sure as we ever can be in situations like this.
>
> A: Want to reconsider? A lot is at stake.
> B: No, I'm ready. Let's do it.

From Embodied Practice to Linguistic System: Aikido's Role in Intercultural Business Communication Training

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This paper offers a theoretical reconceptualization by proposing to analyze the martial art of aikido as a system analogous to language, offering a novel perspective to explore its interactions for use in other domains such as intercultural business communication training and to engage critically with linguistic theories. Much of intercultural business communication training remains rooted in a reductionist, knowledge-based paradigm that privileges culture-specific facts or typologies rather than culture-general, experiential processes. In contrast, this paper aligns with a pedagogical turn toward experiential learning, especially in the context of teaching embodied intercultural competence. Aikido, as an embodied practice, provides a fertile case to explore such shifts in both theory and training methodology. By considering aikido as embodied, multimodal, multisensory, and contextual meaning-making, it can be examined as a social system with communicative potential. Drawing on Duranti's (1997) view that language encompasses social interaction and Schlenker's (2018) superlinguistics, which examines cognitive activities akin to language, this paper establishes preliminary connections between aikido and linguistics.

At the basis of considering aikido as a language lies a study that examines aikido as an embodied pedagogy in intercultural business communication training. A mixed-methods experiment with 73 participants primarily assessed learning gains and satisfaction. It also revealed two linguistic features: indexicality and codeswitching. Aikido movements act as indexical signs. For example, the gesture of the outstretched hand at the beginning of an aikido interaction not only signifies entering into physical engagement but also metaphorically represents entering a dialogue with openness, curiosity, and tranquility. This gesture becomes an indexical sign in communication training, symbolizing a constructive connection rather than confrontation. Participants also switch frequently between aikido's embodied language and named languages to reinforce both conceptual and embodied expressions of aikido — for example, explaining a pivoting movement as "turning a challenging question into an opportunity." These interactions surpass traditional linguistic expressions by incorporating gestures, postures, sensory engagement, and environmental contexts.

The application of linguistic concepts from diverse research traditions to aikido opens up insights into its structure and communicative potential and, at the same time, expands the field of linguistic research itself. Scholarship has only just begun to scratch the surface of exploring non-linguistic phenomena through a linguistic lens. However, such analyses must avoid reducing the fluid, dynamic nature of aikido into rigid scripts. Studies should maintain an emphasis on adaptability and the importance of context in shaping interaction.

Rationale

Drawing on recent expansions of linguistic theories, this paper explores the idea that aikido, a Japanese martial art, can be understood as a linguistic system. This proposition emerges from an empirical study on aikido-embodied communication training in intercultural business contexts. While the original study focused on learning gains and satisfaction, it also uncovered linguistic phenomena such as indexicality and codeswitching in aikido practices. These findings, combined with recent expansions in linguistic theory, form the theoretical backbone of this paper.

Rather than focusing solely on its martial or philosophical dimensions, the paper argues for aikido as a structured form of social interaction that conveys meaning through movement, posture, timing, and spatial awareness. The premise is that aikido functions as an embodied, multimodal, and multisensory form of communication and thus qualifies for analysis using linguistic theory. Observations from the study's training groups revealed that participants in the aikido-embodied groups rapidly acquired not only physical techniques but also began using the implicit vocabulary, syntax, and grammar embedded in aikido movement. Once aikido was introduced as a mode of instruction, the participants actively employed postures, gestures, facial expressions, sequences, and conceptual combinations as a coherent communicative system: their aikido-embodied language made meaning and gave meaning.

To make the case for aikido as a communicative system akin to language, this paper proceeds in stages. First, it explores the extent to which there is a need for an experiential, embodied pedagogy in intercultural business communication training and the extent to which recent expansions in linguistic theory allow for a broader interpretation of what constitutes language. Second, it explores aikido as a language by introducing scholarly work that has previously approached aikido as communicative, linguistic, or semiotic and by identifying central linguistic features in aikido that emerged from an aikido-embodied intercultural business communication training experiment. Finally, it outlines the implications of analyzing aikido through a linguistic lens, both for understanding aikido and for expanding the scope of linguistic theory itself.

Background

Intercultural Business Communication Training

In the context of professional training, especially when initiated and funded by employers, the expectation of demonstrable learning gains is paramount. Yet participant motivation may falter when attendance is mandated rather than self-initiated. This dynamic places considerable pressure on facilitators to deliver measurable outcomes that justify the financial investment of the sponsoring organization. When the training focus shifts to soft or transferable skills—such as intercultural communication—evaluating its effectiveness becomes particularly complex (Borghetti, 2017; Collopy, 2020; Deardorff, 2006; Zotzmann, 2015). Quantitative metrics often fall short in capturing the fluid and context-dependent nature of intercultural competence, prompting a preference for mixed-method approaches in assessment (Candel-Mora, 2015; Deardorff, 2015; Szőke, 2018; Tanaka, 2021; Witte, 2014). This methodological challenge is further complicated by the varied and layered influence of learners' personal and professional contexts before, during, and after the training experience (Borghetti, 2017; Candel-Mora, 2015; Meeuwis, 1994).

In addition to training contexts, most forms of business communication are closely tied to the notion of returns. In an early attempt to articulate a centered definition—one that identifies a central focus rather than delineating strict boundaries—Reinsch (1991, as cited in Reinsch, 2022) described business communication as "communication intended to help a business to maximize shareholder wealth" (p. 91). Both his earlier and

more recent formulations revolve around "the communication (or rhetoric) of profit-oriented individuals and organizations as they participate in markets" (Reinsch, 2022, p. 92). These definitions, however, have been criticized for their limited scope, as they exclude organizations that operate outside the for-profit sector.

Non-profit organizations, for example, are primarily mission-driven, yet they often employ the same communicative strategies and principles as their for-profit counterparts to realize their objectives. Despite the differences in structure and financial priorities, both types of organizations work towards achieving defined goals—even if, in the case of non-profit organizations, financial considerations are usually subordinated to the fulfilment of the mission. Given this broader landscape, a more inclusive centered definition might be proposed: business communication is communication intended to help businesses, organizations, and individuals maximize their mission.

In professional environments, intercultural communication is typically instrumental: driven by organizational aims rather than purely personal interest (Kobayashi & Viswat, 2011). Still, the competencies required in these settings are not fundamentally different from those needed in other intercultural contexts. Practical experience and language proficiency may provide initial advantages, but intentional learning processes remain essential for developing intercultural competence (Deardorff, 2009; Graf & Mertesacker, 2009; Tanaka, 2021). However, despite increasing awareness of its value, many organizations underinvest in intercultural training (Waxin & Panaccio, 2005). Some overestimate white-collar workers' ability to navigate language barriers, while underestimating the potential of blue-collar workers in similar circumstances (Decock et al., 2018). Moreover, when intercultural training is offered, it often defaults to superficial, cognitive approaches that frame culture as a set of stable differences to be learned. Such an approach, grounded in comparative knowledge of national cultures, is criticized by Piller (2017) as a quick-fix model.

The disjuncture between academic insight into intercultural competence development and training practice persists, particularly in time-constrained business environments. A review of Graf's work on intercultural training design makes this tension clear: while fundamental knowledge can be acquired rapidly, the deeper processes of shifting perceptions and building intercultural sensitivity require sustained engagement ("Breaking down Barriers: Effective Training for Intercultural Situations," 2005). Yet many companies continue to structure training as brief interventions, misaligned with the timeframes needed for meaningful development. As (Lee, 2023) notes, organizations frequently adopt a "just enough" strategy that reduces training hours or limits participation in response to financial and logistical constraints, despite evidence that longer and more comprehensive programs yield stronger and more lasting outcomes. This short-termism undermines the cultivation of intercultural competence, which is not only complex but also dynamic and lifelong in nature (Deardorff, 2009).

Taken together, the imperative to demonstrate return on training investment, the inherently goal-driven character of business communication, and the often reductionist design of intercultural business communication training tend to shape evaluation practices. Training outcomes are frequently assessed through participant satisfaction surveys or short-term learning gains, as perceived by both the participant and the sponsoring organization. In some cases, assessment extends to formal testing of intercultural communication skills. Yet, the development of intercultural competence—whether through immersion in another culture, guided reflection, interpersonal encounters, or structured learning experiences such as workshops and coaching—remains a gradual, ongoing process that fundamentally depends on experiencing (Deardorff, 2009, p. xiii).

Crucially, developing intercultural business communication competence not only requires time and sustained effort but also involves a greater awareness of how communication is shaped by interaction, process, and

context. Intercultural competence is not just a set of skills to be learned; it develops through ongoing experience, reflection, and active engagement. To fully grasp this, we need broader frameworks that move beyond viewing communication as a simple exchange of information. Language, for example, can be understood as a means of exploring, connecting, and making sense of complex interactions.

Recent Expansions in Linguistic Theories

Linguistics as a discipline encompasses a wide range of traditions and theoretical orientations. Over two decades ago, Duranti (1997) observed a shift in linguistic anthropology: what was once considered outside the domain of language—such as gesture, context, and embodied practice—was increasingly being drawn into the field's scope.

> If language becomes synonymous with social interaction, as I have often stated in the previous chapters, how can we still distinguish between words and actions and, ultimately, between words and objects? How can we specify the boundaries of our observations? (Duranti, 1997, p. 339)

Language, Duranti argued, had moved from being a classificatory system to serving as both a window onto reality and an instrument for investigating social life. He also questioned how, if language is understood as social interaction, we can still meaningfully distinguish between words and actions, or between linguistic signs and physical objects (p. 339). As a result, defining the boundaries of language had become more difficult: "What used to be thought of as outside of language is now more and more often seen as part of language" (p. 338). Duranti ultimately characterized language as social interaction and as a dynamic object of inquiry that continues to expand.

A more recent expansion of this kind is captured by the emerging field of superlinguistics, a term introduced by Schlenker (2018) and further developed by others (e.g., Patel-Grosz et al., 2023). Superlinguistics explores human cognitive activities with systems that are analogous to language or exhibit similar structural features (Moeschler, 2021, p. 189). Schlenker's initial work in supersemantics questioned whether the principles underlying natural language semantics originate in broader cognitive patterns, making them transferable across systems, including non-linguistic ones (Schlenker, 2018, p. 429). Alternately, he wondered whether semantic rules are just easy to recycle for non-linguistic objects. He discovered that there are significant connections among linguistic and non-linguistic phenomena, for instance in dance, monkey calls, and ape gestures (p. 429). Patel-Grosz et al. (2023) continued the investigation into supersemantics and superlinguistics. They explained that formal linguistic tools such as syntax, semantics, and pragmatics may yield valuable insights when applied to other domains, such as music, dance, and animal communication (pp. 684–685). This comparative approach, Schlenker argued, reveals unexpected connections and expands our understanding of meaning beyond the confines of traditional linguistics. As he notes, neglecting such comparisons risks overlooking the place of human meaning-making within a wider ecological system of semiotic activity (p. 429).

Without explicitly using the term, Cornips (2022) has presented a compelling case for superlinguistic thinking through her work on animal communication. Arguing for an animal turn in postcolonial sociolinguistics and linguistics, she highlights how language ideologies often exclude or diminish non-human communicative acts (Cornips, 2022; Cornips & van den Hengel, 2021; Cornips & Van Koppen, 2024). Her research reveals how cows on farms communicate (e.g., cows that make different noises or rattle a fence with a purpose). Drawing on work by Bucholtz and Hall (2016), Mondada (2016), Fricke (2013), Goodwin (2017), and Pennycook and Otsuji (2015), Cornips defines language as a local, embodied, multimodal, and multisensory process of meaning-

making that includes sounds, gestures, facial expressions, movements, and material environments. In her view, meaning is distributed across species, objects, and spatial-temporal contexts, challenging traditional boundaries around what counts as language (Cornips, 2022, pp. 209–211).

Aikido as a Language

Positioning aikido within this evolving theoretical landscape of linguistics opens the possibility of treating it not simply as a martial art, but as a communicative system in its own right. If we follow Duranti in understanding language as social interaction, Schlenker in identifying superlinguistic structures in non-verbal domains, and Cornips in foregrounding the embodied, multimodal, multisensory, and contextual nature of meaning-making, then aikido emerges as a rich site for theoretical inquiry.

Aikido is fundamentally embodied: meaning is expressed and interpreted through physical presence, movement, posture, and gesture. It is also multimodal, combining eye contact, spatial orientation, distance, rhythm, and touch into coherent interactional patterns. Furthermore, aikido is multisensory: perception through touch, sight, sound, and proprioception plays an essential role in how meaning is negotiated. These processes are context-dependent: e.g., shaped by the social setting, the roles of participants, and the material artefacts involved. A technique performed with a *katana* (a cutting Japanese sword) in a traditional *dojo* (training room or building) differs in communicative force from the same movement performed with a *bokken* (a wooden sword) in an intercultural business communication training seminar, or from the same movement performed with a baseball bat by a hooligan on the street.

Aikido can be theorized as social interaction, as a superlinguistic system, and as a process of local meaning-making that is at once embodied, multimodal, and multisensory. This perspective invites a rethinking of language by shifting focus from verbal code to a broader framework through which humans engage with one another, negotiate relationships, and construct meaning within and beyond speech. The following section develops this line of inquiry by first reviewing existing scholarship that approaches aikido in comparable theoretical terms, and then drawing on insights from my own recent research to further articulate how aikido can function as a language.

Scholarship Exploring Aikido as a Language

While theorizing aikido as a language may be relatively novel, several scholars have approached it in ways that resonate with this perspective. Their work lays important groundwork for understanding aikido as a structured, communicative, and meaning-making system.

First, sociologist Kimmel and anthropologist Rogler (2018) offer a detailed analysis of the dynamics of aikido interaction by applying the concept of affordances from ecological psychology (Gibson, 2011). Affordances refer to the action possibilities that an environment offers to an individual, depending on their capabilities. In aikido—as in dance, team sports, or other relational practices—agents actively comodulate one another's affordances in pursuit of their aims (Kimmel & Rogler, 2018, p. 195). In their ethnographic study, Kimmel and Rogler demonstrate that aikido practitioners operate within a field of constant cross-causation trying to break the balance of the other: enhancing one agent's affordances simultaneously diminishes the other's. Through perceptual manipulation, redirection of force, brinkmanship, and the opportunistic switching of techniques, aikidoists shape both their own and their partner's options (Kimmel & Rogler, 2018, p. 195). Kimmel and Rogler interpret these interactional affordances as fluid, intention-bound, and context-dependent. Their analysis, framed as a functional semantics of interaction and skill, provides a valuable model for understanding the negotiation of agency within embodied practice (pp. 216–217).

Second, computer scientist Verna (2018) approaches aikido from a different disciplinary angle, drawing parallels between his experiences in martial arts, jazz improvisation, and computer programming with the Lisp language. In his introspective account, Verna suggests that these practices share a common structure, characterized by systems of rules that invite not only conformity but also transgression and creative unification. Verna (2018) sees aikido as structurally comparable to both a musical style and the syntax and semantics of a programming language, on the basis that it works through systems and rules (p. 7). He identifies three core attributes shared by aikido, jazz, and programming with Lisp: first, a rule-based system that invites adherence (conformism); second, a system open to variation, rule-breaking, and the emergence of dialects (transgression); and third, a tendency toward integration and cooperative rule-blending (unification). Of these, the image of collaborative improvization among jazz musicians likely offers the most accessible analogy for lay audiences.

Verna further emphasizes the emergent nature of these practices: composing music spontaneously, writing code from an empty shell, or initiating an aikido exchange all begin from an open space and develop organically through interaction (p. 27). He argues that these disciplines resemble natural languages in that their interactions are fluid, creative, and emergent, while their core grammatical structures change only slowly over time. Innovation occurs primarily through the creation of new idioms and expressions (pp. 26–27). Ultimately, he proposes that aikido constitutes a conceptual system on a par with linguistic systems and capable of expressing meaning in its own right. He notes that scholarship has thus far "only scratched the surface of these aspects" (p. 30).

In a third example, Gómez-Lozano et al. (2022) explore the transfer of aikido-based movement strategies to the domain of postmodern dance. Their research into contact improvisation, a dance form centered on continuous, responsive physical interaction, identifies aikido as both a conceptual resource and a kinaesthetic communication system. They argue that circular, spherical, and spiral movement patterns derived from aikido have informed the choreographic language of contact improvization, serving as communicative tools for dancers in close physical dialogue (pp. 3–4, 16). In this way, aikido contributes to embodied expression beyond its martial origins, offering a structured form of kinaesthetic meaning-making.

Together, these studies conceptualize aikido as a dynamic system of interactional agency, a generative structure comparable to natural language, and a communicative modality transferable to other embodied practices. Building on these insights, the following section draws on my own research to further articulate how aikido can be understood not only metaphorically, but analytically, as a language with its own modalities, constraints, and communicative affordances.

Aspects of Language in Aikido: Indexicality and Codeswitching

In a longitudinal, mixed-methods study (De Baets et al., under review) conducted with 73 working professionals across four training groups, aikido movements were integrated into an intercultural business communication training program. Each group learned about intercultural communication in the workplace using an interaction model that emerged from a prior in-depth analysis of the aikido system (De Baets & Van Praet, 2024). In the De Baets et al. (under review) study, two groups engaged in embodied aikido exercises, providing experiential learning through aikido as a somatic metaphor. The two comparison groups received theoretical instruction without any physical component. The study demonstrated that integrating movements and principles from aikido into intercultural business communication training enhances participant engagement and supports memory retention. Participants reported feeling more involved and achieving greater clarity in understanding key concepts. Notably, these participant-reported outcomes were

corroborated by measurable improvements in memory performance, particularly within the first month following the training (De Baets et al., under review).

Indexicality

Beyond these practical outcomes, the study illuminated several linguistic dimensions of aikido, particularly the phenomena of indexicality and codeswitching. Language can be understood as a system of indexicality, a network of signs whose meanings emerge through their relationship with the surrounding social and physical context (Duranti, 1997, pp. 17–22). Indexicality captures how the interpretation of words, gestures, or symbols depends on who is using them, where, and when. These signs do not carry fixed or universal meanings. Aikido operates similarly. For instance, the act of stepping forward in aikido may be interpreted as an aggressive advance or an inviting gesture, depending on the interpersonal relationship between practitioners, the setting in which the movement occurs, and the speed of the movement. In this sense, aikido gestures function as indexical signs: their meaning emerges from their performance in context.

In aikido-based communication training, similar processes of indexical meaning-making emerge. A soft touch, for example, may be understood in one training group as symbolizing the safe and composed delivery of a message like speaking in a calm tone and choosing one's words with care. In another group, the same gesture might come to represent the avoidance of reactive or defensive behaviors. While the interaction model, training design, and facilitation of aikido-embodied training establish a framework for interpreting such gestures, the actual meaning of aikido movements is co-constructed in practice. Facilitators, participants, and contextual factors all contribute to shaping the indexical associations of each training instance. Therefore, each group and each participant generates its own situated version of what aikido comes to mean.

Codeswitching

Language can be described as a code, a structured system composed of symbols and rules that enables meaning to be conveyed (Moeschler, 2021, pp. 4–7). In the case of conventional or named languages such as English, Spanish, Swahili, or Chinese, this code includes distinct vocabularies, sound systems (phonology), symbolic representations (orthography), and rule-based structures (grammar and syntax). Aikido, too, operates through a codified system with its own principles of order and organization. It follows a kind of embodied syntax: specific techniques and principles are sequenced in ways that produce coherent meaning within interaction.

For instance, in traditional dojo practice, the principle of *irimi* (entering into the space of the other) typically precedes techniques such as *nage*, the act of throwing. This order reflects syntactic logic, where one element must precede another for the overall structure to make sense. In the context of (intercultural business) communication training, these techniques are not carried out to completion, i.e. participants do not throw each other around. Instead, it is sufficient for participants to experience a subtle shift in balance that conveys intention and elicits a responsive adjustment through the body.

Another example, applicable to both martial and business communication training contexts, is the principle of circulation, which involves making contact with the partner, attuning to their movement, and modulating the quality of touch accordingly. This can be understood as a form of embodied syntax: touch, combined with the modulation between softness and toughness, is sequenced in meaningful ways that participants come to understand and interpret. Like linguistic rules, these movement principles are generalizable but not absolute. This flexibility between general rules and exceptions further reinforces the analogy between aikido and language as systems of rule-governed, context-sensitive communication.

Furthermore, the aikido-embodied intercultural business communication training elicited patterns of codeswitching, akin to how multilingual speakers shift between languages depending on audience, topic, or intent (Duranti, 1997, pp. 18–19). In the context of using aikido as an experiential learning method, participants regularly alternated between verbal language (Dutch, in this case) and the physical language of aikido. They inserted aikido gestures into conversations, used movement to illustrate verbal points, or performed full interactions with aikido following a discussion on how to prepare for future human interaction in the workplace. For example, a soft touch became a shorthand for respectful communication, either by doing the soft touch or naming the soft touch. This bidirectional translation between verbal and embodied codes demonstrates that aikido gestures were not merely symbolic but carried recognizable meaning that could be encoded and decoded within the group. Such instances of physical–verbal codeswitching occurred fluidly and often spontaneously throughout the training, reinforcing the communicative capacity of aikido within a shared semiotic environment.

In sum, these findings support the view that aikido exhibits core properties of language. It functions as a system of indexical signs, a code with syntactic rules, and a medium in which codeswitching occurs. These linguistic aspects, observed empirically and supported by theoretical frameworks, further strengthen the argument that aikido can be analyzed as a language, particularly when language is understood not merely as verbal transmission, but as a broader system of embodied, situated, multisensory, and multimodal meaning-making.

The Implications of Aikido as a Language

Viewing aikido as a language offers at least two key advantages. First, it provides a framework through which both aikido and language systems can be better understood. Second, it enhances aikido's potential as a somatic metaphor for meaning-making. In short, applying linguistic theory to non-standard systems such as aikido is mutually enriching: it reveals structural and semantic dimensions of aikido practice while simultaneously challenging and extending existing models of language. This approach also broadens the scope of linguistics as a discipline, demonstrating the value of examining seemingly non-linguistic systems through a linguistic lens. As Patel-Grosz et al. (2023) argue, "formal linguistic theory, properly extended, can provide a unifying framework for diverse phenomena beyond traditional linguistic objects" (p. 627). At the same time, they acknowledge the lack of clear boundaries regarding what does or does not constitute language.

While scholarship has already laid the groundwork for understanding aikido as a language-like system, further investigation is warranted, particularly from explicitly linguistic perspectives. When aikido is treated as a language, it opens up new possibilities for meaning-making that extend well beyond its traditional martial context. In intercultural business communication training, for example, aikido-based interaction allows participants to engage cognitively and physically in the construction of meaning. It offers a depth of experiential insight that verbal explanation alone cannot achieve.

Reframing aikido as a language, rather than merely as a somatic metaphor, may lead to more accessible, nuanced, and impactful applications in learning and development. It encourages a shift from metaphorical to structural engagement with the practice, and invites future research to unpack the linguistic dimensions of aikido more systematically. A linguistic model of aikido could deepen our understanding of its metaphorical capacity while offering a more integrated and theory-driven foundation for practical use.

In sum, aikido can be theorized as a linguistic system characterized by embodied, multimodal, and multisensory processes of meaning-making. It comprises interrelated elements that function analogously to

vocabulary, syntax, and grammar. Recognizing aikido as a language with both conceptual and embodied expression opens promising directions for future research.

The Limitations of Aikido as a Language

Despite the promising implications of treating aikido as a language and as a vehicle for experiential learning, several limitations remain.

First, this approach stands in tension with the persistent demand for measurable outcomes in corporate and professional training contexts. Intercultural competence, much like linguistic competence (even in one's first language), is not a fixed skill set but a life-long developmental process shaped by ongoing interaction, reflection, and embodied experience. Yet in practice, training programs are often reduced to short-term interventions evaluated through immediate feedback, test scores, or behavioral checklists. This reductionist logic risks oversimplifying the deep, processual nature of learning that aikido-as-language seeks to illuminate.

Moreover, questions arise regarding how to evaluate the outcomes of training grounded in embodied and multimodal meaning-making. Just as language testing frameworks attempt to position speakers within proficiency bands, any attempt to assess intercultural or aikido-based communicative competence must contend with the contextual, situated, and evolving nature of meaning in interaction. While mixed methods can document measurable and reported effects, such results only capture a fraction of the learning process. As such, further research is needed to develop assessment tools that respect the complexity of embodied interaction without reverting to reductive metrics.

Ultimately, while this paper contributes to rethinking both language and training practice, it also highlights the methodological and theoretical challenges of doing justice to systems, like aikido, that resist neat classification. Acknowledging these limitations is essential not only for refining future studies but also for preserving the integrity of aikido as a dynamic, relational, and evolving system of meaning-making.

Conclusion

Applying linguistic concepts to aikido reveals its potential as a structured yet dynamic system of embodied communication. This perspective deepens our understanding of aikido's interactional logic and broadens the scope of linguistic inquiry by engaging with non-verbal, multisensory forms of meaning-making. While such analyses offer valuable insights, they must remain sensitive to the contextual and fluid nature of aikido practice, avoiding rigid or reductive interpretations.

As a language of movement, touch, and relational awareness, aikido offers researchers and practitioners alike a compelling model for exploring communication beyond speech: one that engages the body, the senses, and the environment in holistic meaning-making. Its application in intercultural business communication training demonstrates how embodied language can enrich experiential learning, enhance participant engagement, and deepen understanding across cultural and communicative boundaries. By combining clarity, motivation, and effective learning outcomes, aikido-embodied communication training promotes a more balanced relationship between time investment and developmental return while remaining responsive to organizational and business demands. Centering training around the language of aikido fosters a process-oriented, reflective, embodied, and culture-general understanding of intercultural business communication competence that challenges the quick-fix mentality still prevalent in corporate learning environments.

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Beyond the Benefits: Toward Ethical, Contextualized, and Multimodal Use of Gen AI in Business and Professional Communication

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Abstract

This study employed a mixed-methods design that combined primary data collected through a semi-structured questionnaire examining the use of Gen AI and chatbots among first-year English composition and business communication students (N = 113) at a large research university in the Midwest. It engaged in thematic synthesis, building on existing literature in business and professional communication, as well as first-year composition. Findings from the questionnaire suggest that students are using Gen AI across various academic and non-academic contexts to support their academic and personal needs. An analysis of participants' responses highlights the need for an interdisciplinary approach to incorporating Gen AI in academic instruction, as gaps in students' AI literacy and proficiency are revealed. Synthesizing data from previous studies on the ethical use of AI and the professional skills that employers find desirable in graduates, this study suggests a need for greater integration of ethical, multimodal, and strategic approaches to using Gen AI in business communication. Such integration should be built on students' existing technoliteracies and emphasize the development of soft skills valued by employers. Gen AI in business communication presents multimodal opportunities that can advance desirable soft skills in recent graduates, for which employers are desperately searching.

Introduction

Naisbitt (1988) observed a world drowning in information when he wrote the following: "In a world that is constantly changing, there is no one subject or set of subjects that will serve you for the foreseeable future, let alone for the rest of your life. The most important skill to acquire now is learning how to learn" (p. 64). We are living in a world where AI is being discussed as a subject that will serve us well in the long term. Today, many higher education instructors are not only learning *about* AI but also *how to* incorporate it into their teaching practice.

Literature Review

Discussions about incorporating Gen AI in business and professional communication often focus on its advantages and efficiency as a rationale for doing so. When it comes to idea generation and efficiency, AI has been demonstrated to be superior to human authors. In an experiment pitting MBA students against the advanced artificial intelligence chatbot ChatGPT 4, researchers found that AI has a 35-to-1 advantage in generating innovative ideas (Terwiesch & Ulrich, 2023). In support of empirical studies confirming AI's advantage in idea generation and efficiency, a survey of articles on LinkedIn and tech journals, and business review journals, show that certain phrases and expressions have become associated with Gen AI adoption: "competitive edge," "expansion of creativity," "increase in productivity and output," "transform the consumer enterprise," "Democratizing design, creativity and production," personalizing content and experiences,"

"Scalability", "Cost effectiveness," "Product Visualization," "Communication Tools," "Prototyping," "Time-Saving," "User Friendly," "Versatile" (Tech Journal, 2023; Cook et al, 2024; McKinsey & Company, 2025; Mustafa, 2025; Rehmani 2025). These phrases highlight how some entrepreneurs and business-oriented institutions are approaching AI and its utility in the workplace.

The integration of AI in business and professional communication courses has become a common focus, with topics such as curriculum design, ethics, and pedagogy leading the way (Andrews, 2022; DeJeu, 2025; Fleischmann & Kristen Getchell, 2024; Getchell et al., 2022; Phan, 2024; Zufelt, 2025). Discussions about integrating AI, its challenges, and opportunities in business and professional communication have been extensively covered in the literature (Cardon et al., 2023; Getchell et al., 2022; Sharma & Pandey, 2024).

Calls to include ethical decision-making topics, teach ethical reasoning processes in academic and professional contexts in which AI can and is being used, and focus on other core competencies that are non-technical continue to feature in business communication journals (Cardon et al., 2024; Lenz, 2024). One area of communication that has received extensive coverage for integrating AI is writing. Many college students are often exposed to academic writing, learning its course principles and rudiments before being educated in business or professional writing. For example, topics such as learning how to write an effective introduction and thesis statement, utilizing author attributions and citations, and synthesizing sources are commonly taught in first-year composition courses.

For students to better understand how AI can support their learning needs in business communication, many instructors are turning to teach AI literacy and develop policies for using AI-assisted writing in their courses (Cardon et al, 2023). Cardon et al (2023) outlined some of the advantages and drawbacks of accepting AI-supported writing, which range from the harm it does to critical thinking and authenticity in writing to the benefit of idea generation and efficiency that Gen AI offers.

The debate about writing as a process or a product can be considered settled in the literature of first-year composition pedagogy. Writing is viewed as a process, and many composition instructors subscribe to this view both in theory and in practice. Murray (1972) suggests, "Instead of teaching finished writing, we should teach unfinished writing, and glory in its unfinishedness. We work with language in action" (p.4). In a business communication course, where an assignment may focus on genre analysis, a special occasion speech that requires audience analysis, or one in which students are asked to respond to a particular genre, such as memos, writing as a product is typically emphasized.

Gieselman (1985) predicted the outlook of business writing, technical writing, and English composition, some of which we are experiencing today: "The next few years will see more participation by business communication pedagogues in several related disciplinary areas—artificial intelligence, speech-act theory, the theory of implicatures, discourse and text analysis and (not least) computed-aided instruction in writing" (p.4). Gieselman's product view of writing as inseparable from business writing, especially when it involves discussions on competency and writing, saying that the process and product perspective on writing "greatly informs the other." He notes, "Understanding what makes for competence in business writing presupposes some agreement about effective expression—about what is involved in good linguistic choice-making" (4).

The fact that this debate between process and product views of writing has been perennial can place first-year writing scholars and scholars of business and professional communication in different camps. Edwards-Groves (2011) finds that when the use of multimedia resources and technology are considered in the classroom today the simplified view of the writing process as drafting, editing, revising, and publishing becomes more complicated when "out-of-school technoliteracies" defined by Edwards-Groves (2011) as "the simultaneously

functioning blend of technological and literacy skills" (p. 50)— and the "new creativity" that allows for the construction and meaning making of texts becomes part of the conversation (p. 51). Because of this complex view of the production of writing, Edward-Groves regards the writing process as multimodal. Similarly, multimodal writing, as noted by Lin et al. (2025), is "inherently social and self-regulated" and can provide a broader understanding of the learning process within a pedagogical paradigm (p. 4). This means that the more multimodal assignment tasks are assigned in business and professional communication courses, the greater the chance is for students to strengthen their interpersonal communication skills.

Jiang (2024), in an empirical study of student design projects and Gen AI, found that Gen AI can help facilitate and simplify students' design process by offering them alternative design choices and a broad array of "customizable multimodal resources" (p. 4). Kress (2003) famously observed, "much of what we regard as creativity happens as students move across modes' (p. 36). Multimodal text generation in basic courses, such as first-year writing, which emphasize design, production, and presentation, presents opportunities for students to enhance their interpersonal communication skills, skills that are also valued in business and professional communication courses and in the workplace. The justification for integrating Gen AI into communication courses can be further strengthened by considering contemporary trends in today's workplace. It is now common for business professionals to utilize AI in completing their daily tasks. This has led other scholars to examine the core competencies still required by business professionals at the dawn of the AI age.

After surveying 692 business practitioners, Cardon et al. (2023) found that the most prevalent use of AI by business professionals involves research and idea generation, drafting business reports and messages, and summarizing and revising text. While Cardon et al. (2023), citing Beauchene et al. (2023), discussed the growing professional trend towards upskilling due to the advances in generative AI, in examining core competencies in the age of AI, Cardon et al. (2023) found that competencies and traits such as integrity, strategic vision, drive, and motivation, as well as interpersonal skills, are elements of character-based leadership. Many of these business practitioners ranked these competencies higher than others, such as written communication.

Pedagogical strategies outlining different ways AI can be implemented in business communication courses have been noted by scholars (Shama & Pandey, 2024; Phan, 2024; Andrews, 2022; DeJeu, 2025; Zufelt, 2025). Higher education administrators are seeking to incorporate AI into their academic curricula. Just as many business professionals recognize that to maintain a competitive advantage, they need to continually enhance their skills and increase the efficiency of their work. AI can impact our work as teachers as we strive to change the way we teach, with the bright hope of equipping our students with some of the 21st-century skills they will need to succeed in a technologically driven workforce. Yet, preparing students for future careers and jobs that do not yet exist, especially ones in which AI will likely play a role, raises questions. Dell (2017) explored technology research focused on the human-machine partnership and projected that 85 percent of the jobs available in 2030 do not yet exist.

The advantages of AI are also a matter of discussion in higher education, particularly in its application in the classroom and in academic disciplines such as English. Since ChatGPT was unveiled in November 2022, the percentage of college students who use generative AI (Gen AI) for academic, non-academic, or professional purposes has continued to rise (Freeman, 2025; McClain, 2024; Țală et al., 2024; Xao et al., 2023). Furthermore, in higher education and professional communication literature, discussions continue on how to meaningfully integrate Gen AI-powered tools in the classroom and professional workspace; for example, to support teaching (Funa & Gabay, 2025; Wang et al, 2025), academic writing skills (Al-Sofi 2024; Wang et al 2024), and communication (Christian 2024; Soliman 2025).

The importance of soft skills, a phrase that encapsulates a broad range of social skills and ethics, cannot be overstated. Robles (2012) notes that business professionals have ranked the following as the top ten soft skills: work ethic, teamwork, flexibility, integrity, courtesy, communication, interpersonal skills, positive attitude, responsibility, and professionalism. Anthony & Garner's (2016) analysis of pedagogical strategies used in business communication courses to teach soft skills reveals that assignments have practical applications to the lives of business communication students, such as the featuring of a guest speaker, self-analysis assignment, and the reading of a journal article we noted as the most help by students.

Anthony and Garner (2016) find that students reported not receiving soft skill discussions in other business communication courses. This highlights the challenge of a single business communication course adopting a monolithic approach to teaching soft skills to students. Interpersonal communication skills can be furthered by many multimodal tools used in the classroom, but as Cardon & Okoro (2010) have noted, "if we are using technologies in place of rather than in support of this richer communication, [face-to-face communication], we are not sufficiently preparing our students for the workplace" (p. 437). Coffelt et al. (2022) provided more support for the value of desirable soft skills in their study of employers.

Coffelt et al. (2022) surveyed employers (N = 260) to understand the most relevant communication skills that employers value in recent college graduates. They found that soft skills, such as engagement in conversation, face-to-face communication, and interpersonal skills, rank at the top of the list of skills employers seek from recent college graduates. Based on their study, Coffelt et al (2022) made recommendations for curriculum design in communication courses, such as calling for these classes to "include a broad array of skills that reflect multimodality in a pervasive manner" (p. 185). Recognizing that "prioritized communication skills are applicable across modes" in communication classes, the authors support bridging the gap between communication courses dedicated to teaching employer-coveted skills in business communication courses and other disciplines and majors that also give the teaching of these employer-coveted skills surface coverage. For example, they mention the finding that employers place a high value on electronic communication, which they view as an interpersonal skill, as having more value for BPC instructors to cover as a topic in their classes.

Gen AI in business communication presents opportunities for creating new text that can enhance desirable soft skills in recent graduates, for which employers are increasingly searching. Beyond merely exposing students to Gen AI for its efficiency benefits, innovative pedagogical methods and practices that thoughtfully integrate AI into the classroom can reinforce interdisciplinary communication concepts and theories, helping students develop skills that business employers will value more highly than AI, and thereby helping students remain competitive in the job market. Emphasis in Gen AI instruction that capitalizes on students' technoliteracies has not been sufficiently explored in the literature.

Research Question

RQ: How do students in English composition and business communication classes use Gen AI tools to meet their academic and professional needs?"

Methodology

Survey Design

This study employed a mixed-methods survey design to provide a more comprehensive understanding of students' use of generative AI at the Midwestern university. The survey included 8 questions, 2 of which were

based on Likert-scale items measuring the frequency of AI use, 4 of which were based on multiple-choice and frequency counts, and two of which were based on open-ended questions and reflections, providing students with a space to write about their experiences with AI and academic majors. This survey builds on previous studies that have measured students' perceptions and use of AI for various academic and non-academic purposes (Tala et al., 2024; Cardon et al., 2023; Flaherty, 2025; Primary Research Group, 2025).

Participant Recruitment

All participants (N = 113) were undergraduate students enrolled in first-year writing and business communication courses at a large midwestern university during the fall 2024 and spring 2025 semesters. Students enrolled in these courses were primarily taking the course to fulfill a university prerequisite. The breakdown of students by major who completed the survey questionnaire is shown in Table 1. The survey was administered online and in the classroom with IRB approval. QR codes for the survey were distributed to students by their professors via email or in class, and students were invited to participate voluntarily. This survey did not collect students' names.

Data Coding and Thematic Analysis

For open-ended questions and reflection, participants were asked to share any thoughts, comments, or concerns they had regarding the completion of the questionnaire on Gen AI usage in college. The data were further analyzed through a thematic analysis, in which I described, classified, and interpreted the data into codes and themes. I applied descriptive research methods, particularly used in qualitative research design, to help illuminate the data collected and used a phronetic iterative qualitative data analysis (PIQDA) approach, which suggests "that qualitative data can be systematically organized, interpreted, analyzed, and communicated so as to address pressing concerns and prompt change" (Tracy, 2025, p. 29). In examining the survey data, I employed secondary-cycle coding, which involves interpreting and identifying patterns, rules, and cause-and-effect relationships (Tracy, 2025, p. 239). Following the development of themes, I organized codes under higher-level categories, accompanied by a description of the function of each code, and supplemented with practical examples drawn from student excerpts in the survey, as shown in Table 2. I reviewed each theme, code, description, and example student statement to ensure that there were parallel connections between them

Table 1

List of Student Majors by Frequency in the Survey

Rank	Major	n	%
1	Mechanical Engineering	15	13.27
2	Aerospace Engineering	9	7.96
3	Computer Science	8	7.08
4	Undeclared	6	5.31
5	Marketing	5	4.42
6 (tie)	Computer Engineering	4	3.54
6 (tie)	Finance	4	3.54
6 (tie)	Electrical Engineering	4	3.54
6 (tie)	Civil Engineering	4	3.54
6 (tie)	Supply Chain Management	4	3.54
11 (tie)	Industrial Engineering	3	2.65

11 (tie)	Environmental Science	3	2.65
11 (tie)	Industrial Design	3	2.65
14 (tie)	Software Engineering	2	1.77
14 (tie)	General Engineering	2	1.77

Table 2

Coding of Open-Ended Responses on the Survey

Themes	Code	Description	Example (Student Quote Excerpt)
▪ Use of AI	Constraint	Statements that reported limited, occasional, or context-specific AI use, often related to assignments or just out of curiosity	"I hardly ever use AI for school" "My music listening class [instructor]…wanted us to ask ChatGPT a question and share its response…" "I have used it occasionally"
	Support	Statements that suggest the use of AI to support academic tasks such as solving problems, grammar checks, or refining writing	"…help with coding on side projects." "I use it to help me produce better writing…" "…rewrite my code in a specific format." "I use AI bots to help with coding…" "…help with grammar checks and make sure the emails I am writing are proper…"
	Practice	Statements that suggest technical and professional tasks such as editing, formatting etc.	"I use it to give me example problems that I could see on one of my math tests."
	Exploration	Statements that suggest use of AI to engage in playful, non-academic conversation,	"…to have fake arguments with it to see the other side of the aisle…"

	experimentation, or curiosity.	"I see a lot about AI on the internet…"
▪ Perceptions about AI use	Information that points to ethical questions, positive views, or skepticism expressed towards AI	"AI is always seen as bad, but nobody wants to look at the good…"
		"I think it's cool if we can use ChatGPT."

Results

Below, I summarize the results from the study, going question by question through the survey.

Students majoring in STEM fields are more likely to use AI than students in other fields. Although surveyed student participants were drawn from basic courses in first-year writing and other communication courses, students majoring in STEM fields (Mechanical, Aerospace, Electrical, Engineering, Civil, Industrial, Computer Science, etc.) made up 54% of the participants, which was significantly higher in number compared to students from other majors. Undeclared students, who are roughly 6% suggest that some respondent students are still exploring their academic path. Students from business-oriented fields, such as marketing, finance, and supply chain management, comprise a substantial secondary cluster in the questionnaire, accounting for 13%. Design and environmental majors come in at the fourth position, 3%. Many of the STEM students admitted to using AI for various purposes (See Table 1).

Students are using a chatbot for class projects beyond the class for which they were surveyed. As many as 59.3 % of participants indicated using Gen AI for class projects beyond the basic communication courses in which they were enrolled. This differs from the 40.7% of students who indicate that they do not use a chatbot for class projects outside the course.

Figure 1

Students' Survey Response to Chatbot Usage Beyond the Current Course in which they are registered.

2. Do you use a chatbot for any class projects outside of this class?"
113 responses

- Yes
- No

40.7%

59.3%
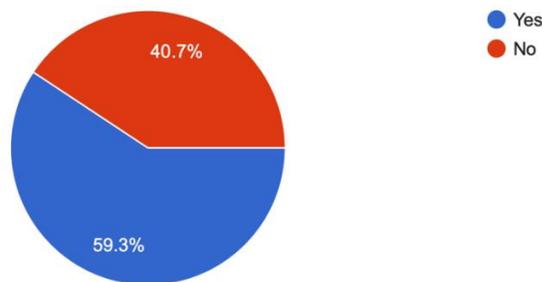
Note: The above screenshot was obtained from the survey

ChatGPT is extremely popular among students, and it is the chatbot with which they are mostly familiar. ChatGPT, including its most upgraded version, ChatGPT-4 is a dominant chatbot with which many students are familiar. Microsoft CoPilot comes close to ChatGPT's dominance among those surveyed.

Figure 2

Students' Survey Response to Chatbot Preferences

3. Which of the following chatbots listed below have you used or do you regularly use. Check all that apply.
104 responses
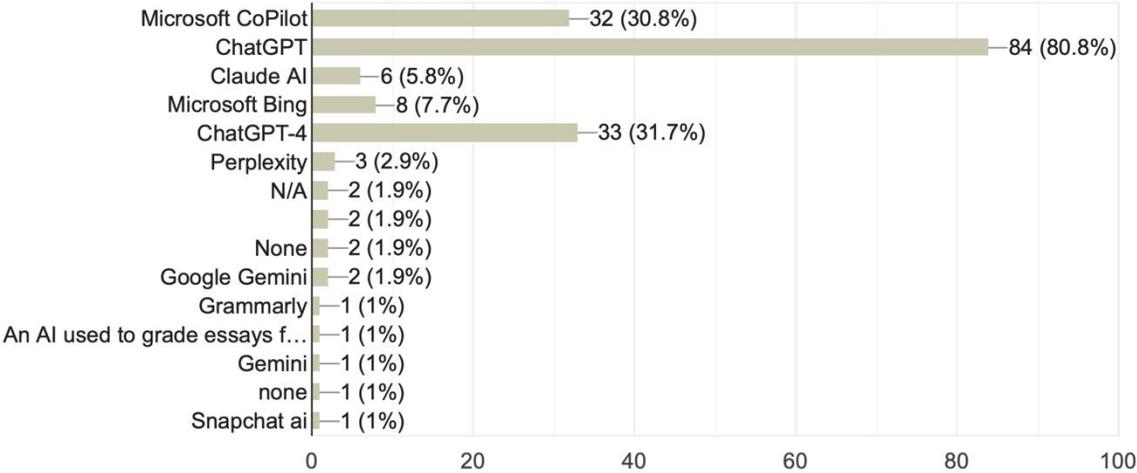
Note: The above screenshot was obtained from the survey

Beyond using chatbots for classwork, students are using other interactive AI tools to seek information and generate ideas. One-hundred-eleven participants responded to the question, claiming ChatGPT use for the purpose of "increase efficiency in seeking information," "Generating creative ideas," and "Experiment with it for fun" were the three most dominant responses.

Figure 3

Survey Measuring Students' Chatbot Usage Purpose

4. Unrelated to your classwork, what do you do with ChatGPT, CoPilot or other interactive AI tools?
Please check all that apply. Other _____None

111 responses

Category	Count
Experiment with it for fun	46 (41.4%)
Generate creative ideas	54 (48.6%)
Increase efficiency in seeking i…	55 (49.5%)
Look for and learn new knowle…	44 (39.6%)
Test it to see what it will produce	32 (28.8%)
Interact with it when I am lonely	4 (3.6%)
Get advice when I need help	33 (29.7%)
Other	10 (9%)
None	18 (16.2%)
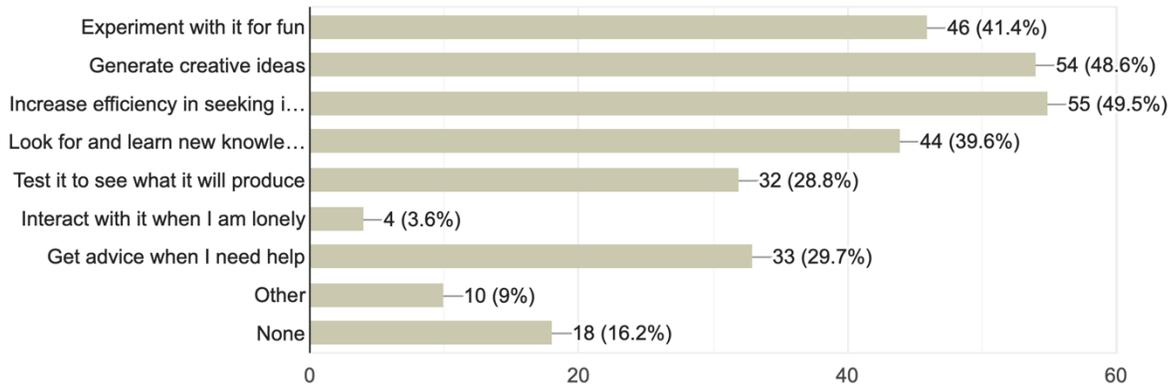
Note: The above screenshot was obtained from the survey

Students have a high interest level in using a chatbot for a college assignment. From the 111 participants who responded to this question from the questionnaire, the response indicated that an average of 53% of students have some interest in using a chatbot for at least a college assignment.

Figure 4

Survey Measuring Students' Interest in Using a Chatbot for a College Assignment

5. On a scale of 1 to 10, how would you rank your interest in using a chatbot for any college assignment

111 responses
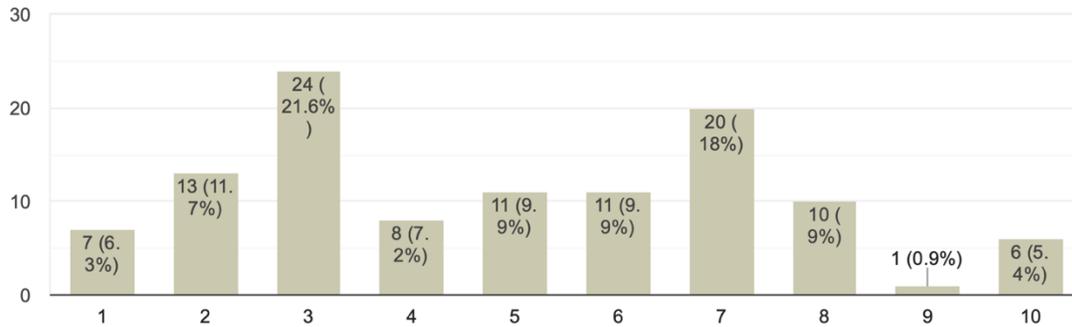
Note: The above screenshot was obtained from the survey

Many students do not know how to cite AI-generated content in either MLA or APA Style citation. Out of the 112 participants who responded to the question, a significant number of students surveyed (72.3%) reported that they had not received training on how to cite AI-generated content. While there are established citation practices for acknowledging the use of AI-generated content and AI-supported tool usage, the degree to which a chatbot is used for an assignment and the crediting of AI remains a matter of controversy.

Figure 5

Survey Measuring Students' Experience Citing AI-Generated Content

6. Have you been trained/shown how to cite AI-generated content in MLA or APA Style citation?
112 responses

- Yes
- No

72.3%

27.7%
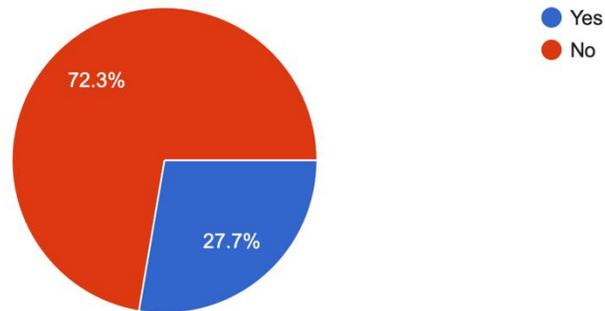
Note: The above screenshot was obtained from the survey.

Many students are not comfortable citing or referencing AI-generated Images. While ethical questions remain regarding the origin and authorship of images attributed to AI, and this remains a controversial issue, due to the role of algorithms in the random selection of images, 68 participants who responded indicated that they were less than comfortable citing or referencing AI-generated images.

Figure 6

Survey Measuring Students' Comfort Level in Citing or Referencing AI-generated Images

7. If your answer is yes, on a scale of 1 to 10, how comfortable do you feel citing or referencing AI-generated image?

68 responses

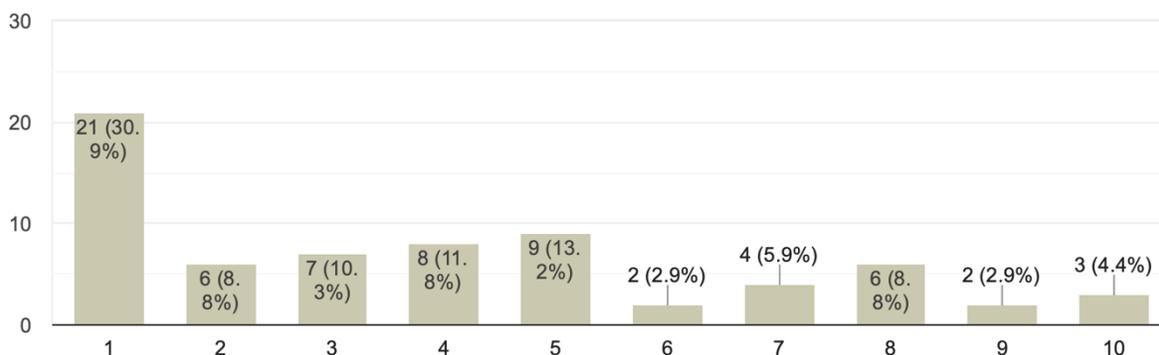

Note: The above screenshot was obtained from the survey.

Students are using Gen AI in a diverse range of contexts, not restricted to or limited by business and professional communication or English composition courses. A thematic analysis of the open-ended responses students gave to the last question reveals students using Gen AI as a support tool in various contexts as follows: limited or selective use of AI, academic support for finding answers to homework problems, resolving technical and professional problems associated with their work, exploring and playing with chatbots to elicit certain response related to research, and having perceptions about it regarding its usage in society. Students' use of AI faces constraints, either from their instructors or from a personal decision they have made. AI is used for academic support, as well as to assist with technical and professional tasks, such as coding. Students engage in exploration with AI and hold varying perceptions about it, ranging from positivism to skepticism and fascination with its usage, as shown in Table 2.

Discussion and Recommendations

This paper is written against the backdrop of discussions regarding the integration of AI in first-year composition and business communication courses. Because students generate text in various formats for business and professional communication, what counts as business writing and professional communication in a course may be challenged as the writing landscape and students' technoliteracies continue to expand in the digital and Gen AI age. Like first-year writing classes, many business communication classes today cover the teaching of design elements, the production of other writing deliverables, and the delivery of presentations based on the deliverables. Edwards-Groves' (2011) framing of the writing process as "the multimodal writing process" is apt for the digital and AI age. Although Table 1 shows that many students who use Gen AI are STEM students, the extent to which topics and activities in business communication courses support STEM students'

interests, such as data analysis, predictive modeling, simulating experiments, or dataset analysis, coding is not measured in this study.

Although the survey does not project into the future, recent data on the loss of entry-level jobs traditionally offered to new college graduates due to businesses' adoption of Gen AI serves as a wake-up call for business instructors to reorient their teaching and business communication learning objectives, as well as their instructional and assessment practices. Coffelt et al. (2022) found that in business and professional communication pedagogy, "skill and goal-oriented approaches may have advantages over approaches that separate or prioritize certain modes", such as written or oral (p. 180). The authors highlighted that communication skills, including engagement in conversation, face-to-face communication, and interpersonal communication, are highly valued among recent graduates by employers. Focusing on the ethical and critical use of AI in business and professional communication supports these skills discussed by Coffelt et al (2022). How can business communication instructors guide students beyond using AI tools for efficiency, but toward multimodal skills for their future profession?

A Few Proposed Actions in Business Communication Courses

Encourage Cross-Disciplinary Collaboration to Build Transferable Soft Skills. Students in business and professional communication courses may benefit from working with peers in class who have different majors or academic interests. Instructors can only do so much by creating assignments and activities that will directly appeal to students' academic or career interests. Assignments and activities that develop students' soft skills, such as listening and multimodal skills, can benefit many students in preparation for the workplace, regardless of their background (Andrews, 2022; Lentz & Getchell, 2019).

Integrate Gen AI to Enhance Relevant and Critical Communication Skills as Desirable. The integration of Gen AI into business and professional communication courses is an acknowledgment of the influence of a disruptive technology trend that is already popular among students. Creating assignments and activities involving Gen AI that have some practical relevance to students' lives and interests beyond classroom objects might be one way to approach it. As Lookadoo et al. (2025) put it, "Teaching the foundational skills for effective communication remains necessary so students can critically use an AI writing assistant" (p. 19).

Expand Students' Exposure Beyond ChatGPT. Due to the cultural power of ChatGPT, Students might be following a trend here. While some students are exposed to and using other chatbots, it may be a good opportunity for business and professional communication instructors to introduce them to chatbots that are equal to or at least as effective as ChatGPT. Chatbot usage amongst students since the release of ChatGPT in November 2022 has continued to rise, not decrease (Freeman, 2025).

Guide Students to Use Gen AI Ethically and Creatively to Build Soft Skills Valued by Employers. While this shows that students, like many users of chatbots, are turning to AI for the add advantages and benefits it offers them in the category above, instructors of business and professional communication can turn students' attention to ethical and multimodal use of Gen AI that can develop their soft skills. Doing this offers more advantages and benefits to them in the long run, especially as employers are expecting more from students who possess soft skills and other character competencies that are non-technical in nature (Cardon et al., 2023; Coffelt et al., 2022). Empirical studies have confirmed that Gen AI can generate ideas fast and even more well-refined than humans (Terwiesch & Ulrich, 2023).

Balance AI Integration with the Development of Soft and Technical Skills. This may vary across college communication courses, but business and professional communication instructors should establish parameters

for how students can use Gen AI in assignments and activities that align with specific course objectives/outcomes. Designing instructional materials that focus on integrating large language models in the business communication classroom has been explored by DeJeu et al. (2025). For example, the authors demonstrate how topics such as "writing a negative message," "creating an information presentation," "Generating ideas for a team consulting project," and "locating research to support a team consulting project" can be scaffolded through activities that engage with LLMs in meaningful ways (p. 19-22).

In today's workplace, employers continue to report significant deficiencies in essential soft skills among employees (Anthony & Garner, 2016; Coffelt et al., 2022; McKinsey & Company, 2022). Anthony & Garner's (2016) empirical study found that practical classroom activities—such as inviting guest speakers —complement traditional lectures delivered in the classroom and are helpful to students. Similarly, McKinsey & Company (2022) reported that as automation and AI adoption in the workplace increase, employers place greater value on both soft and technical skills as intelligent systems increasingly handle physical, repetitive, and basic cognitive tasks. This trend highlights the importance of instructors striking a careful balance between planning activities and assignments that cultivate hard skills and those that foster soft skills such as communication and collaboration.

Teach Students Responsible and Critical Use of AI-Generated Sources. Basic courses, such as first-year writing, prepare students to learn how to cite and synthesize sources in accordance with academic conventions and standards. With the rise of disruptive technologies like AI, which can generate fabricated references and inaccurate citations, the reliability and validity of these sources remain controversial (Walters & Wilder, 2023).

Although addressing this gap in students' experience might seem as simple as teaching them to disclose AI use, such an approach risks oversimplifying the problem, particularly given the unpredictable nature of AI-generated content. For example, when AI produces hallucinated or fabricated material that students unknowingly or brazenly include in their assignments, the question of responsibility becomes ethically complex. ChatGPT's (2025) own disclaimer—"ChatGPT can make mistakes. Check important info."–implicitly shifts accountability for misinformation to the user, raising concerns about fairness.

The consequences of fabricated references are even more serious in professional contexts (Weiser & Schweber, 2023). In 2023, Steven A Schwartz, a New York lawyer with over thirty years of experience in the profession, was fined $5,000 by a Manhattan judge for submitting a legal brief supported by a series of fictitious legal cases generated by ChatGPT. This story serves as a cautionary tale in ethics and law, underscoring the risks of overreliance on AI tools without verification while illustrating the consequences of neglecting critical thinking and lateral reading—essential skills for effective research in the digital context. Instructors can highlight these transferable skills to help students recognize their continued relevance beyond the classroom.

Stress the Need for Ethical Training and Discretion in Citing and Using AI-generated Images in Academic and Professional Settings. Instructors may benefit from training students to cite and reference human-produced images before those generated by AI. This may also suggest that ethical training on citing and referencing AI-generated images is necessary within the institution. Yet instructors should tread this area with carefully as we train our students for the future workspace. Anthropocentric bias is prevalent in the workplace and other professional settings (Christian, 2023; Millet et al., 2023). Consequently, students must exercise discretion when determining whether to use or not use AI-generated images, as well as be informed about other relevant ethical considerations.

Build on Students' Existing AI Literacies While Emphasizing Critical AI Literacies. Other studies at four-year universities have also indicated that students use AI to support their learning process in various ways, such as translation, spell checking, summarizing, or breaking down complex topics (Northeastern University, 2024; UC Davis, 2024). Many students come to class having been introduced to Gen AI through their own individual exploration, other professional engagements, or classes not necessarily associated with a business and professional communication course. Instructors can build on that experience or other technoliteracies they have brought to class rather than assuming students need training or an introduction to using AI tools.

A pre- and post-test questionnaire, contextualized for the course and the instructor's goals, that seeks to understand students' experiences with Gen AI, literacy, or access to chatbot tools, might be more productive than a one-size-fits-all Gen AI activity focused solely on literacy in using AI tools. Instructions on the ethical use of AI, however, are likely to have a broader appeal than instructions on the mere use of a Gen AI tool. This study confirms that the former is the case, as it reveals gaps in students' experiences with citing or referencing AI-generated content.

Further Recommendations

As this study demonstrates, students are not only leveraging the benefits of AI across one mode of communication but also across multiple modes. This creates an opportunity for business communication to provide instructions that support students' critical thinking, problem-solving, and other technoliteracy skills they have brought into the classroom. An ethical focus on AI in composition and business writing will appreciate the process and product view of writing. It would be counterproductive and unnecessary to discuss AI in a first-year composition class that does not focus on the iterative aspect of writing and research. While we are no longer having conversations about ignoring Gen AI or restricting students from using it, we must recognize that many of our students are bringing experience with Gen AI and other technoliteracy skills into the business and professional communication class. Training students for the workplace to use AI may be making more demands on them and on other business and professional communication instructors that employers might not even require.

Many students graduating from college are struggling to find entry-level professional jobs with corporations (CBS News, 2025). Some companies, recognizing the benefits that can be achieved by reducing the cost of hiring new employees, are turning to AI to automate repetitive tasks in various jobs, such as code debugging, customer service, and scheduling (PBS News, 2025; Raman, 2025). If equipping our students with AI literacy is not sufficient to get them the job of an entry-level position, then the focus on AI plus skills, skills augmenting AI usage in business and professional communication beyond entry-level positions, such as ethical and multimodal literacies focused on soft skill development, is worthy of more teaching investment for business communication instructors and a learning investment for our students.

Limitations and Future Research

Given my background in teaching English composition, my bias towards survey design that measures students' interest in Gen AI is inclined towards multimodal composition more than business communication. The questionnaire for this study primarily consisted of closed-ended questions with predefined answers, multiple-choice options, and rating scales. Although this design generated useful quantitative data, it also restricted participants' ability to provide in-depth or nuanced responses about a topic that remains novel and evolving. While participants had the option to respond to an open-ended question, fewer than half of those who completed the closed-ended questions chose to do so. The question invited participants to share their personal views on Gen AI, but the limited response rate suggests a need for richer, more dialogic methods.

Future research should therefore employ in-depth interviews or focus groups to explore students' attitudes, motivations, and experiences using Gen AI in both business communication and composition courses. A redesigned survey should include questions that are more focused on the interests of STEM students than those of students taking a composition course or a basic business communication course.

A stronger qualitative approach would enable researchers to gain a more detailed and contextualized understanding of students' interactions with Gen AI—revealing not only how they utilize the technology but also the challenges, ethical concerns, and constraints that shape their use of it. Additionally, further empirical work should investigate the multimodal dimensions of Gen AI use in business communication and composition courses, as well as how these experiences translate into workplace readiness. Because Gen AI integration in business communication and English composition still remains in its early stages, longitudinal case studies could provide valuable insight into whether classroom exposure to Gen AI enhances graduates' employability, skill development, or adaptability. Ultimately, the relationship between Gen AI and the development of soft skills—such as critical thinking, collaboration, and communication—deserves further investigation.

Figure 7:
How user growth behaves over time as it approaches a saturation point.
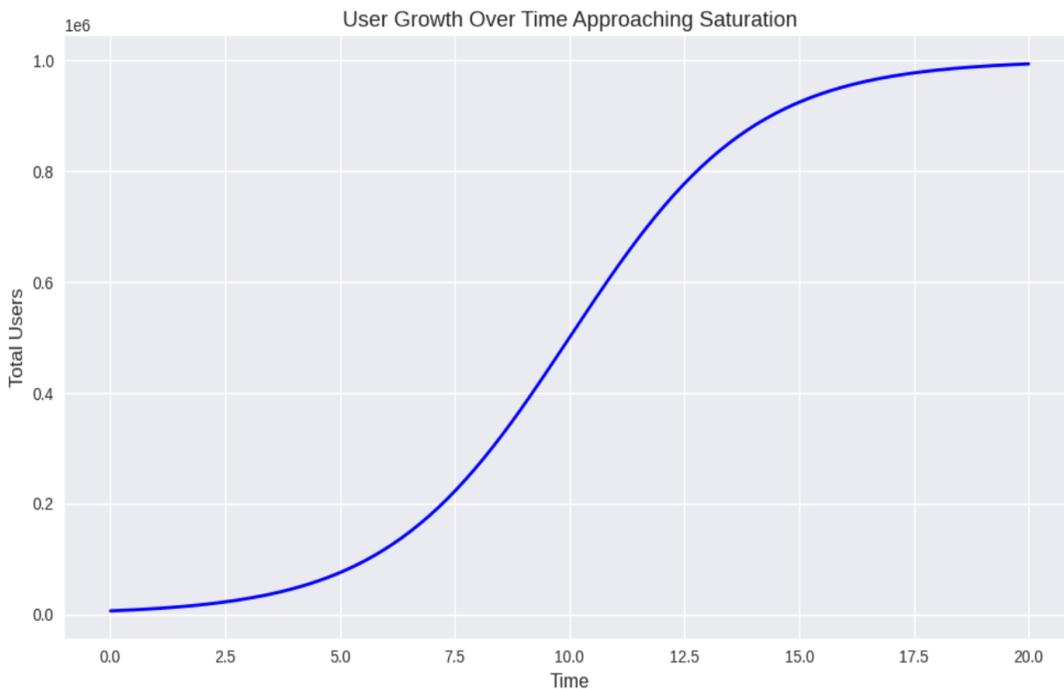
Note: Graph Generated with Microsoft Co-Pilot.

Conclusion

The current AI boom is bound to reach a saturation point (see figure 7). Then, business communication and composition scholars will move on to learn, as Naisbitt (1988) puts it, "how to learn" with the next disruptive technology. This paper examined the implications of findings from a survey seeking to understand English composition and business communication undergraduate students' experience using Gen AI. It provided some

recommendations for current efforts aimed at integrating Gen AI in business and professional communication courses. Its primary contribution lies in offering qualitative and quantitative support for pedagogical frameworks and instructional strategies that promote interdisciplinary approaches to integrating Gen AI in business and professional communication. Such approaches emphasize ethical literacy in Gen AI and the strategic use of it in multimodal contexts to build upon students' existing professional skills and experiences, thereby enhancing their overall communicative and professional competence before entering the workforce.

Guiding students through the integration of Gen AI with contextualized, practice-oriented assignments is essential. These activities should foreground both ethical and multimodal dimensions of text generation and message design. While soft skills remain central to business communication courses, incorporating Gen AI in ways that acknowledge students' technoliteracies and prior experiences can provide greater long-term value than simply using AI to complete isolated tasks or assignments. Such integration should help students cultivate transferable skills that extend beyond AI literacy, offering them advantages in an evolving professional landscape that increasingly demands continuous upskilling and reskilling in response to automation and technological change we are experiencing as a society today.

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Integrating Universal Design and Multimodality to Enhance UX and Usability of Digital Data Displays

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Abstract

Digital data displays in Technical and Professional Communication (TPC) have gained prominence as practitioners seek to simplify and condense complex and bulky texts into comprehensible and easily decodable visuals. Spurred by technological advances and increased availability of design software and digital tools, the demand for and desire to produce visually appealing and attractive data visualizations has increased over time as more users embrace digital communication. Unfortunately, the preoccupation with the attractiveness and visual appeal of the visual displays has resulted in a systematic exclusion of certain users, especially persons with disabilities, who rely on mediated technologies such as text-to-audio, text-to-speech, or other assistive devices to engage, explore, and make meaning of the visual displays. Most digital displays (images, graphs, and data displays) are not consciously designed nor presented in multiple modes that offer users the agency to decide how best to explore with ease to achieve their goal efficiently and effectively. The main argument of this paper is that to enhance the usability and user experience of digital data displays, TPC practitioners need to incorporate universal design principles and multimodalities in the design and decision-making processes to produce displays that can be accessed and explored by different users, irrespective of their abilities and disabilities, and preferred means of exploration – visual, aural, sensory, or touch.

Key words

Universal Design, Multimodality, UX, Usability, Data Displays, Web Content, Screen Readers.

Introduction

Enhancing the usability and user experience (UX) of visuals and data display has become a key concern within Technical and Professional Communication (TPC) as a field, particularly in a digitalized age, as scholars, practitioners, and disability rights actors view usability as a critical tenet for social justice and digital inclusion for persons with disability. As a concept, usability has been defined as "the extent to which a system, product, or service can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context" (International Organization for Standardization, 2018). Rubin and Chisnell (2008) provide more detailed definitions of the different components of usability noting that *usefulness* as "the degree to which a product/service enables a user to achieve their goals," while *effectiveness* is defined as "the extent to which the product/service behaves in the way that users expect it to and the ease with which users can engage it to perform what they want;" *efficiency* refers to "the quickness with which users achieve their goals accurately and completely in the shortest time possible"; and *satisfaction* refers to the "the extent to which the user's physical, cognitive, and emotional responses that result from using a system, product, or service meet the user's needs and expectations" (p. 4).

The evolving function of visualisations in the communication and meaning-making processes, from mere aesthetics and symbolic representations in early shrines, to modes of simplifying and communicating complex and large corpus (Friendly & Wainer, 2021) resulted in a growing interest in the rhetorical function through which visuals and data displays serve include and exclude different people in the communication processes. This transformation has been aided by the increasing desire of practitioners to make complex information more accessible, relevant, and meaningful to users (Kennedy et al., 2016), as well as by technological advances such as design software that allows designers to produce interactive interfaces (UI) (Priyadarshini, 2024; Wang et al. 2022). However, current practices on visualisations, data displays, and what makes visuals accessible are anchored within an ableist framework that prioritizes the visual aesthetics over other attributes. The main argument for this approach has been that humans are visual creatures whose social interactions, perception, and understanding of the world are influenced by visual input (Malik & Isik, 2023; Kosslyn, 2012). This approach is, however, premised on certain assumptions about the readers' visual, sensory, auditory, cognitive, and motor abilities. It ignores the existence of users with different disabilities and preferences who rely on mediated technologies such as text-to-audio, text-to-braille, or other assistive devices to engage, explore, and make meaning of the displays.

While the number of users who rely on mediated technology to explore digital content is unknown, the World Health Organization (WHO) estimates that globally, at least 2.2 billion people have difficulty with their vision (WHO, 2023). In the U.S. alone, there were an estimated 50.18 million adults with some degree of vision loss, according to the 2022 National Health Interview Survey (NHIS), with 3.89 million reporting having significant difficulty in seeing, while at least 340,000 were blind (American Foundation for the Blind, 2024). On the other hand, the Hearing Loss Association of America estimates that 48 million Americans have some degree of hearing loss (National Deaf Centre, n.d.), while the Centre for Disease Control (CDC) estimates that about 14 percent of adults in the U.S. have a cognition disability with serious difficulty concentrating, remembering, or making decisions (CDC, 2024). For users with disabilities to participate meaningfully in personal and collective decision-making processes, it is important that they have access to and the agency to explore data displays and web content efficiently and easily in multiple, convenient, and preferred formats, including visual, auditory or touch.

This paper calls upon business and technical communication practitioners and disability rights and other social justice activists interested in enhancing UX and usability of visuals especially in digital content to embrace approaches that augment universal design with principles of multimodality to produce visuals that are usable and accessible to the widest audiences. The paper draws heavily on previous empirical studies on usability and accessible web content and borrows key aspects of the universal learning design (UDL) to challenge the current approaches that focus primarily on the visual aesthetics and appeals, ignoring the non-visual affordances that make the displays more accessible and usable for users with disabilities, who rely on mediated technologies.

Current Approaches to Producing Accessible Visuals

Grounded within the visual perceptual and cognitive tradition, several scholars such as Tufte (1990), Cleveland and McGill (1984), and Cheung (2017) have argued that data displays and other visualizations should be accompanied by clear, detailed descriptive titles, captions and direct labelling to enhance the accessibility and interpretation of data displays and mitigate incidents of graphical distortion and ambiguity. According to Wanzer et al. (2021), such textual annotations can guide the reader to the intended message of the visualization by providing critical cues, allowing users to gain more agency to engage with and easily explore the displays to their satisfaction. As Yau (2013) argues, "If you do not describe the data clearly, which makes a

data graphic readable, then the shapes and colors lose their value. The connection between the visual and the underlying data is broken, and you end up with a geometry lesson" (p. 205). In addition, the visuals become more visually appealing and achieve visual integrity and are perceived better by their readers (Tufte, 1983, 1990). Others like Shriver (1997) have argued that visual perception is an active process, that users of visual displays tend to impose meaning and structure on the things they see.

Designers are therefore encouraged to incorporate relevant cues to guide the readers in decoding meanings for the datasets presented using visuals such as graphs and charts. For example, the use of legends in the visual display, as seen in *Figure 1(a)* below, is discouraged as it is likely to increase the reader's cognitive load as the legends separate the data from its context. Readers are compelled to switch their gaze between the data points and the legend to make sense of the whole picture. In contrast, direct labelling *Figure 1(b)* brings the context right where it belongs — with the data. When the text is placed closer to explanatory images (direct labelling), it can reduce cognitive load among readers (Stokes et al., 2022).
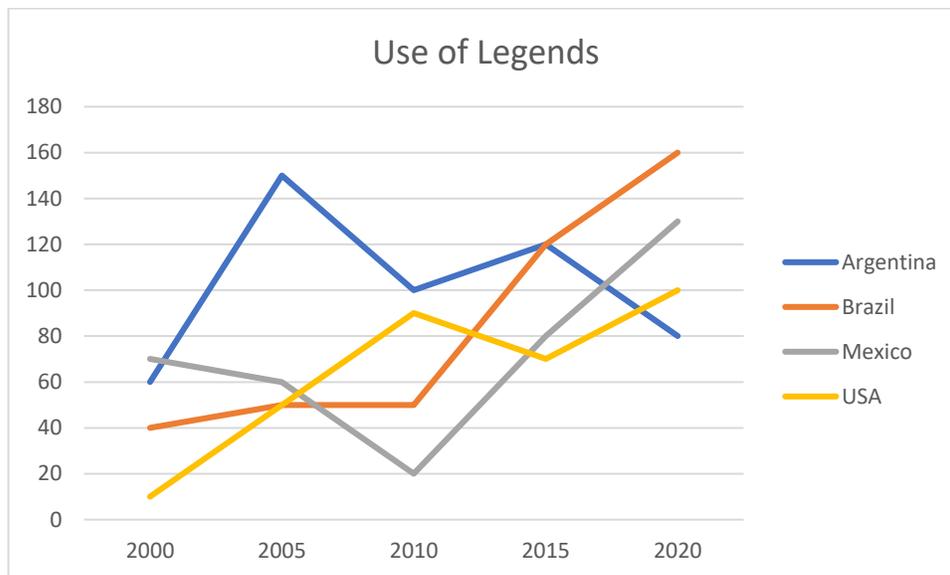

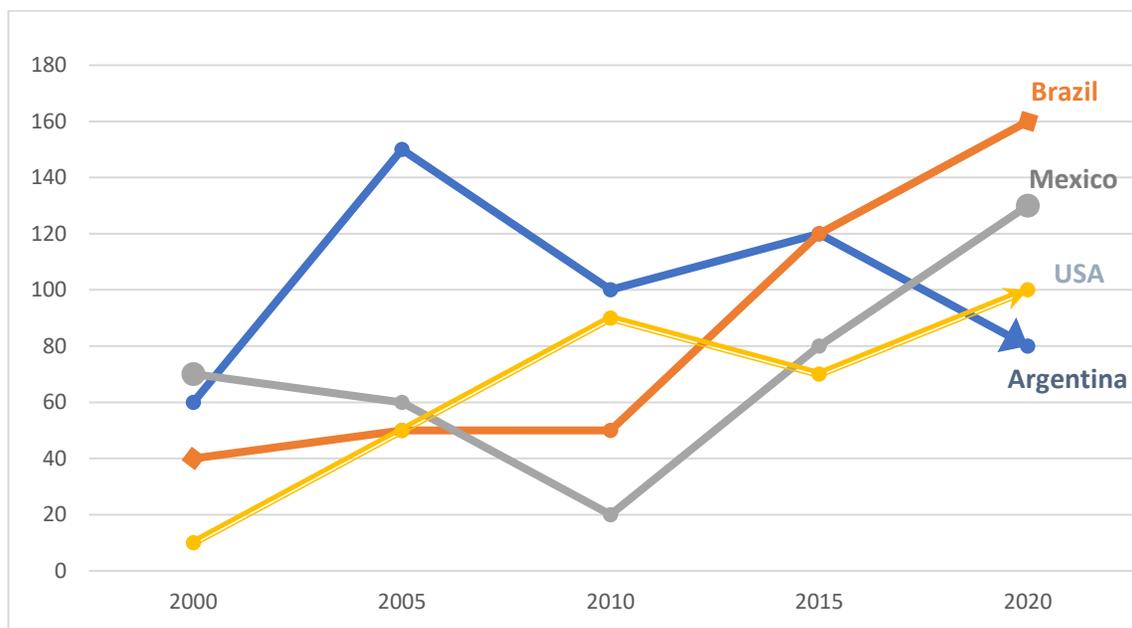*Figure 1(a): Image showing the use of Legends (Own work)*

Figure 1(b): Image showing Direct Labelling (Own work)

However, besides using direct labelling, displays become more accessible when using thick lines with different shapes so that even when printed using the black and white printer, they can easily be differentiated by the readers, as seen in *Figure 1(b).*

Growing Demand for Usable and Accessible Communication

The need for accessible communication has gained prominence lately in jurisdictions required by law to ensure their services and products are accessible to and usable by a wide range of users with different abilities and preferences. In the U.S., the enactment of legal frameworks such as the United States' Title II of the American Disability Act 1990 and Section 504 of the Rehabilitation Act (1973) prohibits any form of discrimination and provide equal opportunities to people with disabilities (U.S. Department of Justice, 2023). These have accelerated the adoption of practices that result in the production of accessible and usable content. The U.S. is also a signatory to the United Nations (UN) Convention on the Rights for Persons with Disabilities (CRPD) of 2006 that requires Member States to provide accessible information to persons with disabilities about mobility aids, devices and assistive technologies, support services, and facilities.

Technological advancements, especially graphic design and statistical software, have also continued to enable the reproduction and publication of attractive data graphics using color and given data visualizers more affordance to recording raw data for more than one variable at a time and tabulating or calculating some summaries that could then be displayed in graphs (Friendly & Wainer, 2021). The ability to produce interactive web content and visual displays provides opportunities for knowledge creation through designer-user collaboration, helping to uphold the integrity of data as well as creating and providing agency for users, compared to the static visuals where the users' agency is often limited by whatever has been displayed by the designer (Rawlins & Wilson, 2014).

More recently, there have been concerted efforts to ensure that the individual user experience of technology improves, not just with the hardware. For example, in 1999, the World Wide Web Consortiums (W3C)

developed and published the Web Content Accessibility Guidelines (WCAG) 2.2 aimed at ensuring web and digital content that's accessible to and usable by a broader range of people with disabilities, including visual, auditory, physical, speech, cognitive, language, learning, and neurological disabilities (W3C, 2024). The core principles under the WCAG.2.2 require that digital content is designed and presented in such a way that it is (a) Perceivable – where the website content and user interface components can easily be noticeable and distinguishable, (b) Operable – where the user interface components and navigation are easy to operate and explore, (c) Understandable – the content and the operation of the user interface are comprehendible, and (d) Robust – where the web content is easy to interpreted by a wide variety of user agents, including those assistive technologies.

In addition, the guidelines, which have been revised overtime, also include technical success criteria, which are testable statements that are not specific to a single type of technology, and they also cover a wide range of recommendations for making web content more accessible to a broader range of people with disabilities, including accommodations for blindness and low vision, deafness and hearing loss, limited movement, speech disabilities, photosensitivity, and combinations of these, and some accommodation for learning disabilities and cognitive limitations (W3C, 2024). The revised WCAG 2.2 comprises 86 success criteria structured into three levels of conformance (A, AA, and AAA) and includes the pass-or-fail statements that address accessibility barriers such as low-contrast text, ambiguous anchor texts, and keyboard accessibility issues. Adherence to these principles ensures that the final product would guarantee the users with an improved UX and align with the core tenets of usable content (usefulness, effectiveness, efficiency, and satisfaction) discussed earlier in the paper. The efforts to produce usable and accessible content are driven partly by the need to comply with the various legal provisions that criminalize discriminatory practices based on disability, and the recognition of the increasing digital divide that disadvantages and excludes certain groups of people from meaningful engagement in spaces and conversations about their rights due to inaccessible services and products (Odedeyi, 2025; Patil & Raghani, 2025; Tyarla, 2025).

Persistence of Inaccessible and Unusable Visualisations

However, while improved technology has facilitated the production of more accessible and readable graphic displays, and the growing demand for more usable data displays, approaches and practices that dominated the pre-technology era – of producing for the eye – have continued even within the digital realm. Many of the current practices still fall short of producing visuals that can be defined as usable. Most of the popular prescriptive best practices on data visualizations are biased towards readers with visual and cognitive abilities with limited considerations for users who, because of their disabilities, rely on mediated technologies to engage, explore, and make meaning of the data displays. Users with disabilities remain excluded as their information consumer habits, needs, and the functional performances of their assistive technologies are sometimes ignored and not factored into the design decision-making processes. For example, the tendency to rely on standardized machine-based guidelines such as the Web Content Accessibility Guidelines to measure the usability of digital content without actual involvement of actual users, particularly those who rely on mediated technologies, has resulted in misleading results. According to Power et al. (2012), although such guidelines offer a basic framework for assessing the accessibility and usability of digital content, they are anchored within "a problem-based paradigm" which focuses primarily on eliminating user-reported issues. This approach, however, fails to capture the full extent of the usability issues that emerge when actual users are involved (p. 440).

Recent studies have shown that certain visualizations including data displays are not accessible and usable to persons with disabilities, especially those who rely on mediated technology such as text-to-audio software and other screen readers to engage with and interpret digital communication (Marriott et al. 2021; Power et al.

2021; Sharif et al. 2021; Simmons & Zoetewey, 2012). For example, in their study, Sharif et al. (2021) found that visually impaired users who use screen readers are more interested in exploring the overall trends contained in the data displays to get a holistic view. Because of the inaccessibility of the displays, the screen readers were also less likely to accurately extract information from data displays compared to non-screen reader-users, and the screen readers' users spent double the amount of time due to the inaccessibility of the data displays. In addition, the Sharif et al. (2021) note that in most cases, the visualizations were not accompanied by detailed and more descriptive alternative texts, rendering most images or data displays inaccessible or decorative since screen readers could not decipher them.

According to Srinivasan et al. (2023) and Zong et al. (2022), designers often prioritize visual aesthetic appeals and layout over non-visual affordances such as the need for clear descriptive metadata that is crucial for keyboard navigation support. Sometimes however, practitioners do not conduct usability testing involving actual users with disabilities (Kerdar, et al., 2024), and even in situations where they do, they tend to overlook tactile feedback and spatial layout, limiting usability for braille display users (Alzalabny et al., 2024).

The Case for Integrating Universal Design and Multimodality

The desire to empower people with the means and resources to live independent, dignified lives has led to the adoption of universal design (UD) and multimodal approaches, which, while defined and applied differently, recognize the importance of creating products (including communication) and systems for the diversity in humanity, children, women, older persons, and persons with disabilities.

According to Story et al. (1998) the concept of universal design originated from the built environment, with the purpose of providing barrier-free environments, products, and services for users. The concept was reinforced by the successive legislation such as the Architectural Barriers Act of 1968, Section 504 of the Rehabilitation Act of 1973, Education for Handicapped Children Act of 1975, the Fair Housing Amendment Act of 1988, the American Disability Act of 1990 and the Telecommunications Act of 1996, which required federal agencies to ensure that their services and products are accessible and do not discriminate against users with disabilities. In addition, Story et al. (1998) note that there was a realization that many of the proposed physical structural changes needed to improve the accessibility for people with disabilities were beneficial for everyone and that most of the accessibility features could be incorporated within the initial design processes, making it cheaper and resulting in more attractive and marketable final products. Users had multiple options of accessing and navigating the structures: they could use the stairs, ramps, or escalators. In addition, there was an acknowledgement of the difficulty of (re)designing separate features, the aesthetic compromises to the projects, and the high financial cost implications compared to integrating the accessible design feature from the very start (Story et al., 1998).

Several organizations and scholars have attempted to define and scope universal design, including Article 2 of the UN Convention on the Rights of Persons with Disabilities (UNCRPD), which defines universal design as:

> … the design of products, environments, programmes and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design… (and universal design does not) not exclude assistive devices for particular groups of persons with disabilities where this is needed.

Others such as Dolph (2021) and Steinfeld & Maisel (2012) view universal design as a process rather than an event that should result in empowering users, irrespective of their disabilities, with the agency and affordance of options through which they can explore, interact, enjoy and make meaning of the designed content. This outcome assumes a high degree of involvement in the design process by the end users who share their

preferred options and the willingness on the part of the designers to incorporate the views and choices of the users, to the greatest extent possible, into the final products. UD helps eliminate the need for individual accommodations by ensuring that diverse users can explore products and services in multiple ways without specialized adaptations (Hitt, 2021). According to Imrie (2013), the most important aspect of UD is its "universal applicability" or requirement that the "design of places, things, information, communication and policy to be usable by the broadest range of people operating in the widest range of situations without special or separate design" (p. 289). According to Dolph (2021), for a design to be considered universal, it should "sufficiently improve human performance, health, wellness, and social participation" of the intended users (p. 184). For users with disabilities, inaccessible or overly complex content and interfaces make navigation and exploration more stressful, placing greater demands on their cognitive load (Cheung, 2017).

The UD has however been criticized for its technical approach to issues that are considered to be social, cultural and ideological constructs that require different and systemic changes to those values and practices responsible for the (re)production of poorly designed environments (Imrie, 2013), especially since most of what society considers inaccessible products or services are products of naturalized embodied experiences through institutional and cultural designs (Heilig et al., 2024). Hamraire (2016) further argues that quite often, there is a tendency for proponents of UD to espouse the benefits that the approach has for everyone, and thus "Universal Design became a convenient marketing discourse for persuading architects and designers of the desirability of accessible design," an attitude that ignores the lived experiences of persons with disabilities, (p. 11). This attitude, combined with increased enforcement of the enabling laws such as the ADA, resulted in implementors focusing their attention more on aligning or complying with the legal guidelines or standards and thus ignoring the need to meaningfully engage users with lived experience of disability in the design process of products and services (Hamraie, 2026; Know-the-ADA.com, 2025; Odedeyi, 2025).

According to Hiippala (2020), a multimodal approach is preoccupied with how web content and visual designers enhance user experience by combining different modes of communication — "text, audio, illustrations, photographs, diagrams, maps, layout, within their data displays," (p. 287). Multimodality recognizes the different abilities and requires the development of products that offer people multiple access and exploration options instead of a one-size-fits-all (Hitt, 2021). Like the UD, multimodal principles focus on the end users as the primary stakeholders who should influence the design decisions and qualify any design product's usefulness (or lack thereof). As Yau (2013) argues, the audience for data display should find it easy to "make leaps from encoding to decoding to understanding the data" (p. 255). Multimodality emphasizes the importance of designing and presenting data displays and content that leverage on the different human perception channels (vision, touch, hearing, taste, and smell) and involve a variety of human abilities (communication, cognition, and perception) to enhance user experience and understanding of whatever is being communicated (Azofeifa, et al., 2022).

While UD and a multimodal approach have existed for some time, the continued practices of producing inaccessible and unusable visuals and digital content highlight the limited adoption of the two approaches in the design and production of visual communication, with practitioner prioritizing visual aesthetics over non-visual affordances, failure to conduct usability tests with actual users and ignoring crucial feedback on the usability of their designs (Alzalabny et al., 2024; Kerdar et al., 2024; Srinivasan et al., 2023; Zong et al., 2022). Both the UD and multimodality appreciate that users have different abilities and preferences in how they engage, explore, and consume information and experience the environment in which they live. By considering diverse information consumption practices and abilities and providing options through the design process, UD leads to the production of products and services that are accessible, usable, and enjoyable by almost everyone (Centre for Excellence in Universal Design, n.d.).

Practical Application of UD and Multimodality

At the core of both UD and multimodality is the principle of centering the user in the design process and, like all user-centred design processes, to make data displays more accessible and usable for users who rely on mediated technologies, such as screen readers and refreshable Braille. Research has shown that products designed with a UD and multimodal mindset provide both the designers and users the agency needed to produce and explore visuals and web content in a more dignified manner (Hassenzahl, 2008).

While screen readers and refreshable Braille displays have primarily been used by blind people or people with low vision, their ability to convert text into audio or braille formats has also benefited people with cognitive impairments, neurological conditions, or learning disabilities (Fossheim, 2022). In addition, refreshable Braille displays transfer text to Braille cells via computers to help visually impaired individuals engage with and explore textual content and data displays by touching, (Saikot & Sanim, 2022). Unfortunately, unlike any ordinary text, visuals and data displays contain much graphical information that is more difficult for a screen reader to assess. Screen reader users rely on labels and alternative text to explore and make meaning from displays (Fan et al., 2023). "When the screen reader focuses on an element, its content gets announced" (Fossheim, 2021, p. 49).
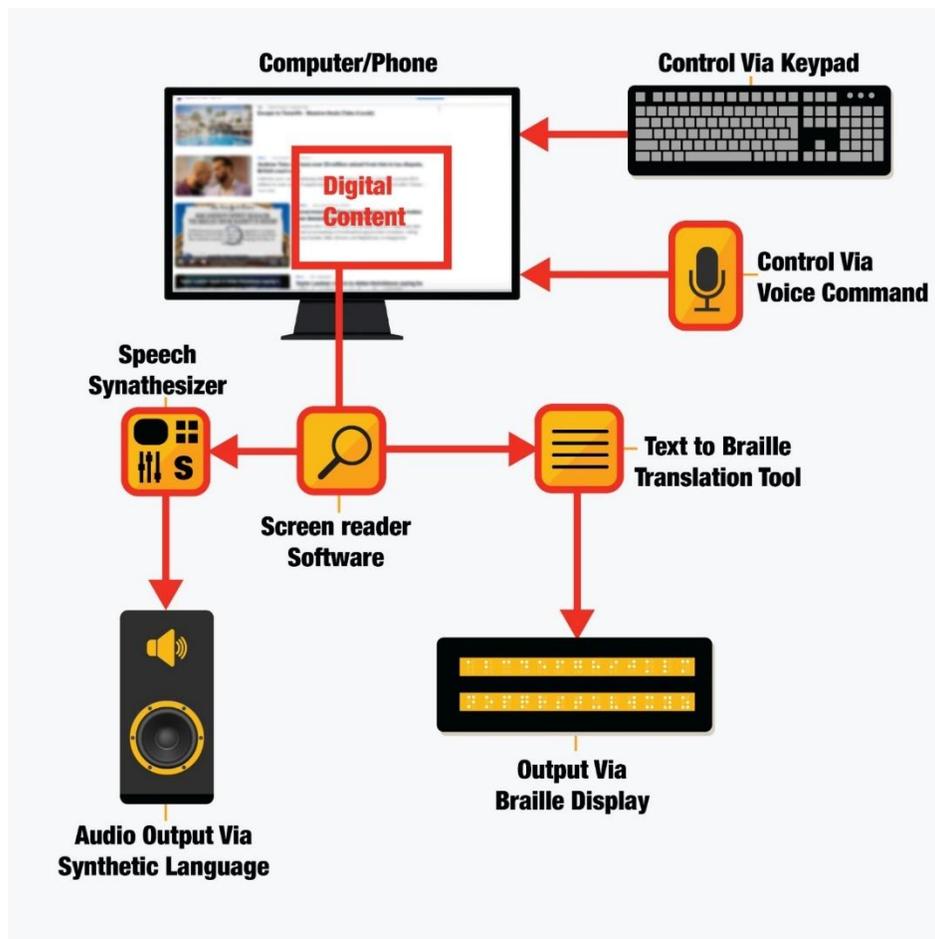
Figure 2: A modified image illustrating how screen readers work to convert texts into audio outputs and or braille. (Issa Muwonge and Paul Kimumwe)

It is therefore critical that designers expand their appreciation of and consider the functional abilities and limitations of these mediating technologies that are relied on by users with disabilities. Both technologies rely on the clarity and simplicity of the original texts. The text, including alt-text accompanying data displays, must be written in simple language for easy comprehension and transcribing by the different mediating technologies – text-to-audio or text-to-braille. In addition, design decisions should be based on and implemented to harmonize the purpose of the display, the information needs, and communication habits, abilities, and preferences of different users. Even when using mediated technologies, users need to experience some level of autonomy and competence when exploring data displays and web content as a way of improving their user experiences (Hassenzahl, 2008, p.14).

Conclusion

Although UD and multimodality principles have been in existence for a while, their adoption, especially in the information design and visualization, has been slow. Current there is limited evidence to show that the approaches have been anchored within any concrete framework taught in TPC and design schools nor enforced within the design processes. To ensure that data visualisations and digital content are more usable, it is important for communication practitioners and disability rights and other social justice activists interested in enhancing the accessibility and usability of digital data visuals and improving the user engagement and UX of users to adapt approaches that intersect universal design and multimodal principles. The key motivation should be the production of visuals that are both accessible and usable to the widest audiences including people living with disabilities through different modes of communication – visual, aural, sensory or touch.

Below, I share some practical recommendations.

- Scholars in business communication undertake more empirical studies to establish the user needs and usability of the different communications being produced.

- It is important to create more awareness about the existing open-source applications that can be used to design more interactive and usable visuals and those that can be used to conduct usability tests on the different communication products.

- It is important that instructors, industry players, and advocates foster meaningful collaborations including through collaborative research and design projects to leverage the diversity of expertise among these players.

- Designers should incorporate more adaptive accessibility principles into their design processes to create content that is not only compliant with the legal requirements but also acknowledges and respects the diversity of users.

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Doctors on TikTok:
Predicting Engagement with Health Misinformation Corrections

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Introduction

Health-related misinformation is one of the most persistent and systemic challenges in contemporary media ecosystems. False or misleading health content distorts public understanding, erodes trust in medical institutions, and can directly influence risky behaviors such as vaccine refusal or the use of unverified treatments (Lewandowsky et al., 2020). In digital spaces, misinformation spreads widely because it captures attention more effectively than verified content. Research shows that false information can travel faster and reach larger audiences than accurate information because it tends to evoke stronger emotions and greater novelty (Vosoughi et al., 2018). These dynamics have intensified with the rise of short-form video platforms such as TikTok, which shape how younger audiences learn about health, science, and medicine.

TikTok presents a communication environment that prioritizes immediacy and personalization over deliberation. Its vertical video format, looping playback, and personalized "For You" feed emphasize ease of engagement and emotional appeal. The algorithm that powers the feed adjusts constantly to micro-level behaviors such as viewing time and replays, creating a cycle where visibility depends on interaction rather than informational value. These same design features that promote entertainment also accelerate the spread of health myths and conspiracies, creating serious challenges for corrective communication (Jiang & Ma, 2024). At the same time, they offer new opportunities for medical professionals to reach large audiences with timely and accessible explanations when they adapt their communication strategies to fit the platform's norms.

During the COVID-19 pandemic, clinicians and public health agencies began using TikTok to explain evolving guidance, respond to misinformation, and translate medical concepts into short, engaging videos (Adams, 2022). These efforts highlight both the potential and the complexity of health communication in algorithmic environments. Corrective messages must compete for user attention within seconds, which makes design and presentation as important as factual accuracy. Guided by the Elaboration Likelihood Model (Petty & Cacioppo, 1986), this study examines which message features are associated with higher engagement in TikTok videos created by medical professionals that aim to correct health-related misinformation. Three feature categories are considered: presentation style, credibility cues, and debunking strategies. Engagement, measured by the number of likes, represents not only audience response but also a signal that influences algorithmic recommendation and thus potential reach.

This study contributes to emerging research at the intersection of digital health communication, persuasion theory, and platform studies. By analyzing 283 TikTok videos created by self-identified medical professionals across ten health domains, we identify which design and rhetorical features correspond to higher engagement.

The findings offer insights into how professional expertise can be effectively communicated in short-form video environments that are dominated by algorithmic visibility.

Literature Review

TikTok as a Misinformation Environment

TikTok's interface is optimized for short bursts of attention. Its vertically oriented, full-screen format minimizes distractions, while infinite scrolling and algorithmic curation maximize exposure through repetition and novelty. The result is an information environment designed for rapid and frictionless consumption rather than reflective evaluation (Jiang & Ma, 2024). Across social platforms, misinformation tends to spread more effectively than accurate information because emotional and surprising content requires less cognitive effort to process and share (Vosoughi et al., 2018; Pennycook & Rand, 2021). TikTok intensifies this effect through music, humor, and visual storytelling, all of which heighten emotion and reduce the threshold for engagement. Corrective messages therefore must capture attention instantly while signaling both relevance and credibility.

Engagement metrics such as likes, comments, shares, and viewing time are central to how TikTok distributes content. These signals determine which videos the algorithm recommends to broader audiences (Pew Research Center, 2023). Engagement thus functions both as an indicator of audience response and as a mechanism of visibility. High engagement means a corrective video is more likely to appear on additional users' feeds, increasing opportunities for exposure and correction. Although engagement does not necessarily indicate persuasion, it represents the first necessary step in the correction process (Ecker et al., 2022; Lewandowsky et al., 2020).

Dual-Process Persuasion Frameworks

The Elaboration Likelihood Model proposes that message effects depend on how much cognitive effort the audience invests in processing (Petty & Cacioppo, 1986). When motivation and ability to think carefully are high, people follow the central route and evaluate the message based on argument quality. When they are low, people rely on peripheral cues such as attractiveness, authority, or social proof. Because TikTok encourages quick, low-effort engagement, peripheral processing is likely to dominate. However, if a video captures enough attention, it can open the door for deeper elaboration. The most effective corrections combine peripheral attention cues with concise evidence that rewards continued attention.

Other frameworks reinforce this logic. The Heuristic-Systematic Model (Chaiken, 1980) similarly distinguishes between shallow and deep processing. Sundar's Modality-Agency-Interactivity-Navigability (MAIN) model expands these ideas to digital contexts, emphasizing that interface features themselves can act as heuristic signals of credibility (Sundar, 2008). Together, these models highlight that persuasion on TikTok depends on how message design interacts with platform affordances. TikTok's multimodal structure compresses message evaluation into very brief moments, which favors features that are both easy to interpret and emotionally engaging.

Presentation Style

Presentation style shapes both how viewers attend to corrective messages and how easily they process them. Certain formats are especially compatible with the cognitive and aesthetic rhythms of short-form video. Two of the most common are listicles and collaborative video formats such as stitches and duets.

Listicles provide a predictable scaffold that breaks complex information into discrete and easily scannable units. They often use numbered sequences such as "3 myths about sunscreen" or categorical groupings such as "types of misleading diet advice" that help audiences anticipate structure and follow the flow of the message. Scholars have found that listicles can enhance perceived organization and enjoyment, as well as facilitate comprehension in fast-paced media environments (Freeman et al., 2021; Sadri, 2019; Vijgen, 2014). At the same time, their repetition and predictability can lead to audience fatigue or reduced novelty, which may limit attention and emotional engagement. In advertising and promotional contexts, listicle-style presentations also interact with persuasion knowledge and disclosure awareness, signaling to viewers that the content follows a familiar persuasive script (Lim et al., 2021). In corrective health communication, this structure may help clarify scientific information but can appear formulaic or overly rehearsed if not paired with creativity or surprise. The challenge for medical professionals is to use the organizational benefits of listicles while maintaining freshness and authenticity.

Collaborative video features on TikTok, particularly stitches and duets, embed the correction directly within the platform's participatory structure. A stitch begins with a short segment from another user's video, often one containing misinformation, followed by the creator's response. For example, a video might open with a user claiming, "You should always drink hydrogen peroxide," immediately followed by a doctor saying, "Absolutely not. Here's why." A duet places the original and the response side by side in split-screen, playing simultaneously so that viewers can compare them in real time. These collaborative formats serve several communicative functions. They provide immediate context for the correction, visually juxtapose misinformation with expert rebuttal, and use social proof by showing that the claim is already circulating and worth addressing. The side-by-side layout or sequential format creates a sense of dialogue rather than monologue, turning the correction into a conversation rather than a lecture. This approach aligns with TikTok's participatory norms, which reward responsiveness, creativity, and visible engagement among users. By situating experts within an ongoing exchange, collaborative formats can increase watch time, encourage interaction, and make professional content feel timely and relevant to the wider discussion (Cialdini, 2021). Together, these two presentation styles highlight the importance of form as a persuasive variable. Listicles organize and simplify complex information, while collaborative formats humanize and contextualize it. Understanding how each interacts with viewer attention, perceived authenticity, and algorithmic distribution is essential for designing effective health corrections in short-form video environments.

Credibility Cues

Source credibility is a foundational concept in persuasion research (Hovland & Weiss, 1951; Ohanian, 1990). On TikTok, audiences often infer credibility through quick visual and textual cues. Titles such as "Dr.," references to institutional affiliation, medical attire, and clinical backgrounds all help viewers recognize expertise within seconds (Cialdini, 2021). However, credibility cues may not directly lead to engagement unless they also attract attention. A lab coat or clinic background can signal authority, but such cues may not be sufficient to hold viewers' interest in a fast-scrolling feed. In this sense, credibility may support persuasion after exposure but does not necessarily drive the engagement that determines whether a video is seen in the first place.

Debunking Strategies

Corrective communication strategies vary in how they appeal to cognitive and emotional processes. References to formal evidence or scientific institutions encourage central processing by providing strong arguments. Narratives and anecdotes humanize information and increase memorability by evoking emotion (Dillard & Peck, 2001; Clore & Ortony, 2008). Consultation with peers or citing other medical professionals

reinforces consensus and strengthens perceptions of expertise and reliability (Cialdini, 2021). Effective correction also requires clarity, an emphasis on accurate information, and an alternative explanation for the myth being addressed (Ecker et al., 2022; Lewandowsky et al., 2020). On short-form platforms, these strategies must be delivered succinctly and visually to capture attention before users scroll away.

Summary and Research Focus

Research on corrective communication in short-form video contexts remains limited. Although some studies have examined how presentation style, credibility cues, or debunking strategies influence audience response, few have investigated how these features interact within algorithmically curated platforms such as TikTok. Most existing work relies on hypothetical or text-based materials that do not capture the audiovisual immediacy, interactivity, and recommendation dynamics that characterize the platform. The present study extends this emerging area by analyzing authentic videos created by medical professionals to correct health misinformation on TikTok.

Building on the Elaboration Likelihood Model and related dual-process frameworks, this study examines how distinct message features shape audience engagement. Specifically, it asks how presentation style features are associated with engagement in TikTok videos created by medical professionals, how credibility cues relate to engagement, and how different debunking strategies correspond to engagement outcomes. These questions guide the analysis that follows.

<div align="center">

Method

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Data

The dataset consisted of 283 TikTok videos posted between 2020 and 2025 by self-identified medical professionals who addressed health-related misinformation across ten topic domains: ADHD, alcohol addiction, cancer, depression, diabetes, heart health, nutrition, oral health, pregnancy, and sleep. Videos were located using keyword searches that combined misinformation-related terms (for example, "myth," "misinformation," "debunk") with specific health topics, supplemented by platform-generated recommendations from TikTok's search and "For You" feed. Each video was reviewed to confirm that it contained explicit corrective intent, such as refuting a false or misleading health claim or clarifying an evidence-based medical concept.

The final sample included videos from a wide range of creators, varying in follower count and professional specialization. The average video length was approximately 65 seconds (SD = 18.7), the mean view count was 90,392 (SD = 247,108), and the mean number of likes was 6,570 (SD = 38,139).

Coding Categories

The examples that appear in this section are drawn from the codebook used to train coders and represent the most typical expressions and formats observed in the dataset. They are illustrative of how each category was operationalized rather than quotations from specific TikTok creators.

Presentation Style

This category identifies whether a video is organized as a list-based format, commonly referred to as a listicle. Within listicles, two patterns were distinguished. Ranking occurs when the creator presents a list ordered by

some subjective or implied criterion, such as "best," "worst," or "most common." For example, a video might begin with "Here are the most dangerous skincare myths" or "The worst weight loss tips I've ever seen." Numbers involve the use of numbered items without explicit ranking, such as "These are 5 myths about antibiotics" or "3 things you probably didn't know about sunscreen."

The category also captures whether the creator incorporates content from other users. A stitch consists of a short clip from another user's video at the beginning, followed by the creator's commentary or correction. For instance, a stitch might start with someone saying "You should always drink hydrogen peroxide," immediately followed by the doctor responding, "Absolutely not. Here's why…" A duet places the original misinformation and the creator's reaction side-by-side, playing simultaneously. An example would be a side-by-side format in which misinformation appears on one half of the screen while the doctor delivers corrective information on the other.

Credibility Cues

These cues are indicators that the creator uses to establish or reinforce authority. A Title cue involves the presence of a professional title such as "Dr." in the username, in a spoken introduction, or in on-screen text, for example, "Hi, I'm Dr. Patel." Affiliation refers to the mention of a workplace, institution, or medical specialty, such as "I'm a pediatrician at Johns Hopkins" or "As a dentist, I see this every week." Attire cues include visible medical clothing or equipment, such as scrubs, a lab coat, a stethoscope, a surgical mask, or an identification badge. Background cues are present when the filming location contains visible signs of medical expertise, such as a medical office, framed diplomas, anatomical models, or exam-room equipment.

Debunking Strategies

This category refers to the type of reasoning or evidence used to refute misinformation. References involve citing formal sources, research studies, or institutional guidance, such as "According to the CDC…" or "A recent study shows…" Narrative strategies draw on the creator's own practice or anecdotal professional experiences, such as "In my 10 years as a cardiologist…" or "Every week, patients come in believing this myth." Consultation with Peers is coded when the creator cites or references the opinion of another medical professional, for example, "I checked with a dermatologist friend of mine who confirmed…" or "Dr. Alex also made a great point about this in his video."

Coding Scheme and Reliability

Two trained coders developed a codebook that captured nine dichotomous features representing three categories of message design. The presentation style category included listicle and collaborative format features. The credibility cues category included the presence of a professional title, institutional affiliation, medical attire, and a clinical or office background. The debunking strategies category included explicit reference to research or institutional guidance, use of narrative or anecdotal evidence, and consultation with peers or other professionals.

The codebook was iteratively refined through pilot coding on a subset of videos to ensure clarity and consistency in definitions. Intercoder reliability was assessed using Cohen's kappa, with coefficients ranging from .65 to .84, indicating acceptable to strong agreement. Any remaining discrepancies were discussed and resolved through consensus between the coders before final coding proceeded.

Engagement Measure and Transformation

Engagement was operationalized as the number of likes each video received. Because the distribution of likes was highly right-skewed, with a small number of videos accounting for a disproportionate share of engagement (Figure 1), the raw like counts were transformed using a base-10 logarithm to normalize the data (Figure 2). The same transformation was applied to view counts to allow for comparison. The log-transformed likes and log-transformed views were strongly correlated, $r(279) = .91$, $p < .001$, indicating that both measures captured similar audience response patterns. Likes were retained as the primary engagement metric because they reflect active user appraisal rather than passive exposure.

Figure 1
Distribution of Likes
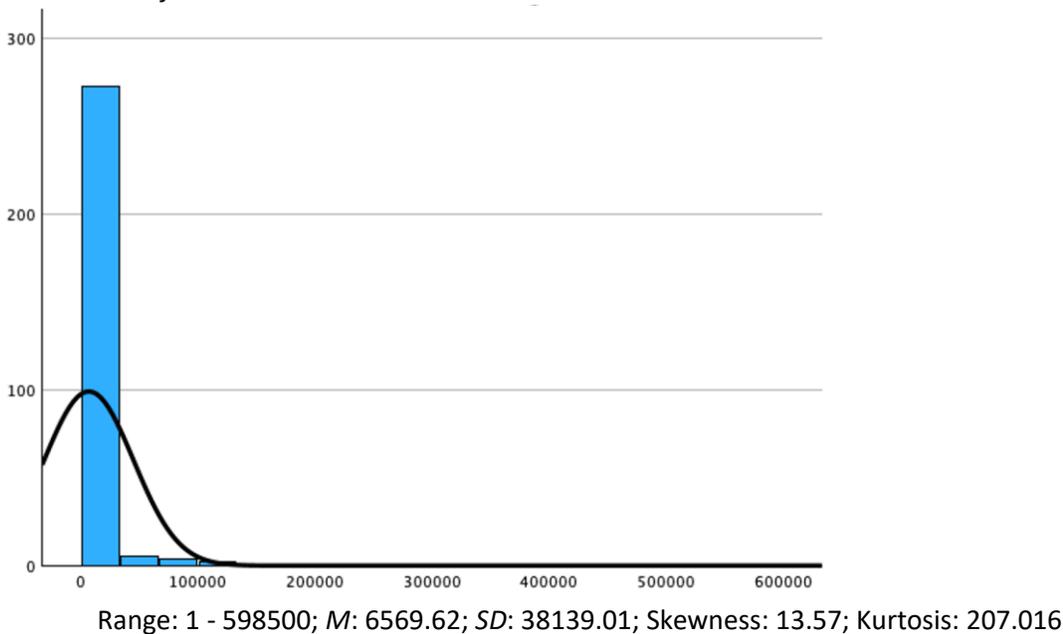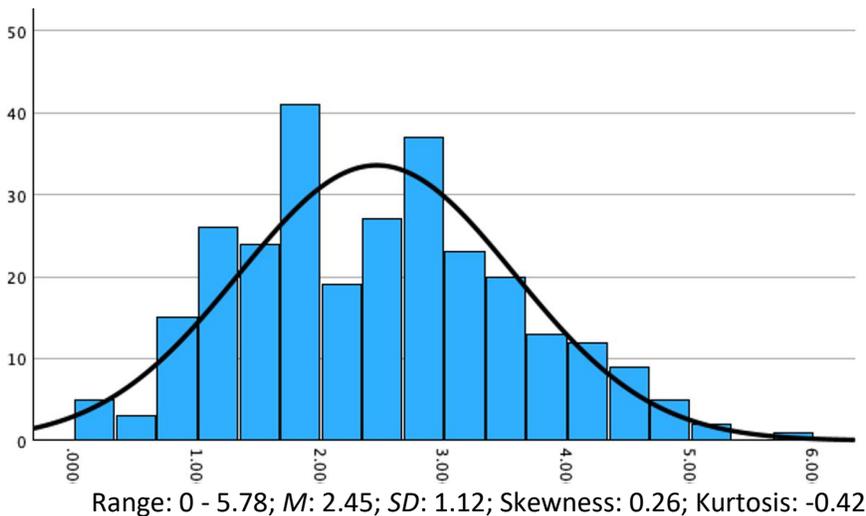

Range: 1 - 598500; *M*: 6569.62; *SD*: 38139.01; Skewness: 13.57; Kurtosis: 207.016

Figure 2
Distribution of Likes with Logarithmic (Base 10) Transformation

Range: 0 - 5.78; *M*: 2.45; *SD*: 1.12; Skewness: 0.26; Kurtosis: -0.42

Results

Point-biserial correlations were computed between each binary feature and the dependent variable, log-transformed likes. Table 1 presents the results.

Table 1
Point-Biserial Correlation Results

Variable	*r* (point-biserial)	95% CI low	95% CI high	*p*	Feature present Freq.	Feature present Mean Likes	Feature absent Freq.	Feature absent Mean Likes
Presentation Style								
Listicle	-0.13	-0.24	-0.02	.03	80	3650	204	7714
Collaborative Video Features	0.21	0.10	0.32	.001	20	8909	264	6392
Credibility Cues								
Title	-0.02	-0.12	0.09	.74	53	2491	231	7506
Affiliation	-0.02	-0.12	0.09	.77	76	1675	208	8358
Attire	0.03	-0.09	0.14	.68	105	9679	179	4746
Background	0.03	-0.08	0.15	.57	80	3587	204	7739
Debunking Strategies								
Reference	-0.03	-0.13	0.07	.64	3	14584	281	6484
Narrative	0.00	-0.11	0.12	.98	17	7907	267	6484
Consultation with Peers	-0.07	-0.17	0.03	.22	56	2685	228	7524

Point-biserial correlations showed that collaborative video features (stitches and duets) were positively associated with engagement, *r* = .21, *p* = .001. Listicle formats showed a small negative correlation with engagement (*r* = −.13, *p* = .03). None of the credibility cues (title, affiliation, attire, background) or debunking strategies (reference to research, narrative appeal, consultation with peers) were significantly associated with engagement. Overall, presentation style, particularly the use of collaborative formats, emerged as the strongest predictor of audience engagement in TikTok videos created by medical professionals.

Discussion

This study examined how presentation style, credibility cues, and debunking strategies relate to engagement in TikTok videos created by medical professionals that address health misinformation. The results showed that

presentation style, particularly the use of collaborative formats such as stitches and duets, was positively associated with engagement. These formats embed expert responses directly within ongoing conversations on the platform, creating a sense of dialogue and immediacy that aligns with TikTok's participatory culture. From the perspective of the Elaboration Likelihood Model (Petty & Cacioppo, 1986), such formats likely function as peripheral cues that attract attention and encourage low-effort processing among viewers who might otherwise overlook corrective information.

Listicle-style presentations, by contrast, showed a small negative relationship with engagement. Although listicles organize complex information into clear and predictable units that facilitate comprehension (Freeman et al., 2021; Sadri, 2019; Vijgen, 2014), their repetitive and formulaic nature may reduce novelty and dampen users' motivation to interact. This interpretation aligns with previous research suggesting that while listicles enhance readability and organization, their appeal depends on novelty and perceived usefulness. When a format becomes overly familiar, audiences may perceive it as less engaging or informative.

No significant relationships were found between engagement and either credibility cues or debunking strategies. This does not imply that credibility and evidence are unimportant, but rather that they may operate at different stages of message processing. Cues such as titles, institutional affiliations, and professional attire likely enhance perceptions of expertise and trustworthiness, yet they do not necessarily drive immediate behavioral responses such as liking a video. Similarly, the inclusion of scientific references, narratives, or peer consultation may strengthen comprehension and message acceptance among motivated viewers but are less likely to influence engagement metrics that depend primarily on rapid attention capture. In short-form video environments, attention is the scarce resource. Features that capture interest quickly determine whether users choose to engage, while credibility and evidence influence the depth and quality of subsequent processing.

Theoretical Implications

The findings contribute to dual-process theories of persuasion by extending them to algorithmically mediated contexts. The Elaboration Likelihood Model and the Heuristic-Systematic Model emphasize that message processing varies according to audience motivation and ability. On platforms like TikTok, both are often low because users scroll rapidly through large volumes of content. In these environments, message features that operate as peripheral or heuristic cues become especially influential. The collaborative features that predict engagement in this study embody multiple cue types identified in the MAIN model (Sundar, 2008), combining modality, agency, and interactivity to signal authenticity and social relevance. These results suggest that technological affordances themselves serve as persuasive cues, shaping not only individual cognition but also the likelihood that content will be amplified algorithmically.

These findings illustrate how platform affordances condition the operation of established persuasion processes. In short-form environments, features that capture attention determine whether a message is even processed, while credibility and evidence shape how it is evaluated once viewed. This sequencing complements the Elaboration Likelihood Model by highlighting that attention is a necessary precursor to elaboration in algorithmic media contexts.

Practical Implications

For medical professionals and health communicators, the findings highlight the importance of platform fluency in designing corrective communication. Collaborative video formats such as stitches and duets not only convey expertise but also contextualize corrections within ongoing social exchanges. These formats allow clinicians to

address misinformation directly, demonstrate responsiveness, and maintain an authentic tone suited to the participatory norms of short-form video. Although credibility cues and evidentiary references remain essential for establishing trust, they are most effective when paired with attention-capturing presentation styles that align with platform affordances. Training programs for health communicators should therefore include guidance on visual framing, editing tempo, and interactive features that can help credible content compete within algorithmic feeds.

Limitations

This study has several limitations that should be considered when interpreting the findings. First, the sample was not randomly selected. Videos were identified through keyword searches and TikTok's recommendation algorithms, meaning that the dataset is not representative of all TikTok content related to health misinformation. Algorithm-driven sampling may overrepresent videos that are already popular or have certain stylistic features favored by the platform's curation system, while underrepresenting less visible or niche content.

Second, the highly dynamic nature of TikTok content poses challenges for longitudinal research. Content availability changes rapidly as videos are deleted, accounts are suspended, or creators make their content private. In this study, a small proportion of videos (less than 5 percent) became unavailable between data collection and coding. While this percentage is relatively minor, it highlights the potential volatility of the dataset and limits replicability over time.

Third, although the sample included a range of health topics such as ADHD, alcohol addiction, cancer, depression, diabetes, heart health, nutrition, oral health, pregnancy, and sleep, it is not exhaustive. Many health-related issues, conditions, and misinformation narratives were not captured, and the results may not generalize to other domains.

Fourth, the coding of medical professional identity was based on self-presentation in the video and associated account information. We made informed judgments using available cues such as professional titles, attire, and affiliations, but there is the possibility of misclassification. In addition, the accuracy of the information provided in the videos was not independently verified. Our analysis assumes that the content created by these self-identified medical professionals constitutes an attempt to correct misinformation, but we cannot confirm whether the corrective information is itself factually correct.

Finally, our outcome measure, engagement in the form of likes, reflects audience interaction but does not directly measure persuasive effectiveness. A video with high engagement may still fail to change beliefs, improve knowledge, or reduce the influence of misinformation. Since this study relied on content analysis, we cannot determine the cognitive or behavioral effects of exposure to the videos. Future experimental or longitudinal studies are necessary to assess whether the features associated with engagement also translate into measurable changes in audience attitudes or beliefs.

Future Directions

Several directions for future research emerge from the present study. First, a controlled follow-up experiment could test the causal effects of specific content features on both engagement and persuasive outcomes. Such a design would allow researchers to systematically manipulate different credibility cues, such as professional titles, institutional affiliations, medical attire, and background settings, while holding other variables constant. In addition to measuring engagement metrics, these experiments should assess persuasive outcomes such as

changes in knowledge, shifts in beliefs, and confidence in the accuracy of the information. This would help determine whether the features that increase engagement also improve the effectiveness of misinformation correction.

Second, there is value in examining platform-specific differences. TikTok is only one of several popular short-form video platforms, and others such as YouTube Shorts and Instagram Reels operate under different norms, algorithms, and audience expectations. For instance, informal observation suggests that many YouTube Shorts function as teasers or promotional clips for longer videos, which may affect how viewers interpret and interact with corrective content. Future research could explore whether collaborative features, listicles, and credibility cues operate similarly across platforms, or whether platform-specific strategies are required to optimize both engagement and persuasive impact.

Third, future work should consider the implications of engagement distribution patterns. Social media engagement is often highly skewed, with a small number of posts generating the majority of interaction. For example, Pew Research Center (2023) found that 1 percent of posts using the hashtag #BlackLivesMatter accounted for 90 percent of all reposts, while 65 percent of posts received none at all. This pattern highlights the unpredictability of virality, in which a few pieces of content dominate attention while most remain unseen. In the present study, we addressed skewness through log transformation of likes, but this approach compresses variation among the most popular videos and may obscure some patterns of extreme engagement. Future studies could explore alternative analytic methods, including robust regression or quantile regression, to better model engagement distributions.

Finally, machine learning approaches could provide new insights into the predictors of engagement and persuasion in corrective health communication. Techniques such as random forest models can handle large numbers of predictor variables, capture nonlinear relationships, and identify interactions that may not be apparent in traditional statistical models. Combining content analysis with computational modeling could help researchers identify the most effective combinations of message features for maximizing both reach and accuracy in the correction of health-related misinformation.

Conclusion

The results indicate that presentation style, more than credibility or evidence, predicts engagement with health misinformation corrections on TikTok. Collaborative formats such as stitches and duets foster higher engagement by embedding expert commentary within ongoing conversations, while listicles show weaker effects. Credibility cues and factual references remain important for persuasion but do not appear to drive engagement in short-form contexts. These findings suggest that effective corrective communication depends not only on what health professionals say but also on how they present it. Designing messages that combine accuracy, interactivity, and immediacy may enhance both audience attention and the reach of accurate health information online.

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Assessing the Impact of COVID-19 on Corporate Sustainability Discourse: A Diachronic CADS Analysis of Sustainability Reporting in the Cruise Line Industry

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Abstract

This study investigates how corporate sustainability discourse evolved in the cruise line industry across the pre-pandemic (2018–2019), pandemic (2020–2021), and post-pandemic (2022–2023) periods. Applying a Corpus-Assisted Discourse Studies (CADS) approach, sustainability reports from four major cruise companies—Carnival, MSC Cruises, Norwegian Cruise Line, and Royal Caribbean—were compiled into three diachronic corpora. Keyword analysis identified the most salient lemmas in each period, which were subsequently examined through concordance analysis to uncover dominant discursive framings.

Findings reveal a clear diachronic trajectory: pre-pandemic reports emphasized environmental compliance, ethical responsibility, and philanthropic outreach; pandemic-era discourse shifted toward crisis management, public health governance, and operational resilience; and post-pandemic communication foregrounded long-term innovation, decarbonization, and normative leadership. These results demonstrate that sustainability reporting functions not merely as informational disclosure but as a strategic rhetorical tool for constructing legitimacy and adapting corporate identity in response to reputational pressures and global crises.

The study contributes to business communication research by offering a sector-specific, longitudinal analysis of sustainability discourse in a high-impact industry, while also showcasing the analytical value of CADS for uncovering subtle shifts in corporate narrativization. Managerially, the findings underscore the increasing role of sustainability reports as instruments of stakeholder reassurance, future-oriented positioning, and brand differentiation in ecologically sensitive sectors.

Introduction

As sustainability becomes a crucial concern in contemporary business communication, companies are increasingly expected to share their environmental and social commitments with transparency, strategic intent, and rhetorical credibility. In high-impact sectors such as cruise tourism, strategic communication plays a critical role in shaping public perceptions, managing stakeholder expectations, and maintaining corporate legitimacy.

Cruise tourism represents one of the fastest-growing segments of the global tourism industry, generating substantial economic benefits for destinations while simultaneously exerting considerable pressure on fragile ecosystems and coastal communities, leading to negative consequences such as the environmental degradation of both coastal and marine ecosystems (Cruise Lines International Association, 2024;

Papageorgiou, 2016). "The growing demand for sustainable practices in tourism is particularly relevant in coastal and marine environments, where ecological fragility and economic development often come into tension" (Pagano & Spezzano, 2025, p. 4). The sustainability of these environments is now seen as a critical concern, prompting calls for regulatory frameworks. In recognition of these challenges, the European Union has incorporated tourism into its *Blue Growth* strategy, which aims to foster sustainable economic development across marine and maritime sectors. This long-term strategy identifies seas and oceans as key drivers of innovation, growth, and employment potential for the European community. According to recent estimates, the blue economy generates nearly €500 billion in gross added value annually and supports approximately 5.4 million jobs (EC, 2019, as cited in Leposa, 2020).

Within this context, cruise lines raise pronounced environmental, social, and economic sustainability concerns. The cruise industry is characterized by high energy consumption, carbon emissions, waste production, and complex labor practices—all of which have placed cruise lines under increasing public and regulatory scrutiny (Di Vaio et al., 2023). While the industry has traditionally emphasized the economic benefits of cruising, especially for coastal destinations, it now faces heightened expectations to address sustainability more explicitly. COVID-19 further complicated the sustainability landscape as the pandemic disrupted global travel and tourism, compelling cruise lines to reevaluate their operational and environmental commitments.

The growing demand for sustainable corporate practices, particularly in ecologically sensitive marine environments, has positioned corporate sustainability discourse as a key tool for managing reputation, responding to stakeholder concerns, and reinforcing corporate legitimacy (Catenaccio, 2024). Sustainability reports have emerged as a key genre for articulating corporate environmental and social responsibility, offering organizations a formalized and strategically curated space to construct legitimacy, demonstrate accountability, and showcase alignment with broader sustainability agendas. In the cruise industry, where reputational risks are high and public scrutiny is mounting, these reports function not only as informational documents but also as powerful rhetorical tools that allow companies to frame their values, engage stakeholders, and position themselves as responsible actors within the evolving landscape of sustainable tourism.

Despite a growing body of literature on sustainability reporting in business communication research, existing studies have adopted a cross-sectoral perspective, overlooking sector-specific analyses (Breeze & Fernández Vallejo, 2020). In particular, sustainability reporting in the cruise line industry has received limited scholarly attention despite the sector's significant environmental, economic, and reputational footprint (Geerts & Dooms, 2022).

To address this gap, the present study examines how sustainability is discursively constructed and strategically framed in the cruise industry's corporate communication, with a particular focus on the impact of COVID-19. Relying on the methodological framework of Corpus-Assisted Discourse Studies (CADS) (Baker, 2023; Gillings et al., 2023), this research investigates the sustainability reports of four major cruise lines—Carnival Cruise Line, MSC Cruises, Norwegian Cruise Line, and Royal Caribbean—over a six-year period (2018–2023). These companies were selected for their dominant market share, global influence, and pivotal role in shaping sustainability standards within the industry.

The analysis focuses on diachronic shifts in corporate sustainability discourse across three periods: pre-pandemic (2018–2019), pandemic (2020–2021), and post-pandemic (2022–2023). In doing so, it explores whether the COVID-19 crisis led to new thematic priorities, intensified existing commitments, or prompted discursive adaptations aimed at managing increased scrutiny and evolving stakeholder expectations.

This research contributes to ongoing debates in business communication by illuminating how discourse functions as a strategic resource in high-impact industries. It proposes a data-driven framework for assessing sustainability messaging through the lens of CADS and examines how organizations adapt their communication in response to global crises, reputational risks, and shifting stakeholder expectations.

Sustainability Discourse in Business Communication Research

Over the past two decades, sustainability discourse has become a central concern in business communication scholarship, reflecting broader societal shifts toward ethical responsibility, environmental awareness, and stakeholder engagement. Foundational studies have approached sustainability discourse as a form of strategic communication that not only conveys corporate values but also constructs legitimacy and shapes stakeholder perceptions (Catenaccio, 2024). Drawing from discourse analysis and linguistics, Catenaccio (2012) emphasizes that sustainability discourse is not merely descriptive but performative—actively shaping social reality by embedding ethical commitments into corporate narratives. Her work reveals how micro-level linguistic features serve macro-level functions in reinforcing business ethics and legitimizing corporate behavior.

Expanding on this foundation, Garzone & Catenaccio (2022) examine how ethical values are encoded in professional discourse, arguing that ethics are linguistically and pragmatically negotiated in relation to broader business goals. Their study shows that sustainability discourse often balances ethical commitments with market imperatives, highlighting the tension between moral positioning and strategic persuasion. This intersection has become a focal point in research exploring how companies communicate sustainability not only to meet regulatory demands but also to construct a credible and competitive brand ethos.

Another line of research has explored how sustainability discourse contributes to the construction of corporate identity. Fuoli (2017), for instance, presents a corpus-based analysis of stance in annual and corporate social responsibility (CSR) reports, focusing on how companies use evaluative language to shape distinct corporate identities. The study shows that firms strategically adapt their stance expressions depending on the report type: in annual reports, they present themselves as rational, competent, and objective decision-makers, while in CSR reports, they construct identities as honest, caring, and socially responsible corporate citizens. These discursive strategies function as tools for impression management, allowing companies to align their communication with the expectations of different stakeholder groups.

Building on this perspective, Pagano & Spezzano (2025) investigate how eco-hotels discursively construct their green corporate identity through sustainability discourse on official websites. Adopting a qualitative discourse analysis approach, their study examines persuasive and promotional language across eco-hotels located in the UK, Ireland, and Italy. The findings highlight cross-cultural variation in discursive strategies: British and Irish hotels tend to emphasize emotional engagement and an informal tone, while Italian hotels adopt a more institutional and technical register. This research underscores how sustainability discourse not only reflects but also shapes corporate identity in the hospitality sector, demonstrating how linguistic choices are tailored to cultural expectations and stakeholder values. By situating sustainability communication within the broader context of corporate self-presentation, the study reinforces the importance of discourse as a strategic tool for brand positioning and stakeholder engagement in environmentally sensitive industries.

The COVID-19 pandemic has further influenced sustainability communication by introducing new challenges and rhetorical imperatives. Accordingly, Giordano & Mandenaki (2023) analyze CEO letters during the first year of the pandemic, revealing how discursive frames were employed to justify financial outcomes and reinforce leadership credibility. Their use of advanced natural language processing shows how framing strategies vary

depending on company performance, with successful firms emphasizing resilience and innovation, while others foreground external constraints.

More specifically, in the tourism and transport sectors, Gatti et al. (2023) and Lutzky (2024) examine how crisis conditions reshaped sustainability messaging. Gatti et al. (2023) find that South Tyrolean tourism organizations deployed future-oriented and corrective discourse to envision a post-pandemic recovery, highlighting the strategic role of hope in crisis communication. Meanwhile, Lutzky's (2024) study of Ryanair's pandemic-era Twitter communication reveals how promotional messages were reappropriated from instructive and adaptive crisis genres. The case highlights the tension between engagement-oriented communication and public expectations for ethical corporate behavior in prolonged crisis contexts.

Taken together, these studies provide valuable insights into the strategic functions of sustainability discourse across sectors and timeframes. However, a gap remains in the literature concerning the cruise industry—an environmentally intensive sector that has faced substantial public scrutiny, particularly during the COVID-19 pandemic. Existing research has largely focused on land-based tourism or generalized cross-sectoral analyses, without addressing the specific communicative challenges and rhetorical strategies employed by cruise lines.

To address this gap, the present study investigates how sustainability discourse evolved in the cruise industry over a six-year period, focusing on how major cruise lines adapted their communication strategies across pre-pandemic, pandemic, and post-pandemic phases. The research contributes to business communication literature by offering a sector-specific, diachronic analysis of how corporate discourse responds to environmental, reputational, and crisis-driven pressures.

Methodology

This study adopts Corpus-Assisted Discourse Studies (CADS) (Baker, 2023; Gillings et al., 2023) to investigate diachronic shifts in corporate sustainability discourse within the cruise line industry. CADS involves both the creation and the analysis of large electronic collections of textual data (i.e., *corpora*) through specialized software tools. In this study, #LancsBox X (Brezina & Platt, 2025) was used for both the creation and analysis of the corpora. CADS enables the systematic integration of quantitative corpus-linguistic techniques with qualitative discourse analysis, making it particularly well-suited for identifying linguistic patterns and strategic framings over time and across multiple texts.

The first methodological stage followed a *web-for-corpus* approach (Lutzky & Kehoe, 2022) to retrieve the sustainability reports published between 2018 and 2023 by the four selected cruise line companies from their official websites. These reports were grouped based on their year of publication and compiled into three time-specific corpora: the *Pre-Pandemic Corpus* (2018–2019), the *Pandemic Corpus* (2020–2021), and the *Post-Pandemic Corpus* (2022–2023). Each corpus comprises the sustainability reports from all four companies for the corresponding time period.

The second stage involved a keyword analysis, where *keywords* are defined as "words which occur statistically significantly in one corpus when compared against a second corpus" (Gillings et al., 2023, p. 33). As Brezina (2018) remarks, keyword analysis is instrumental in identifying key concepts within a particular discourse, tracking lexical change over time, and highlighting the distinctive vocabulary of specific genres or contexts. To uncover the dominant themes in corporate sustainability discourse over time, each corpus was compared against the combination of the two remaining corpora. This three-way comparative design enabled the identification of statistically salient keywords for each individual period.

In keyword analysis, both *significance test statistics* and *effect size statistics* are used to assess keyword salience. The former determine whether a statistically significant difference exists between relative frequencies, while the latter measure the magnitude of that difference (Pojanapunya & Watson Todd, 2018). Brezina (2018) and Gillings et al. (2023) emphasize that no consensus exists on a universally preferred metric, as the choice typically depends on the research objectives. However, Gabrielatos & Marchi (2012) advocate for the use of effect size statistics, as they provide a more reliable measure of practical relevance by assessing the magnitude of difference through standardized values (i.e., how meaningful or useful a result is in the real world, beyond just being statistically significant). Significance test statistics tend to highlight relatively high-frequency words, even when the actual difference between corpora is small. In contrast, effect size statistics emphasize the magnitude of difference, which can make them more sensitive to lower-frequency but highly distinctive words (Gabrielatos & Marchi, 2012; Gillings et al., 2023).

Following this rationale, Cohen's *d* (1988) was selected as the statistical measure for keyword analysis in this study. Cohen's *d* is calculated by dividing the difference in normalized frequencies between two corpora by their pooled standard deviation (Egbert & Biber, 2023):

$$d = \frac{M_1 \text{-} M_2}{SD_{pooled}}$$

where:
M_1 = mean for corpus 1
M_2 = mean for corpus 2
SD_{pooled} = average of standard deviations for corpus 1 and corpus 2

According to Cohen's (1988) standard interpretation, a small effect size (d = 0.2) indicates a subtle but potentially meaningful difference between corpora; a medium effect (d = 0.5) reflects a noticeable difference; and a large effect (d = 0.8) suggests a substantial and potentially impactful difference in word usage across corpora. The keyword analysis was conducted at the level of **lemmas**—defined as "a group of all inflectional forms related to one stem that belong to the same word class" (Brezina, 2018, p. 40)—to remove the influence of inflectional differences and focus on the core meaning of each word across corpora. For each of the three corpora, the top 10 key lemmas (ranked by Cohen's *d*) were selected for further analysis.

The final methodological stage involved **concordance analysis** to examine the immediate co-text of each keyword and to categorize them into thematic categories. This qualitative phase followed a *structured **bottom-up approach*** (Gillings & Mautner, 2024), in which thematic categories were derived inductively from the concordance lines rather than imposed a priori. The examination of the keywords' co-text enabled the identification of broader discursive themes and framings.

Taken together, this multi-phase CADS methodology provides a robust framework for exploring how sustainability narratives evolved in response to the COVID-19 pandemic, revealing both lexical shifts and strategic reorientations in corporate communication.

Results and Discussion

The three corpora—representing cruise lines' corporate sustainability discourse in the pre-pandemic, pandemic, and post-pandemic periods—differ in size and lexical diversity. As shown in Table 1, the pre-pandemic corpus consists of 208,731 tokens, 13,626 types, and 11,311 lemmas, while the pandemic corpus increases to 248,229 tokens, with a slightly reduced number of types (12,928) and lemmas (10,491). The post-pandemic corpus further expands to 259,572 tokens, with 13,499 types and 10,783 lemmas.

These values reveal that although report size progressively increased over time (as indicated by token count), lexical diversity did not follow a linear trend (as shown by types and lemmas). The slight decline in type and lemma count during the pandemic period may reflect the recurrence of technical terminology and crisis-specific discourse, whereas the post-pandemic rise in types and lemmas suggests a diversification of themes and narrative strategies, potentially reflecting the shift toward long-term recovery and innovation narratives.

Table 1

Corpus Statistics for the Pre-Pandemic, Pandemic, and Post-Pandemic Corpora

	pre-pandemic	*pandemic*	*post-pandemic*
Files	car_18	car_20	car_22
	car_19	car_21	car_23
	msc_18	msc_20	msc_22
	msc_19	msc_21	msc_23
	ncl_18	ncl_20	ncl_22
	ncl_19	ncl_21	ncl_23
	rc_18	rc_20	rc_22
	rc_19	rc_21	rc_23
Tokens	208,731	248,229	259,572
Types	13,626	12,928	13,499
Lemmas	11,311	10,491	10,783

Corporate Sustainability Discourse in the Pre-Pandemic Period

The top 10 keywords of the pre-pandemic corpus (Table 2) reveal a discourse centered on environmental compliance, ethical standards, and corporate humanitarianism. These can be grouped into three thematic categories: disaster relief and emergency response, environmental compliance and monitoring, and ethical and operational priorities—alongside an emphasis on CSR and emotional engagement.

Table 2

Top 10 Keywords of the Pre-Pandemic Corpus

Rank	Keyword	Relative Frequency	Cohen's *d*
1	hurricane	3.59%	2.26
2	marpol	2.35%	1.81
3	prohibit	0.91%	1.77
4	disaster	2.68%	1.76
5	paramount	0.62%	1.73
6	automatically	0.57%	1.64
7	enforcement	1.01%	1.55
8	spa	0.67%	1.54
9	island	1.92%	1.50
10	child	3.45%	1.46

The first thematic category—disaster relief and emergency response—is reflected in keywords such as *hurricane* and *disaster*. For example, the statement "within 24 hours of the hurricane, we had mobilized our

fleet to provide relief to Bahamians in need" illustrates how cruise lines emphasized rapid responsiveness and community support. Similarly, "we partnered with All Hands and Hearts—the world's leading disaster relief organization—to help provide immediate relief in Key West" reinforces the image of companies stepping in as agents of humanitarian assistance. These examples contribute to constructing a narrative of the cruise industry as socially responsible and logistically capable during natural disasters.

The second theme centers on environmental compliance and technological monitoring, evident in keywords such as *MARPOL*, *enforcement*, and *automatically*. The sentence "Carnival Corporation & plc complies with the requirements of MARPOL" clearly signals regulatory alignment, while "we fully support uniform enforcement of the IMO MARPOL Annex VI regulation" presents the companies as actors invested in global governance mechanisms. Technological precision is emphasized through sentences like "all systems are equipped with continuous monitoring equipment to automatically record required parameters," portraying cruise lines as not only compliant but technologically advanced in environmental monitoring.

A third group of keywords highlights ethical and operational priorities, particularly in reference to safety, security, and anti-corruption. The use of *prohibit* in "we strictly prohibit all corruption, passive and active bribery, and facilitation payments" reflects the deployment of strong deontic modality to assert ethical standards. Similarly, the keyword *paramount* appears in the claim that "health, environment, safety and security (HESS) issues are paramount to our business," suggesting a hierarchy of values where stakeholder well-being is non-negotiable.

The remaining pre-pandemic keywords—*spa*, *island*, and *child*—point to a more emotionally driven and consumer-facing discourse. These terms are often used in narratives that link sustainability with lifestyle and CSR. The sentence "all beauty products used in MSC Aurea Spa treatments on the island are biodegradable and eco-friendly" exemplifies a blend of environmental awareness. Similarly, "we launched an initiative in 2018 to eliminate single-use plastic straws from our two private island destinations" highlights the intersection of environmental practices and destination-based experiences. The emotional appeal is particularly strong in "for every 1,000 plastic bottle caps received, a child from Belize gets one free chemotherapy or dialysis session," where sustainability efforts are tied to charitable action and the well-being of vulnerable populations.

Overall, cruise lines' corporate sustainability discourse in the pre-pandemic period reflects a corporate identity rooted in compliance, care, and credibility, with a strong emphasis on visible social and environmental contributions.

Corporate Sustainability Discourse in the Pandemic Period

During the pandemic period, the discourse shifted significantly toward crisis communication, risk mitigation, and institutional adaptation, as shown by the top 10 keywords of the pandemic corpus (Table 3).

Table 3

Top 10 Keywords of the Pandemic Corpus

Rank	Keyword	Relative Frequency	Cohen's *d*
1	return *(noun)*	3.02%	2.77
2	service	2.05%	2.48
3	pandemic	6.85%	2.33
4	covid-19	14.14%	2.25
5	resume	1.77%	2.20

6	ask	1.01%	2.09
7	return *(verb)*	3.87%	1.95
8	infectious	1.05%	1.66
9	panel	2.46%	1.65
10	resumption	0.77%	1.64

A notable lexical feature is the repetition of the word *return*, which appears twice in the keyword list—once as a verb and once as a noun—indicating its centrality to the pandemic narrative in both grammatical forms. As a verb, *return* is used in the context of urgent logistical coordination and human-centered repatriation, as in "our efforts to return guests to their homes and repatriate our shipboard members as quickly as possible." Similarly, "we began the extremely complex process of coordinating a safe and orderly return to port for passengers and crew" highlights operational agility and crisis management. As a noun, *return* is often framed within a phased, strategic recovery narrative: "we have adapted our operations in preparation for the return of our guests." This nominal usage supports a more forward-looking tone, focusing on recovery and readiness.

These variations are accompanied by related verbs such as *service*, *resume*, and *resumption*, which reinforce the temporal discourse of interruption and recovery. "We initiated a phased return to service beginning in July 2021 which was completed in May 2022" and "our entire team focused on how to resume operations while prioritizing the health, safety, and well-being of our guests" exemplify a language of structured reactivation and continuity. The keyword *resumption*, used in "the core elements mirror the successful resumption of cruising," encapsulates this staged recovery as a measurable success, presenting the reactivation not merely as resumption but as a benchmark achievement.

Another dominant theme is health and institutional alignment, underscored by keywords such as *pandemic*, *covid-19*, *infectious*, and *panel*. The sentence "in response to the global pandemic, we paused our guest cruise operations in mid-March 2020" presents the companies as ethically responsive to public health needs. This is reinforced by "with the arrival of COVID-19, we carried out a complete review and expansion of existing measures," which highlights procedural adaptability. The introduction of new roles is reflected in "we introduced a new role, an Infectious Disease Prevention Officer," indicating operational restructuring in line with epidemiological concerns. The reference to interdisciplinary collaboration is evident in "the Healthy Sail Panel was created to advise on evidence-based protocols for safe sailing," borrowing scientific and institutional authority to legitimize corporate actions.

Finally, stakeholder dialogue and transparency emerge in the use of *ask*, as seen in "all stakeholders have an equal opportunity to ask questions and voice their concerns." This reflects an effort to maintain participatory governance and open communication during crisis conditions.

Cruise lines' corporate sustainability discourse in the pandemic period is characterized by a shift from values-driven, emotionally framed messaging to procedural accountability, with a strong emphasis on health governance, crisis navigation, and stakeholder reassurance.

Corporate Sustainability Discourse in the Post-Pandemic Period

The top 10 keywords of the post-pandemic corpus (Table 4) highlight a thematic shift toward strategic sustainability, long-term innovation, and normative leadership.

Table 4

Top 10 Keywords of the Post-Pandemic Corpus

Rank	Keyword	Relative Frequency	Cohen's *d*
1	blend	0.77%	2.23
2	expect	5.93%	1.74
3	responsible	11.67%	1.72
4	corridor	1.73%	1.71
5	privacy	5.36%	1.63
6	intensity	5.05%	1.61
7	renewable	3.66%	1.46
8	management	33.29%	1.45
9	transition	2.93%	1.42
10	determination	0.15%	1.40

Keywords such as *blend*, *renewable*, *intensity*, and *transition* articulate a discourse of green innovation and decarbonization. For instance, "the first larger-scale cruise ship to be powered with a blend of marine biofuel, made from 100% sustainable raw materials" exemplifies the adoption of new energy technologies. This is echoed in "the use of renewable fuels and innovative technologies can benefit all of society," which elevates the scope of sustainability from corporate identity to societal benefit. The keyword *intensity* features in quantitative commitments such as "we expect to achieve our 2030 greenhouse gas intensity goal four years early," while *transition* appears in future-oriented declarations like "we are determined to accelerate our transition toward net zero emissions by 2050." These utterances exemplify a forward-looking, metrics-driven sustainability discourse.

In parallel, the post-pandemic reports feature strong ethical and normative framings through the keywords *expect*, *responsible*, and *privacy*. These keywords signal heightened corporate accountability. The sentence "we expect our suppliers to pursue and adopt methods and technologies to improve welfare for animals" positions cruise lines as standard-setters within a broader ethical supply chain. Similarly, "we recognize the need and the obligation to be responsible corporate citizens" reflects a discourse of moral duty, while "our privacy and cybersecurity programs are designed in line with applicable laws" aligns with regulatory compliance in an increasingly digitized operational landscape.

Finally, the keywords *corridor*, *management*, and *determination* reveal a narrative of systemic transformation and collective resolve. "An effort to catalyze a green corridor between Alaska, British Columbia and Washington was launched" points to interregional cooperation and networked environmental initiatives. The term *management* occurs across multiple domains—"climate risk management," "food waste management," and "health and safety management"—highlighting the integration of sustainability across operational systems. The keyword *determination* is used rhetorically in "these achievements are a testament to the collective determination," affirming a resilient and united corporate ethos.

Cruise lines' corporate sustainability discourse in the post-pandemic period positions the cruise industry as forward-thinking and ethically responsible, embracing innovation while responding to broader environmental and societal expectations.

Diachronic Trajectory of Corporate Sustainability Discourse in the Cruise Line Industry

This diachronic analysis reveals a clear discursive evolution in response to external pressures and shifting stakeholder priorities. The pre-pandemic discourse emphasized environmental compliance, ethical values, and philanthropic outreach; the pandemic discourse foregrounded operational resilience, public health coordination, and risk management; while the post-pandemic discourse shifted toward long-term innovation, stakeholder expectations, and systemic transformation. These changes illustrate how the cruise line industry has adapted its sustainability narratives to reflect emerging realities and to strategically position itself within broader debates on resilience, responsibility, and sustainable recovery.

Conclusion

This study examined how corporate sustainability discourse evolved in the cruise line industry over a six-year period spanning the pre-pandemic (2018–2019), pandemic (2020–2021), and post-pandemic (2022–2023) contexts. The CADS analysis of sustainability reports from four major cruise line companies identified key discursive patterns and thematic shifts that reflect how companies adapted their strategic communication in response to the COVID-19 crisis and its aftermath.

The findings reveal a clear diachronic evolution in the cruise lines' discourse. The pre-pandemic period was marked by a values-driven narrative emphasizing environmental compliance, ethical responsibility, and humanitarian engagement. During the pandemic, corporate discourse shifted toward procedural accountability, focusing on public health, repatriation logistics, institutional alignment, and stakeholder reassurance. In the post-pandemic phase, the reports adopted a forward-looking tone centered on decarbonization, innovation, and ethical supply chain expectations, positioning cruise lines as responsible, future-oriented actors in the broader discourse of sustainable tourism.

From an academic viewpoint, this study contributes to the growing body of literature on sustainability reporting by offering a sector-specific, longitudinal analysis grounded in discourse. It shows how sustainability reports—often viewed as static documents—are dynamic rhetorical artefacts that serve to construct legitimacy, manage reputational risk, and align corporate identity with shifting social and environmental priorities. Furthermore, the study demonstrates the value of CADS for uncovering subtle lexical and thematic shifts over time, bridging quantitative corpus methods with qualitative discourse analysis to provide a robust analytical framework for business communication research.

From a managerial perspective, the findings highlight the increasingly strategic role of sustainability reports in high-impact sectors such as cruise tourism, where reputational risks and ecological pressures are pronounced. As public scrutiny and stakeholder expectations intensify, sustainability reporting becomes not just a matter of compliance but a core component of corporate reputation management. Cruise lines, in particular, must articulate transparent and forward-looking narratives that demonstrate not only operational progress but ethical accountability and long-term vision. The discursive shift observed in the post-pandemic corpus—from crisis response to systemic transformation—suggests a new phase in corporate storytelling, where sustainability is framed as innovation, leadership, and collective responsibility.

Overall, this study highlights how corporate sustainability discourse adapts in response to crisis and recovery, illustrating the interplay between communication practices and strategic repositioning. Despite its comprehensive diachronic analysis, some limitations must be acknowledged.

First, the dataset is limited to textual sustainability reports, which—although central to corporate transparency—represent *self-authored and highly curated communication*. Future studies could compare these findings with external discourses, such as media coverage, NGO reports, or stakeholder reactions, to evaluate the *alignment or discrepancy* between *projected* and *perceived* sustainability narratives.

Second, the analysis focused exclusively on lexical patterns in written discourse, overlooking multimodal elements such as visual framing, layout, infographics, and corporate video messaging, which often play a crucial persuasive role in sustainability communication. Integrating multimodal discourse analysis (MDA) or rhetorical image analysis could yield a more holistic understanding of corporate sustainability storytelling.

Third, although the CADS approach effectively captured diachronic shifts in discourse, it did not account for intracompany variation (e.g., differences between companies adopting *proactive*, *reactive*, or *defensive* communication strategies). Future research could incorporate comparative stance analysis or cluster modelling to identify distinct discursive archetypes within the sector.

Finally, the study did not assess stakeholder reception of sustainability reports. Survey-based or experimental studies—exploring how investors, passengers, or environmental activists interpret and respond to these narratives—would strengthen understanding of sustainability reporting not only as *discourse* but as *persuasive practice*.

By extending the investigation beyond curated corporate texts and integrating multimodal, comparative, and reception-based approaches, future research could more fully capture how sustainability discourse operates as a strategic resource in contested industries such as cruise tourism. As sustainability continues to shape both public expectations and institutional pressures, understanding how discourse functions as a tool for strategic adaptation remains vital for scholars and practitioners alike.

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