Introduction

Han Yu
Kansas State University

Jonathan Buehl
The Ohio State University

> *Even if any given terminology is a reflection of reality, by its very nature as a terminology it must be a selection of reality; and to this extent it must function also as a deflection of reality.*
>
> — Kenneth Burke, "Terministic Screens"

In 1966, the Society of Technical Writers and Publishers, Inc. (STWP) and the Carnegie Library of Pittsburgh published *An Annotated Bibliography on Technical Writing, Editing, Graphics and Publishing: 1950 to 1965*. This "aid to those with a general interest in technical writing" and "guide to those seeking specific information" (Philler et al., 1966, p. i) provides a remarkable snapshot of technical writing as a field in the middle of the 20th century. Its thousands of annotations, representing hundreds of scholarly and trade publications, cover pieces on issues unique to the period (e.g., "Soviet Scientific and Technical Propaganda") as well as issues we continue to grapple with today (e.g., "What is Technical Writing?").

To organize their 2,000 annotations, the editors used the "aid of a computer" to create a permuted title index—an indexing strategy that sorts works by key terms within their titles instead of purely alphabetically. The resulting list presents scannable clusters of related works (see Figure 1). We introduce the example of this bibliography and its information management strategies to highlight two points.

First, the key terms of the field we now call technical and professional communication (TPC) have a rich history that is worth both documenting and updating. The 1966 bibliography (covering 2,000 works published from 1950 to 1965) and a 1983 sequel (Carlson et al., 1983), which covers 2,700 works published from 1966 to 1980, provide synoptic views of the terms that mattered to the profession during this key thirty-year span. Genre types (e.g., manual, report, proposal) and key contexts (e.g., business, engineering) are among the most frequently indexed terms of both volumes. But even less frequent terms can tell us something about the development of the field and its concepts. For example, forms of the word *rhetoric* appear only five times in the 1966 bibliography but 45 times in the 1983 bibliography, which suggests the increasing importance of rhetoric as a framing concept for the field. Keywords related to gender are almost nonexistent in the 1966 bibliography—just one indexed work recommending technical communication as a good career path for women chemistry majors. By 1980, instances of terms indexing works on gender representation, equity, and discrimination (e.g.,

DOI: https://doi.org/10.37514/TPC-B.2023.1923.1.3

sexism and phrases including *women*), though not abundant, were at least present (e.g., the cluster of titles including *women* and *women's liberation* in Figure 2).

Furthermore, considering the terms that these index pages do not include is also instructive. For example, although we know from historical research that people of diverse backgrounds worked as technical communicators during this period (see Malone, this volume), that diversity is not reflected in the bibliographies' key terms. Only one work in the 1980 bibliography (and no works in the 1966 volume) was sorted by a keyword related to race and technical communication—a 1975 presentation titled "Language Engineering for Black Managers." Thus, like all attempts to provide a synoptic view of a field, these indexes function as what Kenneth Burke (1966) called "terministic screens." They simultaneously reflect some aspects of reality while deflecting others.

Although the rise of electronic bibliographic databases has made book-length bibliographies largely obsolete, other synoptic works can serve as similar terminological markers for the field of TPC. For example, the contents and alternate table of contents describing the works anthologized in Johndan Johnson-Eilola and Stuart A. Selber's (2004) *Central Works in Technical Communication* provide a snapshot of terms central to the academic discipline of technical communication as it flourished and evolved in the 1980s, 1990s, and early 2000s: *history*, *theory*, *ethics*, *power*, *pedagogy*, *collaboration*, *genre*, *gender*, *visual*, *usability*, etc. As we approach the twenty-year anniversary of that important anthology, it is time to revisit those central concepts and to consider other emergent terms.

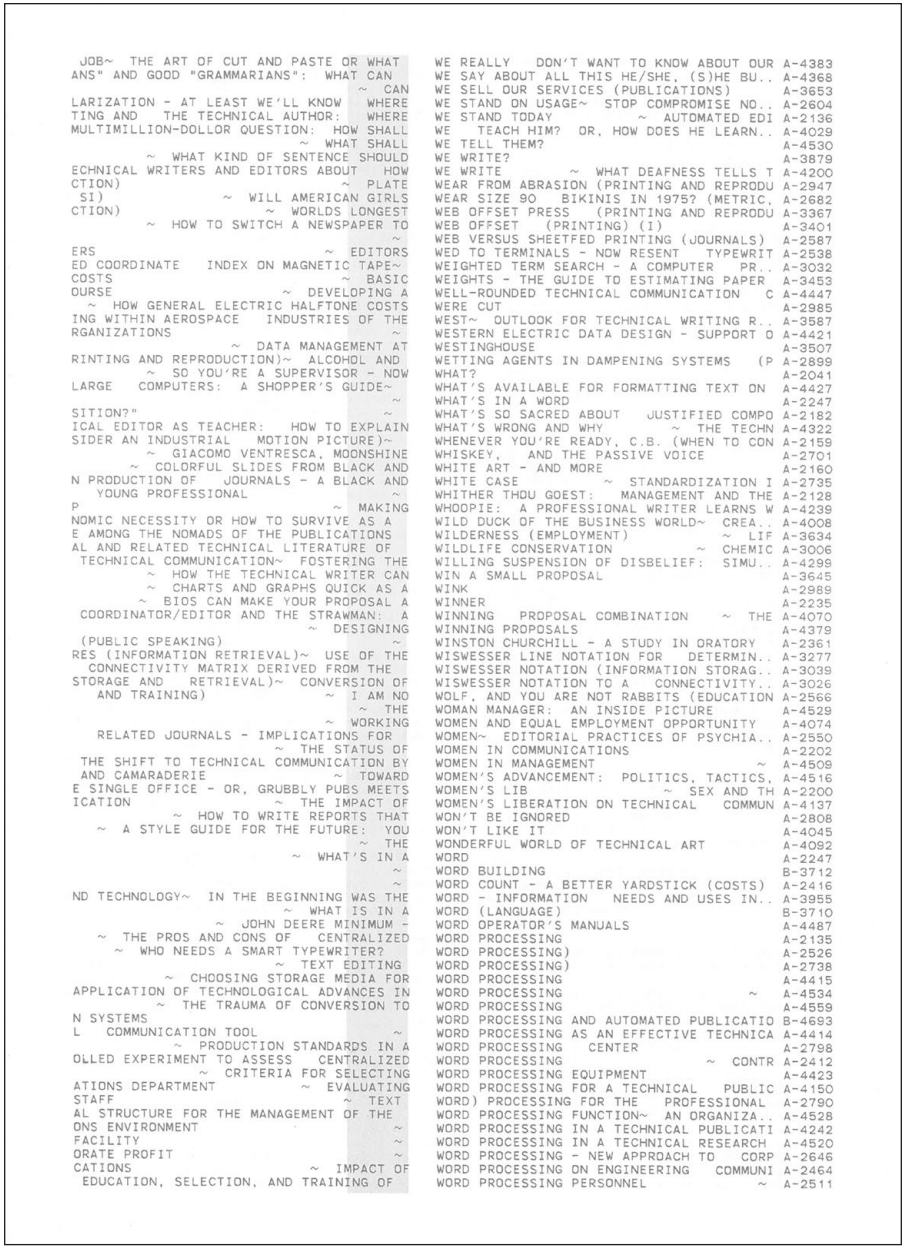
Recent large-scale analyses of TPC publications have begun to do that work. For example, Ryan Boettger and Erin Friess (2020) conducted a content analysis of 672 articles published in technical communication journals between 1996 and 2017 to identify content and authorship patterns. Most relevant for our work, they coded each article with a "primary topic" content category. The fifteen core conceptual categories they identified—assessment, collaboration, communication strategies, comprehension, design, diversity, editing and style, genre, professionalization, knowledge and information management, pedagogy, research design, rhetoric, technology, and usability and user experience—overlap with many of the terms we identified as central concerns through our own content analysis of article abstracts and keywords.

More recently, Stephen Carradini's (2021) corpus analysis of 1,593 TPC abstracts examined word frequencies to identify shifts in technical communication research topics between 2000 and 2017. These include a shift in focus from print communication to digital communication, expanding boundaries of the technical communication field, and affirming its core identity. Key terms that emerged from Carradini's study included both well-established central concepts—such as *ethics* and *rhetoric*—as well as more recently emergent but nonetheless central TPC terms—such as *content management*, *social justice*, *user experience*, and *social media*. Unsurprisingly, our analysis identified similar terms, but the goal of our project is to move from identification of central terms (both old and new) to documentation of their multiple, nuanced, and sometimes contested uses.

PERMUTED TITLE INDEX

```
ING SCIENTIST  AND  ENGINEER--A REPORT  ON THE  FIRST AAAS- STWP JOINT PROGRAM.       THE ROLE OF THE  WORK A-0850
                                                    ABBREVIATIONS.                                          A-0909
                ON  SYMBOLS  FOR UNITS OF  MEASUREMENT (ABBREVIATIONS).                                     A-1043
                    SYMBOLS  FOR UNITS OF  MEASUREMENT (ABBREVIATIONS).                                     A-1044
                                 IRE STANDARDS  ON  ABBREVIATIONS.                                          A-0785
 GUIDES  TO  TECHNOLOGYS  NEW  TONGUE (ACRONYMS  AND  ABBREVIATIONS).                                       A-1413
IONS.                                               ABBREVIATIONS  OF  RUSSIAN SCIENTIFIC SERIAL PUBLICAT A-0760
                                                    ABBREVIATIONS DICTIONARY.                               B-1585
                                COMMON ELECTRONIC ABBREVIATIONS.                                            A-0652
                                        JOURNAL ABBREVIATIONS.                                              A-0704
L-TYPE PUBLICATIONS.                MILITARY STANDARD ABBREVIATIONS  FOR USE ON  DRAWINGS  AND IN  TECHNICA B-1972
                                  TECHNICAL ABBREVIATIONS  AND  CONTRACTIONS  IN  ENGLISH.                  A-0209
                                        THE  ABC  OF  LANGUAGES  AND  LINGUISTICS.                          B-1747
                                        THE  ABC  OF  STYLE.                                                B-1897
                                        THE  ABECEDARIAN BOOK (VOCABULARY).                                 B-1895
FECTIVE  IN  HELPING STUDENTS  IMPROVE THEIR  WRITING ABILITIES (EDUCATION). /S TEACHING  APPROACH MORE  EF A-0463
                  HELP WANTED-- ENGINEERS,  MUST BE  ABLE  TO  WRITE.                                       A-0146
MATION  OF I/  SUGGESTED  FILING SYSTEM  FOR  KEEPING ABREAST  OF  TECHNICAL LITERATURE  AND GENERAL  INFOR A-1236
                              TECHNICAL WRITING ABROAD.                                                     A-0628
                          INFORMATION RETRIEVAL (ABSTRACTS).                                                A-0096
 TIME  TO  READ  ALL  HE NEEDS  TO  READ--A SOLUTION (ABSTRACTS).              FOR THE  MAN  WHO DOESNT HAVE  A-1261
FOR THE  PREPARATION  AND  PUBLICATION  OF  SYNOPSES (ABSTRACTS).                                  GUIDE     A-0811
                                THE  WRITING  OF  ABSTRACTS.                                                A-1409
OU  WRITE TECHNICAL REPORTS POLISH  YOUR  TITLE  AND  ABSTRACT.                                        IF Y A-1368
                      WRITING  BETTER  TITLES  AND  ABSTRACTS.                                              B-1871
                                A  SCRUTINY  OF THE  ABSTRACT.                                              A-0360
                                                    ABSTRACT  OF THE  TECHNICAL REPORT.                     A-1115
TION.                    THE ROLE OF  SUMMARIES  AND  ABSTRACTS  IN THE  METABOLISM  OF  SCIENTIFIC INFORMA A-0914
            CA PERIODICALS  LIST  CLIMBS (CHEMICAL  ABSTRACTS).                                             A-1104
     TRAINING  OF  PATENT ABSTRACTORS  FOR  "CHEMICAL  ABSTRACTS."                                          A-0958
                THE  AUTOMATIC CREATION  OF  LITERATURE ABSTRACTS.                                          A-1268
                  STYLE  AND  SPEED  IN  PUBLISHING ABSTRACTS.                                              A-1335
                                        WATER ABSTRACTS.                                                    A-1486
                        SOME  READER REACTIONS  TO  ABSTRACT-BULLETIN STYLE.                                A-1400
   CRITERIA  FOR  ACCEPTABLE ABSTRACTS--A SURVEY  OF  ABSTRACTERS INSTRUCTIONS.                             A-1307
                                PHYSICS ABSTRACTING.                                                        A-0433
                              SCIENTIFIC ABSTRACTING  AND  INDEXING SERVICES.                               A-1028
                      TRAINING  OF  PATENT ABSTRACTORS  FOR  "CHEMICAL ABSTRACTS."                          A-0958
                  CRITERIA  FOR  ACCEPTABLE ABSTRACTS--A SURVEY  OF  ABSTRACTERS INSTRUCTIONS.              A-1307
                          USAGE  AND  ABUSAGE--A GUIDE  TO GOOD  ENGLISH.                                   A-0603
                                USE  AND  ABUSE  OF  STATISTICS.                                            B-1695
                                        ACCENTS  IN  COLD TYPE PREPARATION (PRINTING).                      A-0051
(LETTER WRITING).                       ACCENTUATE  THE  POSITIVE-- ELIMINATE  THE  NEGATIVE  A-0409
UCTIONS.                        CRITERIA  FOR  ACCEPTABLE ABSTRACTS--A SURVEY  OF  ABSTRACTERS INSTR A-1307
                                  IS THERE  ACCEPTED SCIENTIFIC JARGON.                                     A-0135
                                      FAST  ACCESS  TO  SYSTEM TECHNICAL INFORMATION (FASTI).               A-0921
                              A  PROGRAM  FOR  ACCREDITING TECHNICAL WRITERS.                               A-0761
                                    TODAY,  ACCURACY DEMANDS  THE  FIRST PERSON.                            A-1119
                              TECHNICAL MANUAL ACCURACY  AND  ERROR LIABILITY.                              A-0725
          A  DOMINANT NEED  IN THE  NATIONS SPACE--  ACCURATE TECHNICAL REPORTING (NASA).                   A-0822
                    PSYCHOLOGICAL  ASPECTS OF  ACHIEVING MEANING.                                           A-0885
                    TECHNICAL WRITING-- EASILY ACQUIRED SKILL.                                              A-0181
                                        ACQUISITION  OF SPECIAL  MATERIALS.                                 B-1999
                                DATEC-- DATA ACQUISITION  AND  TECHNICAL  EVALUATION CONCEPT.               A-0136
          GUIDES  TO  TECHNOLOGYS  NEW  TONGUE (ACRONYMS  AND  ABBREVIATIONS).                              A-1413
   HOW TO  WRITE  A  REPORT  THAT WILL BE  READ  AND  ACTED  UPON.                                          A-1260
                                        ACTIVITIES  IN A  PROPOSAL CONTROL CENTER.                          A-0901
 NATIONAL SCIENCE FOUNDATION  IN  SCIENCE INFORMATION ACTIVITIES.                    THE ROLE OF THE  A-1465
          CURRENT TRENDS  IN  TECHNICAL INFORMATION ACTIVITIES  IN THE  DEPARTMENT  OF  DEFENSE.            A-0298
        FUNDING TECHNICAL EDITING  AND  PUBLISHING ACTIVITIES.                                              B-1824
                                  SOCIETY ACTIVITIES  AND  TECHNICAL PUBLICATION.                           A-1288
 CASE  HISTORY  ON  ADMINISTRATION COORDINATING  THE  ACTIVITY  OF A  TECHNICAL PUBLICATIONS GROUP.      A A-0306
IBRARIES.                                           ADAPTING TECHNICAL WRITING  TO THE  OBJECTIVES  OF  L A-0332
                                HIGH  POLYMER ADJECTIVE SYNTHESIS.                                          A-0673
C  AND  TECHNICAL LIBRARIES--THEIR ORGANIZATION  AND  ADMINISTRATION.                        SCIENTIFI B-1994
                                                    ADMINISTRATION  OF  TECHNICAL EDITORS (TRAINING).       A-1113
                                                    ADMINISTRATION  OF  TECHNICAL INFORMATION GROUPS.       A-1401
                                                    ADMINISTRATION  OF THE  TECHNICAL PUBLICATIONS GROUP. A-0981
HNICAL PUBLICATIONS GROUP.       A CASE  HISTORY  ON ADMINISTRATION COORDINATING  THE  ACTIVITY  OF A  TEC A-0306
RMING REPORT WRITING  FROM  CHORE  TO  BENEFIT  (I) (ADMINISTRATIVE  PROGRESS  REPORTS).          TRANSFO A-1493
                                                    ADMINISTRATIVE COMMUNICATION.                           A-0987
                                                    ADMINISTRATIVE COMMUNICATION.                           B-1790
          PRESENTATION  OF  TECHNICAL INFORMATION-- ADMINISTRATIVE  ASPECT.                                 A-0097
            WRITTEN COMMUNICATIONS  FOR  BUSINESS ADMINISTRATORS.                                           B-1773
          EDITING REPORTS  FOR THE  SEMITECHNICAL ADMINISTRATOR.                                            A-0069
                                        MUCH ADO  ABOUT  HYPHENS.                                           A-0324
                            MICROFICHE STANDARDS ADOPTED.                                                   A-0177
ACTICING PHYSICIAN  IN  STEP  WITH  MODERN SCIENTIFIC ADVANCES. /MEDICAL WRITERS  PART IN  KEEPING  THE  PR A-1231
ACTICING PHYSICIAN  IN  STEP  WITH  MODERN SCIENTIFIC ADVANCES. /MEDICAL WRITERS  PART IN  KEEPING  THE  PR A-1352
OTE BUSINESS  AND  INDUSTRIAL  USES OF  TECHNOLOGICAL ADVANCES.                        HOW  PUBLICATIONS PROM A-0630
OF  INFORMATION.                  MICRO-VUE-- ADVANCED  DEVELOPMENT IN THE  PRESENTATION  AND USES  A-1388
              MANUAL STANDARDIZATION PROGRAM REACHES ADVANCED PLANNING STAGE.                               A-0426
                                        THE  ADVERB "SURE" (USAGE).                                         A-0292
TIONS  OF THE  TECHNICAL EDITOR  TO THE  READER  AND  ADVERTISER.                                 OBLIGA A-1046
                                PRODUCTION  IN  ADVERTISING.                                                B-1889
                    BRING BACK PLAIN ENGLISH  (IN  ADVERTISING).                                            A-0114
   TECHNICAL WRITING  TO  SELL PUBLIC  RELATIONS AND  ADVERTISING.                                          A-1034
                    THE  TECHNICAL WRITERS  ROLE IN  ADVERTISING  AND  PUBLIC  RELATIONS.                   A-0516
                                BACKGROUNDS  IN  ADVERTISING  AND  SALES.                                   A-0637
                                                    ADVERTISING  IN THE  PRINTED MEDIA.                     B-1800
                PRODUCT ENGINEERING ARTICLES  CAN BE  ADVERTISING DIAMONDS.                                 A-0500
                                                    ADVERTISING LAYOUT  AND  TYPOGRAPHY.                    B-1863
                              THE TECHNIQUE OF  ADVERTISING PRODUCTION.                                     B-1804
MON TERMINOLOGIES  FOR  PRESS, PRINT, BROADCAST, FILM ADVERTISING,  AND  COMMUNICATIONS RESEARCH. / OF  COM B-1662
                                INDUSTRIAL ADVERTISING.                                                     A-0144
OPYWRITER  SHOULD  KNOW  ABOUT CHANGES IN  INDUSTRIAL ADVERTISING.                    WHAT  TODAYS INDUSTRIAL C A-0718
/AND  BOOKS  IN  PRINTING, PAPER, PUBLISHING, PRINTED ADVERTISING,  AND THEIR  CLOSELY  RELATED  INDUSTRIE/ B-1840
```

Figure 1. The first page of the permuted title index in An Annotated Bibliography on Technical Writing, Editing, Graphics and Publishing: 1950 to 1966. *Frequently repeated terms on this page include forms of the words* abbreviations, abstracts, *and* administration.



JOB~ THE ART OF CUT AND PASTE OR WHAT
ANS" AND GOOD "GRAMMARIANS": WHAT CAN
~ CAN
LARIZATION - AT LEAST WE'LL KNOW WHERE
TING AND THE TECHNICAL AUTHOR: WHERE
MULTIMILLION-DOLLOR QUESTION: HOW SHALL
~ WHAT SHALL
~ WHAT KIND OF SENTENCE SHOULD
ECHNICAL WRITERS AND EDITORS ABOUT HOW
CTION) ~ PLATE
SI) ~ WILL AMERICAN GIRLS
CTION) ~ WORLDS LONGEST
~ HOW TO SWITCH A NEWSPAPER TO
~
ERS ~ EDITORS
ED COORDINATE INDEX ON MAGNETIC TAPE~
COSTS ~ BASIC
OURSE ~ DEVELOPING A
~ HOW GENERAL ELECTRIC HALFTONE COSTS
ING WITHIN AEROSPACE INDUSTRIES OF THE
RGANIZATIONS ~
~ DATA MANAGEMENT AT
RINTING AND REPRODUCTION)~ ALCOHOL AND
~ SO YOU'RE A SUPERVISOR - NOW
LARGE COMPUTERS: A SHOPPER'S GUIDE~
~
SITION?" ~
ICAL EDITOR AS TEACHER: HOW TO EXPLAIN
SIDER AN INDUSTRIAL MOTION PICTURE)~
~ GIACOMO VENTRESCA, MOONSHINE
~ COLORFUL SLIDES FROM BLACK AND
N PRODUCTION OF JOURNALS - A BLACK AND
YOUNG PROFESSIONAL ~
P ~ MAKING
NOMIC NECESSITY OR HOW TO SURVIVE AS A
E AMONG THE NOMADS OF THE PUBLICATIONS
AL AND RELATED TECHNICAL LITERATURE OF
TECHNICAL COMMUNICATION~ FOSTERING THE
~ HOW THE TECHNICAL WRITER CAN
~ CHARTS AND GRAPHS QUICK AS A
~ BIOS CAN MAKE YOUR PROPOSAL A
COORDINATOR/EDITOR AND THE STRAWMAN: A
~ DESIGNING
(PUBLIC SPEAKING) ~
RES (INFORMATION RETRIEVAL)~ USE OF THE
CONNECTIVITY MATRIX DERIVED FROM THE
STORAGE AND RETRIEVAL)~ CONVERSION OF
AND TRAINING) ~ I AM NO
~ THE
~ WORKING
RELATED JOURNALS - IMPLICATIONS FOR
~ THE STATUS OF
THE SHIFT TO TECHNICAL COMMUNICATION BY
AND CAMARADERIE ~ TOWARD
E SINGLE OFFICE - OR, GRUBBLY PUBS MEETS
ICATION ~ THE IMPACT OF
~ HOW TO WRITE REPORTS THAT
~ A STYLE GUIDE FOR THE FUTURE: YOU
~ THE
~ WHAT'S IN A
~
~
ND TECHNOLOGY~ IN THE BEGINNING WAS THE
~ WHAT IS IN A
~ JOHN DEERE MINIMUM -
~ THE PROS AND CONS OF CENTRALIZED
~ WHO NEEDS A SMART TYPEWRITER?
~ TEXT EDITING
~ CHOOSING STORAGE MEDIA FOR
APPLICATION OF TECHNOLOGICAL ADVANCES IN
~ THE TRAUMA OF CONVERSION TO
N SYSTEMS
L COMMUNICATION TOOL ~
~ PRODUCTION STANDARDS IN A
OLLED EXPERIMENT TO ASSESS CENTRALIZED
~ CRITERIA FOR SELECTING
ATIONS DEPARTMENT ~ EVALUATING
STAFF ~ TEXT
AL STRUCTURE FOR THE MANAGEMENT OF THE
ONS ENVIRONMENT ~
FACILITY ~
ORATE PROFIT ~
CATIONS ~ IMPACT OF
EDUCATION, SELECTION, AND TRAINING OF

WE REALLY DON'T WANT TO KNOW ABOUT OUR A-4383
WE SAY ABOUT ALL THIS HE/SHE, (S)HE BU.. A-4368
WE SELL OUR SERVICES (PUBLICATIONS) A-3653
WE STAND ON USAGE~ STOP COMPROMISE NO.. A-2604
WE STAND TODAY ~ AUTOMATED EDI A-2136
WE TEACH HIM? OR, HOW DOES HE LEARN.. A-4029
WE TELL THEM? A-4530
WE WRITE? A-3879
WE WRITE ~ WHAT DEAFNESS TELLS T A-4200
WEAR FROM ABRASION (PRINTING AND REPRODU A-2947
WEAR SIZE 90 BIKINIS IN 1975? (METRIC, A-2682
WEB OFFSET PRESS (PRINTING AND REPRODU A-3367
WEB OFFSET (PRINTING) (I) A-3401
WEB VERSUS SHEETFED PRINTING (JOURNALS) A-2587
WED TO TERMINALS - NOW RESENT TYPEWRIT A-2538
WEIGHTED TERM SEARCH - A COMPUTER PR.. A-3032
WEIGHTS - THE GUIDE TO ESTIMATING PAPER A-3453
WELL-ROUNDED TECHNICAL COMMUNICATION C A-4447
WERE CUT A-2985
WEST~ OUTLOOK FOR TECHNICAL WRITING R.. A-3587
WESTERN ELECTRIC DATA DESIGN - SUPPORT O A-4421
WESTINGHOUSE A-3507
WETTING AGENTS IN DAMPENING SYSTEMS (P A-2899
WHAT? A-2041
WHAT'S AVAILABLE FOR FORMATTING TEXT ON A-4427
WHAT'S IN A WORD A-2247
WHAT'S SO SACRED ABOUT JUSTIFIED COMPO A-2182
WHAT'S WRONG AND WHY ~ THE TECHN A-4322
WHENEVER YOU'RE READY, C.B. (WHEN TO CON A-2159
WHISKEY, AND THE PASSIVE VOICE A-2701
WHITE ART - AND MORE A-2160
WHITE CASE ~ STANDARDIZATION I A-2735
WHITHER THOU GOEST: MANAGEMENT AND THE A-2128
WHOOPIE: A PROFESSIONAL WRITER LEARNS W A-4239
WILD DUCK OF THE BUSINESS WORLD~ CREA.. A-4008
WILDERNESS (EMPLOYMENT) ~ LIF A-3634
WILDLIFE CONSERVATION ~ CHEMIC A-3006
WILLING SUSPENSION OF DISBELIEF: SIMU.. A-4299
WIN A SMALL PROPOSAL A-3645
WINK A-2989
WINNER A-2235
WINNING PROPOSAL COMBINATION ~ THE A-4070
WINNING PROPOSALS A-4379
WINSTON CHURCHILL - A STUDY IN ORATORY A-2361
WISWESSER LINE NOTATION FOR DETERMIN.. A-3277
WISWESSER NOTATION (INFORMATION STORAG.. A-3039
WISWESSER NOTATION TO A CONNECTIVITY.. A-3026
WOLF, AND YOU ARE NOT RABBITS (EDUCATION A-2566
WOMAN MANAGER: AN INSIDE PICTURE A-4529
WOMEN AND EQUAL EMPLOYMENT OPPORTUNITY A-4074
WOMEN~ EDITORIAL PRACTICES OF PSYCHIA.. A-2550
WOMEN IN COMMUNICATIONS A-2202
WOMEN IN MANAGEMENT ~ A-4509
WOMEN'S ADVANCEMENT: POLITICS, TACTICS, A-4516
WOMEN'S LIB ~ SEX AND TH A-2200
WOMEN'S LIBERATION ON TECHNICAL COMMUN A-4137
WON'T BE IGNORED A-2808
WON'T LIKE IT A-4045
WONDERFUL WORLD OF TECHNICAL ART A-4092
WORD A-2247
WORD BUILDING B-3712
WORD COUNT - A BETTER YARDSTICK (COSTS) A-2416
WORD - INFORMATION NEEDS AND USES IN.. A-3955
WORD (LANGUAGE) B-3710
WORD OPERATOR'S MANUALS A-4487
WORD PROCESSING A-2135
WORD PROCESSING) A-2526
WORD PROCESSING) A-2738
WORD PROCESSING A-4415
WORD PROCESSING ~ A-4534
WORD PROCESSING A-4559
WORD PROCESSING AND AUTOMATED PUBLICATIO B-4693
WORD PROCESSING AS AN EFFECTIVE TECHNICA A-4414
WORD PROCESSING CENTER A-2798
WORD PROCESSING ~ CONTR A-2412
WORD PROCESSING EQUIPMENT A-4423
WORD PROCESSING FOR A TECHNICAL PUBLIC A-4150
WORD) PROCESSING FOR THE PROFESSIONAL A-2790
WORD PROCESSING FUNCTION~ AN ORGANIZA.. A-4528
WORD PROCESSING IN A TECHNICAL PUBLICATI A-4242
WORD PROCESSING IN A TECHNICAL RESEARCH A-4520
WORD PROCESSING - NEW APPROACH TO CORP A-2646
WORD PROCESSING ON ENGINEERING COMMUNI A-2464
WORD PROCESSING PERSONNEL ~ A-2511

Figure 2. An index page from An Annotated Bibliography on Technical Writing, Editing, Graphics and Publishing: 1965 to 1980 *(Carlson et al., 1983). Frequently repeated terms on this page include* Wiswesser line notation, women, *and* word processing. *Incongruously, the same index page listing works on serious issues faced by women in technical communication also*

includes an overtly sexist title about the potential adoption of the metric system in the United States: "Will American Girls Wear Size 90 Bikinis in 1975?"

The second point we want to make by introducing examples from earlier bibliographies is to highlight the practical and methodological problems of organizing and accessing the keywords of a field like TPC. As Figure 1 demonstrates, the permuted title index is both helpful and problematic as an information management strategy. Through repetition, one gets a sense of some of the important terms (e.g., *abstracts*, *advertising*). However, as the example shows, such indexes can also be muddled by repeated terms that are not all that key. For example, *ABC* is treated as a keyword when it is a mere stylistic flourish deployed in more than one title. In other cases, the same term might be used in multiple ways; for example, the permutations of *program* lists computer programs, organizational initiatives, and academic programs interchangeably in the same section of the index. In still other cases, important terms might be represented but not necessarily be "key" terms with broad appeal. For example, works on *Wiswesser line notation* (one of the key terms in Figure 2) would have only been relevant for technical writers working with technical chemistry texts. Finally, the permuted title index (like any other term-based search strategy) is an insider's tool that is most useful when an information seeker knows which terms to search, whereas newcomers to a discipline often need guidance for understanding both the concepts and the complexities represented by key terms. Part of entering a field involves learning which terms matter and how those terms are used.

This volume, *Keywords in Technical and Professional Communication*, attempts to address both the need to document the evolving terminological complexity of TPC and the needs of newcomers unfamiliar with its key terms, though we use a different genre than the bibliography or anthology to do so—the keyword essay collection. The remainder of this introductory chapter explains the history and purpose of this genre, describes why we felt the 21st-century discipline of TPC needed a keyword essay collection, and documents how we, as editors, selected keywords and contributing authors for this volume.

What Is a Keyword Essay Collection? Why Does TPC Need One?

The keyword essay collection has emerged as a unique academic genre composed of short essays that discuss the multiple and sometimes conflicting uses of words central to a discipline. Examples include *Keywords for American Cultural Studies* (Burgett & Hendler, 2014), *Keywords in Writing Studies* (Heilker & Vandenberg, 2015), and *Keywords for Latina/o Studies* (Vargas et al., 2017). These and other keyword collections owe their origin to *Keywords: A Vocabulary of Culture and Society*, the first keyword collection, which was first published in 1976 by British cultural studies scholar Raymond Williams. In the introduction

to that book, Williams recounts the personal motivation behind the book, which is worth quoting at length:

> In 1945, after the ending of the wars with Germany and Japan, I was released from the Army to return to Cambridge. University term had already begun, and many relationships and groups had been formed. It was in any case strange to travel from an artillery regiment on the Kiel Canal to a Cambridge college. I had been away only four and a half years, but in the movements of war had lost touch with all my university friends. Then, after many strange days, I met a man I had worked with in the first year of the war, when the formations of the 1930s, though under pressure, were still active. He too had just come out of the Army. We talked eagerly, but not about the past. We were too much preoccupied with this new and strange world around us. Then we both said, in effect simultaneously: 'the fact is, they just don't speak the same language.' (Williams, 1976/1983, p. 11)

After a mere four and a half years, people were no longer speaking the same language, which frustrated and intrigued Williams. The word *culture*, for example, took on shifting and nebulous meanings: Previously, it was used in teashops and similar places to denote social superiority or in artistic circles to refer to writing poems, working in theaters, and other expressive activities. Four years later, it was used to describe both the formation of values in the study of literature and a particular way of life, like "American culture" (Williams, 1976/1983). In an effort to help himself (and others) grapple with these shifting vocabularies, Williams started to collect what he later called keywords and to write short essays to document the genealogies of their usage. With each word, Williams covers centuries of evolving, divergent, and sometimes contested meanings, replete with specific examples and contexts. His approach has been replicated by numerous other authors and editors, and indeed a WorldCat search for "keywords in" and "keywords for" returns dozens of titles published since 2000 alone. However, despite its disciplinary history and terminological traditions, our field of TPC does not have its own keywords collection attending to its unique disciplinary context.

Williams' *Keywords* and many of its contemporary successors are situated in the disciplinary fields of literary and cultural studies. In fields more closely related to TPC, two collections have been published by the same editors: *Keywords in Composition Studies* (Heilker & Vandenberg, 1996) and *Keywords in Writing Studies* (Heilker & Vandenberg, 2015). These are two excellent collections delineating issues related to writing and composing, but they do not reflect the precise interests of TPC—a field with links to academia and industry, to the sciences as well as the humanities.

Keywords in Composition Studies has its "focus on the academic text, the writing student, and the classroom" (Heilker & Vandenberg, 2015, p. xii), a focus reflected by keyword choices such as *academic discourse*, *basic writing*, and *freshman English*. This focus diverges from TPC's interests in the workplace and in non-academic

communication contexts. *Keywords in Writing Studies* is Paul Heilker and Peter Vandenberg's response to the changing nature of composition studies. As they acknowledged, the 1980s' social turn and the late 1990s' public turn forcefully demonstrated that "writing in universities is only a small slice of writing that goes on elsewhere in the world" (Bazerman, qtd. in Heilker & Vandenberg, 2015, p. xii). During these changes, classroom writings interacted with social practices, linguistic and cultural differences became central concerns, and methodological and theoretical approaches were increasingly plural (Heilker & Vandenberg, 2015). *Keywords in Writing Studies* captures these changes and shifts, as reflected in keyword choices such as *citizen*, *identity*, and *multilingual/ism*. Most interesting to us among the new keyword essays is "Technical Communication," which was authored by Carolyn Rude (2015).

In her essay, Rude skillfully introduced technical communication's history, major genres, key organizations, practices, curricular programs, and research domains. Each of these is a shifting landscape of convergences and contentions, but in the limited space of a single short essay, complexities had to be excluded, flattened, or rapidly glossed over. As we reviewed this informative essay, we could not help but think that the field of TPC needed not just one essay but its own keyword collection.

Now, it is not our intention here to define or redefine "TPC" vis-à-vis "writing studies." We merely hope to demonstrate that the field of TPC has considerable depth, width, complexities, and nebulousness on/in its own terms. Given decades of development and processes of professionalization, it has accumulated its own share of thorny keywords that are well worth documenting and unpacking.

Like other keyword essays, the essays in this volume are studies of words that "are ritually invoked or provocatively redefined," words that "anchor course titles, cue manuscript reviewers, situate *curricula vitae*, ping research-alert notifications, and tag conference panels" (Dryer, 2019, p. 214). In pithy essays, the origins of these words are examined, examples of usages are offered, and multiple and conflicting meanings are acknowledged.

It is also important to note that essays in this collection are not comparable to dictionary entries. Dictionaries attempt to close down, to fix the meanings of words and offer agreed-upon, clear, and consistent definitions. Keyword essays attempt to open up the meanings of words, to emphasize that meanings are always in flux, and to celebrate the different (but also overlapping) meanings of words as they are used in varied social, cultural, and disciplinary circles. As Heilker and Vandenberg (1996) put it, clear and consistent definitions are often "secured not by a sacred illumination, but through a process of forgetting, neglecting, denying" (p. 2). The alternative, and more productive and promising, approach, is to "listen openly, generously, and carefully" to a word's "many, layered voices, echoes, and overtones, especially the dissonant ones" (Heilker & Vandenberg, 2015, p. xvi). We *are* aware that the very attempt to portray these varied voices runs the risks of valuing some voices and devaluing others, but, as in any reflective attempt, we must start somewhere.

Like previous keyword books, our collection features an eclectic, carefully selected list of terms. In previous books, writers and editors often relied on their tacit

knowledge of a discipline to arrive at their lists. Raymond Williams (1976/1983), for example, selected words that, as he put it, virtually forced themselves on his attention because the problems of their meaning were bound up with the problems they were used to discuss (p. 15). Bruce Burgett and Glenn Hendler (2014), editors of *Keywords for American Cultural Studies*, selected words whose meanings and debates are central to shaping the study of culture and society. Heilker and Vandenberg (2015) used two overarching impressions to select words for *Keywords in Writing Studies*: words that are part of their disciplinary parlance and words that are highly contested.

For our collection, we employed a more formalized, data-driven process to arrive at our list—a process that seemed to us more in keeping with the rigorous but eclectic methods and methodologies of TPC. We began by conducting a corpus analysis to identify words that are frequently used in field publications, and we followed that analysis with a survey that crowdsourced input from field professionals (details below in "Our Methods"). To borrow from Dylan Dryer (2019), doing so allows us to combine the quantitative account of a discipline, something that is "broad and flat," with the impressionistic account, something that is "deep and narrow" (p. 215).

However, we do not pretend that our process is disinterested or impartial, as we elaborate in "Our Methods." Indeed, as we made sense of our data, we did not proceed purely statistically but also interpretively, drawing upon our knowledge developed as members of the discipline. Some terms were relabeled, broadened, or narrowed. For example, the term *markup language* was replaced with *structure*—a term that can cover issues related to markup languages as well as other issues related to the material presentation of information across technologies. As we made decisions, we also considered both the field's history and emerging trends because we envision a future-oriented collection, a collection that not only captures words that are and have been frequently used in the discipline but also words that will be or should be.

Our ultimate decisions on what to include and exclude are fraught with problems (how can they not be given our necessarily localized and partial positionalities), and our readers may well disagree with those decisions. Indeed, the results of our survey already hinted at diverse opinions, with some participants believing, for example, that terms such as *feminism* are not unique/central to technical communication, while others applauded its inclusion and advocated for more counter-hegemonic terms.

Precisely because of these disagreements and partialities, we hope that this collection will be followed up with later efforts to document new keywords. Raymond Williams (1976/1983) intentionally included blank pages in his keyword book to signify that "the inquiry remains open" and that he "will welcome all amendments, corrections and additions" (p. 26). While we do not have blank pages in this collection, we share the same sentiment. Echoing Burgett and Hendler, editors of *Keywords for American Cultural Studies*, we invite readers "to revise, reject, and respond to the essays that do—and do not—appear in this publication, to create new clusters of meaning among them, and to develop deeper and richer discussions of what a given term does and can mean when used in specific local and global contexts" (2014, p. 5).

Our Methods

We used a two-phase process to arrive at the keywords included in this collection. In Phase 1, we conducted a corpus analysis of peer-reviewed journals in the field. This phase included two sub-phases: In Phase 1.1, article abstracts were analyzed using word clouds, which was itself a multi-step process; in Phase 1.2, journal- and author-provided keywords were analyzed using Microsoft Excel. In Phase 2, we surveyed TPC faculty, graduate students, and practitioners for their perspectives to help support and validate our Phase 1 findings. These phases and steps are summarized in Figure 3 and detailed in the following sections.

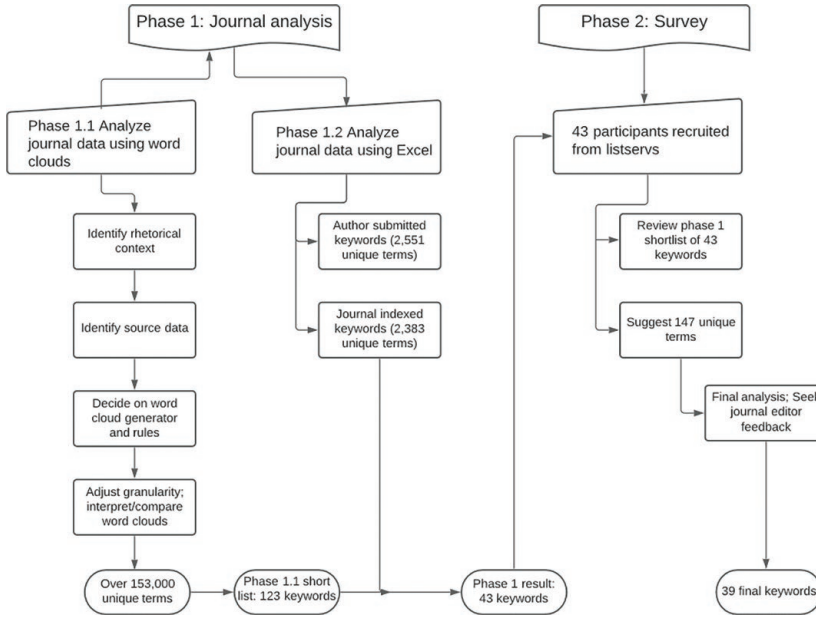


Figure 3. An overview of our methods for selecting the keywords for this collection.

Phase 1.1. Use Word Clouds to Extract Keywords from Article Abstracts

Word clouds, also known as text clouds or tag clouds, are visual representations of textual data. Started as web-based visualizations of keywords (or "tags") that categorize user-contributed online content, word clouds are now used as a general tool to mine source texts (Steinbock et al., 2007). Using visual attributes such as colors and font sizes, word clouds highlight terms that are most frequently used in a source text, giving readers an immediate summary of the text's topics and an impression of its key concerns. Notably, Richard Selfe and Cynthia Selfe (2013) advocated using word clouds as a heuristic to define technical communication's

boundaries, artifacts, and identities. Given word clouds' ability to offer high-level, word/phrase-based summaries of data, they are well suited for our purpose to identify TPC keywords. Drawing upon Selfe and Selfe's heuristic, we used a five-step process to create word clouds.

Step 1. Identify rhetorical context

At this stage, we considered the purpose, audience, and content of our word clouds. These considerations guided the subsequent steps, allowing us to focus the word clouds for their intended use context. Our purpose in creating word clouds is to find enduring and emerging keywords in TPC research, education, and practice. The keywords that emerge from the word clouds will be examined in short essays, which are intended for all TPC scholars, educators, students, and practitioners. These essays may be especially valuable to newcomers to TPC by orienting them to the focus of the field and by distilling complex key concepts.

Step 2. Identify source data appropriate for the rhetorical context

Journal publications are an important indicator of the changing focuses and concerns of a disciplinary field and, as such, represent promising source data. Given our rhetorical contexts, we included in our corpus journals that have a considerable publication history and influence and that, collectively, emphasize all aspects of the field—from original research to pedagogical studies to industry practices. With these considerations, five journals were included; by alphabetic order, they are *IEEE Transactions on Professional Communication, Journal of Business and Technical Communication, Journal of Technical Writing and Communication, Technical Communication,* and *Technical Communication Quarterly.* Our journal choices coincided with those of recent field-mapping publications (Boettger & Friess, 2020; Carradini, 2021), which we learned after finishing our selection process.

Given our purpose, we needed to trace a historical trajectory of the field but also focus on the more recent and emerging developments. Given these considerations, we decided to include ten years of publications (2009-2019) from the five journals. The full texts of all these publications, however, would be a data set too unwieldy for word cloud generators and subsequent analyses. Drawing upon Selfe and Selfe (2013), we narrowed the scope of our analysis to the abstracts of the published articles—summaries meant to capture the essence of the articles. With this decision, we then exported all available abstracts from the identified journals and publication range from the Scopus database.[1]

1. At the time of our study, *Technical Communication* did not have its 2019 publications available in our subscribed databases, so for this journal, data from 2009-2018 were included.

We recognize that, besides journals, other possible corpora exist, notably, technical communication job advertisements, which can illuminate the core competencies required of industry technical communication practitioners (see, e.g., Brumberger & Lauer, 2015). We decided not to use these source texts for several reasons. First, our project does not have the narrower purpose of preparing students for the workplace but the broader purpose of orienting newcomers to the history, disciplinary concerns, and identity of TPC. Job advertisements are less capable of reaching this broader purpose. Second, while practitioners are part of our intended audience, we do not envision them using this work to assist their day-to-day, on-the-job practices. Rather, we envision them encountering this work in an academic context as students, precisely the spaces where academic approaches can illuminate the changes, tensions, and issues underlying pragmatic industry practices. Finally, there already exists a practitioner-oriented glossary book (*The Language of Technical Communication*, edited by Ray Gallon, 2016), which offers extended definitions of specific terms such as *eBook*, *HTML5*, and *XML processors*, in addition to many of the terms our authors cover, such as *accessibility*, *user experience*, and *project management* (see Figure 4).

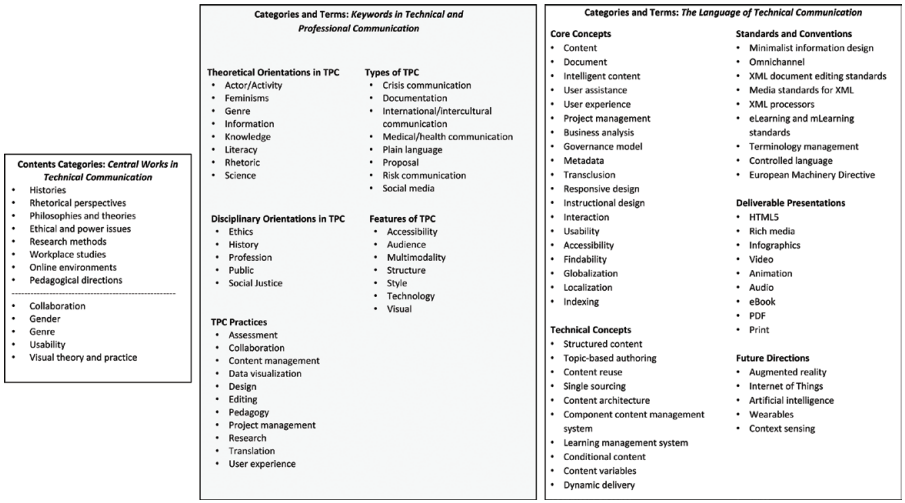


Figure 4. Keywords as connections between theory and practice, academy and industry. The left box lists categories used by Johnson-Eilola and Selber to organize the academic essays in Central Works in Technical Communication, *with the categories from the "Alternative Contents" listed below the dashed line. The right box includes the terms and section categories in Gallon's* The Language of Technical Communication, *an elaborated glossary for TPC practitioners. The middle box lists our keywords as they are sorted in the "Thematically Organized Contents." We envision these terms as bridging the concerns of TPC as an academic discipline and as a field of practice.*

It is worth noting that Gallon's practitioner-focused terms cross-articulate with the keywords of our collection in different ways. For example, Gallon's authors engage concepts our authors cover (such as *multimodality*) through specific instances or sub-terms (such as *animation*, *audio*, and *video*). At the same time, our collection provides nuanced descriptions of concepts that Gallon's collection takes for granted (for example, *audience* and *genre*). These different granularities and premises reflect the different purposes of the two projects. They also demonstrate the continuity of theory and practice as well as the potential for our nuanced investigations of keywords to enrich how practitioners think about practice. Indeed, as Figure 4 attempts to demonstrate, the keyword essays of our collection are situated to inform conversations within and between the academic and pragmatic traditions of TPC.

Step 3. Decide on a word cloud generator and identify rules for structuring terms

Given our purpose, we did not need to turn our source texts into aesthetically pleasing visual representations, which is a focus of some word cloud generators (for example, WordArt). Rather, we needed a set of terms where the frequently used ones are highlighted visually and each term's numerical frequency is given. Also, we wanted to extract not only singular words but also phrases that may function as keywords. With these needs in mind, we compared multiple word cloud generators before choosing ToCloud. ToCloud is a free online generator available at tocloud.com. It outputs terms in a simple list format and can use font sizes and/or colors to visually denote frequency as well as specify numerical frequency in parentheses following the terms. Users can choose to list the terms alphabetically or by frequency; they can extract not only singular words but also phrases. ToCloud automatically filters out words such as *a*, *the*, and *that*; a user can specify additional words to be filtered out. Figure 5 shows a sample ToCloud mapping result.

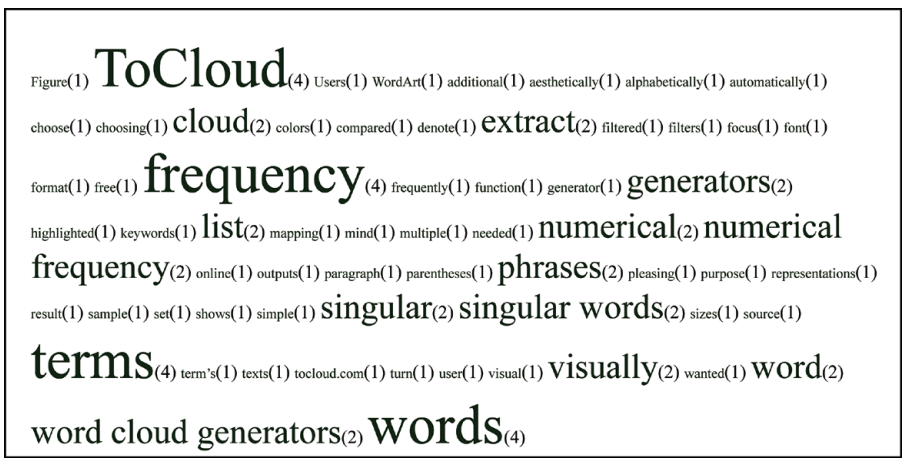


Figure 5. An example of a ToCloud word cloud.

Following Selfe and Selfe (2013), we manually manipulated our source text before submitting it to ToCloud. We removed proper nouns, such as *Sage Publications,* and boilerplate terms, such as the standardized abstract headings *purpose* and *literature review,* that may be mistaken for high-frequency keywords.

Steps 4 and 5. Adjust granularity and interpret/compare word clouds

Even though we narrowed our source text to abstracts, the dataset is still quite large, containing more than 153,000 words, many of which appear less than five times. To make the resultant cloud more manageable, we applied ToCloud's threshold functionality and mapped only those terms with a minimum of 20 appearances. With this adjustment, the resulting cloud contained a total of 948 unique terms.

As Selfe and Selfe (2013) reminded us, word clouding cannot be treated as a wholly computerized process; active reading and authorial interpretation is needed to make sense of the results. Given our purpose, in our interpretation, we tried to identify terms that are frequently used and thus quantitatively significant. Equally importantly, we tried to identify terms that, based on our knowledge of the field, are qualitatively significant and the focal points of disciplinary efforts and debates. In addition, we needed to identify terms that share a common root (e.g., *user*, *usability*, and *usability testing*) to ensure we do not miss key interests shared by these otherwise different terms.

To facilitate our reading and interpretation, we generated two versions of the cloud. One lists the terms by frequency so we can more easily compare use frequency; the other lists the terms alphabetically so we can more easily identify related terms that share a common root. Comparisons between the two clouds allowed us to balance our needs. Notably, we found that the most frequently used terms do not necessarily serve our purpose. In our word clouds, the most frequently used term is *communication*, which appeared a total of 1,361 times. Although communication *is* essential to our discipline, this term is too broad for useful description—indeed, this entire project is conceived to identify keywords that unpack technical and professional communication. Similarly frequent and broad terms include *writing* (430 times), *data* (286 times), and *English* (148 times). On the other hand, terms that appear less often can represent emerging concepts important to the field's development, for example, *social justice* (24 times). Through such constant comparisons, we arrived at a short list of 123 terms, which we then cross-examined in other phases of our methods.

Phase 1.2. Use Excel to Analyze Journal Keywords

Similar to abstracts, keywords—both those submitted by article authors and those indexed by journals—are signposts of the foci and concerns of journal publications. Because these source texts already exist in a "keyword" format, Microsoft Excel offered a more expedient way to analyze them. As with Phase 1.1, we

exported from Scopus all author keywords and indexed keywords from our identified journals and publication range. Using Excel formatting tools, including "Text to Columns," we created flat lists of all key terms (one term per cell) and then counted the frequency of each unique term in those lists using the function COUNTIF(A:A, A*n*).

Within author-submitted keywords were a total of 2,551 unique terms. The vast majority of them, over 2,000, appeared only once, and less than 50 terms appeared eight or more times. Journal-indexed keywords have a similar trend: Among a total of 2,383 unique terms, over 1,800 appeared only once, and just over 70 terms appeared eight or more times. Between the two lists, the most frequent term is again the broad *communication*, which appeared 166 times, followed by similarly broad terms such as *technical communication*, *teaching*, and *technical writing*. After about ten such terms, we started to see specific terms such as *usability* (55 times) and *rhetoric* (46 times).

We next compared these results with Phase 1.1 results for a combined analysis, again balancing the needs for quantitative and qualitative significance. At this point, we also took practical factors into consideration. Other keyword collections we reviewed typically contain essays on 30 to 50 terms to allow a substantial coverage but also sufficient elaboration on each term, and thus we aimed for a number in that range. The result of this phase was a total of 43 unique terms, including slash-bound terms. For example, although *international technical communication* and *intercultural technical communication* both appeared in the corpus, these terms have affinities and contrasts that—in our view—would be best examined in a single essay; hence, we combined them into *international/intercultural communication*.

Phase 2. Survey

To supplement and check the interpretive perspectives the two of us brought to the process described above, we created a survey and distributed it via the Association of Teachers of Technical Writing listserv and the Council for Programs in Technical and Scientific Communication listserv. The survey invited participants

1. to submit what they believe are terms significant for the field and in need of explanation to newcomers,
2. to evaluate the terms we identified in Phase 1, and
3. to suggest names of contributors well suited to write about the keywords.

Toward the end of the survey, participants were invited to share their disciplinary backgrounds. Depending on participants' answers on which role they primarily identify with in the field of TPC (faculty, graduate student, industry practitioner, or other), they were then taken to different background questions.

A total of 43 participants completed the survey, though not all participants answered all questions. Most participants reported having either six to ten years

or 20+ years of experience in the field, with the majority being technical communication faculty at four-year universities in ranks ranging from instructor to full professor. Many of these participants direct technical communication programs, including certificates, major and minor programs, service course programs, master's programs, and Ph.D. programs. Six participants identified themselves as graduate students or industry practitioners, and two identified themselves as performing more than one role, for example, faculty member and industry practitioner. Participants who are industry practitioners work in areas ranging from web content strategy and program management to social media.

We recognize that 43 participants is not a large sample and that, in particular, there were a limited number of participants who self-identified as industry practitioners. Despite the relatively small number of responses, we still obtained rich data informative for our purpose. In addition, we were not so much relying on the survey to generate data as using it to help refine and support our interpretation of Phase 1 data. Specifically, we used participant responses to identify key terms we might have missed in Phase 1 and to gather additional perspectives on the terms we already identified.

To limit biasing participant responses, we asked open-ended questions first before inviting participants to evaluate our Phase 1 keywords. In the open-ended questions, participants were asked to identify the five most important topics in technical communication today as well as the five terms they think newcomers to the field struggle with the most.

The key terms suggested by survey participants were analyzed using the same methods outlined in Phase 1.2. A total of 147 unique terms were suggested. Of these, 101 terms appeared only once, and 21 terms appeared more than four times. The most frequently mentioned term is *rhetoric* (26 times), followed by *usability* (19 times), though if *usability* is combined with related terms (*user experience* and *user-centered*), it becomes the most frequently mentioned concept. The terms that participants identified as important and/or difficult included themes not covered by our Phase 1 results; they are, notably, accessibility, audience, particularly challenging genres (*grants* and *documentation*), social media practices, specific standards and markup languages (e.g., DITA and XML), and structured authoring.

Participant evaluations of the 43 terms we generated in Phase 1 confirmed the importance of those terms. All 43 terms received at least some votes of "very important," though many also received votes of "not important." Table 1 summarizes these evaluations. In addition to rating the terms, participants could offer qualitative comments, though no consistent patterns emerged from these comments. For example, as mentioned earlier, some championed the inclusion of terms such as *feminism*, while others questioned their centrality to the field. Some applauded the coverage of the 43 terms, while others wondered if some of the terms are already common knowledge for the field. Some participants also questioned if some terms, such as *service*, are too general. Such comments aided us in refining the list of terms; for example, we ultimately decided to cut *service* from the list of essays.

Final Analysis and Interpretation

In our final analysis, we cross-examined and synthesized Phase 1 and Phase 2 results, again balancing quantitative and qualitative considerations. With Phase 1 terms that participants questioned as being too general, we reconsidered their relevance. Many of those with the lowest importance ratings were cut, some terms were conceptually broadened (e.g., *digital technology* became *technology*), and others were combined under a single term that could encompass several themes (e.g., *user experience* now covers multiple user-related terms). In some cases, we returned to the journal data to find modifiers to limit the terms or create notes for future essay writers to specify the terms in their writing. For example, with the term *design*, we recorded that it is associated with terms such as *document design*, *participatory design*, and *web design*.

Table 1. Ratings of Phase 1 Keywords by Survey Participants

Term	Very Important		Somewhat Important		Not Important		Importance Score*	Rank**
	%	*N*	%	*N*	%	*N*		
Actor/activity	38.9%	14	44.4%	16	16.7%	6	0.56	9
Content analysis	41.7%	15	50.0%	18	8.3%	3	0.58	7
Content management	72.2%	26	25.0%	9	2.8%	1	0.63	3
Crisis communication	45.7%	16	48.6%	17	5.7%	2	0.59	7
Data visualization	83.8%	31	16.2%	6	0.0%	0	0.65	1
Design	81.6%	31	18.4%	7	0.0%	0	0.64	2
Digital technology	64.9%	24	32.4%	12	2.7%	1	0.62	4
Discourse analysis	27.8%	10	61.1%	22	11.1%	4	0.54	10
Distance education	22.2%	8	44.4%	16	33.3%	12	0.45	13
Entrepreneurship	16.7%	6	47.2%	17	36.1%	13	0.41	14
Environment	41.7%	15	47.2%	17	11.1%	4	0.57	8
Ethics	88.9%	32	11.1%	4	0.0%	0	0.65	1
Feminism	44.4%	16	41.7%	15	13.9%	5	0.58	7
Genre	58.3%	21	36.1%	13	5.6%	2	0.61	5
Globalization	64.9%	24	35.1%	13	0.0%	0	0.62	4
Information	63.9%	23	30.6%	11	5.6%	2	0.62	4
International / intercultural communication	88.9%	32	11.1%	4	0.0%	0	0.65	1
Knowledge	41.7%	15	44.4%	16	13.9%	5	0.57	8
Literacy	58.3%	21	33.3%	12	8.3%	3	0.61	5

Term	Very Important		Somewhat Important		Not Important		Importance Score*	Rank**
	%	*N*	%	*N*	%	*N*		
Localization	62.2%	23	32.4%	12	5.4%	2	0.62	4
Medical/health communication	63.9%	23	33.3%	12	2.8%	1	0.62	4
Multimodality	59.5%	22	32.4%	12	8.1%	3	0.61	5
Narrative/ storytelling	33.3%	12	55.6%	20	11.1%	4	0.56	9
Organizational culture	33.3%	12	63.9%	23	2.8%	1	0.57	8
Plain language	55.6%	20	38.9%	14	5.6%	2	0.60	6
Professionalization	33.3%	12	55.6%	20	11.1%	4	0.56	9
Programmatic research	29.7%	11	43.2%	16	27.0%	10	0.51	12
Project management	58.3%	21	38.9%	14	2.8%	1	0.61	5
Public engagement	63.9%	23	27.8%	10	8.3%	3	0.62	4
Research methods	66.7%	24	30.6%	11	2.8%	1	0.62	4
Rhetoric	83.3%	30	8.3%	3	8.3%	3	0.65	1
Risk communication	61.1%	22	33.3%	12	5.6%	2	0.61	5
Science	58.3%	21	33.3%	12	8.3%	3	0.61	5
Service	28.6%	10	51.4%	18	20.0%	7	0.53	11
Social justice	47.2%	17	30.6%	11	22.2%	8	0.57	8
Style	41.7%	15	47.2%	17	11.1%	4	0.57	8
Technical editing	61.1%	22	36.1%	13	2.8%	1	0.62	4
Technical translation	52.8%	19	44.4%	16	2.8%	1	0.60	6
Usability	89.2%	33	10.8%	4	0.0%	0	0.65	1
User experience (UX)	84.2%	32	15.8%	6	0.0%	0	0.65	1
User interface (UI)	70.3%	26	29.7%	11	0.0%	0	0.63	3
Virtual collaboration	35.1%	13	54.1%	20	10.8%	4	0.56	9
Visual rhetoric	80.6%	29	13.9%	5	5.6%	2	0.64	2

**The "importance score" is a weighted average of each term's rating that assigns 2 points for every "Very Important" rating, 1 point for every "Somewhat Important" rating, and -1 for every "Not Important" rating.*

***Several terms had the same score; thus, there are only 14 ranks to account for tied scores.*

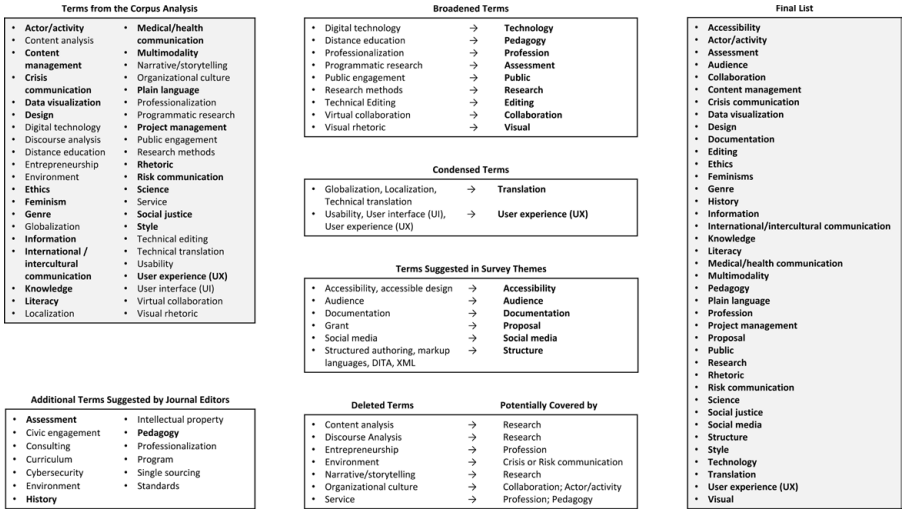


Figure 6. Summary of the development of our roster of keywords. Terms in bold were included in the final list.

With additional terms that were suggested by multiple participants, we examined the journal data to assess their quantitative frequency. We also solicited feedback from several trusted colleagues who edit or have edited major journals, which resulted in additional keywords. Through several iterations of this process, we arrived at our final list of the 39 keywords examined in this volume. Figure 6 summarizes our changing roster of keywords.

To frame the collection, we also solicited two additional essays. We invited Johndan Johnson-Eilola and Stuart A. Selber to write a keyword foreword ("Technical and Professional Communication"), which provides reflections on both this collection and the current state of the field. We also asked Kristen Moore, Lauren Cagle and Nicole Lowman to write an afterword ("Diversity, Equity, and Inclusion through Citational Practice") to document their process and findings for the inclusive citation audit they conducted on earlier drafts of the contributed essays. This audit is described in more detail after the following description of how we selected our contributors.

Our Contributors

As mentioned previously, our survey invited participants to suggest contributors well suited to write essays on our identified keywords. Among our final list of 39 keywords, all but eight keywords received at least one and often multiple contributor suggestions. Some of the suggested contributors are clearly situated in the field of TPC; that is, they work in TPC programs and publish in TPC journals. Other suggested contributors are situated more closely in

related fields such as cultural studies or composition and rhetoric. Given our purpose for this project, in selecting contributors, we focused on those clearly situated in the field of TPC. In addition, when multiple survey participants suggested the same contributor for a keyword, we also favored that contributor.

For each keyword, we also performed literature searches (using that particular keyword) in technical communication publications to identify potential contributors who have published on that keyword. The publications we searched included the journals used in our keyword data mining but also other TPC journals and book publications. We focused on authors whose work exhibits extensive knowledge of a keyword, for example, people who have published multiple articles on the topic or who have written or edited books on the topic.

Through these processes, we were able to decide on potential contributors for all 39 keywords. In some cases, we identified two contributors for a single keyword because they frequently co-author on the topic. We then contacted potential contributors and invited them to participate in our project. In almost all cases, they agreed to participate. In a few cases where they couldn't (usually because of time constraints), we repeated the above process to identify another contributor.

As the above description shows, the process we used to identify contributors is not a science. There is no denying the potential biases that we, as well as our survey participants, brought into the process. Most importantly, by focusing on (consciously or unconsciously) experts who have published extensively on a topic, our selection favors those more established in the field and is biased against emerging scholars. Potentially, then, the resulting keyword essays may be more backward-looking than forward-looking. We tried to address this limitation in our guidelines to contributors (more about this below). In addition, our process may be biased against marginalized scholars who are systemically underrepresented in citations, publications, and the field's collective memory. However, eight of our 42 keyword essay contributors self-identify as multiply marginalized or underrepresented (MMU) scholars on the "MMU Scholar List" maintained by Cana Itchuaqiyaq (2022). Overall, our contributors represent a wide range of disciplinary perspectives, from the most seasoned teacher-scholar-practitioners to mid-career scholars expanding the boundaries of the field. We have been delighted and honored to work with this group of experts who collectively have cultivated centuries of expertise in TPC.

Guidelines for Contributors

To create a certain level of consistency between our keyword chapters—without prescribing a rigid structure or pattern—we established several guidelines for our contributors. These guidelines are taken from and modified based on the contributor guidelines for *Keywords for Children's Literature*, generously shared by one of the editors, Phil Nel.

Contributors were asked to start their essays with a paragraph summarizing the history of their keywords in English and (if appropriate) in other languages.

For English etymology, we recommended that the contributors use *The Oxford English Dictionary*. Alternatively, for keywords that may not benefit from an etymological opening, we suggested an initial paragraph that summarizes the changing contemporary and disciplinary contexts where a keyword has been used. As the essays took shape, some introductions were revised to emphasize a term's significance for TPC praxis before discussing its history.

Beyond the first paragraph, we asked contributors to structure their essays around the significant debates surrounding their keywords. We use the word "debate" loosely. It can include particular problems that emerge in the use of the keyword in the research, teaching, and practice of TPC. It can refer to the ways that multiple theoretical perspectives have been used to interpret the keyword in TPC. It can include the critical projects/perspectives that the keyword enables or hinders in TPC.

For the ending of their essays, contributors were asked to create a forward-looking paragraph, discussing how their keywords could be used in the future and/or whether they need to be rethought in our current environment. Our foreword authors were similarly asked to take both a historical view of the importance of the keywords in this volume and to look forward to how these keywords could evolve in the future.

Finally, we also shared with our contributors the entire list of our keywords and asked that they identify cross-reference potentials. That is, when their chapters mention another keyword included in the volume, they should bold that other term upon its first use to signal cross-references. These cross-references, we hope, will allow readers to form multi-dimensional understandings of the field. Indeed, as the 442 lines representing them in Figure 7 suggest, the links between keywords form a complex network of connections.

Inclusive Citation Audit

As this project got underway, Kristen Moore (author of the essay on *public* in this volume) offered to conduct an inclusive citation audit for the volume, which she completed with Lauren Cagle and Nicole Lowman. An inclusive citation audit helps to ensure that a collection actively cites underrepresented and marginalized scholars, recognizes their scholarly contributions, and includes them in a critical reflection of the field. Doing so is important in all our work but essential in a keywords collection where authors claim to identify key topics, discussions, and debates. After Kristen proposed the idea, we immediately agreed that an inclusive citation audit, conducted by scholars other than us, could help to modulate subjectivity and bias across the collection.

The audit was performed on early drafts of the chapters. Moore, Cagle, and Lowman provided contributors with chapter-specific feedback, suggesting possible angles to relate their writing to issues of inclusion and social justice as well as citations of work by underrepresented scholars that can inform any discussions of the term. More details about this audit can be found in the afterword of the volume.

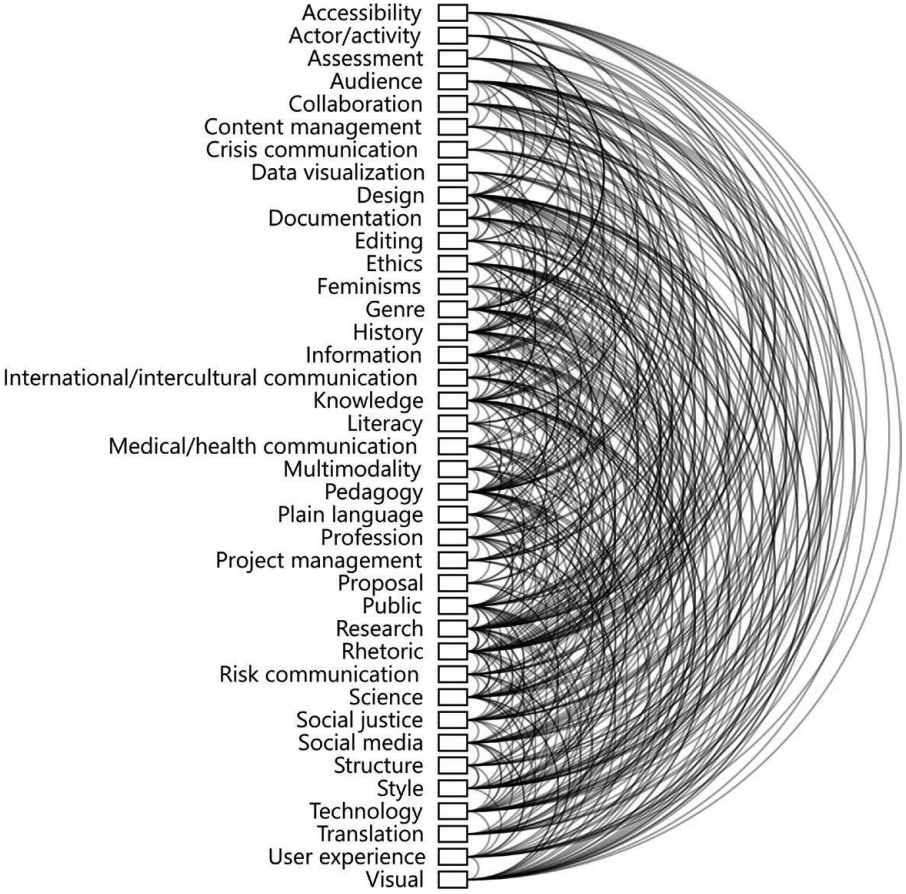


Figure 7. Chart mapping cross-references between keywords. Each arced line represents a cross-reference.

We also want to point out that, prior to this citation audit, many of our contributors already explicitly engaged with issues of diversity, equity, power, and inclusion in their early drafts. These include not only chapters that, given their keywords, have an explicit focus on social justice and non-hegemonic theoretical frames (such as chapters on *social justice* or *feminisms*) but many other chapters, for example, those on *profession*, *history*, and *literacy*, to name just a few.

Ways to Use This Collection

We envision two ways that readers may use this collection. First, we believe it can function as a useful scholarly source. By tracing the genealogy of terms central to TPC and revealing their evolving, divergent, and contested meanings, these essays can help researchers to critically engage related studies. This use may take

the forms of researchers acknowledging conflicting viewpoints, adopting different theoretical lenses, or strengthening their original arguments. We also hope, as mentioned earlier, that researchers will actively interact with this collection, whether by updating the essays contained here, by critiquing or responding to them, or by creating new essays. Doing so will allow all of us to continue questioning and enriching our understanding of the field's keywords and their interconnections.

Another important way we envision this collection being used is as a pedagogical tool. Essays in this collection, with their focused intent, short length, ambitious goals, and rich examples, are well suited for orienting students into the field. The entire collection, or selected essays, might be assigned to students to provide background information related to course topics. Alternatively, students may be charged to revise or expand select essays using information gained in a course or through additional research. More ambitious assignments might ask students to write new keyword essays, either individually or collaboratively, using terms that are central in the context of a given course.

For instructors interested in such an assignment, Burgett and Hendler (2014) suggested a two-step process. In step one, students create a repository of use examples of a particular keyword. Depending on the nature of a course, students can use as source materials their assigned readings, additional readings, or multimedia materials such as "images and sound, conversations overheard on the street, or exchanges on a bus" (Burgett & Hendler, 2014, p. 10). In step two, students write about the usages they curated. This two-step process can help students develop a range of relevant skills, from close reading and observation to multimodal data gathering and organization to synthesis and collaboration.

The above represents just a small list of possibilities for using the essays collected here. We look forward to learning from our readers about how they use, respond to, and interact with this collection.

Conclusion

It has been a pleasure and privilege—and a long journey—to work on this project. We hope our readers find this collection helpful as they enter the field of TPC, navigate its terminological complexities, expand understandings of established concepts, and develop the new terms that will move the field forward.

References

Boettger, R., & Friess, E. (2020). Content and authorship patterns in technical communication journals (1996-2017): A quantitative content analysis. *Technical Communication*, *67*(3), 4-24.

Brumberger, E., & Lauer, C. (2015). The evolution of technical communication: An analysis of industry job postings. *Technical Communication*, *62*(4), 224-243.

Burgett, B., & Hendler, G. (2014). *Keywords for American cultural studies*. New York University Press.

Burke, K. (1966). *Language as symbolic action: Essays on life, literature, and method*. University of California Press. https://doi.org/10.1525/9780520340664

Carlson, H. V., Mayo, R. H., Philler, T. A., & Schmidt, D. J. (1983). *An annotated bibliography on technical writing, editing, graphics, and publishing: 1966–1980*. Society for Technical Communication.

Carradini, S. (2021). The Ship of Theseus: Change over time in topics of technical communication research abstracts. In J. Schreiber & L. Melonçon (Eds.), *Assembling critical components: A framework for sustaining technical and professional communication* (pp. 39-68). The WAC Clearinghouse; University Press of Colorado. https://doi.org/10.37514/TPC-B.2022.1381.2.02

Dryer, D. (2019). Divided by primes: Competing meanings among writing studies' keywords. *College English*, *81*(3), 214-255.

Gallon, R. (2016). *The language of technical communication.* XML Press.

Heilker, P., & Vandenberg, P. (1996). *Keywords in composition studies*. Boynton/Cook Publishers.

Heilker, P., & Vandenberg, P. (2015). *Keywords in writing studies*. Utah State University Press. https://doi.org/10.7330/9780874219746

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

Johnson-Eilola, J., & Selber, S. A. (2004). *Central works in technical communication.* Oxford University Press.

Nel, P., & Paul, L. (2011). *Keywords for children's literature.* New York University Press.

Philler, T. A., Hersch, R. K., & Carlson, H. V. (1966). *An annotated bibliography on technical writing, editing, graphics, and publishing: 1950–1965.* Society of Technical Writers & Publishers; Carnegie Library of Pittsburgh.

Rude, C. (2015). Technical communication. In P. Heilker & P. Vandenberg (Eds.), *Keywords in writing studies* (pp. 165-168). Utah State University Press. https://doi.org/10.7330/9780874219746.c033

Selfe, R. J., & Selfe, C. L. (2013). What are the boundaries, artifacts, and identities of technical communication? In J. Johnson-Eilola & S. A. Selber (Eds.), *Solving problems in technical communication* (pp. 19-49). The University of Chicago Press.

Steinbock, D., Pea, R., & Reeves, B. (2007). Wearable tag clouds: Visualizations to facilitate new collaborations. In C. A. Chinn, G. Erkens, & S. Puntambekar (Eds.), *Proceedings of the 8th International Conference on Computer Supported Collaborative Learning* (pp. 672-674). International Society of the Learning Sciences. https://doi.org/10.3115/1599600.1599725

Vargas, D., La Fountain-Stokes, L., & Mirabal, N. (2017). *Keywords for Latina/o studies.* New York University Press. https://doi.org/10.2307/j.ctt1pwtbpj

Williams, R. (1983). *Keywords: A vocabulary of culture and society* (revised edition). Oxford University Press. (Original work published 1976)