

## CHAPTER 1.

# WHAT DO THE NEXT 50 YEARS HOLD FOR WAC RESEARCH? A U.S. PERSPECTIVE

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*Abstract. This chapter lays out possible directions for WAC research in the US, based not only on what it has accomplished in the last 50-plus years but also on what other related traditions of research have accomplished: rhetoric and composition (especially first-year writing), technical/professional communication, discipline-based educational research (DBER), the scholarship of teaching and learning (SoTL), applied linguistics research on second/other language writing, and research in fields such as psychology, neurophysiology, or sociology that sometimes focus on writing as a human activity, regardless of discipline. It addresses also three overarching trends that affect all these traditions: social justice, multimodality, and artificial intelligence. I will argue that collaboration with these other traditions of research holds great promise for the next 50 years.*

The last 25 years have seen remarkable growth in research on writing in the disciplines, expanding on the work begun in the 1980s and 1990s (Russell, 2002). Its size and scope have burgeoned (Palmquist et al., 2020). More than 750 articles, chapters, and books have been indexed with WAC or WID (Writing in the Disciplines) as a keyword from 2000 to 2022 (not including book reviews), among those 95 analyzed empirical data. The US has an active research committee of the new professional organization, the Association for Writing Across the Curriculum (AWAC). And the free, online bibliographic database, CompPile, indexes journals from a range of fields that deal with WAC (the statistics above came from it).

Equally important, the problems of dissemination that loomed large in 2000 have been to a great degree solved by electronic publication. The WAC Clearinghouse, established in 1997, has been central to this improved

dissemination. It now houses a dozen active open-access journals in writing studies—four devoted to WAC—and archives of 12 others. It has published or reprinted more than 250 open-access books, many of them on WAC or directly related to it, including excellent introductions to WAC (Bazerman et al., 2005) and to genre (Bawarshi & Reiff, 2010), as well as numerous books on WAC internationally (Bushnell, 2020; International Exchanges on the Study of Writing, n.d.).

WAC is indeed an international movement—its origins lay outside the US, after all (Russell, 2002). And there have been major efforts stretching back for decades in other countries and regions, not only in English as an international language but also in many other languages, as I mention below. But in this chapter, I talk about its future from a U.S. perspective, in part because I know that perspective best, but mainly because to do that future justice from a global perspective would be the scope of a book, not an article. I trust that many of the issues I raise are relevant in other contexts, but given the specificity and complexity of the issues, each WAC tradition must envision its own futures.

Despite the extraordinary accomplishments and growth of WAC research, in the US and globally, it is far from complete, as some might be tempted to think. There is still much to know and share, as I will outline below. The next 50 years hold great promise for WAC research, in a great variety of areas, because WAC research is an immense variety of things. It thus has the potential to intersect with many research traditions. I mean not only traditions of educational research in other fields or writing research in other fields, but also fields adjacent to WAC, such as FYC, rhetoric and composition, technical/professional communication. In these neighboring—intersecting—fields, researchers may not be aware of WAC research, assuming that it is confined to program improvement when in fact it is much more, as I'll argue. And WAC researchers may not be aware of how much adjacent fields have contributed and might contribute to WAC, through collaboration. This collaboration might help WAC address what is widely recognized as a major problem in research, inside and outside of academia: disciplinary silos, which inhibit the sharing of knowledge and thus the progress of knowledge (Friedlander, 2022).

In this chapter, I describe possible directions for WAC research, based not only on what it has accomplished in the last 50-plus years but also on what other related traditions of research have accomplished. I will argue that collaboration with these other traditions of research holds great promise for the next 50 years. I'll focus on five intersections:

- WAC-adjacent research in rhetoric and composition, especially FYC, and technical/professional Communication,

- research on writing conducted in other disciplines on writing in those disciplines, the writing-focused subset of what is called discipline-based educational research (DBER),
- research on higher education in centers for learning/teaching excellence, what is called scholarship of teaching and learning (SoTL),
- research in fields such as psychology, neurophysiology, or sociology that sometimes focus on writing as a human activity, regardless of discipline, and
- applied linguistics research on second language writing.

After taking up these five intersections with WAC research, I will describe three powerful new lines of inquiry that are going to be overarching trends in each of the five intersections. First, social justice research will make gender, race, class, disability, and other sources of injustice into major topics of research. Second, WAC research will continue to broaden its scope and reach by embracing communication across the curriculum (CxC) and communication in the disciplines (CiD), as multi-modal composition, speaking, reading, visual design, database searching, and other modes are explored in relation to writing and learning. Third, the explosion of artificial intelligence (AI) will profoundly affect the future of writing, learning, and their development, in ways that were hinted at through machine writing analytics for a decade but are now leading in directions that can only be guessed at or dreamed of. These overarching trends are the future of WAC research in all the intersections I'll mention.

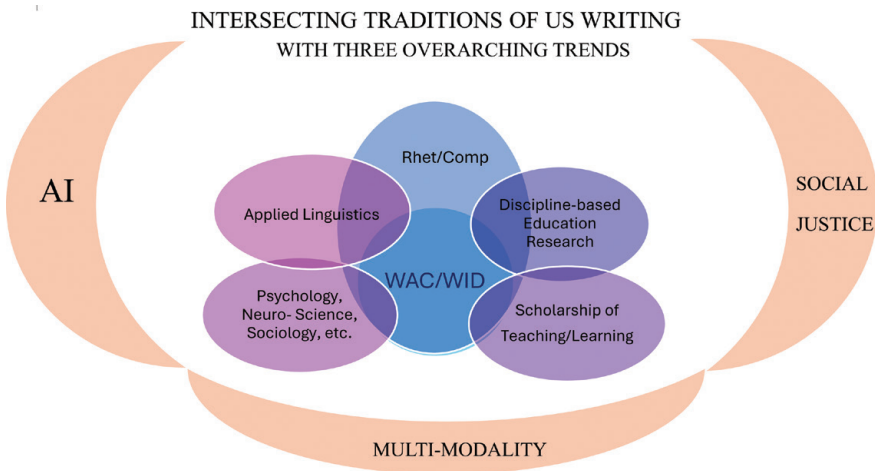


Figure 1.1. *Intersecting Traditions of U.S. Writing*

This admittedly US-centric diagram misses the width of EAP, ESL, EFL, and EMMUS work carried out in Europe and elsewhere. It suggests nevertheless the complexity of the U.S. picture. The central light-blue oval contains WAC and the adjacent traditions of rhetoric and composition (including first-year composition and writing centers) and technical/professional communication, all with linked histories and professional organizations. The ovals on the left are important disciplines with traditions of research on writing that are not directly related to pedagogy. The ovals on the right are traditions of pedagogical research that sometimes include writing. All of the traditions can and do at times intersect with each other.

### **WAC-ADJACENT RESEARCH IN RHET/COMP AND TECHNICAL/PROFESSIONAL COMMUNICATION (TPC)**

Fields that are very close to WAC are rhet/comp and TPC—usually housed in the same department in U.S. higher education. Yet often their research programs are unknown, ignored, or misunderstood by researchers in any one of the fields, and opportunities for productive collaboration are squandered (e.g., on language justice policy see Sanders et al., 2023).

The relationship between composition (especially FYC) and WAC research has always been deep (Anson, 2010), but often complicated and sometimes even vexed (McLeod & Maimon, 2000). Until WAC formed its own professional organization, AWAC, in 2018, it was a SIG of CCCC. But the next 50 years of WAC could become an era of smooth cooperation to break down the silos that separate even our adjacent fields, and research can lead the way. Indeed, it already is.

The question of how students develop as writers and—I would add and emphasize—as learners has been key in composition. The qualitative studies of the 1990s into how students move into courses beyond FYC have continued but with a wider scope. Aided by new theories based on small-scale studies, longitudinal research was extended to mixed methods studies carried out on comparatively large numbers of students, such as the University of Michigan study of 169 students in 47 majors [UK “course” or EU academic program] across the four years of the standard U.S. university degree (Gere, 2019). This study included not only interviews and observations but also surveys, automated text analysis, and corpus linguistic analysis of texts written by students. The study found that “college writing has transformative effects on students,” (Gere, 2019, p. 314) but not effects that are uniform or clearly visible to students. Curriculum shapes student writing, but students “subvert or supplement” curricula

with writing, as their writing is linked to their personal and social development in ways the students themselves shape, given their prior experiences and perceptions. Because the Michigan study used automated and corpus linguistic analysis to reveal not only group performance and attitudes but also individual performance and attitudes, it points to a new direction in WAC research—the integration of methods: interview, survey, observation, and text analysis, now often automated.

Similarly, the student's perspective was captured in the Meaningful Writing Project, which collected open survey responses from 707 final-year students at four universities, with 27 follow-up interviews, to find what writing (if any) students found meaningful (Eodice et al., 2017). They then surveyed 160 faculty members who were mentioned by the students and interviewed 60 of them. They found the students valued writing projects that offered them one or more of three possibilities: agency, engagement, and learning for transfer. These results suggest that learning for transfer is something students do and value, whether or not students are explicitly taught to transfer.

As these studies also suggest, one central area of research composition in the last two decades and going forward has been “transfer,” the transition students make from general composition courses to writing in the disciplines and professions—WID (Whicker, 2022). The early and still prominent view of transfer is “close the gap”: the goal of the research is to identify the skills necessary in some discipline or workplace and then explicitly teach those, on the assumption that they will transfer neatly. This assumption was challenged by research in the 2000s that suggested that skills are bound up in a particular context situation or practice, and thus not easily transferred. This poses great challenges for the next generation of research on writing “transfer,” which Paul A. Prior et al. (2019) rightly say should be called “development.” This research problem transcends the rhet/comp and WAC silos.

Similarly, technical/professional communication (TPC) has since the 1980s held an annual convention in conjunction with CCCC. It has conducted research on writing in a range of fields for many decades, in several journals and book series. Most notably, engineering since the 1990s has made “communication” a priority, mainly written. Many researchers in technical communication have worked with researchers in engineering who investigate writing. There are even departments of communication housed within colleges of Engineering (Burge et al., 2012). Most TPC programs are housed in English departments (Yeats & Thompson, 2010). Yet WAC has not much collaborated with TPC. We should claim our mutual interests heartily and deepen our collaborations to overcome the TPC and WAC silos.

## DISCIPLINE-BASED EDUCATIONAL RESEARCH (DBER) AND WAC

WAC should partner more extensively and more effectively with research on teaching and learning in the disciplines conducted by researchers in those disciplines. At least 60 disciplines have journals that publish research on pedagogy in that discipline, sometimes multiple journals in a single discipline. While there has been research in almost every discipline on ways to improve learning through writing, and the influence on DBER has been large and increasing (Anson & Lyles, 2011), relatively few disciplines have taken writing-to-learn on board as an important project of ongoing pedagogical research and theorizing.

The exceptions, though, are important ones. Science education, particularly at the secondary school level (Hand, 2007), and mathematics education (Teuscher et al., 2016) have large-scale research efforts—stretching back many years—into the relationships between writing and learning in those fields. WAC researchers have in some cases partnered with them, but much more is possible. The AWAC Committee on Research and Publications now exists to do these very things, as well as the Committee on Partnerships (Association for Writing Across the Curriculum, 2019). Now there is a professional organization with a research committee, and interdisciplinary collaborations, both small and large scale, may be easier to facilitate and fund. The NSF and NIH have funded research on writing and learning in specific disciplines for many years, offering a rich opportunity for collaboration.

WAC researchers have traditionally spearheaded writing research with discipline-based researchers with whom they have collaborated. However, the initiative and the learning should be bi-directional. WAC has much to learn from DBER, not only about writing in each discipline but also about research methods that DBER has developed. And as Justin K. Rademaekers (2015) points out, transdisciplinary research is becoming far more common as problems become more complex and cross traditional boundaries. In this WAC may have more and more to offer, in facilitating communication among researchers in different disciplines and preparing students for such transdisciplinary knowledge-making (Gere et al., 2015). However, this will require WAC researchers to, first of all, be willing to learn and adopt or at least adapt to the educational research methods and traditions of other disciplines, and second of all, willing and able to explain our research methods and traditions in terms DBER can understand and adopt or adapt. Heather Falconer's (2022) study of discussions of writing and writing assessment in undergraduate biology education is a model.

WAC-DBER research collaborations would also profit from the ongoing tradition in WAC empirical studies of pedagogical collaboration with faculty in the

disciplines. For example, Tarabochia (2016) analyzed interactions between WAC consultants and disciplinary faculty. Michele Eodice et al. (2017) interviewed faculty in the disciplines. Eodice et al. (2017) also drew on survey and interview data to understand assignment design, and Bradley Hughes and Elisabeth L. Miller (2018) even analyzed workshop drafts of WAC assignments from disciplinary faculty. What we have learned from systematic research into pedagogical collaborations might be extended to our practice in research collaborations (and research on the collaborations themselves).

Because of the sheer number of journals that publish DBER and the credit and influence they have in their fields, this seems a high-priority area for WAC research to develop (Thew & Gustafsson, 2007). It also exemplifies the turn from missionary to ethnographic models of WAC. Ultimately, DBER may become the most effective and efficient intersection to de-silo WAC research for the next 50 years.

## **SOTL RESEARCH AND WAC**

Institution-wide centers for excellence in learning/teaching are now a common feature of higher education in the United States and natural allies of WAC research. What has been called the faculty development movement in higher education was officially organized in 1976 as the Professional and Organizational Development Network in Higher Education (POD). This makes the movement the same age as WAC. It has a similar number of members and a wide institutional presence, with a similar penetration: from 20 to 65 percent depending on the type and level of institution (International WAC Mapping, n.d.; Kuhlenschmidt, 2011). WAC is fundamentally concerned with professional development, and indeed many WAC programs are in POD units and share personnel.

The research of this movement is called Scholarship of Teaching and Learning (SoTL). It has many dimensions, from an individual instructor reflecting systematically on their own teaching to national projects organized by researchers in departments of higher education (usually housed in larger education departments) and funded by governmental or non-profit organizations.

Many of these research efforts involve writing for learning. Nine journals publish research on SoTL that is not confined to a single discipline. These have included 108 articles that refer to WAC and/or WID specifically. (This does not include the scores of discipline-specific journals that have pedagogical articles on WAC, as I mentioned above in terms of DBER.) Indeed, one of the most important studies of faculty development was done by a team that included Carol Rutz and William Condon, who are WAC researchers and program developers (Condon et al., 2016).

The research possibilities for WAC-SoTL collaboration are dramatically evident in Hughes's (2020) survey, "What Early-Career Disciplinary Faculty Want to Learn about WAC Pedagogy." This study was the result of a longstanding relationship with his university's teaching and learning program. Another example is Adele Leon's (2020) study of low-stakes assignments as high impact educational practices (HIPs), several of which involve writing.

Collaborative SoTL-WAC projects have even included a few large-scale quantitative studies. The largest was a special 2008 administration of the National Survey of Student Engagement (NSSE) to more than 23,000 students in 82 U.S. universities. It found that writing *with certain qualities* contributes significantly to student engagement and learning. The report concluded:

when institutions provided students with extensive, intellectually challenging writing activities, the students engaged in more deep learning activities such as analysis, synthesis, integration of ideas from various sources, and grappled more with course ideas both in and out of the classroom. In turn, students whose faculty assigned projects with these same characteristics reported greater personal, social, practical, and academic learning and development. (Anderson et al., 2015, pp. 20–21)

It is this sort of massive and impactful research that collaborations at the national level can achieve. At the local institutional level, centers for excellence in learning/teaching provide ways to organize collaboration and leverage WAC influence. At all levels, expanding beyond our silos to embrace SOTL is very much possible, despite the danger that integration into campus centers may deprive WAC efforts of secure funding and identity.

## **RESEARCH ON WRITING AS A GENERAL PHENOMENON, NOT FOCUSED ON A SPECIFIC DISCIPLINE**

Over the last two decades, the relatively new field of writing studies has shown that research in WAC, as well as in rhetoric and composition, forms only part of the vast whole of research on writing. We have mentioned professional communication, DBER, and SOTL. However, several other fields have long traditions of research on writing, largely independent of those I have mentioned. Chief among them are psychology (along with neuroscience more recently) and applied linguistics. These do major research that is often applicable to many or all areas of activity that involve writing. I'll focus on these two, but we might also mention sociology (of science and of knowledge), anthropology, history,

philosophy, literacy, and cultural studies, all of which have long traditions of research on writing (Bazerman, 2009).

Most relevant to WAC, psychology pursues ongoing work on the cognitive basis of writing to learn. Perry D. Klein and Pietro Boscolo (2016) published a major review essay on trends in writing-to-learn research. They point out that in the last two decades, numerous meta-analyses of quantitative and qualitative studies have shown writing has reliable small to medium effects on learning, but its effects can be increased (or decreased) depending on moderating variables such as the type of writing activity and the way it is integrated into instruction. Writing does not inherently affect learning but is “dependent on the goals and strategies of the writer” (Klein & Boscolo, 2016, p. 336). Directing attention to the task content and/or reflectively to the student/writer’s self-regulation processes improves learning, and these are learning strategies that can be successfully taught. Moreover, the genre of writing seems to make a difference, though in complex ways. Such research can be directly applicable, as is Michelle E. Neely’s (2017) study of WID faculty and peer tutors’ beliefs about writing, which draws on a rich tradition of work in educational psychology.

At a deeper level, neuroscience research has begun to investigate the physiology of writing, and its basis in preexisting functional systems that developed before writing, ontogenetically and phylogenetically, such as typifying perception, problem-solving action, sociality, cooperation, indexical pointing, and of course languaging (Prior et al., 2019). As this research takes up writing more and more (in conjunction with other media), its influence on WAC research will continue to grow (Dryer & Russell, 2018; Pennebaker & Chung, 2011). And the more we in WAC understand this basic research in other, even disparate fields, the more we will be able to influence and even collaborate with it.

## **RESEARCH ON WRITING IN APPLIED LINGUISTICS**

The research community in WAC has in the last decade come to interact more with applied linguistics research, especially as second language students have been more visible in secondary and higher education in the US and as WAC has connected with other movements across the curriculum world-wide, where linguists are prevalent. Linguistic approaches to discipline-specific and professional writing have grown exponentially with the demand for written English worldwide, particularly among academics in the sciences, who must publish overwhelmingly in English—itsself an object of contestation and research (Canagarajah, 1999).

Most obviously, the field of English for academic purposes (EAP) studies writing in various disciplines to help second and other language students

master writing in those fields. Yet several linguist-led initiatives in the US and worldwide are centrally concerned not only with writing (and reading, often) in courses beyond those focused on language but also on L1 students, who take advantage of services such as writing centers that serve L1 and L2+ students. Like WAC, these initiatives collaborate with faculty in the disciplines. These include integrated content and language in Northern Europe and South Africa, disciplinary didactics in Francophone Europe, academic literacies in the UK, and academic language and learning in Australia (for an overview see Russell, 2018). As mentioned earlier, the WAC Clearinghouse has numerous books and other materials devoted to research into writing in the disciplines in languages other than English (International Exchanges on the Study of Writing, n.d.)

Recently, computerized analysis of large bodies of texts in specific disciplines (corpus analysis) has dramatically shown the similarities and differences among them. These approaches hold great promise for WAC applications as well (Cotos, 2023; Crossley et al., 2017; Russell & Cortes, 2012; Strobl et al., 2019). For direct applications to WAC, see Otto Kruse and Chris M. Anson (2023).

Though of course teachers of ESL and applied linguists have long been interested in multi-(or trans-) lingual writing in the disciplines, in the 2000s the concerns of faculty involved with WAC led to a specific interest in these issues for the WAC movement. The catalyst was a series of videos called *Writing Across Borders*, produced by Vicki Tolar Burton and others at the Writing Center at Oregon State University in 2005 (Robertson, 2005). The poignant clips of second language writers dramatized their difficulties, not only with language per se but also with the rhetorical, cultural, pedagogical, and education system difficulties they face—made more difficult still by the attitudes of many faculty and writing tutors.

The videos became not only training tools but also a touchstone for further work, spurred also by the increasing involvement of WAC with similar efforts in other countries. A special issue of *ATD* on *Writing across the Curriculum and Second Language Writers: Cross-Field Research, Theory, and Program Development* was followed by a collection, *WAC and Second-Language Writers: Research towards linguistically and culturally inclusive programs and practices*, both edited by Terry Myers Zawacki and Michelle Cox (2011, 2014). The effort of WAC to respect and value disciplinary differences is supported by efforts to respect and value linguistic and cultural differences and to see multi-(trans-) lingual writers—even those in the process of learning a new language—as resources rather than remedial.

More broadly, various areas of linguistics and some WAC research and pedagogy have moved toward a “translingual” model of written communication, based on research that shows “every context is multilingual, even ones that appear

monolingual” (Donahue, 2016, p. 147). A translingual orientation brings a set of attitudes and perspectives that can, Christiane Donahue persuasively argues (2016), give new directions to WAC research and counter a longstanding “marginalization of linguistics research in writing studies” (Donahue, 2018, p. 134). The future for such exchanges on “transfer” writ large, and on transcending restrictive “code” models toward a global embrace of difference and flexibility will provide rich sources of new research (Donahue, 2023). In this, we arrive again at the first of the three overarching trends in research that affect WAC and all its intersecting research traditions: social justice.

I now turn to the three overarching trends that affect all intersecting traditions of writing research and suggest three calls to action.

## **SOCIAL JUSTICE AND WAC RESEARCH**

In 1998, Harriet Malinowitz published “A Feminist Critique of Writing in the Disciplines.” WAC, she argued, “does not generally present itself as a force that would help a student think like a feminist” (1998, p. 295). Her feminism called for active, integrated learning, not separated into “departments.” Her call was answered in the new century by several studies that described “Writing Across the Curriculum with Care,” as in the title of Bradley Peters’ (2003) chapter in a collection of articles on feminisms in composition (Gray-Rosendale & Harootunian, 2012). Studies explored ways of working with both students and faculty to understand the ways gender and sexuality—as well as their intersections with race and ethnicity, class, and post-coloniality—play out in teaching and learning in male-dominated fields, especially in the sciences and engineering (e.g., Tarabochia, 2016).

Beyond formal research into WAC and gender, the last two decades have brought an awareness of the ways gender affected the history of WAC, especially as it intersected with issues of power and status. A great many of the founders of WAC programs—indeed, most of its founders—were women, and women in junior or, often, non-tenure-eligible positions. Several of them have written personal narratives of their struggles (McLeod & Soven, 2006). The next 50 years will likely see expanding discussions and activism on gender and sexuality issues, as exemplified by Jonathan J. Rylander and Travis Webster’s (2020) rethinking of writing program administration “in terms of relationships between Writing Across the Curriculum and queer theories” (p. 198).

WAC has been less responsive to issues of race. Until the early 2010s, discussions of race had largely been missing in WAC (Anson, 2012), with a few exceptions, such as Stephen M. Fishman and Lucille McCarthy’s (2002) study of a philosophy professor working with minority students. Mya Poe (2013) and

others have worked to fill that gap by analyzing places where issues of race are too often avoided or dismissed or simply not made conscious, starting with assessment. The expectations that students and teachers—both majority and minority—bring to disciplinary classrooms affect a wide range of practices, through stereotyping and stereotype threat: classroom discussions, giving and responding to feedback, linguistic standard setting and maintenance, and so on.

Following Asao B. Inoue and Poe's (2012) pioneering work on racial bias in assessment, several scholars have argued and offered models for making social justice central to research in technical communication (Petersen & Walton, 2018). Jamila M. Kareem (2020) outlined culturally sustaining educational practices to focus WAC anti-racist work, especially around assessment. These practices address, as Neal Lerner said, the "ways in which the discourse expected of nurses, business majors, engineers ... are quite simply white supremacist" (2018, p. 115). An important collection of articles on diversity appeared in 2020 (Bartlett et al., 2020) with a section on racism and WAC. There are more and more studies of race and class in program administration, such as Sarah Peterson Pittock (2018) on writing center/WAC program connections for increasing inclusion, or Julie Wilson (2018) on small college collaboration among FYC and WAC to increase retention and access. And there is even recent research on the intersectionality of race and gender in WAC administration (Jordan, 2020).

These are small but indispensable steps toward larger-scale studies, such as Falconer's (2022) recent longitudinal case study of systematic bias within STEM disciplines. These will support and be supported by a range of critical approaches, such as Critical Language Awareness (Shapiro, 2022).

## RESEARCH ON MULTIMODAL WAC OR CXC

We need to redouble the efforts begun in the 1990s to broaden WAC to CAC—communication across the curriculum (now rendered CXC, a kinder acronym)—when a wide range of institutions structured their WAC programs around multimodal composition. The National Communication Association, which focuses on oral communication, recognized CXC as important, and connections with CCCC were strengthened. WAC programs increasingly include not only oral but also visual and other modes, which the widespread dissemination of inexpensive software tools allows students to use in class. The use of data in combination with other media—the hallmark of Web 2.0—has opened new possibilities for students to learn data analysis and visualization techniques in conjunction with writing (for multimodal WAC, see Bridwell-Bowles et al., 2009; Vrchota & Russell, 2013).

A 2017 survey showed that faculty across the curriculum use multiple modes in their scholarly communication and pedagogy (Reid et al., 2016). Since then, a few research studies have been published, mainly descriptions of and calls for multi-modal emphasis in WAC (Lee & Khadka, 2018), but also specific studies of TA practices (Campbell & Fiscus-Cannaday, 2021), and multimodal assignment design (Mikovits et al., 2021). What I am calling for here is more deep empirical research, like Kim Haimes-Korn and Kendra Hansen (2018) on 3D data visualization and performance and Tony Mangialetti (2023) on the effectiveness of multimodality in WAC courses.

This call is not new. In 2019, Rick Wysocki et al. published a “manifesto” on multimodality as part of a collection on it, calling for it to be embedded in “a larger ecology of teaching and curriculum building” (p. 21). Recently, Meg Mikovits et al. (2021) published an article extending the argument of Wysocki et al. (2019) to claim that the future of WAC is “multimodal and transfer supporting”—that WAC is a powerful way to embed multi-modality in higher education. “The future requires more faculty across the disciplines to approach multimodality with” openness and willingness to collaborate to create transfer-supporting pedagogy and curricula (Mikovits et al., 2021, p. 133). As Mikovits et al. lament, there is presently a lack of campus-wide WAC multimodal emphasis, in large part because students don’t see multimodal assignments as writing (2021). More empirical studies are necessary. WAC research can draw inspiration from the much larger effort in L2 research on multimodality (Mikovits et al., 2021) to supplement the paucity of L1 studies (only six studies of multimodal transfer were published between 2016 and 2022) (Mikovits et al., 2021).

Clearly, multimodal writing goes on in every discipline and profession. It includes reception skills as well as production: reading and listening (Carillo, 2016; Odom, 2013; Rhodes, 2013) and happens in studio as well as traditional or even computer-supported classroom models (Allan, 2013). Thus, research on it will affect WAC and each and every research tradition that intersects with it. This will emphatically be true as AI—which embraces multimodality—takes the stage.

## AI AND WAC RESEARCH

Artificial Intelligence (AI), particularly so-called large language models (better described as large text models, as they do not use communicative language), is already attracting WAC researchers’ attention (Basgier, 2024). This is not surprising as machine-based writing analytics have been a major area of research for more than a decade before the current generation of tools was released in 2022. Corpus analysis of texts has been taken up specifically for WAC research

in a range of projects, supported by tools that collect student writing in various genres automatically (Anson et al., 2021; Crossley et al., 2017; Gere, 2019) However, the recent development of AI and the publicity surrounding its uses and dangers have dramatically spurred ongoing experimentation and research in the direction of LLMs. The results already suggest AI will have profound impacts on WAC and provide ample opportunities for research testing claims that AI will enhance:

1. **Automated Feedback and Assessment:** AI has the potential to analyze students' writing patterns and provide personalized recommendations for improvement based on individual strengths and weaknesses, such as automated feedback on grammar, style, and structure. If reliable, this might free up more instructor time for feedback on higher-order writing skills such as argumentation and critical thinking. Indeed, recent advances in AI can provide some content-specific feedback and help with critical thinking as well, though with major issues of credibility (Cotos, 2023).
2. **Support for Multimodal Writing:** AI can facilitate the creation of multimodal writing assignments, which integrate text with other media such as images, videos, or interactive elements. AI can assist in generating or analyzing these multimodal elements, providing students with more diverse and engaging ways to express themselves. (Jiang & Lai, 2025; Tan et al., 2025).
3. **Integration with Curriculum Design:** AI tools can assist instructors in designing writing-intensive assignments that align with learning objectives and disciplinary standards. By analyzing large datasets of student writing and course materials, AI can suggest relevant topics, prompts, and resources for writing assignments.
4. **Accessible Writing Assistance:** AI-powered writing tools can provide accessible writing assistance to students with disabilities or language barriers, such as text-to-speech functionality or translation services. This can help ensure that all students have equitable access to writing support (Goldman et al., 2024; Stornaiuolo et al., 2023).
5. **Writing Processes.** AI is supercharging a fundamental rethinking of writing processes, which began in the 1990s with the post-process movement (Lotier, 2021). As S. Scott Graham (2023) puts it, "Writing instructors and scholars of writing studies can consider how our hard-won insights about diverse and variable writing practices might allow for robust writing pedagogies that engage, rather than prohibit, use of AI" (p. 163). Linear concepts of writing processes must give way to a "multidimensional recursive AI-assisted writing process"

where LLMs become “genre-signaling engines. They use probability distributions to loudly indicate the nature of the output. But that output must reflect the input, and if your input doesn’t also loudly signal the desired genre, the output will not be what you were looking for” (Graham, 2023, p. 164).

6. **Ethical and Critical Awareness:** WAC research is well-positioned to address ethical considerations when integrating AI into instruction using writing, as critical approaches have, as we noted, been a growing area of research in the last decade. WAC research has and will continue to address issues such as data privacy, algorithmic bias, and the potential for over-reliance on AI tools, as the policy statement of AWAC makes very clear (Association for Writing Across the Curriculum, 2025).

Indeed, accessibility and ethical/critical considerations will dovetail in future pedagogy and research, for students of all dis/abilities and disciplines, with all five of the intersecting traditions mentioned. As Courtney Stanton (2023) points out, AI will force teachers and students to confront their abilities and limitations as writers, and that confrontation can lead to reflection, and even to “writing about writing” (Downs & Wardle, 2007). WAC scholars bear special responsibility for increasing students’ and society’s critical awareness, as “AI will craft their emails and work reports and drive their digital conversations, and they will not encounter the same level of distrust and user reluctance that exists in academia.” (Stanton, 2023, p. 183)

WAC research and advocacy hold great promise for combatting what sci-fi author Ted Chiang (2023) and philosopher Daniel Dennett (2023) call the most dangerous aspect of AI: AI may undermine the fundamental trust that underpins social relations if people are unable to detect the “bullshit” (Dennett’s term) that AI produces—unless what AI produces is signaled with a watermark of some kind to warn readers of the non-human source and thus potential dangers.

Thus, AI poses a dramatic and potentially existential challenge to WAC research. It goes to the heart of what writing is and does across the curriculum, in the disciplines, and indeed in the very institutions that we inhabit and constantly remake through writing.

## CONCLUSION

In the next 50 years, I hope we will find answers—or better and more complete answers—to a range of fundamental questions. What are some of them?

Hughes’ (2020) interview study of 107 assistant professors from a wide range of disciplines, titled “What Early-Career Disciplinary Faculty Want to

Learn about WAC Pedagogy,” suggests an extremely practical set of pedagogical research questions, which I adapt below.

We need research on:

1. Designing assignments in general (e.g., choosing the type, aligning with learning outcomes, sequencing, dealing with large classes, writing to learn, fairness and equity, etc.)
2. Designing discipline-specific assignments (disciplinary genres and ways of thinking, balancing disciplinary goals and student interests, sequencing disciplinary knowledge, etc.)
3. Writing pedagogy in general (writing processes and management, scaffolding, embedding writing instruction in content instruction/classroom activities, using models, etc.)
4. Discipline-specific writing pedagogy (differences between writing in other courses/levels and writing in each discipline, including teaching discipline-specific genres, conventions, epistemologies, values, social organization, etc.)
5. Responding to student writing/speaking/design (effective feedback, assessment strategies, rubrics, prioritizing feedback, managing teacher and TA time, etc.)
6. Improving learning through writing (teaching heterogeneous learners, building on previous learning with/through writing, motivating students through writing in one’s field, building confidence in and through writing, fairness and social justice, etc.)
7. Resources for writing in the discipline (bibliographic sources on WAC both general and discipline-specific, teaching strategies, local resources, networking, etc.)

We must now add the fundamental questions AI raises, noted above, as it becomes what many believe will be a major disruptor on the scale of the internet and smart mobile phones.

It is crucial to recognize that these immediately practical pedagogical questions are intimately tied to deeper and larger questions that all five of the traditions and all three of the trends research. Each and every one of them investigates how specialized writing (in disciplines, professions, and communities) works at all levels and between levels: cognitive, interpersonal, rhetorical, political, and socio-cultural. These questions, I have suggested, are answerable only if there are concerted collaborative efforts.

Therefore, there are critical needs regarding alliances and connections. I see seven. First, an essential requirement is for writing across the curriculum (WAC)

scholars to ally with those people, as individuals and groups, who are denied social justice. We can support them as people (students, colleagues, parents, community members) and their organizations (Russell, 2023). There are more than a dozen professional organizations that focus on student advocacy, mainly in social justice terms, most notably the American Council on Education, but also professional organizations for people who identify as Black, Hispanic, Native American, Asian Pacific American, Black women, and for directors of programs on LGBT, disability, faculty diversity, race/ethnicity, and recruitment (UC Riverside, n.d.). Collaborating with organizations in higher education focused on these themes will enable WAC to address issues related to language, nationality, race, gender, class, and the broader problems that led to the development of general/liberal education post-World War II, including the conflicts between democratic and authoritarian regimes and thus between liberty and tyranny. Fortunately, there are committees within the Association for Writing Across the Curriculum (AWAC) tasked with addressing these issues, as more and more direct engagement is needed.

Second, fundamental questions remain about the relationship between writing and learning and how it impacts intellectual and personal development over time. Collaboration between WAC researchers and experts in K-12 education, psychology, linguistics, and other fields, both in the US and internationally, could help answer these questions. While such collaboration is relatively limited in the United States compared to other regions like Latin America and Europe, there is potential for significant progress.

Third, programmatic questions require large-scale institutional research, necessitating cooperation with national organizations supporting the scholarship of teaching and learning, such as the POD network. A model for this collaboration is the partnership between WAC researchers and the National Survey of Student Engagement (NSSE) noted earlier, which conducted a groundbreaking study on the effects of writing on college student engagement.

Fourth, WAC can enhance its partnership with research on learning in specific disciplines conducted by those disciplines themselves—DBER. While some collaboration has occurred, there is room for much more. The AWAC committees on research and publications—and on partnerships—have been established to facilitate these efforts.

Fifth, by transcending the silos that isolate us from applied linguistics, we can cooperate to increase access across ethnic and linguistic boundaries (Condon, 2012; Nielsen, 2014)—“writing across communities” as well as across disciplines (Guerra, 2015). Moreover, WAC research will thereby become part of challenging the dominance English has had globally (Bushnell, 2020). It will also embrace the research and innovation for writing research in other nations

and global sectors—as exemplified by the WAC Clearinghouse book series *International Exchanges on the Study of Writing* including its section *International Exchanges: Latin America*. Indeed, next to DBER, international/global collaboration offers the greatest opportunities in the future.

Sixth, it is imperative for WAC to establish alliances and connections with other organizations involved in educational reform and accreditation, particularly their research arms. Examples include not only the Professional and Organizational Development (POD) Network in Higher Education, but also the American Association for Higher Education (AAHE), the Association of American Colleges and Universities (AAC&U), and potentially the American Association of University Professors (AAUP). Hosting sessions on WAC at meetings of these organizations, as has been done in the past, would be beneficial. This approach would build on historical initiatives, such as seminars sponsored by the National Endowment for the Humanities (NEH) that played a significant role in the development of WAC, and conferences organized by leaders like Carol Schneider of AAC&U in the late 1980s and early 1990s (McLeod & Soven, 2006). Again, the AWAC committees for advocacy and partnerships have been established to support these efforts.

Seventh, research must be taken up by programs and participants to be of use, and this is a problem in itself (Cox et al., 2018). Research projects on how to integrate research throughout the programs' design, pedagogy, faculty development, institutional integration for sustainability, and assessment are crucial. Programs themselves become sites of research that can provide information on best practices going forward.

WAC research is now more than 50 years old. With collaborations, it will be prepared to take on the challenges of the next 50.

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