The Intradisciplinary Influence of Composition and WAC, Part Two: 1986–2006

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HISTORIES OF WRITING ACROSS the curriculum (WAC) do not generally ascribe the development of this enduring movement to scholars and teachers within the disciplines themselves. Most accounts suggest that WAC originated in the work of writing and literacy scholars who advocated a more widespread attention to writing in all disciplinary areas across higher education (Russell; Bazerman et al.). But we know little about the influence of this cross-disciplinary outreach and the extent to which it made its way into the inner workings of various disciplines. Investigating the question of influence allows us to begin exploring how particular disciplinary communities have adopted, adapted, and repurposed scholarship on writing and writing instruction based on their own instructional ideologies, disciplinary orientations, and curricular needs. In this article, we report the results of archival research designed to gauge the influence of composition studies on how writing is taught in a range of disciplines. We examined articles published in discipline-specific pedagogical journals, which represent one of the purest indices of possible influence by showing us what scholars and instructors within the disciplines say to each other about the integration of writing into college-level teaching. Fourteen discipline-based pedagogical journals published between January 1967 and December 2006 were mined for articles focusing on instruction in writing (all articles focusing on non-instructional aspects of writing, such as publication tips for scholars, were ignored). The resulting corpus was subjected to counts of publications over time, citation analysis, and content analysis (Neuendorf; Krippendorff) for trends in focus and orientation.

The first phase of the study, published in Volume 21 (2010) of this journal, covered the years 1967–1986. In that phase, Anson found a consistent increase in discipline-based

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pedagogical articles focusing on writing beginning in the 1970s. These articles also evidenced a strong shift in orientation, beginning in the 1980s, from a preoccupation with student writing skills to an interest in the relationship between writing and learning disciplinary content. This shift corresponded to an increase in the authors' references to research and publications in the field of composition studies, suggesting an "almost certain influence of composition scholars and, eventually, WAC scholars and practitioners on both the theorizing and implementation of writing practices in these disciplines as reflected in their publications" (Anson 17).

Here we report the results of the second phase of the study, which examined the corpus of articles over the subsequent twenty years, from 1986–2006, "a time of increasing programmatic activity, stronger interest in factors such as social context, student development, and diversity, and the burgeoning influence of computer technology on writing and learning to write" (Anson 17). For details about the study's methodology and a more extensive discussion of the results of the first phase than the sketch provided here, we urge the reader to consult Part One.

Creating and Analyzing the Corpus

The journals examined in the first phase of this study were chosen to represent a range of disciplines, roughly distributed among the arts and humanities, social sciences, and sciences:

Teaching of Psychology
Teaching Sociology
Teaching Philosophy
History Teacher
Engineering Education
Mathematics Teacher
Journal of College Science Teaching
Teaching Political Science
Journal of Economic Education
Journal of Architectural Education
Physics Teacher
Journal of Chemical Education
Journal of Aesthetics Education

As pointed out in Part One of this article, we deliberately ignored all journals that focus more intentionally on writing or communication pedagogy, such as *Communication Education* or the *Journal of Business and Technical Communication,* because including

them would have increased the number of articles published in allied areas, falsely suggesting that composition had a stronger influence across the disciplines than is the case (Anson "Intradisciplinary" 7).

Fortunately, all but one of the journals continued publication over the subsequent twenty-year period. Because the journal *Teaching Political Science* was no longer published after 1989, though, we were faced with the decision either to select another journal as a substitute (adding the articles found within the substitute journal to those published in *TPS* before the journal went defunct) or to omit political science from the corpus so that just thirteen journals were considered during the second stage. Both options were problematic because of their potential influence on the results, but we chose to replace the journal because doing so would still enable us to consider the influence of writing on the discipline of political science. We chose to count articles in *Teaching Political Science* up to its termination and then switch to those published in the pedagogical sections of *Political Science and Politics.* A careful examination of the trends and the nature of the material published suggested that this switch did not confound the analysis. The second change in the corpus was more minor, entailing a title shift for the journal *Engineering Education,* which was renamed the *Journal of Engineering Education* in 1993. This change did not affect the counts of publications or the content analysis, and we saw no difference in the trajectory of the journal's focus on writing.

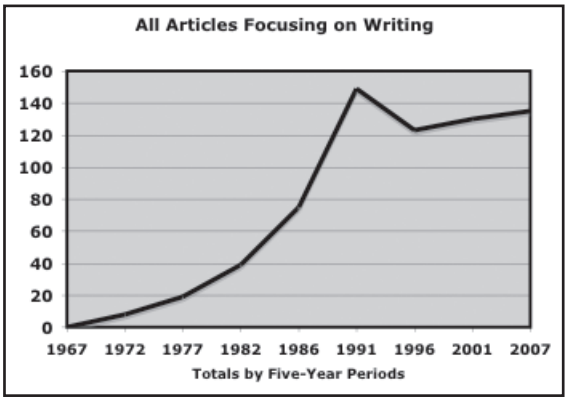
Following the methods used in the first phase of the study, we created a database of all articles focusing on writing, adopting the same criteria for inclusion that are described in Part One. This added 537 articles to the entire 40-year corpus (141 articles were published in the first 20 years of the study). We then subjected the additional articles to the same citation analysis used in the first phase, noting every reference to a scholar identified within the field of composition studies or its affiliated cross-curricular offshoots—that is, to those whose primary area of expertise was or is in writing studies, WAC, or communication across the curriculum. If we were unsure, we checked the background of the person referenced, using appropriate search strategies.

We then conducted a content analysis of the additional articles. As explained below, the distinction earlier noted between articles focusing on "writing to learn" and those with a skills-based, "learning-to-write" orientation became complicated by a number of other new trends, and we abandoned that distinction in favor of a more wide-ranging analysis.

Results

As shown in Fig. 1, the number of writing-focused articles continued to increase from the end of the period covered in the first phase of the study, then dropped off somewhat in

FIGURE 1
Total Articles in the Corpus

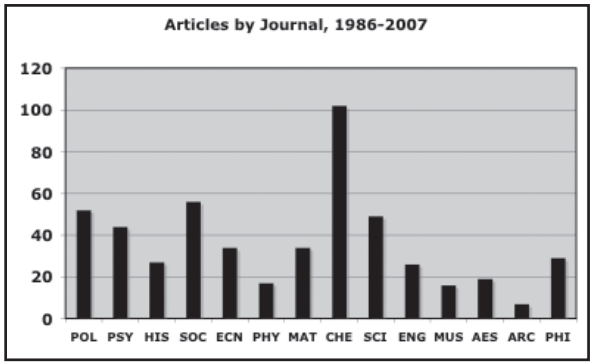


the early 1990s, picking back up again in the mid-1990s and then leveling off to the end of the period covered in the second phase. The reason for the leveling is not clear, but may be related to the overall space within the journals for coverage of writing-related pedagogies. That is, the journals may have collectively reached a threshold of coverage, although this assumption ignores changes, over time, in the ratios between the total page numbers in each journal and the number of pages devoted to writing instruction. For the purposes and focus of this study, however, it is clear that faculty and scholars in the disciplines represented by these journals have dramatically increased their interest in writing over the past 40 years and have sustained a consistent concern for WAC-related issues well beyond the turn of the 21st century.

As shown in Fig. 2, some interesting differences can be observed in the number of articles published in the specific journals in the second two decades of the study. Among the disciplinary clusters, the social sciences together outweigh both the sciences and the arts and humanities, but the high number of articles published in *Chemical Education* makes up for the somewhat lower numbers in the other sciences, also putting that cluster ahead of the arts and humanities. The reason that the sciences outpace the arts and humanities (disciplines traditionally associated with verbal expression) is puzzling. At the same time, one would also have expected a strong surge of publication in the hard sciences following the release of ABET 2000, a revised set of accreditation standards published by the Accrediting Board for Engineering and Technology (ABET) which newly emphasized attention to communication; yet between 2000 and 2006 there was no discernible increase.

As shown in Fig. 3, references to scholars in written communication or WAC increased significantly in the middle years of the study's first phase, but starting in the early 1990s,

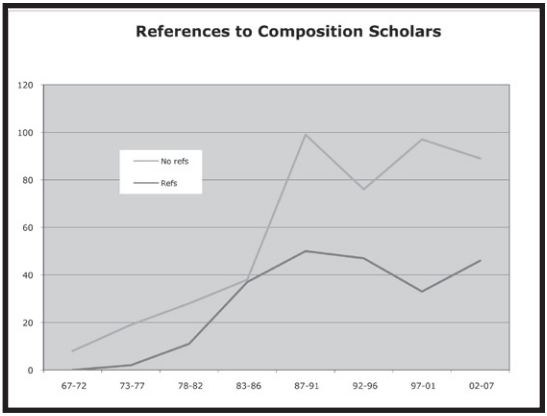
FIGURE 2
Article Totals by Journal, 1986–2007



leveled off through the end of the that decade, picking up a little between 2001 and 2006. This trend is partly explained through our more detailed citation analysis. In the first phase of the study, as noted in Part One, references to scholars in composition studies rose dramatically between 1977 and 1986, eventually representing an almost equal number to those articles that did not reference composition scholars. In the second phase, a significant number of articles cite the authors of prior articles on writing within their fields, sometimes with and sometimes without references to scholars in writing studies or WAC. One example of this trend is Simpson and Caroll's "Assignments for a Writing-Intensive Economics Course," published in the *Journal of Economic Education* in 1999. This piece references other writing-related work by economics scholars rather than those in WAC or writing studies. The content reveals an unmistakable confidence in the authors' knowledge about the goals and principles of writing across the curriculum, writing-intensive programs, and pedagogical strategies such as revision, peer response, and evaluation, without a characteristic need—displayed often in articles published during the first 20-year period—to seek support or information in the work of writing and literacy scholars. Similarly, we see within-discipline citation in three articles published in the *Journal of College Science Teaching:* Dunn; Trombulak and Sheldon; and Sadler, Haller, and Garfield, all of whom cite an earlier piece by Ambron, "Writing to Improve Learning in Biology," published in 1987. For its part, Ambron's article had cited a number of prominent scholars in composition studies and WAC, including John Bean, Peter Elbow, Janet Emig, Toby Fulwiler, James Moffett, George Newell, and David Schwalm.

From this and a number of other cases, we can tentatively conclude that early adopters of WAC, influenced by work in the field of writing studies and often citing literature by such scholars as those aforementioned and others like Britton, Young, and Flower and

FIGURE 3
References to Composition Scholars, Total Corpus



Hayes, established the intellectual precedents for their colleagues, who then had no particular need to cite work beyond their own discipline for the kind of background they needed to move ahead with new ideas for incorporating writing into their curriculum; the progenitor WAC-focused articles in their own fields sufficed. The development of more systemic WAC programs starting in the mid-1990s, some of which replaced organic, grassroots efforts, may also explain the increasing self-reference within the journals and the increased terminological and conceptual sophistication of the discussions. As more faculty in various subject areas work on writing-intensive committees or engage in departmentally-focused work on writing (see Anson, "Assessing"), they begin to develop shared understandings of the goals, methods, and underlying philosophies for writing across the curriculum.

Starting in the late 1980s, we also see the influence of emerging technologies on writing across the curriculum. However, this influence was much more modest than we had anticipated, especially in light of the time frame that was the focus of the second phase. We found that articles addressing computers and writing could be isolated into those with a relatively weak focus and those with a stronger, more sustained focus, though more articles tended to fall into the former category than the latter. For example, Manning and Riordan's article "Using Groupware Software to Support Collaborative Learning in Economics," published in the *Journal of Economic Education* in 2000, demonstrates a weak focus on writing in its preoccupation with the methods and logistics of using computers to teach economics and the benefits thereof, such as increased student participation in class and faster progress on projects. Although such essays often establish a rationale for a stronger focus on communication through technology, they lack deeper commentary, analysis, or instructional strategies and examples, suggesting that there are many oppor-

tunities for further exploration of the role of writing and digital technologies across the disciplines. Stronger focus on writing does appear occasionally in such articles as Persell's "Using Focused Web-Based Discussions to Enhance Student Engagement and Deep Understanding," published in *Teaching Sociology* in 2004. In this contribution, Persell is interested in "how digital technologies might further the development of a community of learners … [and] if changes in those relationships might affect students' deep understanding of sociological ideas" (62). Motivated by the goal of increasing students' critical awareness of their own writing, thinking, and learning, the author "realized that systematically reviewing student writing through the course of a semester helps make student thinking more transparent, thereby illuminating areas of difficulty they were identifying and suggesting ways I might provide further instructional scaffolding" (62).

The corpus for 1986–2006 also shows a stronger influence from more general work in higher education, such as the scholarship of teaching and learning (SoTL) than in the first phase of the study. Instructionally, this influence is reflected in an increasing interest in collaborative learning and the embeddedness of writing into other learning activities. Starting in the 1990s, there is a discernible interest in such activities and methods as role play, simulations, peer-group conferences, team-based writing projects, and interactive journals (especially as these are occasioned by emerging technologies), strategies advocated in the more general improvement of teaching and the more intentional focus on what happens to students in the experience of learning. The emphasis on teaching as reflective practice (Schön) also includes a modest but noticeable increase in classroom-based research on writing conducted by scholars and practitioners within the disciplines themselves, as reflected in Chizmar and Ostrosky's "The One-Minute Paper: Some Empirical Findings" and Williams' "Writing about the Problem-Solving Process to Improve Problem-Solving Performance." The former, which was published in the *Journal of Economic Education* in 1998, discusses an experimental study controlling for end-of-class minute papers (which were associated with statistically significant gains in students' knowledge as measured in an end-of-course assessment) and later became a frequently cited article within that journal. The latter, which was published in *Mathematics Teacher* in 2003, also discusses an experimental study that showed gains in problem-solving abilities of students who wrote about processes in introductory algebra. These and a number of other cases suggest a growing independence of scholarship in WAC within the disciplines, as faculty became acquainted enough with the theoretical and empirical background of writing studies to conduct their own research. Of course, writing has been studied within various fields for years, but our data suggest a broadening of such research across the disciplines. The motivation appears to have several origins, including a stronger

emphasis on classroom-based research as promoted by various higher-education organizations, increased recognition of the importance of teaching and its relationship to scholarship (see Boyer), WAC-sponsored grant programs and assistance for teacher-scholars to engage in classroom-based research, and a more widespread curricular and disciplinary interest in writing.

As the focus on writing increased across the fourteen journals, the distinction between an emphasis on skills (the ability to write persuasively, correctly, or with adherence to various disciplinary conventions) versus an emphasis on the use of writing as a medium or tool for learning began to blur in the 1990s, so that it was, in many cases, difficult to categorize articles into the orientations described in Part One. This categorical difficulty reflects the growing complexity of WAC during the second phase of the study, and its development of curricular offshoots. The influence of "writing in the disciplines" (WID), which emphasizes deeper relationships between the epistemological characteristics of fields (or their "ways of knowing"–see Carter) and their textual features, provides greater sophistication in authors' understanding of "skill" and the assessment of student work. At the same time, the corpus showed no evidence that the submovement of "writing to learn" abated during the second phase. For example, in their article "Using Log Assignments to Foster Learning: Revisiting Writing across the Curriculum," published in 2000 in the *Journal of Engineering Education,* Maharaj and Banta discuss the use of learning logs to help students learn core content, incorporating excerpts from sample students' logs to demonstrate their evolving understanding of course material. And in his article "Don't Argue, Reflect! Reflections on Introducing Reflective Writing into Political Science Courses," published in 2005 in *Political Science,* Josefson argues for the inclusion of reflective writing in the political science curriculum, claiming that its four basic stages (explanation, reflection, analysis, and formulation of plans) makes it a more effective genre for teaching students than the typical argumentative essay, as it encourages them to seek the "truth."

Both of the aforementioned articles also reflect another trend—an increasing emphasis on the role of personal and creative writing in learning. Articles such as Keller and Davidson's "The Math Poem: Incorporating Mathematical Terms in Poetry," published in 2001 in *Mathematics Teacher,* Dunn's "Perspectives on Human Aggression: Writing to Einstein and Freud on 'Why War?'," published in 1992 in *Teaching of Psychology,* and Leibowitz and Witz's "Why Now After All These Years You Want to Listen to Me?: Using Journals in Teaching History at a South African University," published in 1996 in *The History Teacher,* among others, further demonstrate the growing interest in the use of personal writing to facilitate learning in the disciplines. The reasons for the continued interest in "expressivist" writing (see Burnham), as reflected in blogs, journals, diaries, and

reflective pieces, are unclear. Scholars in composition studies have vigorously debated the usefulness of expressivism in writing instruction (see Zebroski), yet WAC scholars and advocates may be continuing to promote it as a way to help students to learn course material without burdening instructors with heavy doses of formal assessment.

The attraction to personal and expressivist writing established in the first phase of the corpus also branches out during the second phase to include assignments that promote student interest in writing itself and not just core content. Whereas the writing assignments across the disciplines in the first phase were generally assigned in "canonical" genres (journals, short documented papers, term papers, and the like), in the second phase we find some increased diversification of genres, such as autobiographies, tabloid writing, audience-based online writing, a series of postcards, a marriage contract, a letter concerning work alienation, and a "diary of a 79-year-old." Initiatives such as Art Young's "poetry across the curriculum" at Clemson University (see Young) may also have helped to sustain an interest in the creative dimensions of writing and genres thereof. The diversification of genres for writing may have found some of its impetus from WAC workshop leaders who often show how teachers can use multiple and mixed genres (such as "annotated dialogues"—see Anson, "My Dinner") to deepen students' understanding of course concepts and readings.

Another somewhat unanticipated finding was that although there was some attention to the use of writing for assessment, this was minimal in comparison to the other areas that were addressed across the journals we examined. For example, whereas assessment was a main topic of just five articles published in *Mathematics Teacher* within the time frame of the second stage of the study, the subject of writing to learn was a main focus of thirteen articles within that same journal. Despite brief references in some articles to the use of materials such as portfolios to assess students' learning of core content as well as reading and writing skills across an entire department, the subject was seemingly under-explored in all of the journals we studied. In the context of burgeoning interest in learning outcomes, assessment, and quality enhancement across all of higher education, the potential for further significant exploration of the uses of writing for assessment in other disciplines remains strong, suggesting promising future opportunities for collaboration among teacher-scholars from the composition field and those in at least the fourteen other disciplines considered. These opportunities exist both in isolated courses and at higher (departmental, college-unit, and institutional) levels.

Conclusion

As reflected in our analysis of articles in fourteen pedagogical journals across a 40-year period, writing has played an increasingly important role in instruction and curricular

design. Based on the numbers of articles published, this interest was almost four times stronger in the years between 1986 and 2006 than in the first twenty years of the study. Citation practices and the increasingly sophisticated views of pedagogy reflected in articles written by content-area experts provide some evidence that WAC has "seeded" within the disciplines. The growth of institution-wide initiatives such as writing-intensive programs and departmentally-focused outcomes assessments may be partly responsible for the greater autonomy we noticed in discussions of writing and in classroom-based research on writing. However, our citation analysis also shows that WAC experts continue to exert an important influence. Especially in the areas of writing assessment and digital literacies, which have developed into significant subdisciplines of composition studies, we expect the role of WAC experts to be essential in furthering work on writing in all courses and curricula. The content of the articles in the second phase also suggests the diversification of WAC in terms of disciplinary focus, learning of content, programmatic interests, and genres for writing, while the steady expressivist trend noticed in the first phase continues. In all of these areas, writing scholars and WAC specialists can play a central role, as well as in important areas where we saw almost no focus at all, such as the role of linguistic and cultural diversity in support for and assessment of classroom-based writing (see Anson, "Black Holes").

This study also suggests some further areas for continued archival research. For example, we know little about the way that writing is integrated into individual disciplines or clusters of disciplines (such as the hard sciences). Studies of more journals within such disciplinary clusters could yield richer information about how writing is related to the epistemological orientations of specific areas of inquiry. Furthermore, our analysis speculated about broader influences on discipline-based pedagogy in writing, but did not attempt to conduct a more thorough inquiry of such influences. Studying conversations within particular disciplinary areas and allied organizations, such as accrediting agencies, might help to explain trends noticed in the pedagogical literature, or these trends could be mapped against broader analyses of social and educational influences, such as alarmist editorializing in the popular media about student abilities or federal educational incentives and programs.

While our analysis revealed a few cases in which certain authors within the disciplines were cited in further publication, more scholarship is needed to trace the influence of specific scholars who dedicate a major portion of their academic lives to promoting discipline-specific educational reform. For example, Richard Felder, a chemist by training, has developed international renown for his work in college-level science education (see Felder). Although this work focuses on broader constructivist principles and methods (such as problem-based and active learning), writing plays an important role as well. Case

studies of such scholar-teachers' influence could supplement and refine the broader data we have presented here.

The heft of the corpus made it impossible for us to do more than a general analysis of the articles' contents. More extensive and meticulous content analysis of a smaller set of publications, perhaps those within specific disciplines, could provide evidence of disciplinary practices and epistemologies and the way they become instantiated in pedagogical work. Such studies have precedence in scholarly writing (see, for example, Bazerman), but to date they have been largely absent from the literature on teaching and learning. Interview or survey data from members of specific disciplines, especially in response to selected articles from the pedagogical journals relevant to their own teaching, could offer additional sources of rich data. Further potential also exists in mixed-methods studies that could relate statistical trends in publication to the results of interviews with journal editors, who make sophisticated decisions about how many articles to include on certain topics, relying on knowledge of their backlog of accepted manuscripts, special issues past or forthcoming, interest trends, and the like. Turning to them for further information could provide stronger explanations of the overall trajectory of publication on writing-related topics.

Finally, we made no attempt in our study to sort the data by authors' institutional type and mission or by the presence of cross-curricular faculty-development or WAC/WID programs. Such an analysis, although painstaking, could show whether writing is receiving more focus at particular kinds of colleges and universities, or if not, whether the treatment of writing varies by institutional type.

A quick sampling of publications in the fourteen chosen journals beyond the end of the second phase (i.e., since 2006) shows that writing continues to be of interest and concern to teacher-scholars in the disciplines these journals represent. How and with what sophistication members of these disciplines will continue to weave writing into their instruction, what further influences will affect their thinking, and what role WAC specialists will play, remain questions that beg continued inquiry, both through archival research and other methods best suited to such analysis.

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