

Given the strength of departments, the pressures on faculty to conduct and publish research and to train graduate students in their disciplinary specialties, and the enormous numbers of teaching assistants who are responsible for much of the undergraduate instruction, writing instruction at research universities often seems to be "in spite of the curriculum." Nonetheless, it is possible to run successful WAC programs at such universities.

Writing Across the Curriculum at Research Universities

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According to the "Carnegie Foundation's Classification of . . . Higher Education" (1987), 103 research universities, enrolling annually over 2 million students, "offer a full range of baccalaureate programs, are committed to graduate education through the doctorate degree, and give high priority to research" (p. 22). This mission is very different from that of community colleges, liberal arts colleges, or the non-doctorate-granting state universities, many of which were former teacher training schools.

In the narrow sense of training subject specialists to produce better documents (for example, ethnographies, research reports, or case studies), WAC should have strong appeal at research universities. In the more general sense that recognizes the connection among writing, learning, and thinking, however, WAC has come to most research universities only recently, carried on a tide of educational reform to improve lower-division—if not all undergraduate—education. There are, of course, such exceptions as the Prose Improvement Committee at Berkeley, which functioned from 1950 to 1965 (Russell, 1987).

The second stage of WAC at research universities requires faculty and administrators to sort out these different goals and to devise local ways

for campuses to accommodate them. Whatever else it may mean, WAC means change (Hartzog, 1986; McLeod, 1987). Nonetheless, a residual configuration, unique and constant, of any research university affects the ways WAC is perceived and implemented, and the elements of this configuration include: the power of departments; a "publish or perish" tenure and promotion system that removes many faculty emotionally, if not physically, from the classroom; and an enormous number of graduate-student teaching assistants (TAs) and readers who handle much of the undergraduate instruction apart from lectures. Each of these features creates both obstacles and opportunities for WAC.

Departments

Departments are the research university's "principal organizational component" (Ikenberry and Friedman, 1972, p. 101), and any particular research university is, in essence, "a collection of local chapters of national and international disciplines" (Clark, 1983, p. 31). These chapters (or departments) establish very strong barriers and boundaries across which and within which writing is to occur, and they collectively define what academic writing is through the kinds of texts their members produce.

At the University of California, Los Angeles (UCLA), for example, there are sixty-nine departments of instruction. The distribution of faculty, compared to other kinds of colleges and universities, is disproportionately weighted against the humanities in general and the English department in particular: Of approximately 1,600 regular rank faculty (tenured or tenurable), only 222 are in the humanities. Others are in various other departments and professional schools. Writing instruction at a research university—traditionally, at all colleges and universities, the responsibility of an English department in a division of humanities—must therefore accommodate the needs of students and faculty who have often dramatically different interests and analytical procedures from the small minority in the English department and who write correspondingly different kinds of texts.

Who Should Teach Writing at a Research University? There are three choices of who should teach writing at a university (Kinneavy, 1983; Blair, 1988; Smith, 1988): subject specialists within departments, writing specialists from an English department or a writing program, or a hybrid of the two.

Subject Specialists Within Departments. Specialists, such as kinesiologists, art historians, or physicists, assign writing, when they do so, usually as a bureaucratic convenience—that is, to provide something to measure students' learning and to grade for the course. Composition specialists rightly make much, on the other hand, of the importance of writing to

promote learning, not just to measure it. But to promote learning, writing assignments must be carefully designed in the first place and students' papers must be carefully commented on, not just "corrected." Simply requiring students to write about something may or may not prompt learning (Applebee, 1984). Accordingly, subject specialists' assignments, grading practices, and comments on students' papers are often spectacularly ineffective. Moreover, campuses that use this system—for example, the University of Michigan or the University of California, Irvine, through English composition boards that solicit and screen prospective courses in various departments—report that, in the absence of ways to promote and enforce more sophisticated pedagogical awareness, the courses and their instructors qualify for special "writing-intensive" designation solely on the basis of a word count: pages of assigned writing. Training in writing pedagogy is extremely difficult to implement for regular rank faculty who see it tied only very remotely to their professional advancement. Time spent in a workshop on student writing is time spent away from a lab or the library.

What subject specialists can do—uniquely—is recognize and encourage students' struggling, messy attempts as they learn, in discussion or drafts, how to control information with discipline-specific explanatory concepts. Outsiders simply cannot appreciate, for example, what one UCLA sociologist sees and treasures in his students' work as "a creative mess." Moreover, subject specialists have a ready-made forum in their strong departments for addressing WAC. Departmental colloquia are already in place for possible faculty development on topics like "What Is Good Writing in Sociology?" Invited speakers from beyond the department or campus, or a panel of departmental faculty members, can address such questions.

English Department Professors. Writing teachers sent to other departments from the English department or a satellite writing program are unable, beyond a certain point, to guide students in expressing specialized technical ideas in specialized technical documents. Indeed, they can unwittingly give harmful advice. The terms of art in any discipline may sound like jargon and gibberish to an English department instructor who cannot appreciate their connection to tacit explanatory models. For example, the UCLA physics student who wrote "the ball [rolling down an inclined plane] experienced a loss in velocity" was poorly advised to change this claim to "the ball slowed down." That particular physics lab experiment was carefully designed to teach students the law of the conservation of energy, and observing the loss of energy in the ball's velocity to friction was essential to the experiment. Removing the terms removed the physics. This predicament is well documented in "Learning to Write in the Social Sciences" (Faigley and Hansen, 1985).

On the other hand, as British anthropologist Jack Goody (1968)

points out, writing is the technology of the intellect. Although English departments certainly don't own writing, by default and lack of interest elsewhere they do currently monopolize the pedagogical tools for coaching the writing process in general and for sensitizing students to the available choices in prose with such discipline-specific explanatory categories of their own as diction, syntax, imagery, voice, and documentation styles.

Team Teaching or Adjunct Courses. A hybrid arrangement has been tried at a few research universities—for example, the University of Washington and the University of California, Santa Barbara (Cullen, 1985)—but it is considerably more expensive. One of the major advantages, however, of providing a paired writing course and a writing instructor is that it automatically provides faculty development, through a personal consultant on how to design better writing assignments that further course objectives, for professors in other departments who generally will not attend workshops.

Where Should WAC Be Housed? The jury is still out on the proper home for a writing-across-the-curriculum program within a university (Blair, 1988; Smith, 1988). One recent study (White, 1987) suggests that “campus leadership and demonstrated expertness in composition” by a strong English department is related more closely to improved student writing than is responsibility diffused through departments (p. 2). But “campus leadership” is predicated on strong institutional support for a vital, well-funded, and conspicuous department or program such as the support for the writing program at Washington State University. Moreover, “demonstrated expertness in composition” requires an unusual—and often expensive—writing faculty, one with an ethnographic interest in the writing done in departments other than English or with professional experience (degrees and qualifications) other than that received by traditionally trained English department professors.

Pressures on Faculty

The professional lives of faculty at a research university are governed by the need to publish their research and by opportunities to augment their incomes, prestige, and influence through off-campus consulting. They are sought out for their specialized knowledge, and they fly around the country, if not the globe, to solve problems. This situation influences WAC in four ways, illuminating one problem, two potential advantages, and one rather subtle and sophisticated implication about epistemology.

The Problem. Many research university faculty find any notion of WAC threatening. They are preoccupied with having enough time for their research and their need to publish it for tenure or promotion and with a corresponding sense of obligation to their subject. Faculty at all

colleges and universities may resist "the writing across the core juggernaut" (Labianca and Reeves, 1985, p. 401), but this resistance is especially acute at a research university where the problem of available time is compounded by an epistemology, described later, that values the accumulation and broadcasting of "facts."

Two Advantages. Nevertheless, WAC at a research university can derive advantages from these very features of high faculty productivity and their consulting activities.

High Faculty Productivity. Most research university faculty are very much involved in writing up their own research. Ninety percent of academic journal articles are published by about 10 percent of American academics (Blackburn, 1980), most often in the research universities where "publish or perish" is simply a fact of life. Anyone promoting attention to the writing process in student learning (for instance, recommending the need for instructors to build in preliminary stages for any major writing assignments) can appeal to faculty members' firsthand knowledge of this process and its power for discovery and can point out contradictions in what most faculty expect students to be able to do (for example, generate a thesis and a complete formal outline before doing anything else).

Consulting. The consulting model so familiar to faculty is a ready-made channel of communication between departmental specialists (such as art historians, geographers, and astronomers) who perceive they have a problem (their majors cannot write well) and composition specialists (the expert consultants from the English department or writing program to be called in to solve the problem). Note that consultants are expected to solve a problem and then leave; moreover, consultants are required to solve problems that are defined by others. Departmental specialists worry about the "literacy problem": Their majors cannot write good lab reports, case studies, and so on. They are less likely to be immediately concerned about the connection among writing, learning, and thinking. The slogan "Every teacher a writing teacher" flies right into structural resistance shaped by these consulting practices. The consulting relationship, nonetheless, is a recognizable point of departure for a department or professional school worried about improving students' writing. It means that the university doesn't have to train everyone in composition pedagogy. Instead, specialists at various levels (tutors, teaching assistants, writing fellows, adjunct writing instructors in team-teaching arrangements, and composition instructors in departmentally required writing courses) can be assigned this responsibility.

Epistemology. The pressures on faculty shape a particular epistemology at the research university. Lip service by faculty and administrators to the contrary, this unexamined epistemology is profoundly hostile to WAC promoted as a means of improving student learning. Acknowledg-

ing its existence is the first step in countering it and thereby preparing the way for and protecting any fledgling WAC program.

Consider faculty research papers. Value accrues to them from competitive exchange in an academic marketplace through refereed publication and subsequent citation. Writing is a professional life-or-death means of creating valuable intellectual property. It is not surprising that given this reality of their own writing, the faculty at research universities tend to be concerned in their students' writing with quality control, which means "correcting" in order to eliminate error and correspondingly competitive grading.

Faculty writing supposedly captures newly discovered facts, controls them with disciplinary concepts, and delivers them to the public via papers in learned journals. Moreover, because most research reports claim simply to be adding incrementally to our store of data in some kind of disciplinary stockroom, rather than arguing ideas, they can be short. As a result, instructors can feel justified in looking for and rewarding in student papers what one calls "fact density"—evidence of students efficiently packing and repacking the course "content." Seen in this light, multiple-choice tests are a perfectly respectable step away from questions requiring short essay answers.

Finally, faculty research reports like their consulting efforts, claim to be solving problems, everything from AIDS to faulty O-rings in the space shuttle. Indeed, all academic effort and activity by faculty at a research university can be seen as problem solving. It is not therefore surprising that faculty see writing as a student problem (the "literacy problem") that can be solved with the appropriate blend of expert consultation and technology. Moreover, it is not too farfetched to say that faculty view their own courses as attempts to solve the students' ignorance problem. The competitively graded, individualistic products of writing assignments then become for faculty the way students can demonstrate (by displaying selected facts from course content in disciplinary style) that their ignorance problem has been solved. Ultimately, this faculty sense of broadcasting facts creates in turn a mechanical model of students as passive receivers, sitting quietly in large lecture halls. Writing instruction of any kind is seen as a necessarily remedial tune-up so that the student can subsequently better receive and, in turn, retransmit the professor's signals on final exams and papers.

To address this ingrained resistance to a different view and to a broader appreciation of writing is to address the very nature of a research university (Rosenzweig, 1982). But at least isolating and demystifying some of the sources of this resistance may provide help for proponents of WAC.

TAs and Readers

The power of departments and the pressures on faculty may tend to militate against WAC, but the large cadre of TAs and readers creates

unique opportunities. Faculty at a research university share responsibilities for undergraduate instruction at a two-to-one ratio with graduate students. For instance, at UCLA there are 3,200 faculty and 1,800 teaching assistants (more TAs than the 1,600 tenure-track faculty). Typically, at a research university a professor lectures (the broadcasting model) to a large body of students, possibly several hundred. Then graduate-student teaching assistants hold small discussion sessions with the professor's students. TAs may assign writing; they usually grade it. If the TAs don't grade student writing, then a reader does, and readers are usually ex-TAs. TAs are crucial in any consideration of WAC at research universities. Their three functions, as John D. W. Andrews (1985) of the University of California, San Diego, identifies them, all relate to writing: "interactive learning, coaching in the higher thinking skills, and providing a communication channel to integrate the course" (p. 49).

Any WAC attempt to help TAs in various departments integrate writing into their instruction encounters the same problems as does that to help faculty: competing time and interests. TAs have their own graduate work (their primary reason for being at the university) to do, and they were selected as graduate students in the first place for their intellectual ability, not their potential teaching effectiveness. Teaching assistantships are financial aid. Yet there's hope: TAs tend to have energy and enthusiasm, and most research universities have at least a minimal TA training program where TAs, unlike professors, can be given explicit instruction.

TA Training in Writing Pedagogy. The training is essential. The most effective training we have found at UCLA involves departmental hands-on workshops that assess assignment design, characteristic student papers, and possible comments for these papers. For example, a typical group of twenty-five kinesiology TAs can examine three or four student midterms or research reports responding to the same topic and representing a range of problems. Grades and comments have been removed. On slips of paper, the TAs anonymously give each midterm a grade; the slips are passed to the front of the room and tallied on the board. Usually there is quite a disparity in the grades, and TAs want to defend their assessments. This discussion leads inevitably to questions about the assignment itself and its objectives and to features of the writing that are either criticized or rewarded as evidence that may or may not be appropriate to the course. Given some consensus on these samples, the TAs can consider and practice possible comments that, in turn, have various objectives—for example, to defend and explain the grade or to help the student prepare for the next writing assignment.

Graduate Writing Instruction. Courses to help graduate students write better themselves are taught at some research universities. More than other aspects of WAC, the existence of such courses seems dependent on the presence within any particular department of a dedicated faculty

member willing to incorporate funding for the services of an editor or writing consultant into a grant proposal for a project involving his or her graduate students, or to turn a general-topics seminar into a writing seminar. A good example of the latter is recorded by the distinguished sociologist Howard S. Becker (1983, 1986) of Northwestern University, whose experience teaching freshman English for graduate students resulted in *Writing for Social Scientists*.

Writing instruction for graduate students is a delicate political matter. Graduate deans at prestigious research universities believe that their graduate students do not need writing instruction, and, if they were to need it, then this need should be met automatically by their faculty advisers. A WAC director wishing to set up such a course is best advised to bill it as a course to help graduate students publish their research.

Programs That Work

WAC at research universities is inevitably caught in the middle of conflicting pressures on the curriculum, the faculty, and the students. Issues at stake are political and philosophical as well as pedagogical. Depending on local campus configurations, different players may be in charge of WAC goals: administrators contemplating the establishment of an upper-division writing requirement or an exit writing exam, or the shoring up of general education with more writing instruction; chairs of existing English departments contemplating the establishment of a writing program; faculty committee members investigating the "literacy problem" either in their own department or in the college or on the campus at large. Different WAC arrangements advance different interests; there is no one recipe (McLeod, 1987).

The most promising recent WAC development to emerge at a number of research universities combines the increased attention to general education with the ubiquitous consulting model and with the captive cadre of teaching assistants. Three versions of this combination are illustrated by the University of Pennsylvania's Writing Across the University (WATU) Program, by Brown's Modes of Analysis Courses, and by the Societal Analysis Adjuncts Program at Third College, University of California, San Diego (UCSD).

WATU at the University of Pennsylvania. This program is staffed by TAs from various departments who are trained and advised by director Peshe Kuriloff in conjunction with the Penn Writing Center and the Writing Lab and with faculty from the Graduate School of Education. These TAs, who volunteer for the program and who are paid more for their special assignment and its responsibilities, act as consultants (for example, on designing writing assignments and responding to student papers) to the faculty in various departments who teach the courses to

which they are normally assigned. This program is perceived not as a response to a literacy problem but an essential aspect of the university's mission to prepare the trained intellect, in which writing has a valuable place. For a detailed case study, see Hartzog (1986).

Modes of Analysis Courses at Brown University. Surely not coincidentally, Elaine Maimon, who acted as a consultant in establishing Penn's WATU, has, as associate dean of the college, been the prime mover behind Brown's Modes of Analysis Courses. These courses are team taught by a professor and a graduate student, often from different departments or at least representing different fields within the same discipline. For example, one such course, Biology 45 ("Animal Behavior"), combines instructors from behavioral ecology and sociobiology with neuroethology and psychophysics. As at Penn, the purpose is to get students to think better and more comprehensively and to use writing as one means to do so, rather than simply to train narrow specialists to produce discipline-specific documents. Collaborative teaching like this has been a tradition at Brown, and this model of WAC fits it well. For more information, contact Maimon, Brown University, Box 1865, Providence, Rhode Island 02912.

Societal Analysis Adjuncts Program at the University of California, San Diego. Students at UCSD must take, as two of their three required societal analysis courses, ones with writing adjunct sections—that is, special discussion sections led by TAs from the different departments involved in this general education requirement. These writing adjunct sections are enriched with supplementary writing that is assigned, monitored, and read by these TAs. Each writing adjunct section gives six credits, as opposed to four credits for the regular version of the same course; students receive only one grade (not a course grade and a writing grade). Responsibility for training and supervising these TAs is shouldered by Susan Peck MacDonald (1986a, 1986b) who directs the program. For more information, consult her Evaluation Studies numbers 12 and 14, available from the Third College Writing Program, D-009, University of California, San Diego, La Jolla, California 92093.

Conclusion

Proponents of WAC at a research university cannot resolve the institution's structural contradictions and remedy all its attendant educational ills. Consciousness of WAC and programmatic recognition of its importance, however, can help the research university focus on—and mobilize its resources better to address—one of its missions, increasingly urgent and conspicuous: to teach students, especially undergraduates, how to think, how to express their thoughts in writing, and how to communicate them to others.

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