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College Composition and Communication, Vol. 36, No. 2, Writing in the Academic and Professional Disciplines: Bibliography Theory Practice Preparation of Faculty. (May, 1985), pp. 140-149.

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Learning to Write in the Social Sciences

Lester Faigley and Kristine Hansen

Now that programs to infuse writing across the curriculum are in place at many colleges and universities, we can begin to distinguish programs in terms of their organization and curriculum. Two general approaches stand out, distinguished primarily by who is charged with teaching writing. In the first approach, all or nearly all departments teach writing. Schools that have adopted such programs typically require freshman English and at least one course having a significant writing component in the student's major discipline. The second approach is essentially an extension of freshman English instruction, where writing is taught by an English department or a faculty charged with teaching writing. Typically, a writing course is offered at the junior year in variations suited for particular disciplines or groups of disciplines. At the University of Texas at Austin, for example, four variants are proposed—Fine Arts and Humanities, Social Sciences, Natural Sciences and Technologies, and Business. Such courses have precedents in the business and technical writing courses that English departments have offered for many years. What is new is that departments charged with teaching writing across the curriculum have had to devise discipline-specific courses that challenge the old formalist assumption that "good writing" is monolithic.

One troublesome group of disciplines for such courses is the social sciences. The social sciences present a complex array of writing. In anthropology, for example, physical anthropologists write articles that resemble those of natural scientists while cultural anthropologists sometimes write essays that resemble those of literary scholars. Further complicating the situation at Texas is that students in the traditional social science disciplines—psychology, sociology, anthropology, linguistics, political science, and economics—are relatively few in number in comparison to students majoring in communication and education, which are lumped together with the social sciences.

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The problem of designing a course suitable for the needs of students in the social sciences led us to investigate what students write in those disciplines. To begin, we attempted to identify courses in the social sciences, communication, and education that required writing. We talked to department heads and undergraduate advisors, we examined course descriptions for evidence of writing assignments, and we sat in on classes. Beyond the purpose of testing students' mastery of course material, we found two other purposes for writing in the social science classes we visited. In a few classes professors trained students to write like professionals in a discipline; in other classes, professors followed the liberal arts tradition of asking students to explore questions presented by the subject matter of the course. What we found interesting was that both the professional and liberal arts aims for teaching writing pose major difficulties for a writing teacher from outside the student's discipline. We can best explain those difficulties by giving accounts of two of the courses we visited. In each, we attended classes, interviewed students and their teachers, and examined students' papers and teachers' comments.

Psychology 458

Few courses in the psychology department at Texas have extensive writing requirements. One exception is an upper-division course titled "Experimental Psychology," which teaches important concepts related to psychometrics, experimental design, and appropriate use of statistical procedures. The professor bases the major part of a student's grade in the course on four reports. These reports are written as if they were intended for publication, adhering as closely as possible to the guidelines of the *Publication Manual of the American Psychological Association*. The professor provides experimental data for the first three reports. The students have to perform the calculations and write the report. On the fourth report, students have to design an experiment, provide data (in most cases fabricated), and write the report.

We assumed that students would learn to write these reports through a combination of classroom and textbook instruction, imitation of articles in professional journals, conferences with the professor and other knowledgeable people, and feedback in the form of written comments on their papers. We observed as many classroom lectures as possible, attended selected conferences between students and the professor, examined reports after they had been returned with grades and comments, and interviewed students, the teaching assistant, and the professor. Six student volunteers participated in interviews throughout the semester. None had written a psychology report before entering the class.

Only one class period during the semester was devoted specifically to a discussion of the style and organization of psychology reports. In preparation for this class, students read the appendix of their textbook, which reprints chap-

ters 1 and 2 of the *APA Publication Manual*. These chapters deal with the conventional four-part organization of a psychology report into Introduction, Method, Results, and Discussion and give advice about style. In class the professor dealt with conventions of style and format, ranging from a caution that *data* is a plural noun to a general review of what should be included in each of the four major sections of a report. Later in the course, the professor made comments pertinent to the writing of each paper.

In a broader view, however, nearly all—if not all—of the teaching in the course related to helping students write an acceptable report. The course was taught largely through discussion of the four required experiments. Each experiment dealt with different problems and constructs to be investigated; each had a different design and called for the application of different statistical tests; and each required the student to make justifiable inferences to explain results. Learning to write a report of a psychological experiment was not simply a matter of mastering a four-part organization and the appropriate jargon and style; students also had to learn how to formulate hypotheses, to design ways to verify or reject hypotheses, and to choose and interpret the results of statistical tests.

Most students who took Psychology 458 planned to attend graduate school in psychology. Most were well motivated and learned quickly. The professor was an effective teacher, and students had ample opportunity for outside help from either the professor or the teaching assistant or from both. By the end of the semester, most students wrote papers that conformed to the expectations about style and content held by journals in experimental psychology. Nevertheless, one student had difficulty throughout the course. In contrast to the other students we interviewed, all of whom were doing “A” or “B” work by the end of the semester, “Kathy” began with a “D” on the first paper and was the only one to finish with a “C” in the course. We found Kathy’s problems in learning to write for the course informative because they suggest why some students master new writing domains much more quickly than do other students. To illustrate, we will compare Kathy with “Peter,” a student who did learn quickly.

For the first paper, the professor supplied students with data from an experiment designed to explore the notion of empathy. The design required students in the class to complete a personality instrument that measures empathy and to infer how another person would fill out the same instrument on the basis of hearing an audio-taped interview. The central hypothesis tested was that students who were ranked as highly empathic would better predict how another person filled out the personality instrument.

We interviewed students before they wrote this paper, asking them what they thought the professor was looking for in the paper. Peter replied: “the ability to organize data. What he seemed to do is not explain what we were going to do with it, but he just seemed to throw up all these numbers on the board and say, ‘you figure out what it all means,’ and I think he wants us to

organize all the numbers and things so it makes sense and see if what he is measuring comes out to be true or not, and can we predict the validity of the measure." Kathy, on the other hand, was apprehensive: "To tell you the truth, I really don't understand what he's trying to do."

The difference in their understanding of the task is reflected clearly in the first sentences of their respective papers. Peter began:

Empathy refers to the ability to understand the emotions and thoughts of other people. An empathic person, then, should be able to make inferences concerning the characteristic thoughts and emotions of another more successfully than a person who is less empathic.

But to measure empathy, a valid measurement instrument is necessary. In this case; if a valid measure indicated a subject to be highly empathic, he or she would be expected to predict the emotional and thought patterns, or personality, of another person with greater accuracy than a subject measured as low in empathy.

Kathy gave no rationale for the study, but began with the main hypothesis, including material that should have appeared in the "Method" section:

The purpose of this study was to find out how well a person who exhibits a high understanding on the Understanding Others Test (UOT) could predict another person's score on the Eysenck Personality Inventory (EPI). The hypothesis would state that the lower the UOT score the better one could predict another person's answer. The UOT scale was developed by the Psychology 458 students in Dr. Burnham's class and Dr. Burnham himself.

Other aspects of Kathy's first paper indicated that she had not understood some of the basic instructions presented in class and in the text. For example, she failed to include a title at the top of the first page; the side-headings "Subjects," "Materials," and "Procedures" were left out of the "Method" section; and in the "Results" section, correlations were presented without accompanying descriptive statistics and statistics giving the level of confidence for the correlations. She received a "D" on the paper.

Learning to write a report was a slow process for Kathy. In a conference before the second paper, the professor discussed the mistakes of her first paper, explaining in detail what should have been done. He also made specific suggestions about the second paper. In the course of this 48-minute conference, Kathy made no written notes. Her second paper was graded slightly higher than the first ("C-"), but it was wordy and confused in organization. Three paragraphs dealing with results were in the Introduction and Method sections. The summary comment on the second paper asked Kathy to come in for another conference. The third paper improved noticeably in its organization, but some of the same problems remained, such as the failure to include descriptive statistics.

By the fourth paper, Kathy had learned the basic format. In an interview before the fourth paper, we asked Kathy how the course had changed her perceptions of how to write. She replied:

At first I was completely lost. I didn't know how to even start anything—introduction, how do I go about results—and now I can tell o.k., like in the abstract don't mention any studies, just straightforward what you're trying to find out from the paper. Then in your introduction you do try to mention other studies that back up your study and what the purpose of your study is. Then in the materials only whatever you used. So I can more or less figure out this goes here, here, here, and here. Before I was putting things all over everywhere.

The fourth paper confirmed Kathy's self-evaluation. She had learned where to put things and how to conform to the APA style. The teaching assistant, who read the papers first, ranked it highly. But the professor noted a serious flaw in Kathy's research design. For the purposes of the assignment, the experiment Kathy reported was supposed to have two variables, but her design only had one. Thus the two-factor analysis of variance she used to analyze her data was inappropriate. Furthermore, the abstract and discussion sections of her report were misleading, because her "results" did show an interaction, but she failed to discuss it.

Kathy sensed that in spite of her success in conforming to style and format requirements, she was not ready to write reports of psychology experiments. In our final interview we asked her, "If someone gave you publishable data, do you feel competent now to write a paper that could be published in a professional journal?" Kathy replied, "No way. I'm not that prepared . . . I still have yet to conquer the language. . . . I still can't think in their terms." In contrast, Peter and the other students we interviewed felt confident that they could write a publishable report, suggesting that they viewed themselves at the end of the course as fledgling members of the field, able to think and write like psychologists. For example, our final interview with Peter revealed that the course had changed his perception of how to write in the social sciences. He told us,

I've never had to write a real scientific paper before and prove the evidence—to test it. I've never used statistics in a paper and say this is the way it came out. Usually you just argue an opinion. That has taught me the value of statistics more, but also to be wary of them. People fool around with statistics. You don't have an argument if it doesn't come out statistically. He talked today about how even in professional journals these people make mistakes, statistical errors, and use the wrong tests and things like that. I think I can recognize that a little better now.

Peter's notion of writing in psychology had passed far beyond simple concerns with the surface form.

Sociology 325

A second course we observed, "Social Reactions to Crime," was offered by the Sociology department. The professor in this course made the writing of a pa-

per optional. (In fact, it was an option for only those students who wanted to and thought they might make an "A" in the course.) His rationale was that students desiring a superior grade should go beyond what they could learn from the lectures and textbooks to get involved more deeply in some part of the American criminal justice system. The optional paper could be based on library research or on actual observations of the criminal justice system. For the latter option students could observe police working, watch court trials, volunteer to work with a probation officer, or visit jails and prisons. The professor's aim was not to teach students to write like sociologists but to expose them to the system they had been reading and hearing about. He did not teach them how to make field observations nor did he specify any procedure or format for turning the notes into a report. His only requirement was a mid-semester outline of the proposed paper.

We wanted to examine the processes students would go through to write a paper based on field observations, and we discuss the case of "Linda," a student who chose to observe at a local probation office. We were especially interested in Linda because she was enrolled in the English department's new course in writing in the social sciences—the course that prompted our investigation—at the same time she was taking Sociology 325. We had the opportunity, therefore, to compare the goals and expectations of the English and sociology professors. Linda's English teacher was teaching the course for the first time, and his expressed aim was to have students learn as much as possible about the kinds of writing done by professionals in the students' major fields. Toward this end he asked students to interview some of their professors and people employed in their anticipated occupations and to perform content and stylistic analyses of important journals in their fields. The students were to propose their own writing projects. The primary requirements were that they write a total of six thousand to eight thousand words and have a clear goal and audience for each paper.

Linda received permission from both professors to write one paper for the two courses, based on her observations at the local probation office, to satisfy the requirement for both courses. During and after the writing of the paper, we interviewed Linda to find out how she wrote the paper. We also interviewed each of the professors and examined their comments on her paper. Their differing evaluations of Linda's work are instructive, especially in light of what we learned about how Linda wrote the report.

Linda eventually titled her paper "A Futurist Look at Probation." She chose her topic for several reasons. First, one possible topic in the English course was to investigate how the student's major field might change over the next ten years. Second, after Linda began to do volunteer work at the probation office, she found that the probation system is, in her words, "too much like a conveyor belt," with probationers and probation officers "simply going through the motions." Her belief in the need for reform made her alert for new possibilities: she saw a television program in which a judge mentioned

shock probation; from a relative at another university she learned of an electronic device for tracking probationers' movements; and she found out about a "chemical castration" drug, Depo-Provera, from a flyer and later saw a television program that explained it more fully. Finally, because of her plans to become a lawyer, Linda was interested in how civil rights of offenders might be abused in the probation process.

Linda showed diligence and persistence in learning about these new methods of dealing with probationers. She made telephone calls and wrote letters to television stations for transcripts of broadcasts and names of people to contact. Her relative at the other university interviewed the professor who developed the tracking device. From the interview notes Linda wrote a section of her report about the tracking device and mailed it to the professor who invented the device. He replied to her query and suggested revisions in her draft report. Linda also searched current newspapers and magazines for information. She did little library research because she believed that her topic was too new to be included in indexes.

While working on the paper Linda continued to assist a case worker at the probation department, making mental notes that she later turned into dated written notes at home. Linda was permitted to interview several probationers, and she felt she helped one woman to communicate more openly with her case worker. From these experiences Linda was convinced that volunteer counseling will always have a place among successful probationary procedures, and she decided to discuss it in her paper.

Although Linda had had a course in methods of field research during the previous semester, she claimed that it was not helpful when the time came to turn her notes and ideas into a paper. Her sociology professor had earlier advised her to look at articles in the *Journal of Applied Behavioral Science* when her English professor required students to name a potential "market" for the paper she was to write. Linda went back to this journal and photocopied four articles that she thought dealt with topics similar to hers. She used them as models of style, especially format of citations and headings. For her bibliography format, she turned to an old freshman English handbook. In the interviews Linda made it clear that neither professor offered specific instruction in how to organize the paper. She determined an organization from her impressions of how the journal articles were organized.

Linda's report received a "B -" from the English professor. He wrote no summary comments on the copy he returned to her. Most of his written remarks pertained to sentence construction and punctuation. He suggested in several places that she subordinate one sentence to another. Two sentences were marked "awkward"; on one the advice was to "expand," on the other to "condense." The only comment on the overall structure indicated that he thought she had treated the electronic tracking device more fully than any of the other experimental probation methods. He told her that a transition was needed to prepare the reader for this fuller development. When we inter-

viewed the English professor, we asked him what Linda would have to do to earn an "A" on her paper. He replied that an "A" paper would have good sentence structure with no awkward or wordy sentences and no mechanical problems. In general, he said, his evaluation criteria were that the paper be interesting and appropriate for the intended audience, be clearly organized and precisely worded, and have the "right" emphasis and proportions. However, in the course syllabus he had written under "Grading Criteria" the following:

My primary criterion for your grade will be how well that you have achieved the goals and objectives that you set for yourself. I will ask questions such as, 'Would a professional in your field consider this worthwhile reading?' 'Does this actually contribute to improved writing skills in your field?' 'Is this style suitable for the audience you specified?'

In light of the policy statement on grading, we found it curious that the only responses the English professor gave to Linda's paper dealt with surface features. There seemed to be no attempt on his part to respond as a "professional in the field" or as a reader of *The Journal of Applied Behavioral Sciences*, the "market" Linda named for the paper. He did not acknowledge the great amount of work she had done to familiarize herself with her major field and its ways of gathering and organizing information in written reports.

The English professor's response seemed especially curious when we compared it to the response of the sociology professor, "a professional in the field," who gave Linda's paper an "A." He commented that it had been a pleasure to read and called it "well organized" and "in general, concisely written." He did, however, point to a few places where she could have been more clear and could have eliminated extra words. When we talked with him, he told us that he was more interested in what knowledge the student had acquired than in how well the report was written. He said he tended to read between the lines in making his evaluation. He was impressed with the effort Linda made in acquiring her information and with the depth of her encounter with the probation system. When we asked if Linda's paper might be publishable if it reported new findings, he replied "no," but added that publication was not the intention of his assignment.

The Snowy Dung-Hill and the Dusky Diamond

The cases of Kathy and Linda are emblematic of the problems English teachers face when they teach upper-division students from other disciplines how to write in those disciplines. To use a metaphor from *Piers Plowman*, Kathy produced a "snowy dung-hill," a paper that was nearly flawless in mechanics and conformity to a disciplinary format but, at the same time, failed to demonstrate an adequate knowledge of that discipline. Its surface impressed the teaching assistant and us, but the professor recognized its flawed core. Linda, on the other hand, failed to impress her English professor because of the irreg-

ular surface of her paper, but she convinced her sociology professor that (to use another medieval metaphor) a diamond lay under the dusky surface.

Kathy's snowy dung hill and Linda's dusky diamond point to some of the difficulties in asking English teachers to teach an upper-division writing course addressed to the students' major discipline. If the goal of such a course is to produce writers competent to write as professionals in a discipline, then English teachers need to internalize a great deal more than the stipulations of the relevant style manual. To be able to make confident qualitative judgments about writing in a discipline, they need to know how that discipline creates and transmits knowledge. What appeared to us as relatively minor issues of form in Kathy's paper, such as whether she should have included confidence levels for correlations, reflected larger issues of how a discipline thinks. The conventional four-part organization of a psychology report specified in the *APA Style Sheet* embodies a world view about how knowledge can be verified, a world view that few English teachers share or are willing to assimilate.

If most persons trained in English cannot teach students to write as competent professionals in a discipline, what can they teach? The obvious alternative for an English teacher is to examine, as a humanist, how the student's training in a discipline is related to the student's overall education. One rationale for such courses is the humanistic goal of helping students learn to convey the intellectual achievements of their discipline to the general reader represented by the English teacher. Linda's paper on criminal justice, however, shows why one cannot easily achieve the goal of teaching students in a discipline to communicate with the general reader. Even if the English teacher had adhered to the original principles outlined on his syllabus ("Would a professional in your field consider this worthwhile reading?"), he still would have found it difficult to validate whether the student was able to explore and think from a sociological perspective as opposed to, say, a journalistic perspective.

The difference in the grades on Linda's paper underscores the fact that people read texts with varying expectations and that their judgments of merit vary as a consequence. The English teacher evaluated Linda according to how well she met the standards of a handbook notion of an essay; the sociology teacher evaluated Linda according to the depth of her exposure to new knowledge. Differences in the expectations and beliefs that readers bring to a text tend to be ignored in freshman English courses and in popular testing procedures such as holistic evaluation. Teachers of courses on writing in the disciplines, however, are going to collide head on with these differences, which handbook notions of correctness and narrowly construed ideas of process cannot accommodate.

Only if teachers recognize writing as a form of social action, an activity vital to the organization and maintenance of a discipline, will they be able to help students to understand the questions their discipline seeks to answer and the methods for answering those questions in their discipline, as they compare to the questions posed and the methods used by other disciplines. Such in-

struction may come from faculty in the disciplines who teach courses that require writing, but at many institutions faculty trained in English will be responsible for teaching writing courses directed toward specific disciplines. If teachers of English are to offer courses that truly prepare students to write in other disciplines, they will have to explore why those disciplines study certain subjects, why certain methods of inquiry are sanctioned, how the conventions of a discipline shape a text in that discipline, how individual writers represent themselves in a text, how a text is read and disseminated, and how one text influences subsequent texts. In short, teachers of English will have to adopt a rhetorical approach to the study of writing in the disciplines, an approach that examines the negotiation of meaning among writers, readers, and subject matters. If teachers of English succeed in this endeavor, they will help to restore rhetoric to the central place in the college curriculum that it once held.

The Fourth International Conference on the Teaching of English: "THE ISSUES THAT DIVIDE US," 11-16 May 1986, Ottawa, Canada. Call for Papers.

Twenty years after the Dartmouth Seminar, the Fourth International Conference, sponsored by the International Federation for the Teaching of English, is to define and explore fundamental issues in theory, research, politics, and pedagogy which are divisive within the English teaching profession, or which divide English teachers from the larger community. In this context, the organizing committee solicits papers and workshop proposals relating to the following areas: (1) the relationship between English composition in countries where English is the dominant national language and in countries where, while still a major language of post-secondary education, it is not the dominant first language; (2) the responsibilities of composition teachers and the composition teaching profession to students from cultural minorities and other disadvantaged groups; (3) the use of the micro-computer in composition teaching; (4) language development during the post-secondary years, especially theoretical discussion and pure and applied research studies in writing development, reviews of writing research, studies of classroom implementation of research, writing research in relation to research in talking, language structure, reading, and ESL; (5) the definition of standard English, especially in relation to the growing acceptance of newly emerging national varieties of English as national standards, and in relation to students' home languages; (6) approaches to research in composition education, especially the justification and consequences of different models of educational research as these are applied to English composition; (7) evaluation and assessment of English composition.

Papers: Papers are delivered in 20-minute time-slots. They may present new experimental, descriptive or applied research, overviews of research, evaluations of the applications or implementation of research, or theoretical and philosophical discussions. COMPLETE PAPERS must be received for review by 15 October 1985. No paper will be considered that has been submitted elsewhere for publication, or that will be delivered elsewhere before the date of the conference. Selected papers will be published in book form.

Workshops: Workshops expound or demonstrate classroom activities. Their aim is to help teachers to improve or enrich their teaching by suggesting new materials, new approaches, etc. They may be 1½, 3, or 6 hours long. WORKSHOP PROPOSALS must be received for review by 1 September 1985. Proposals should be no longer than 2 pages. They should identify all workshop leaders, state the length of the proposed workshop and the intended audience, and describe the rationale or research basis for the proposed activity, the kind of activity to be undertaken in the workshop, and the intended outcome.

Please send two copies of papers or proposals. Do not include names of presenters on the paper or proposal, but include a 3 × 5 index card with name(s) and mailing address. Send papers and proposals to Aviva Freedman, Ian Pringle, and Nazru Deen, Co-Chairs, Fourth International Conference on the Teaching of English, Carleton University, Ottawa, Canada K1S 5B6.