The most effective way to help students improve their writing is for one person to carefully read another's manuscript and then comment at length to the author during an interview. Therefore, in a course on technical writing developed for undergraduates at the University of Minnesota, the primary method of instruction is the individual conference between student and instructor. The conferences are planned for twenty minutes each, which is enough time to focus on a particular topic, such as specificity or transitional paragraphs. No pre-set curriculum exists for any individual student. Rather, each student is approached with his/her writing difficulties, and those difficulties are worked on until solved. The most successful approach is one involving ten twenty-minute conferences. In addition to these conferences, most students attend a "short course" of lecture-recitations. (LL)
Individual Writing Conferences:

An Approach to Advanced Composition and Technical Writing


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Two years ago, in the summer of 1971, I was asked to develop a technical writing course for undergraduates in the Institute of Technology at the University of Minnesota. The previous course had followed the traditional lecture format, with graduate students reading and grading student papers; the papers were expanded, formalized versions of regular laboratory reports. I was given a rather free rein with the program, subject to staff and budget limits typical of a large university. During 1972-3 the department was aided by extra funds from the university, and the course was expanded to include juniors and seniors from the pre-law program and three liberal arts departments: history, political science, and geography.

The initial premise in course design is that the most effective way to help students (or anyone else) improve writing is by one person carefully reading another's manuscript, and then commenting at length to the author during an interview. All the polls we have made of students and teachers in our freshman composition program bear this out, as does the enthusiastic response we have had from upper class students.

Teaching composition to juniors and seniors, whether they are engineers or in liberal arts presents some distinct and significant advantages over the teaching of freshmen. First, the students are older and have more academic experience; they are thus aware of the formalities of framing an argument,
from statement of thesis to presentation of backing for the thesis. Second, nearly all have settled on a major and on a career. Therefore, they do have a body of knowledge and, in most cases at least, they care about what they know. Third, most upper-class students actually do writing in their courses. It comes as a shock to most of us who assign two or three papers in every English literature course, but most disciplines do not go beyond a mid-term and final exam until the students are well into the major. (Incidentally, with students' having so little practice between high school and senior year, it is not surprising that professors claim that "students can't write.") Finally, as a result of the students' involvement in courses and relatively high motivation we are seldom confronted with what I feel is the major stumbling block of Freshman composition--"pre-writing" or "getting started." We can work almost exclusively with papers previously submitted by the students or with assignments the students are currently struggling with. Since we have rather good cooperation with faculty from other departments, we are able to "conspire" with students in all aspects of writing, from topic selection and research, to editing of the final draft or the legends under the graphs.

The primary method of instruction in the course is the individual conference between student and instructor. Most conferences for engineering students deal with laboratory reports and other experiment descriptions done in the student's major. Those who already have job experience
bring trip reports, memos, and letters. Liberal arts students concentrate on term papers, exams and book reviews. There are few writing assignments made directly for the English course. The instructors analyze the individual student's writing, explain the problems in terms of grammar, logic, rhetoric, or formal convention (as appropriate), and suggest revisions or rewriting exercises which help solve the problems.

The conferences are planned for twenty minutes each, which seems to be enough time for focus on a particular topic, say specificity, or transitional paragraphs. There is no pre-set curriculum for any individual student, although we do try to start with problems the student encounters in his or her other courses. There is a further assumption that the operative unit in most writing is the paragraph, if a student can write coherent paragraphs with explicitly defined topics and adequate supporting material, the techniques can be adapted to most other writing situations, from informal letters to a corporation's annual report or a senior honors thesis. The one place where twenty minutes is consistently not enough time is where a liberal arts student is involved in writing long term papers. Although we have not had enough experience to know for certain, apparently thirty to forty minutes is needed.

To permit maximum freedom in the interaction between teacher and student, yet still avoid total arbitrariness in what the course means or demands of a given student, contact
time is set as the chief benchmark. During the first year students met with their instructors for 6 2/3 hours; generally they attended one 20-minute conference each week for two ten-week quarters. In order for the student, teacher and course administrator to keep track of the students' progress, each student gets a set of "coupons," printed out on the university's computer with the student's name. Following each 20 minutes of conference the student gives a coupon to the instructor, who signs it and turns it in to the department office, where it is recorded on a tally sheet. If a conference lasts for 40 minutes, two coupons are turned in, and so on. Because the tally sheets are always available, the instructors can find out where their students stand without having to keep independent records.

Last year the number of conferences was dropped to fifteen (five hours of contact) since the instructors and polled students agreed that the last five conferences were not helpful. Teacher and student response suggests that at least for the engineering students the 15-conference format seems correct; generally students complete the course easily in two quarters, with time off for mid-quarter exams, and so on. People at schools on the semester system will recognize that our present form is equivalent to a one-semester course.

During the Spring Quarter, 1973, a "2-credit option" was tried out, involving only ten conferences (3 1/3 hours). This was rather successful and will be a permanent addition
to the department's listing. This kind of course will allow us to serve students who have come upon writing difficulties or who have a specific project (e.g., a senior thesis), and are willing to spend one quarter trying to solve their problems. The course would handle rather sophisticated problems, e.g., how to write a technical report; strictly remedial cases will be referred to other facilities available at the University such as the Writing Lab or the English-as-a-Second-Language program. It seems better in the long run for the department to handle all request for writing aid officially, yet still individually, rather than to continue tutoring or editing, now available on a haphazard basis through ads in the newspaper or telephone requests to the composition office.

In addition to the conferences, most students attend a "short course" of lecture-recitations. This is a one-credit supplement to the three credits which the students earn by the conferences. They are seminar/discussion groups with attendance limited to 25, meeting for one hour on four successive weeks. Times and places are coordinated by the English department. The English department does not impose standards on the courses although we help as much as possible in planning, scheduling and organization. The following questions are circulated to the short-course teachers:
1. What information would an advanced undergraduate need in order to do the kinds of research, writing, or speaking which might be demanded in senior year, in graduate school, or on the job?

2. What are the standard bibliographical and reference tools of the field?

3. Are there libraries, or parts of libraries necessary to the field whose use requires special knowledge?

4. How is communication via media other than writing important; specifically, how are electronic machines such as television and computers involved in the field?

5. How much writing is demanded in the field; in what forms does the writing come; how important are standards of accuracy?

6. What are the responsibilities of professionals in the field to their profession, to other related professions, and to society?

I have outlined some of the premises and administrative procedures involved in the conference courses. I would like now to touch on two topics which should be of interest to teachers of English--the "dialect" of engineering writing, and the training of graduate students to teach that style.

The style and formal requirements of engineering writing happen to be very well defined. It may horrify those of us familiar with Strunk and White or the Prentice-Hall Handbooks, but most engineers look for impersonal constructions, passive voice (and avoidance of an explicit agent), lack of variation in the use of technical terms, and the virtual listing of important data in simple, brief sentences. The writing, then, is a far cry from the balletric models and quasi-self expressive writing normally encouraged in freshman composition. We find also that students need to be reminded to quantify
everything possible (nothing is "bigger," it should be 10.5% greater) and to define qualitative terms (a "better" meter has accuracy of 6, not 4 significant figures).

Nearly all of the instruction in the course is by Teaching Associates (graduate students) with at least a year's experience, usually in freshman composition. The teachers are well versed in general notions about writing ("be clear," "provide topic sentences," etc.); but they need to be informed about the peculiarities of the engineering-writing dialect. During the first year I had to rely on the instincts and natural abilities of the two Teaching Associates since the administrative burdens were so time-consuming. The three of us worked out plans and strategies for the future. As a result of the first year's experience I wrote a handbook of some 60 pages to aid new instructors, half devoted to administrative details, half to the style of technical writing. In the second year the handbook was given to the instructors, and I met with them informally during the year. It became clear that graduate students in a literature department cannot be trained solely by such a document. This year, therefore, we had three fairly long staff meetings in the fall to make the particular demands of the course clear. During the second year I visited conferences of four of the seven instructors. Such visiting has only minimal value for supervision since the instructors are experienced and have been quite conscientious. However, my comments and suggestions seem useful in training. This year I will see experienced
teachers for three hours of conference; and the new teachers, about six hours. Exchange visits among the graduate-student teachers are also encouraged and seem to be useful to those involved.

The best comment on the course we have received is the exceptionally good response the students give. As an appendix to this report I have attached a summary of questionnaires from last year's group of engineers. The experience so far is that we can offer essentially tutorial instruction in composition to over 250 students a year at a reasonable cost to the university. Further, when it is completed students say that they would wish such a course on their brothers and that they would like a dean to require it.
Starting in February I asked our instructors to subject students who completed the course to a questionnaire. The survey below is of 65 electrical engineering majors (for whom the course is required) and 9 non-EE's (total 74); this represents about 40% of those taking the course this year. For reasons which I don't fully understand, the response is overwhelmingly positive—one of the seventy-four hated the course categorically.

The first section was a general profile and background of the students. Fifty-three were juniors; fifty-nine were from 20 to 22 years old. Twenty-four were transfer students, and twenty-seven have jobs in industry.

The time spent on the course was 1 hour (23), 2 hrs (22), 3 hrs (7), and 4 hrs (6) per week, spread over 15 weeks. 22 thought that this was less than expected, 39 thought it about what they expected.

The conference number of 15 was thought "just right" by 58. On a four-slot scale from "very helpful" to "not too helpful," 39 students filled in the highest slot, 28 filled in the mid-to-very slot (and 5 checked the low slots). Sixty-nine of the seventy-four thought that the emphasis in conferences was "right," and fifty-four thought that the three-credits for 15 conferences was appropriate (ten thought it too few credits). Almost all students reported that the emphasis was on lab reports; eight also noted emphasis on business letters.

There were two kinds of short courses: 35 students were in one dealing with "engineering reports and correspondence," and 29 on "general communications problems." 48 students thought the short course "useful," 9 thought it "useless," 36 thought that it might help in industry, 36 thought it interesting. Fifteen students found the short course either too general or too specific; fourteen wished that it met 5 to 6 times.

There was an effort to try to distinguish the effectiveness of the course's design from the particular instructor. The question was whether the success of the course "depended entirely" or "not at all" on the instructor's personality, and a four-slot scale was marked. 19 students marked "depended entirely," 35 marked the next slot down for conferences; the marking was spread out more evenly for the short course (15, 28, 16, 5).

Finally, there was a trio of yes/no questions: (1) If I had a younger brother I would suggest that he take the course on a volunteer basis—yes (57), no (10); (2) If I were a Dean I would support efforts to have this course required of all engineers—yes (61), no (6) and (3) This course was more useful than Freshman Composition—yes (55), no (7).