A study explored collaborative writing practices in six major professional associations: (1) The American Institute of Chemists, (2) the American Consulting Engineers Council, (3) the International City Management Association, (4) the American Psychological Association, (5) the Professional Services Management Association, and (6) the Society for Technical Communication. Two hundred randomly selected members of those associations completed a survey, the results of which indicated that collaborative writing occurs frequently among members of those associations. A second survey was subsequently administered and on-site interviews were conducted. Analysis of those data indicates that there is a general shift toward recognizing the importance of both context and interaction in constructing realities and texts. In addition, even texts produced by one writer are built up or invented collaboratively, and most on-the-job writing is collaborative from beginning to end. The results suggest that perhaps collaborative writing should be encouraged in classrooms, although the tension between those who view collaboration as an enriching, socially constructive act and those who regard it as an abandonment of personal responsibility must first be defused. (DF)
Collaboration in Writing on the Job: A Research Report

Paper Presented at the
Conference on College Composition and Communication

March, 1986

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Lisa Ede

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."
This is the second year in a row that we have reported at this conference on the progress of our FIPSE-funded study of collaborative writing in six major professional associations: The American Institute of Chemists, the American Consulting Engineers Council, the International City Management Association, the American Psychological Association, the Professional Services Management Association, and the Society for Technical Communication. Last year we reviewed the results of the first stage of this research project: a survey of 200 randomly selected members of each of these associations. This survey, which is discussed more fully in a forthcoming article in *Rhetoric Review*, confirmed our hypothesis that collaborative writing does occur frequently among members of these associations. Eighty-seven percent of those who responded (and the survey had a response rate of just under 50 percent) reported that they sometimes wrote as part of a team or group. But this first survey left us with a number of incomplete and unanswered questions as well. Today we would like to continue to explore with you the benefits and problems inherent in collaborative writing by reviewing the second and third stages of our project. Even more than last year, time constraints will force us to condense what will become a book-length analysis of the data we have collected. In the time we have today, we will simply focus on insights gleaned from the open-ended questions on the second survey and from our in-depth interviews with members of each association.

We have distributed copies of the second survey, including average results for those questions that lend themselves to statistical computation. Much of the value in this survey, however, lies in the responses to open-
ended questions. The responses to question 4 (which asked participants to identify those documents they find most productive to work on as part of a group, and to explain why), for instance, revealed frequent consensus and, even more interestingly, a high degree to rhetorical sophistication. Many respondents stressed that particular kinds of work-related writing simply require a collaborative effort, either because their profession, like engineering, is inherently interdisciplinary, their task is so complex that it requires the assistance of others with diverse areas of expertise, or the time budgeted to complete a document is so limited that a single person cannot complete the project by the deadline. Others made observations about the reasons they find it productive to work in a group on particular kinds of writing. Some sample observations:

Newsletters and other in-house publications are alive and read if contributions are sought from and made by many. Such documents written by a single pontificator are deadly. Books, monographs, user manuals benefit from multiple authorship where credibility of the document is increased by the participation and identification of those who developed it.

* * * * *

Because municipal functions (fire, police, public works/grant programs, etc.) are so varied and specialized, group writing is most productive as a means of making specialized information understandable to a general audience.

A number of responses to question 5, which asked participants to indicate the kinds of documents they found least productive to work on as part of a group, emphasized that certain kinds of writing, especially
letters and memos, are so relatively brief, straightforward, or unimportant (in relation to larger or more crucial projects) that they do not justify the time or expenses of a group effort.

Questions 7 and 8 asked participants to indicate which writing activities (described in the survey as brainstorming, information-gathering, organizational planning, drafting, revising, and editing) participants find most and least productive to perform as part of a group. The clearest consensus was that brainstorming and planning are the most productive done collaboratively; editing, done alone. About information gathering, drafting, and revising, opinions varied widely. Some respondents preferred drafting and revising alone, claiming that "too many cooks spoil the broth." Others, who preferred conducting these activities with one or more persons, countered with their own cliche -- "two heads are better than one."

Questions 19 and 20 asked participants to describe the three greatest advantages and disadvantages of collaborative or group writing in their profession. Of the disadvantages cited, perhaps that most often mentioned involved what one engineer called "the tough task of making a common single style from numerous styles." According to our respondents, disagreements about style occur frequently in collaborative writing projects. At times, these conflicts seem to represent major difficulties, particularly, according to another engineer, "when several members of the group have distinct and well-developed individual styles." In other instances, respondents describe these disagreements as frustrating but not major problems. Whatever the situation, negotiating a common style among individuals who often, in the words of one psychologist, have "their own writing style which they are not willing to give up," seems to be a recurrent problem in collaborative writing.
Another difficulty, one cited almost as often as that of achieving stylistic consistency, is the additional time that many respondents feel that group writing requires. (One city manager's response to our request for three disadvantages of group writing was an emphatic "Time. Time. Time.") Since time was also cited as an advantage by a number of respondents, who felt that group writing helped them "spread the workload" and thus meet crucial deadlines, this emphasis on time as a disadvantage at first seemed anomalous to us. We are still exploring the reasons why so many respondents believe that collaborative writing takes significantly longer than individual writing, but we suspect that its emphasis by respondents may indicate a sense of a loss of control over their personal work time occasioned by the numerous meetings which many group writing projects require. It may also reflect the fact that many group writing projects are simply larger, more time-consuming endeavors than those undertaken by individuals in these professions working alone.

As might be expected, interpersonal skills and group dynamics seem to play an important role in influencing both the effectiveness of the product and the satisfaction with the process of those involved. The following chemist spoke for a number of other respondents when he asserted that "responsibilities really do need to be defined in order to get maximum efficiency." Not all people feel comfortable participating in such tightly controlled efforts, even when they recognize its importance, as the following comment by a psychologist suggests: "In large groups, a careful management plan is absolutely necessary -- which doesn't work with people like myself."

A related problem frequently cited involves equitable division of tasks.
All too often, according to one technical writer, "unless all the workers are extremely conscientious, one person may end up doing the greatest amount of work." Furthermore, in negotiating these tasks and responsibilities, often under the pressure of tight deadlines and a schedule that may require some persons to participate in several collaborative projects at the same time, personal disagreements can occur, especially when some participants are "prima donnas" (the first disadvantage of group writing cited by one engineer). As one member of the Society for Technical Communication observed, "As in anything, a group is only as good as its weakest member."

Finally, a number of respondents noted that group writing can result in what one psychologist called the "diffusion of responsibility" and a loss of personal satisfaction and sense of creativity. "It's never exactly as I want it," observed another psychologist, while a technical writer commented that "sense of ownership of the project is lessened and therefore the taking of credit must be shared."

These disadvantages, though serious, were balanced for most respondents by a number of important advantages. One of the most frequently cited stressed the usefulness of having varying viewpoints, of "checks and balances," of "maximum input." A number of participants believed that the increased participation of diverse group members resulted in a better, more accurate text. One person noted, for instance, that group writing "enhances the completeness of the product and minimizes the inclusion of erroneous or potentially offensive matter." Others pointed out that collaborative writing can be particularly sensitive to audience concerns and can encourage, according to one chemist, "clearer, more understandable documents by involving group members of disciplines typical of the intended readers." In the same vein,
a psychologist cited the way in which collaboration helps participants develop a "better idea of the general impact of a document on the target audience."

This emphasis on collaborative writing as a powerful means to a highly desired end, a better, more effective product or text, highlights the fact that in the six associations we studied, collaboration is most typically a pragmatic, goal-oriented activity. Those responding to our second survey generally had a clear sense of why certain kinds of projects required a group effort, of what their role in the group was, and of the overall goal of the project. This commitment to a shared goal was so strong that, for many, the successful completion of the project was more important than receiving explicit credit or authorship. One engineer responded to our question which asked him to indicate if he was satisfied or dissatisfied with the way credit is generally assigned by noting that "Most of our documents reflect the joint knowledge collected by the firm as a whole. As such, specific credit is inappropriate. Also, since most documents are part of a larger scope of involvement, the main author's input is known." For most of our respondents, specific authorship or formal recognition or credit was simply unnecessary.

Although respondents stressed the pragmatic value of collaboration, they cited a number of social and organizational advantages as well, including the positive impact of "team building" and "a sense of group accomplishment." Because in most collaborative writing projects those involved in some sense "share in the final product," such group efforts can contribute both to effective group dynamics -- "promoting collegiality," in one psychologist's words -- and to an overall sense of shared mission or purpose. Several respondents also observed that collaborative writing can offer an effective way of initiating recent graduates to the demands of their profession and, indeed, to the
demands of a new position. One city manager noted that collaborative writing can "train participants in organizational policy and in the expectations and thought processes of the chief administrator," while an engineer cited the way in which it "provides leadership for younger workers." A number of respondents noted that collaboration has personal as well as social or organizational benefits. "It helps me stay fresh by discussing writing and seeing how other writers work," one technical writer noted, while an engineer commented that group writing "contributes to my job satisfaction in that it allows me to gain knowledge of different aspects of our profession..."

The results of our second survey, which we have been able to discuss only briefly here, enabled us to develop a richer, more contextualized understanding of the various ways in which people write collaboratively. We pursued this question further in the last stage of our research, on-site interviews with at least one person from each of the six associations. In thinking back through this series of interviews and musing over the long transcripts, we have been struck by a number of recurring elements, including the broad range of collaboration that occurs even within a single profession; the importance of leadership and mentoring to successful collaboration; and how often the organizational plan for completing a collaborative project is related to the organizational format of the document -- by how often, in other words, process and product interact to drive each other forward.

The extremely broad range of collaborative writing revealed in our interviews surprised and intrigued us as well as reconfirmed our original hypothesis. We talked extensively with a member of the American Psychological Association, for example, who does a substantial amount of free-lancing in addition to his regular work as a therapist. Most recently, he has completed a series of video-tapes teaching businesses how to deal with angry customers and has begun
what he described as a "pop psych" book. Both of these projects involve extensive collaboration. In addition, he works with a state-wide committee which has collaborated to produce an informational brochure about the organization as well as to draft legislation regarding mental health. This last collaborative project, he reported, is the "hardest," because "psychologists are such nitpickers."

At the other extreme from the varied kinds of writing this psychologist routinely does is the collaborative writing produced by two members of the Society for Technical Communication who work for a large international machinery firm. These writers work with a large group of technical advisors and engineers to produce assembly instructions and user manuals. Because their equipment is sold to countries around the world, they must use a specialized and very rigid 2,000-word vocabulary in which to write all their documents. In spite of its inflexibility, the writers we interviewed did not chafe under the constraints of their artificial language; instead, they reported a great sense of challenge and accomplishment. Most importantly, collaboration seems to play a part in making their experience satisfying rather than frustrating; if one of the writers runs into trouble with a section or simply can't find a way to say what needs to be said in the "vocabulary," help is always at hand.

Between these two extremes lie a broad spectrum of collaborative writing situations and tasks: a city planner in a small community most often collaborates by rewriting junior colleagues' drafts of memos, letters, and brief reports; a consulting engineer works with a group of engineers, technical editors, draftsmen, and artists for over a year and a half to produce one lengthy government-contracted manual; a chemist works with a
group of scientists for twelve years to evaluate the world's literature on food additives. Collaboration, our respondents repeatedly told us, is both common and unexceptional; most of these writers are as likely to produce a document collaboratively as alone.

A number of those we interviewed stressed the difficulties of collaborative writing. As the interviews progressed, however, we noted with increasing interest how often our respondents mentioned strong leadership and mentor relationships as necessary to success and as a means of avoiding difficulties. Two young engineers repeatedly pointed to the leadership provided by senior partners, saying that the partners were always willing to help out when they hit a problem. Younger employees, then, stressed the cooperation, openness, and support a strong mentor provides and noted the assurance gained by having such a mentor collaborate on documents and head off possible "mistakes." But those at the upper end of the hierarchy also stressed the importance of effective mentoring to collaboration. The Executive Vice President of an engineering firm talked about working carefully with their young engineers in order to help them "blossom as fast as they can." The brightest and most ambitious of their new employees, he said, take advantage of this informal apprentice relationship and move up in the rank more quickly as a result.

While strong leadership seems to be particularly crucial in helping new employees become effective members of a group, our subjects also emphasized the role flexibility plays in such leadership. Members of a number of collaborative groups pointed out that the leadership role is usually not constant, that one person may be a leader for one or two projects and a group member for others. As one engineer indicated, "I might be a project manager
and then on the next project turn around and be working for somebody else on a project." Still another engineer told us that if he were the "principal" on a particular project, he would be handling it in a slightly different way. But since he was not the leader for that project, he was content to work cooperatively with the person who was. The ability to be both a strong leader and an equally strong group member, our interviewees told us, is most often learned in the kind of collaborative apprenticeship we have described.

The complex relationship between process and product in collaborative projects is another major factor our on-site interviews illuminated. In general, clear goals and plans seem to be highly correlated to satisfaction with collaborative efforts in general and with the documents produced in particular. This relationship between the organizational plan for completing a project (the process) and the format of the document (the product) was vividly exemplified during our visit to a large consulting engineering firm in the south. Over years of experimentation, a vice president of the firm has developed a master plan or form to guide all their collaborative projects. This form, which measures roughly 30 inches by 30 inches, maps every stage of the process, from the original Request for Proposal through the information-gathering and technical stages (including preparation of maps and other graphics) and through pencil, preliminary, and final drafts, relating each stage to the organizational format or "outline" of the final document. Each column on this intricate form is color-coded, so that any member of the team can see at a glance what work is finished and what remains to be completed by each member. So successful is this blueprint that it is often included as part of the original contract for a job, representing in minute detail what the firm agrees to do and when they agree to do it. We were at first
overwhelmed by the complexity of this form. But our conversations with numerous group members revealed its efficiency, flexibility, and elegance, reminding us most forcefully that every product is the result of some process and that, indeed, the unexamined process may well not be worth following.

At this point, we would like simply to sum up what appear to us to be the most significant cumulative results of our research. First, our research confirms a more general shift in composition studies toward recognizing the importance of context and interaction in constructing both realities and texts. Second, it strongly suggests that even texts produced by one writer are built up or invented collaboratively and that most on-the-job writing is collaborative from beginning to end. As a result, this research supports a redefinition of terms that would legitimate and encourage real collaborative writing in our classrooms and would challenge us, among other things, to reexamine our entire system of testing and evaluation.

But our research also points up enormous difficulties and dangers inherent in attempts to emulate in the classroom the kind of collaboration we have been studying. These difficulties, which we explore much more fully in a forthcoming essay, range from very practical ones (such as the fact that the quarter system, which we find pedagogically indefensible, is inimical to the kind of collaboration we are advocating) to a central tension we find at the very heart of the concept of collaboration. That is the tension between collaboration as an enriching, socially constructive act and collaboration as group think and abandonment of personal responsibility. This is an extremely complex problem, one we have no time to deal with today. Suffice it to say that we believe this tension is a substantial one and that it represents a tension within western society and indeed within the human condition as well. In the coming months,
as we work together to complete our analysis and our book, we will be further exploring this tension, hoping that our work can help illuminate if not resolve it as well as provide a prolegomena for a complete rhetoric of collaboration.
SURVEY OF WRITING IN THE PROFESSIONS

STAGE II: GROUP WRITING

This survey explores the dynamics and demands of group writing in your profession. For the purposes of this survey, writing includes any of the activities that lead to a completed written product. These activities include written and spoken brainstorming, outlining, note-taking, organizational planning, drafting, revising, and editing. Written products include any piece of writing, from notes, directions, and forms to reports and published materials. Group writing includes any writing done in collaboration with one or more persons.

1. In general, do you work with the same person or persons in producing a written document? (Circle one number.)

1 YES → (Please indicate the number of persons in this group.)

(39%)  ______ NUMBER OF PERSONS IN GROUP 80% of the respondents report group size of 1-5

2 NO → (Please indicate the number of persons in the three groups with which you most regularly work.)

(61%) ______ NUMBER OF PERSONS IN FIRST GROUP 85% report size of between 1-3

______ NUMBER OF PERSONS IN SECOND GROUP 82% report size of between 1-5

______ NUMBER OF PERSONS IN THIRD GROUP 82% report size of between 1-8

2. Please add any additional comments about the groups with which you work.

3. From the following list, please indicate the four kinds of documents that you most typically work on as part of a group, rank ordering them in terms of frequency written. (Place one letter in each of the appropriate boxes.)

F/H MOST FREQUENTLY WRITTEN
A. Memos
B. Short reports
C. Long reports
D. Professional articles and essays
E. Popular articles and essays
F. Use manuals or other detailed instructions
G. Newsletters, bulletins, or other in-house publications
H. Letters
I. Case studies
J. Proposals for contracts or grants
K. Lecture/oral presentation notes
L. Instructional or other course-related materials
M. Books and monographs
N. Other (Please specify.)

B SECOND MOST FREQUENTLY WRITTEN

B THIRD MOST FREQUENTLY WRITTEN

C FOURTH MOST FREQUENTLY WRITTEN

* This response is anomalous, since respondents later identified letters as one of the documents least productive to work on collaboratively. Our interviews suggest that a number of respondents may have misread this question and simply marked the documents most frequently written, whether alone or in collaboration with others. (PLEASE TURN THE PAGE.)
4. In general, which of the documents cited in question 3 do you find most productive to work on as part of a group, and why? Please refer to all of these documents, not just the four documents you most frequently write.

5. In general, which of the documents cited in question 3 do you find least productive to work on as part of a group, and why? Please refer to all of these documents, not just the four documents you most frequently write.

6. When you participate in a group writing project, do you generally carry out each of the following activities alone, with other group members, or partly alone and partly with the group? If you are generally not involved in one or more of these activities, please circle 4 for not applicable. (Circle one number for each.)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Generally Alone</th>
<th>Generally As Part of Group</th>
<th>Partly Alone And Partly With Group</th>
<th>Not Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Brainstorming and similar</td>
<td>1 (6%)</td>
<td>2 (48%)</td>
<td>3 (45%)</td>
<td>4 (1%)</td>
</tr>
<tr>
<td>idea-generating activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Information-gathering</td>
<td>1 (33%)</td>
<td>2 (12%)</td>
<td>3 (55%)</td>
<td>4 (0%)</td>
</tr>
<tr>
<td>c. Organizational planning</td>
<td>1 (16%)</td>
<td>2 (34%)</td>
<td>3 (45%)</td>
<td>4 (5%)</td>
</tr>
<tr>
<td>d. Drafting (including dictating)</td>
<td>1 (66%)</td>
<td>2 (5%)</td>
<td>3 (28%)</td>
<td>4 (1%)</td>
</tr>
<tr>
<td>e. Revising</td>
<td>1 (33%)</td>
<td>2 (28%)</td>
<td>3 (39%)</td>
<td>4 (0%)</td>
</tr>
<tr>
<td>f. Editing (including proofreading)</td>
<td>1 (55%)</td>
<td>2 (5%)</td>
<td>3 (36%)</td>
<td>4 (4%)</td>
</tr>
</tbody>
</table>

(Please go on to next page.)
7. Which of these activities (brainstorming, information-gathering, organizational planning, drafting, revising, editing) do you find most productive to perform as part of a group, and why?

8. Which of these activities (brainstorming, information-gathering, organizational planning, drafting, revising, editing) do you find least productive to perform as part of a group, and why?

9. Please indicate the frequency of use of prepared in-house or other "boilerplate" materials used in documents your group or groups produce. Such materials might include standard descriptions of equipment, facilities, staff, processes, or methods that are regularly included in various documents. (Circle one number.)

   1 NEVER  (PLEASE SKIP TO QUESTION #10.)  (20%)
   2 SELDOM USED  (37%)
   3 OFTEN USED  (33%)
   4 VERY OFTEN USED  (10%)

9a. Approximately how many "boilerplate materials" do you use in a typical document? (Circle one number.)

   (6%)  1 "BOILERPLATE MATERIALS" COMPRIS 75%-100% OF A TYPICAL DOCUMENT
   (16%) 2 "BOILERPLATE MATERIALS" COMPRIS 50%-74% OF A TYPICAL DOCUMENT
   (22%) 3 "BOILERPLATE MATERIALS" COMPRIS 25%-49% OF A TYPICAL DOCUMENT
   (56%) 4 "BOILERPLATE MATERIALS" COMPRIS 0%-24% OF A TYPICAL DOCUMENT

9b. How productive do you find the use of such in-house or "boilerplate" materials? (Circle one number.)

   (31%) 1 VERY PRODUCTIVE
   (44%) 2 PRODUCTIVE
   (24%) 3 NOT TOO PRODUCTIVE
   (1%) 4 NOT AT ALL PRODUCTIVE

9c. Do you have any additional comments about the use or productivity of in-house or "boilerplate" materials in group writing?
10. How often do the group or groups with which you work assign duties for completing a project according to a set plan? (The set plan might specify, for instance, that the group will plan and outline a proposed document together, then divide writing tasks so that each member drafts a part, and then reconvene so that the group can compile and revise the entire document.) (Circle one number.)

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NEVER</td>
<td>10%</td>
</tr>
<tr>
<td>2</td>
<td>SELDOM</td>
<td>18%</td>
</tr>
<tr>
<td>3</td>
<td>OFTEN</td>
<td>45%</td>
</tr>
<tr>
<td>4</td>
<td>VERY OF.</td>
<td>22%</td>
</tr>
<tr>
<td>5</td>
<td>ALWAYS</td>
<td>5%</td>
</tr>
</tbody>
</table>

10a. When your group or groups follow a set plan to divide duties, who typically assigns the tasks each member of the group will accomplish? (Circle one number.)

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GROUP LEADER</td>
</tr>
<tr>
<td>2</td>
<td>SUPERIOR OUTSIDE THE GROUP</td>
</tr>
<tr>
<td>3</td>
<td>GROUP MEMBER OTHER THAN LEADER</td>
</tr>
<tr>
<td>4</td>
<td>THE ENTIRE GROUP</td>
</tr>
<tr>
<td>5</td>
<td>OTHER (Please specify.)</td>
</tr>
</tbody>
</table>

10b. When your group or groups follow a set plan, how productive do you find its use? (Circle one number.)

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VERY PRODUCTIVE</td>
<td>34%</td>
</tr>
<tr>
<td>2</td>
<td>PRODUCTIVE</td>
<td>61%</td>
</tr>
<tr>
<td>3</td>
<td>NOT TOO PRODUCTIVE</td>
<td>5%</td>
</tr>
<tr>
<td>4</td>
<td>NOT AT ALL PRODUCTIVE</td>
<td>0%</td>
</tr>
</tbody>
</table>

10c. Please briefly describe the set plan your group or groups most often use in assigning duties, or attach a copy of the plan with this questionnaire. (After describing this set plan, please skip to question #12.)

11. If the group or groups you write with do not follow a set plan to assign duties, how do you decide how those duties will be divided?

(PLEASE GO ON TO NEXT PAGE.)
12. When you write as part of a group, how is authorship or credit most often assigned? (Circle one number.)

1  TO ALL THOSE WHO PARTICIPATED IN THE PROJECT (37%)
2  TO THE MAIN WRITER(S) (10%)
3  TO THE GROUP LEADER (6%)
4  TO THE WRITERS OF EACH SECTION OF THE DOCUMENT (3%)
5  TO A SUPERIOR OUTSIDE THE GROUP (2%)
6  TO THE COMPANY ONLY (NO PERSON IS CITED AS THE AUTHOR) (34%)
7  OTHER (Please specify.) (9%)

13. Are you satisfied or dissatisfied with the way authorship or credit is typically assigned in group writing projects in which you participate?

1  SATISFIED (94%)
2  DISSATISFIED (6%)

13a. Please explain why you are satisfied or dissatisfied with the way authorship or credit is typically assigned in group writing projects in which you participate.

14. In your experience, to what extent are members of the group or groups with which you work likely to agree about each of the following areas? If you are generally not involved with one or more of these areas, please circle 5 for not applicable. (Circle one number for each.)

<table>
<thead>
<tr>
<th></th>
<th>VERY LIKELY TO AGREE</th>
<th>LIKELY TO AGREE</th>
<th>LIKELY TO DISAGREE</th>
<th>VERY LIKELY TO DISAGREE</th>
<th>NOT APPLICABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Division of duties.</td>
<td>1 (28%)</td>
<td>2 (65%)</td>
<td>3 (11%)</td>
<td>4 (0%)</td>
</tr>
<tr>
<td>b.</td>
<td>Research methodology.</td>
<td>1 (15%)</td>
<td>2 (60%)</td>
<td>3 (13%)</td>
<td>4 (0%)</td>
</tr>
<tr>
<td>c.</td>
<td>Content or substance.</td>
<td>1 (10%)</td>
<td>2 (70%)</td>
<td>3 (11%)</td>
<td>4 (9%)</td>
</tr>
<tr>
<td>d.</td>
<td>Format or organization of document . . . . . . .</td>
<td>1 (15%)</td>
<td>2 (65%)</td>
<td>3 (19%)</td>
<td>4 (0%)</td>
</tr>
<tr>
<td>e.</td>
<td>Style . . . . . . . .</td>
<td>1 (9%)</td>
<td>2 (52%)</td>
<td>3 (33%)</td>
<td>4 (3%)</td>
</tr>
<tr>
<td>f.</td>
<td>Grammar, punctuation, or usage. . . . . . . . . .</td>
<td>1 (22%)</td>
<td>2 (53%)</td>
<td>3 (15%)</td>
<td>4 (6%)</td>
</tr>
<tr>
<td>g.</td>
<td>Credit or responsibility for document. . . . . . .</td>
<td>1 (37%)</td>
<td>2 (41%)</td>
<td>3 (7%)</td>
<td>4 (2%)</td>
</tr>
<tr>
<td>h.</td>
<td>Other (Please specify.)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

(Please turn the page.)
15. When the group or groups with which you work come to the revision stage of a project, who most often does the actual revision? (Circle one number.)

1 GROUP LEADER (36%)
2 GROUP MEMBER OTHER THAN LEADER (9%)
3 ENTIRE GROUP (12%)
4 SEVERAL MEMBERS OF THE GROUP (16%)
5 TECHNICAL WRITER OR EDITOR WITHIN THE GROUP (16%)
6 TECHNICAL WRITER OR EDITOR OUTSIDE THE GROUP (2%)
7 OTHER (Please specify.) (9%)

16. Please briefly describe the stages of review a group-written document typically goes through from the time the initial draft is complete to the time it is delivered to the intended receiver. (Please include all levels of review—legal, editorial, scientific, technical, etc.)

17. When you are working on a group writing project, how often do you use the following technologies? (Circle one number for each.)

<table>
<thead>
<tr>
<th>TECHNOLOGY</th>
<th>VERY OFTEN</th>
<th>OFTEN</th>
<th>OCCASIONALLY</th>
<th>NEVER</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Photocopying</td>
<td>1 (84%)</td>
<td>2 (15%)</td>
<td>3 (0%)</td>
<td>4 (1%)</td>
</tr>
<tr>
<td>b. Conference phone calls</td>
<td>1 (11%)</td>
<td>2 (15%)</td>
<td>3 (48%)</td>
<td>4 (26%)</td>
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<tr>
<td>c. Teleconferencing</td>
<td>1 (3%)</td>
<td>2 (17%)</td>
<td>3 (0%)</td>
<td>4 (80%)</td>
</tr>
<tr>
<td>d. Electronic mail.</td>
<td>1 (3%)</td>
<td>2 (10%)</td>
<td>3 (20%)</td>
<td>4 (67%)</td>
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<tr>
<td>e. Computer links</td>
<td>1 (7%)</td>
<td>2 (14%)</td>
<td>3 (35%)</td>
<td>4 (44%)</td>
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<tr>
<td>f. Word processing.</td>
<td>1 (78%)</td>
<td>2 (12%)</td>
<td>3 (4%)</td>
<td>4 (6%)</td>
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<tr>
<td>g. Dictaphones.</td>
<td>1 (17%)</td>
<td>2 (18%)</td>
<td>3 (24%)</td>
<td>4 (41%)</td>
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<tr>
<td>h. Other (Please specify.)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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(Please go on to next page.)
18. Have any of the technologies listed in the preceding question affected the writing you typically do as part of a group? (Circle one number.)

1. NO (27%)
2. YES (73%)

18a. Please describe how any of these technologies have affected your writing.

19. In your experience, what are the three greatest advantages of group writing in your profession?

20. In your experience, what are the three greatest disadvantages of group writing in your profession?

21. Please comment on how your participation in group writing contributes or does not contribute to your overall job satisfaction.

22. What advice would you give to someone in your field about how to write effectively as part of a group?
23. Were you given any on-the-job training to prepare you for the group writing you do? (Circle one number.)

1. NO  (80%)
2. YES  (20%)

23a. Please describe this training and comment on its effectiveness.

24. Do you feel that your high school and college English classes adequately prepared you for the group writing you do in your profession? (Circle one number.)

1. YES  (42%)
2. NO  (58%)

24a. Please comment on how your high school or college English classes might have better prepared you for professional group writing tasks.

25. What degrees, if any, do you hold? Please list the degree (BA, MA, etc.), the major, the year awarded, and the awarding institution.

<table>
<thead>
<tr>
<th>DEGREE</th>
<th>MAJOR</th>
<th>YEAR</th>
<th>INSTITUTION</th>
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26. Please add any additional comments that will help us better understand group writing in your profession.

(THANK YOU FOR YOUR COOPERATION.)