

Collaborative Learning: Lessons from the World of Work¹

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What characterizes successful collaboration? Are some conditions more conducive to efficient collaboration than others? Can individuals learn to collaborate more effectively? From the moment that we first agreed, in 1983, to collaborate on an essay, these questions took on considerable practical force for us. In attempting to answer them, we looked first to our own experiences as coauthors. The resulting essay, "Why Write ... Together?," thus moves from a brief anecdotal description of our joint composing process to a series of questions for future study. As we began to explore these questions—now as part of a major study of collaborative writing funded by FIPSE's Shaughnessy Scholars Program—we soon realized that the most useful analyses, those which explore what has come to be called collaborative learning, grew out of concerns as pragmatic and practical as our own.

M. L. J. Abercrombie's *Anatomy of Judgement* (1960) and *Aims and Techniques for Group Teaching* (1974), for instance, both evolved from her work with medical students and her growing realization that small group discussion was the most effective way to help these students become more sophisticated diagnosticians and, hence, better physicians. Reacting to a Report of a Committee of the Royal College of Physicians which argued that "the average medical graduate...tends to lack curiosity and initiative; his powers of observation are relatively undeveloped; his ability to arrange and interpret facts is poor; he lacks precision in the use of words," (*Anatomy*, 15-16) Abercrombie devised an experimental teaching course that would help students, through collaboration, learn to recognize diverse points of view, diverse interpretations of the results of an experiment, and thus to form more useful and accurate judgements:

My hypothesis is that we may learn to make better judgments if we can become aware of some of the factors that influence their formation. We may then be in a position to consider alternative judgments and to choose from among many instead of blindly and automatically accepting the first that comes; in other words, we may become more receptive or mentally more flexible. The results of testing the effects of the course of (group) discussions support this hypothesis (*Anatomy*, 17).

Another fairly early work, Edwin Mason's *Collaborative Learning* (1970), also derives from pragmatic and pedagogical concerns. Admitting that "To work in a school day after day and feel that we are doing more harm than good, and that with the best will in the world, is too much to bear"

(7), Mason set out to reform the British secondary school system, which he believed was "meeting neither the needs of the young nor the demands of the world" (8). As a result, Mason proposed a radical restructuring of this system, one which would replace the present competitive, authoritarian, overly specialized or departmentalized and hence "alienated" program with one emphasizing interdisciplinary study, small group work, collaboration, and dialogue. The remainder of his remarkable book describes such a curriculum and advises teachers on how to implement it. Throughout the text, Mason is relentlessly pragmatic, foregoing lengthy discussions of theory and instead setting out a practical plan he believes will work.

During the last ten years, composition teachers, led primarily by Kenneth Bruffee, have applied the insights of Abercrombie, Mason, and others to the writing class, developing a number of pedagogical methods which encourage students—whether fellow classmates or tutors in a writing lab—to provide useful response to the writing of peers. Bruffee's early work on collaboration, then, is also essentially practical and pragmatic, and it resulted in his popular *A Short Course in Writing*, now in its second edition. Bruffee soon moved beyond the realm of praxis, however, and began to build a theoretical framework for what was already a successful pragmatic concept. With "The Structure of Knowledge and the Future of Liberal Education," and particularly with "Collaborative Learning and the 'Conversation of Mankind,'" Bruffee began to argue that collaborative learning is successful in the classroom because it recognizes a fundamental tenet: that we learn about ourselves and about the world by interacting with others, that what we think of as "the world" and "knowledge" are constructs arrived at in cooperation or collaboration with others. As Bruffee readily admits, only recently has he come to investigate and understand the full theoretical significance of such an epistemology for the teaching of writing and reading. Drawing on the work of Stanley Fish in literary studies, Lev Vygotsky and Irving Goffman in psychology and sociology, Thomas Kuhn and Richard Rorty in philosophy, and Clifford Geertz in anthropology, Bruffee argues that writing and reading are essentially and naturally collaborative acts, ways in which we understand and in which "knowledge is established and maintained in the normal discourse of communities of knowledgeable peers" ("Collaborative Learning," 640). Such a view implies that thought is actually "created by social interaction":

The range, complexity, and subtlety of our thought, its power, the practical and conceptual uses we can put it to, and the very issues we can address result in large measure directly from the degree to which we have been initiated into...the potential 'skill and partnership' of human conversation in its public and social form ("Collaborative Learning," 640).

Such an epistemology, which, incidentally, we believe can be traced at least as far back as to Aristotle's *Rhetoric*,² finds further support in the

work of Kenneth Burke and, more recently, in that of such theorists as Mikhail Bakhtin, Frank Lentricchia, and Terry Eagleton.

At this point, to us at least, the theoretical support for Bruffee's practical system of collaborative learning seems very strong indeed. We need to recognize, however, the ever-present danger of losing ourselves in theoretical speculation about collaboration—always a pleasurable activity, and particularly heady when support comes from such a broad range of disciplines. Such speculation, we fear, may encourage us to forget that in the world of actual people, institutions, and events, if not in theory, there are two sides to almost every question. Thus although collaboration for us has been a most positive experience, both personally satisfying and professionally productive, we recognize that such is not always the case. Collaboration can easily become exploitation, for instance, as the graduate student who sees her professor publish the results of her study under his own name or the member of a committee who finds himself doing all the work but getting little of the credit can well attest. And just as collaboration can in some instances encourage dialogue and the free play of ideas, so too can it enforce "group think" and the abandonment of personal responsibility for the truthfulness or accuracy of a text. Even efforts to encourage collaboration in colleges and universities have their pluses and minuses, at least from the perspective of students. In a recent article in a publication for students, *Campus Voice*, on "Brewing up a Great Group Report," Penny De Riex analyzes the advantages and disadvantages of group work, which she calls the "pits," and provides tips on how to deal with such difficult peers as "the backseat driver" or "the freeloader" (14) with a pragmatism that might well discourage teachers who hope to use group work or collaborative writing as a means of creating a genuine discourse community. Her article, in fact, reflects our students' genuine and practical concern over grades, which present a very real problem in collaborative writing assignments.

We began our research project, then, with the awareness that our strong interest in the theoretical case for collaboration needed to be tempered with an equally strong pragmatism. As a result, we needed to move beyond our own theorizing and even our own experiences as co-authors, both of which tended to confirm our working hypothesis that collaborative writing offers many potential benefits to students, to look at collaborative writing as it occurs on the job. Our purpose was twofold. We wanted, first of all, simply to ascertain the extent to which such writing occurs, for we felt that such data were necessary if we were to break down English teachers' deeply ingrained assumption that writing is inevitably a solitary activity. Even more importantly, we hoped to use information gained in our study—practical lessons from the world of work, as it were—to help writing teachers better understand and better prepare students for the demands and rewards of collaboration.

In response to these goals, we developed a three-stage research design to study the collaborative writing practices of individuals in six major professions, represented by members of the following associations: the American Institute of Chemists, the American Consulting Engineers Council, the American Psychological Association, the International City Management Association, the Professional Services Management Association, and the Society for Technical Communication. (We recently received additional funding from FIPSE that will allow us to extend our research to members of the Modern Language Association; we hope to publish the results of this additional study within the year.) During the first stage of our project, we surveyed 200 randomly selected members of each of these associations to determine the frequency, types, and occasions of collaborative writing in these professions, with a response rate of just under 50 percent. The results of our analysis of the data confirmed our hypothesis that professionals regularly write as members of a team or group: 87 percent of our respondents reported that they sometimes wrote collaboratively. The extent of this collaboration is perhaps best indicated by participants' response to a question which asked them to "indicate how frequently, in general, you work on the following types of writing with one or more persons," after which we listed 14 types, from letters and lecture notes to reports, proposals, and books. Although the frequency of response varied from type to type, some respondents in every group indicated that they "very often," "often," or "occasionally" worked on *every type* of writing with one or more persons.

The first survey, then, provided us with basic information from which to draw broad conclusions. In addition to discovering that a large majority of respondents wrote collaboratively and that 59 percent of them found collaborative writing either "very productive" or "productive," we found that respondents spent almost 50 percent of their professional time "in some kind of writing activity"; that almost all of them (98 percent) believed that effective writing was "very important" or "important" to the successful execution of their jobs; and that they could identify the organizational patterns most often used in setting up and carrying out their group writing projects. Readers interested in a fuller, though still preliminary, analysis of the results of this survey may want to consult our "Why Write... Together?: A Research Update," forthcoming in *Rhetoric Review*.

In the second and third stages of our project—a much more detailed questionnaire sent to twelve carefully selected respondents from each of the six associations, followed by on-site interviews with at least one individual from each group, and often their colleagues as well—we have attempted to deepen our understanding of collaborative writing as it occurs on the job. Since we are still completing the statistical analysis of the results of the second survey, we will focus in the following discussion less on empirical conclusions to be drawn from our data and more on the anecdotal evidence gleaned from our interviews and from responses to

open-ended questions on the first and second surveys. In particular, given our emphasis here on the pragmatics of collaborative writing, we would like to discuss those conditions which most clearly encourage effective and satisfying collaboration on the job, and then close by drawing some pedagogical implications from this discussion.

Perhaps the condition most crucial to successful collaboration, and the one most difficult to achieve, is that of effective group dynamics. For the establishment of such dynamics is not only complex, requiring that group members display patience, flexibility, and the ability to work well with others, but it also often necessitates a substantial time commitment as well. A number of the people we interviewed, for instance, commented on the importance of what in effect are mentor relationships to successful group interactions. A young engineer in Columbus, Ohio, relatively new to his firm, observed that he was able to accept criticism of his writing by group members because he knew he would talk freely about his writing problems with more experienced partners, who would willingly stay after work for several hours to discuss such problems in what he perceived to be an encouraging and positive fashion. Similarly, a senior engineer in Seattle, the vice-president of his firm, carefully explained to us the way in which he introduced newly hired colleagues to group projects. His view was that it took from one to two years of fairly conscious nurturing before a new engineer could become a fully effective member of a writing group.

Not all groups work together for a sufficient length of time for the kind of mentor relationship described above to develop. In these cases, one factor crucial to all successful collaborative efforts, that of effective leadership, becomes even more essential. Effective leaders, respondents told us, provide both organizational and substantive direction to a collaborative project; they also assume final responsibility for its success or failure. Sometimes the same person functions consistently as leader, as in the case of the city planner we interviewed in Medford, Oregon. Our observations as well as the comments of his co-workers indicated that his success in leading group writing efforts was directly related to his overall abilities as a manager. Often, however, leadership responsibilities vary depending on the project, colleagues' work loads, or areas of expertise. In these situations, group members often pragmatically accept the need to follow the lead of others, even when they might not entirely agree. "I wouldn't do it [organize a major project] exactly this way if it were my project," one landscape architect in Lexington, Kentucky, told us. "But Bill's in charge this time, so I'll do it his way."

As our discussion suggests, in the six professional associations we studied, collaborative writing is a pragmatic, goal-oriented enterprise. When we asked respondents what kind of documents they found most productive to work on as part of a team or group (and why), they

explained their choices most often by referring to the need for the expertise or help of others. Sometimes this need is technical: "Due to the nature of professional engineering," one respondent wrote, "reports are multi-disciplinary, requiring technical expertise from several areas." Sometimes the task is so complex that collaboration is required to ensure adequate accuracy and coverage of information, to benefit from the experience of group members who have participated in similar efforts in the past, to complete a project in a limited amount of time, or simply, as one respondent indicated, to "spread the workload." Whatever the situation, the respondents and individuals we interviewed who found collaborative writing both effective and satisfying generally had a clear sense of why a specific project required a team or group effort, what their role in the group was, and the overall goal of the project.

This commitment to a shared goal was so strong that, for many, the successful completion of a project was more important than receiving explicit credit or authorship. One engineer responded to a question asking him to indicate if he was satisfied or dissatisfied with the way authorship or 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 authors' input is known." Another respondent, a member of the Professional Services Management Association (a group of presidents and chief executive officers of companies) was even stronger: "Most of our writing is done under the company name only, not individual authorship. It makes little difference who wrote what—as long as the firm's image doesn't suffer." In most cases, except for individuals working on such documents as scholarly articles or research reports to be published in professional journals, if persons felt that their contribution to a successful project was recognized ("People generally know who was responsible for what," as one respondent put it), that was enough. Specific authorship or formal recognition of credit simply was unnecessary.

Finally, many of those we surveyed recognized that the collaborative writing they did on the job had benefits in addition to the obvious one: the efficient production of an effective document. A number commented on the overall benefits of "team-building," creating a "sense of group accomplishment" that would influence other collaborative ventures and reduce in-fighting, giving colleagues a sense that "all share in [the] final product." As indicated earlier, 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, for instance, that collaborative writing can help "train participants in organizational policy, [and in the] expectations [and] thought processes of the chief administrator." A number of respondents indicated that collaborative writing had individual, as well as institutional, benefits. "It helps me stay fresh by discussing writing and seeing how other writers work," one

technical writer noted, while an engineer commented that collaborative writing "contributes to my job satisfaction in that it allows me to gain exposure and knowledge of different aspects of our profession in an actual work environment." Respondents commented on "the intellectual stimulation provided by group writing," and a number noted the emotional support as well. One member of the International City Management Association, who reported that she had been "writing grants with the same people for three years," observed that her "group is as much a support group as a professional team."

We have not discussed all the conditions our research indicates are likely to encourage effective and satisfying collaborative writing on the job. Notable exceptions, for instance, include 1) clear, though not necessarily explicit or formal, organizational procedures; 2) adequate clerical and technical support, such as photocopying, on-line revision capabilities, and conference calls; 3) style guides or formats which reduce the complexity of merging styles; and 4) review procedures which provide opportunities for writers to respond to changes in their text made by others. Nor, obviously, have we examined those conditions which can render collaborative writing ineffective and unsatisfying, though simply reversing the previously discussed conditions—ineffective group dynamics, inadequate leadership, an unclear understanding of goals, failure to recognize a collaborative effort—can provide a beginning sense of their outline. And, as we noted earlier, we are still engaged in the sometimes overwhelming effort of attempting to synthesize the voluminous amount of data, from complex statistics to hundreds of pages of transcripts of interviews, that we have accumulated since we began our project.

Yet we have completed enough of our analysis to feel confident that our study strongly supports the argument, so cogently summarized in Bruffee's work, that what we know is largely constructed during social interactions and that, far from learning as isolated, individual selves, we do so as active members of a community, as collaborators. A natural inclination, given this strong argument, is to urge that we bring more collaboration, and particularly more group reading and writing projects, into our college classrooms. And yet we should practice caution before following this inclination. In the first place, at least some conditions in most college classrooms work against collaboration. Such conditions include, for instance, time pressures resulting from the shortness of our term, especially quarters, and our sense of obligation to cover all the material; students' perception that they are competing with one another for grades; and our methods of testing and the concomitant fear of plagiarism. More importantly, however, the conditions which play such an important role in successful collaboration—effective group dynamics, strong leadership, well-defined goals, and the clear motive for collaboration provided by large, otherwise unwieldy projects—are very difficult to replicate in the classroom. As Bruffee astutely notes, "Organizing collaborative learning effectively requires doing more than throwing students

together with their peers with little or no guidance or preparation. To do that is merely to perpetuate, perhaps even aggravate, the many possible negative effects of peer group influence: conformity, anti-intellectualism, intimidation, and leveling-down of quality" ("Collaborative Learning," 652).

In spite of these difficulties, however, we believe collaboration can be brought effectively—albeit cautiously—into our classrooms. Thus far, our research has suggested a number of practical guidelines teachers may use in preparing for and implementing collaborative projects. First, and perhaps most importantly, group projects must be conceived in such a way that they necessitate group effort or that the group process itself is of major importance. That is to say, we should avoid simply taking an assignment we would normally assign to individual students and assign it instead to groups. In concrete terms, this means creating projects which require division of labor or which demand that a consensus be forged. In one writing across the curriculum program we visited, for example, a physics teacher's class on "Alternatives to Armageddon" worked in small groups throughout the term, dividing up research duties and puzzling out problems in physics together, as they worked toward an "alternative" that would be acceptable to all.

Our respondents, and particularly those we interviewed, time and time again stressed the ways in which setting well-defined goals led to effective collaborative efforts. Teachers interested in group writing projects should heed this advice and prepare for the assignment by setting such goals, and clarifying them, with group members. In concrete terms, these goals may translate into carefully designed worksheets for students to use as they carry out the assignment. On a long-term project, goal setting may also be related to division of duties. In group writing assignments we have observed, such a division of labor may result in one student writing the introduction while others work on drafts of parts of the body and conclusion. Duties of each group member must also be clear during collaborative sessions: one student may best serve as scribe or recorder, another as discussion leader, and so on.

Yet another factor our respondents felt contributed to effective collaboration on the job is equitable review procedures. Ideally, our respondents informed us, group members know what will happen at each level of review and are given the opportunity to respond to changes made to a document during reviews. The review procedures in writing on the job are most closely mirrored in the classroom by the related processes of response and evaluation. Involving students directly in these processes can, we believe, help improve the effectiveness of classroom collaboration. Particularly in group writing undertaken early in the term or in longer projects, students should regularly evaluate the group process as well as each member's contribution. It may be appropriate, as well, for students to help evaluate the final product, but if they do, teachers and students should jointly develop criteria for that evaluation.

Two more general guidelines for making group projects effective emerged from our study. First, our interviews and observations of writers on the job demonstrated how important format and stylistic constraints can be in expediting collaborative writing. Teachers may want to set out such constraints for students, as we regularly do in assigning technical reports, for example, or they may wish to involve students in developing a format and a brief style sheet for a particular group project. Doing so will save time, both in organizing the document and in editing it and—at least according to those we interviewed—will also make the group process both more pleasant and productive. Finally, teachers may want to follow up on advice from our respondents on which parts of the writing process most lend themselves to effective collaboration. Brainstorming, organizational planning, information gathering, and revising all benefit from group participation, whereas most respondents felt that drafting and editing, except under special circumstances, are better carried out individually. Those we interviewed particularly emphasized the power of group brainstorming, and urged us as teachers to spend time helping students learn how to brainstorm together. One concrete way to do so is to provide a set of questions designed to spark ideas and draw students into thinking creatively about their subject.

Our research has helped us to formulate tentative answers to the questions with which we began this essay. We now know some of the characteristics of successful collaboration and some of the conditions which lead to successful collaboration—in work-related writing. As teachers, we are naturally interested in adapting what we have learned for use in our classes, and though that task will be a difficult one, we believe it is worthwhile and, in fact, necessary. At the conclusion of a recent article, Kenneth Bruffee says that "to marshal the powerful educational resource of peer group influence requires us to create and maintain a demanding academic environment that makes collaboration...a genuine part of students' educational development" ("Collaborative Writing," 652). We have attempted here to set forth some general guidelines, drawn from our research, which may help us create a classroom environment in which collaboration may thrive. But Bruffee's challenge demands that we go beyond general guidelines for designing effective collaborative situations to "more thorough analyses of the elements of our field than we have yet attempted" (652). We believe Bruffee is right, and we hope that our research will continue to lead us to new and more informed analyses of writing processes and products and their place in both the academy and the world of work.

Notes

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²For a discussion of the ways in which Aristotle's rhetoric is primarily social, see Karen Burke LeFevre's *Invention As a Social Act* (Carbondale, IL: Southern Illinois UP, forthcoming).

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