CHAPTER THREE

Writing and Collaboration

from Kenneth A. Bruffee Collaborative Learning: Higher Education, Interdependence, and the Authority of Knowledge

Collaborative learning models the conversation by which communities of knowledgeable peers construct knowledge. Such a community can be as large as all English- (or Urdu-) speaking people or as small as a family or a half-dozen world authorities on sea urchins. All of these communities are constituted by people talking with one another. Most of them are also constituted by people writing to one another. That is why writing lies at the center of collaborative learning as one of the most important elements in the craft of interdependence. There is no more important skill to learn in acquiring the craft of interdependence than learning to write effectively.

As we noticed briefly at the end of Chapter 2, writing is central even to the construction of scientific knowledge. In *Laboratory Life: The Social Construction of Scientific Facts,* Bruno Latour and Steve Woolgar show that scientists construct scientific knowledge through conversation, and that the most important kind of conversation scientists engage in is indirect, that is, displaced into writing. Scientists, they tell us, are "compulsive and almost manic writers." Conversation among scientists illustrates, furthermore, how we construct knowledge in every field and walk of life.[1]

The view of scientists as writers in displaced, indirect conversation with one another contradicts most people's conception of scientists day and night alone in their labs, tinkering with their experimental equipment. Of course scientists spend some of their time in labs working alone. But even in the lab, Latour and Woolgar tell us, scientists "spend the greatest part of their day coding, marking, altering, correcting, reading, and writing." A scientific lab, they say, is "a hive of writing activity."

Scientific knowledge results from scientists' interpretive translation of their research data and direct conversation about it—that is, their transformation and displacement of it—into draft after draft of argumentative essays reporting their research.[2] Even the data they work with are written. Scientists gather it from the instruments they use, instruments that Latour and Woolgar call "inscription devices" because they "transform pieces of matter into written documents . . . a figure or a diagram" which scientists use directly in constructing an argument. Scientists write and rewrite these arguments in order to support an interpretation of the data their inscription devices have provided, an interpretation that seems, for the moment, to explain the data in an appropriate and convincing way. "The construction of scientific facts," Latour and Woolgar tells us, is "a process of generating *texts* whose fate (status, value, utility, facticity) depends on their subsequent interpretation" by other scientists.[3] Publication in a professional journal is only one stage in this writing process. Conversation, direct and indirect, goes on among a relatively few scientists, long before publication, and it continues after publication among many more, when scientists elsewhere who read published reports of research join the conversation.

In generating texts—in writing—scientists do what all writers do who write in an active, engaged community of knowledgeable peers. They carry on a "meticulous sorting of weak connections between existing ideas" by willingly subjecting themselves to mutual criticism. They read and reread, check and recheck, revise and re-revise their own and each other's written material. It goes without saying that social scientists and humanists, lawyers, doctors, and accountants construct knowledge in much the same way, writing to one another in an active, engaged community of knowledgeable peers.[4]

One purpose of collaborative learning is to give college and university students opportunities to experience this reacculturative, conversational process, direct and indirect, by which not only scientists, but also doctors, lawyers, mathematicians, sociologists, classicists, and other bearers of intellectual tradition construct knowledge in the language of their communities of knowledgeable peers. It is the same reacculturative process that my colleagues and I experienced, and that the student we called Mary undertook, as I described it in Chapter 1. It is because writing is so important to this process, as we saw in Chapter 2, that the principal way teachers evaluate students in collaborative learning is by evaluating their indirect, displaced, written contributions to class conversation. Writing is not ancillary to teaching with collaborative learning, as it is to traditional teaching. It is central.

There are, of course, many ways to teach writing.[5] This chapter describes how college and university teachers can teach writing in a collaborative way that is consistent with the role that writing plays in constructing knowledge and consistent also with the collaborative nature of writing itself.

Most of us are not in the habit of thinking about writing nonfoundationally as a collaborative process, a distanced or displaced conversation among peers in which we construct knowledge. We tend to think of writing foundationally as a private, solitary, "expressive" act in which language is a conduit from solitary mind to solitary mind. Through language we "communicate" our privately generated, unique thoughts to one another. When each solitary reader in the socially unrelated aggregate reads what we write, what happens, we suppose, is that another mind "absorbs" the thoughts we express in writing. Our goal is to distinguish our own distinct, individual point of view from other people's points of view and demonstrate our individual authority. Our readers are adversaries whom we try to "win" to our view by persuading them to agree with us, sympathize with us, or do what we want them to do. Their presumed goal as readers is "winning," too, by doubting what we say and by countering our arguments, thus resisting agreement with us unless we manage to overwhelm them with our persuasive power.

What has led us to misunderstand writing in this way is the solitude most of us usually require for one aspect of writing—inscription, putting pen to paper or fingers to keys—combined with our awareness that there are a fortunate few writers who, because they have thoroughly internalized their community's conversational conventions and vocabulary, give the impression of being able to write without engaging in conversation. These range from a minority of practiced journalists, who seem to provide edited copy off the top of their heads, to Milton, who while blind dictated *Paradise Lost* to his amanuenses, and Shakespeare, who is reputed never to have blotted a line.

Once we understand writing in a nonfoundational way as a social, collaborative, constructive conversational act, however, what we think we are doing when we write changes dramatically. The individualist, expressive, contentious, foundational story we have been telling ourselves about writing seems motivated by socially dubious (perhaps even socially immature) self-aggrandizement. As a peculiar and in some cases harmful by-product, when we write we may well distinguish ourselves and enhance our individuality. But in understanding writing as a collaborative, conversational process, we understand that what we are actually trying to do is the very opposite. When we write we play the "language games" of the communities that we (and, we assume, our readers) belong to.

That is, we exercise our fluency in the linguistic and paralinguistic symbol systems that constitute those communities. We use a language that is neither a private means of expression nor a transparent, objective medium of exchange, but a community construct. It constitutes, defines,

and maintains the knowledge community that fashions it. We write either to maintain our membership in communities we are already members of, to invite and help other people to join communities we are members of, or to make ourselves acceptable to communities we are not yet members of. Our goal in writing (and reading) is to celebrate our own current acculturation, or else to reacculturate ourselves, reacculturate others, or reacculturate both ourselves and others at the same time. That is why writing and reading are such profoundly human, profoundly civilizing acts. By reading and writing (as we shall see in Chapter 7), we take part in what Michael Oakeshott calls "the conversation of mankind."

So a written text is a bit like a pueblo, one of those traditional Navaho adobe villages piled high, story upon story against the cloudless skies of the American Southwest. Both are constructions whose origins are lost in time. The architect in charge is no one person. The architect is the community consensus. Together, decade after decade, in some places century after century, community members made the adobe bricks from local clay and built the village with them. Together, today, the community continues to adapt and reconstruct its domain. Even linguistically, the community of people (*el pueblo*) is indistinguishable from the adobe structures (*el pueblo*) in which it lives.

Similarly, when we write we adapt and reconstruct the existing communities that we have inherited by renovating the inherited linguistic material that constitutes them. The indirect, displaced conversation between writers and readers does not get under way at all except by virtue of a complex web of agreements already in place. From the beginning writer and reader agree about what counts as a meaningful question and what counts as a fair or unfair answer to it. Agreements of this sort constitute the community, the peer group that "speaks our language," within which and to the members of which we write and read.

Because language is a social artifact, intrinsically collaborative and constructive, not even the bitterest politician's polemic or the cleverest lawyer's courtroom brief is written only to "win" or merely to defeat an alien antagonist. Likewise, not even the most intimate diary entry is entirely the expression of a wholly unique self. Every time we write, we try to construct, reconstruct, or conserve knowledge by justifying our beliefs to each other socially. We judge what we write, and other people judge it, according to the assumptions, goals, values, rules, and conventions of these communities.

So we write political polemic, courtroom briefs, and diary entries all for the same reason: to affirm the social nature of writer and reader and their constructive collaboration. We write to affirm an abiding social, collaborative, and constructive relationship among those immediately

concerned and, in the largest sense, among us all: our membership in a common human community.

To achieve these goals when we write, we are continually making judgments, large and small, each one affecting all the others: what to write about, what to say about it, how to say it, how to begin, what word to use, how to phrase this sentence, where to put the comma. Writing is one dad-dratted decision after another. And learning to make knowledgeable, discerning, reliable decisions in any activity is, as Abercrombie demonstrated, something we learn best collaboratively.

The analogy between Abercrombie's experiment in teaching medical students the art of diagnosis—medical judgment—and teaching writing is apt, because there can be as much riding on decisions made when we write as on diagnostic decisions. It is not just that cautionary notes in travel brochures and on detergent and medicine bottles, architects' specifications, even instructions for taking care of your car, can impinge on health and welfare. Latour and Woolgar's study implies that writing decisions and medical decisions are one and the same. What the diagnostician writes is what the diagnosis is. Nothing is a symptom until it is construed (that is, constructed) as a symptom. Diagnosticians construct their judgments in the language of their community of knowledgeable peers. They don't diagnose an illness and then decide what to call it. They diagnose it *by* deciding what to call it.[6]

But in addition to this basic similarity between these two kinds of judgment, writing and medical diagnosis, there is also a significant difference between them. A pair of consulting physicians trying to construct a diagnosis can easily distinguish the patients they are talking about from the language they are using to talk about them. They can easily maintain an illusion of objectivity, therefore, by referring to a commonly accepted, before-the-fact, highly systematic taxonomy of symptoms formulated in that language and apply them to unique, entirely unsystematic complaints and physical changes.

But when we write, we cannot so easily distinguish the "patient" we are talking about, a bit of language (a word, a sentence, a paragraph), from the language we are using to talk about it. We find ourselves talking about the "the" in that sentence, or the " 'the' " in this one. To use language to identify what's wrong in a confusing sentence and decide what to do about it, say, is to enter an infinitely regressive hall of mirrors in which we construct a judgment with the same, or nearly the same, linguistic symbol system in which the sentence itself is constructed. In writing, we are always pulling ourselves up by our own bootstraps.

Before-the-fact objectivity ("what the dictionary says," the "rules" of grammar) is more illusory even than in medical diagnosis. There are only the conventions of grammar and usage subscribed to by one or another community of "literate" peers that we happen to belong to.

To write is to use the writer's socially constructed authority to socially construct the authority of the text being written. To say therefore that, in writing a medical diagnosis, writing decisions and medical decisions are one in the same and that what the diagnostician writes is what the diagnosis is, is to say that when we think about which word to use next, or its proper form, or how to begin the next paragraph, we are talking to our (socially constructed) selves, and to (socially constructed) others, about the (socially constructed) subject about which we are making a (socially constructed) judgment. So we have to be aware (awareness being a socially constructed state of mind) of how we are using our (socially constructed) language to make that judgment.

That is why writing can sometimes feel as awkward, and on occasion turn out as badly, as cutting your own hair looking in a mirror. The complex decisions we have to make when we write are complicated even further by the fact that we write to suit our goals, interests, and knowledge of as many as three communities of readers. One of these is the community (or the several overlapping and nested communities) that we are already members of. Another may be the community (or several communities) that we hope to join. And the third is the enormous community of communities whose "language game" is standard written English, the community that demands that our writing be acceptably correct as well as unified, coherent, and stylistically appropriate according to that standard.

Thinking of writing as social, collaborative, and constructive tells us a good deal about how college and university teachers (and textbooks) should be teaching writing and expecting students to learn it. One implication is that, as much as they might like to, college and university teachers (and textbook writers) cannot *tell* students how to write. Instead, because writing is itself a displaced form of conversation, teachers have to find ways for students to learn to engage in constructive conversation with one another about writing.

The value of constructive conversation among students about writing depends on several assumptions. First, students can only write about what they can talk about with each other, and also, in most cases, they can only write about what they have already talked about with each other. Second, students can write effectively only to people they have

been and continue to be, directly or indirectly, in conversation with. And third, students' writing can only be as clear, incisive, and effective as their conversation is, both their conversation about the topic they are writing on and their conversation about writing itself.

Based on these assumptions, a writing teacher's first goal is to give students opportunities to talk with their peers about what they are writing. Students' conversation with their teachers is obviously of value. But for students, talking with their teachers is talking with members of another community. Conversation with members of other communities is always somewhat mannered and strained, something of a performance. Learning to converse constructively with peers about writing is at least equally important for student writers because, as we shall see William Perry's informants reveal (in Chapter 10), conversation with people we regard as our peers—our equals, members of our own community—is almost always the most productive kind of conversation. So students have to converse with their peers about writing both directly and indirectly. They have to talk with one another face-to-face about writing. They have to write to each other about writing.

Another implication of understanding writing as social, collaborative, and constructive is that students have to learn how to converse with one another about every step in writing: finding a topic; deciding what to say about it; developing material to defend or explain what they say; reading, describing, and evaluating what they have written; and rewriting. The short-range purpose of this conversation is to improve students' writing here and now. Its long-range purpose is to help students internalize conversation about writing and carry it away with them so that they continue to be good writers on their own. Internalizing conversation lets us work together, as Robert Frost says in "The Tuft of Flowers," whether we work together or apart.

In teaching students to talk with one another about their writing, one of the hardest things to do is to keep them from talking exclusively about the issue they are writing about and the opinions they have about it. Controversy is emotionally engaging and fun, but talking about issues does not by itself make students better writers. They also need to learn to talk about how they make writing judgments and arrive at writing decisions.

Take, for example, this made-up conversation between students about the very first step in writing: finding a topic. In this conversation, one student (we'll call him Bert) has to decide on a topic for an essay for his freshman composition course. The assignment is to explain to his classmates something that he learned in another course. He runs into his friend Ernestine. She's in the same class, sees the worried look on his

face, and puts two and two together. Their conversation goes something like this:

Ernestine: Hey, Bert, what're you going to write your comp essay about?

Bert: Gee, Ernestine, I don't know.

Ernestine: What courses are you taking besides comp?

Bert: Music. Phys Ed. Psych. Physics.

Ernestine: Which one do you like best?

Bert: Physics. I'm doing great. I think I'm going to ace it.

Ernestine: Why not write about that?

Bert: No.

Ernestine: Why not?

Bert: No, Ernestine. No. Absolutely not. It's too hard. Nobody'd understand what I'm saying. Anyway, nobody cares about physics. They think it's boring. Everybody'd be bored.

Ernestine: I wouldn't be. I liked physics in high school. I'm taking it next term. What're you doing in physics right now?

Bert: Well, we just finished atomic structure and radiation.

Ernestine: What about them?

Bert: Well, uh . . . oh, Ernestine, no. I tell you I can't write about physics, and that's that.

Ernestine: Aw, come on, Bert. What's radiation?

Bert: It's energy. Different kinds of matter give off different kinds of energy.

Ernestine: What kinds?

Bert: Light. Light is radiation. There are different kinds.

Ernestine: Bert, come on. What other kinds?

Bert: Oh, X-rays, cosmic rays, particle radiation, that sort of thing.

Ernestine: So, there you are. Write about them.

Bert: Mm, . . . no. Too complicated. But you know what? I could write about what radiation does to you if you get too much of it.

Ernestine: Do you have enough to say about that for a paper?

Bert: Sure. The teacher lectured about it. Showed pictures too. Ugh. And you know, I remember seeing a TV show about it last spring. There's a section in the textbook about it, too. That may help.

Ernestine: What could you say about it? What kind of position would you take?

Bert: Well, maybe something like, Radiation changes cell structure. How about that?

Ernestine: What does changing cell structure do to you?

Bert: Mainly it gives you cancer and gives your children birth defects.

Ernestine: There you are, Bert. You've got a position—radiation changes cell structure—and two paragraphs to support it, one on radiation-induced cancer and one on radiation-induced birth defects. You're home free.

Bert: Gee, Ernestine, do you think so? Do you think people would be interested? Radiation sickness is really awful, Ernestine. Why, do you know what happens first if you get too much radiation? Your . . .

Ernestine: Wait. Wait. Stop, Bert. Don't tell me any more about it. Make the comp teacher sick, not me. Serve him right. But you know what?

Bert: What?

Ernestine: I'm not bored.

Bert: Gee, Ernestine, thanks.

Ernestine helps Bert a lot in this conversation, and Bert knows it. But she doesn't do anything that any undergraduate couldn't do, even without thinking much about it. She keeps the conversation from getting sidetracked by the issues that the topic raises. She helps Bert pull together experiences and sources that he had not connected before. As a result, in this conversation Bert begins constructing knowledge in writing as Latour and Woolgar's scientists do, by discovering "existing ideas" and some connections among them and by beginning to sort the strong connections from the weak.

Along the way Ernestine also helps Bert generate some enthusiasm for the topic by reaching for his feelings about it, plays dumb about it in order to elicit some details, helps Bert formulate a position on the basis of what he knows, helps him see a way to construct an argument by organizing what he knows, and encourages him. As it did for Mary (in Chapter 1), conversation makes Bert ready to write.

Teachers foster constructive conversations such as this one by creating classroom conditions in which such conversations can occur. The tools for creating those conditions are social reorganization and nonfoundational, constructive, tool-making tasks. The quality of student conversation and the quality of the judgments students arrive at depends on how well they negotiate among themselves to resolve their differences in judgment, how well they understand why such differences occur,

and how well they evaluate and sort the information and experience that they have at their disposal.

Consensus-group tasks in writing courses differ with students' ability and experience as writers. Some of them involve familiar exercises such as collaboratively analyzing, diagramming, or combining sentences, revising sentences to improve their structure, simplifying complex or disorderly expression, reorganizing the sentences in disorganized or scrambled paragraphs, finding the thesis sentence or proposition in professionally written essays, inventing material to develop underdeveloped paragraphs, and so on.

Besides this consensus-group collaboration, writing courses also ask students to work in writing or editing groups. Some of the suggestions for reorganizing classes and designing tasks for consensus-group work sketched in Chapter 2 also apply to writing or editing groups. But writing and editing groups tend to be smaller than consensus groups—usually two or three students instead of five. And tasks designed for collaborative writing or editing tend to ask different kinds of questions.

One of the most reliable collaborative tasks used in teaching writing is the world's oldest means of publication and still the easiest, friendliest, and most economical one: reading aloud. Reading aloud in class turns displaced conversation (writing) back into direct, face-to-face conversation (talk). The resulting immediate response of a community of sympathetic peers helps writers develop responsibility for what they are saying and also helps them develop the courage to say it. It tends to diminish the obsessively private quality that makes writing so futilely self-involved for many writers. It gives writers a sense of a real live audience, a community of people who "speak the same language." It helps students begin to trust one another by turning an aggregate of solitary writers into a learning community and a workshop for working with words.

Reading one another's work and listening to one another's work read aloud gives students confidence in the value of their own words and ideas, because they learn that other writers are interested in what they have to say. Learning what their peers are interested in, furthermore, they get to know one another at a level of intellectual engagement, in many cases for the first time. And they become increasingly sensitive to triviality, excessive generality, and errors in usage and logic.

A second, more complex and intensive collaborative task used in teaching writing is peer review. In this case, students learn, first, to write a "descriptive outline" of another students' essay and, second, to write a peer review that tells the writer what in the essay is well done and how to improve the essay. Descriptive outlines ask students to "map"

a piece of writing—a paragraph, an essay, in some cases a whole book—by identifying its parts and showing how they are related. They develop writers' awareness as readers by developing their sense of form. Because writers are always their own first readers, the better readers they are, the better writers they are likely to become.

Tasks such as these and the others described in Chapter 2, along with the routine procedures of collaborative learning, certainly seem harmless enough in practice. But the collaboration they require and the nonfoundational understanding of knowledge they assume cut across the grain of most college and university teaching today. In the next chapter we begin to explore the depth of that cut, to see just how threatening it may actually be.

CHAPTER FOUR

Toward Reconstructing American Classrooms: Interdependent Students, Interdependent World

College and university teachers are likely to be successful in organizing collaborative learning to the degree that they understand the three kinds of negotiation that occur in the nonfoundational social construction of knowledge: negotiation among the members of a community of knowledgeable peers, negotiation at the boundaries among knowledge communities, and negotiation at the boundaries between knowledge communities and outsiders who want to join them.[1]

These three kinds of negotiation define both the practice of college and university teaching and the nature of college and university teaching as a profession. In Chapter 8 I will examine some of the professional implications of this distinguishing expertise. In the present chapter, after explaining the three kinds of negotiation in some detail, I will address some of their pedagogical and educational implications for colleges and universities and their teachers. In doing so, I will answer two questions: How does collaborative learning differ from foundational innovations in teaching? and, How does the thinking of college and university teachers about teaching have to change if change in college and university education is not to be superficial and ephemeral?

The first kind of negotiation that occurs in the nonfoundational social construction of knowledge is within a community of knowledgeable peers, among its members. Members of academic or professional knowledge communities such as law, medicine, and the academic disciplines negotiate with other members of the same community in order to establish and maintain the beliefs that constitute that community. Biochemists, for example (as we saw at the beginning of Chapter 3), review each other's work over the lab bench, and they read and respond to each other's published articles. This conversation within knowledge communities is what Thomas Kuhn calls *normal science* and, following Kuhn, what Richard Rorty calls *normal discourse*. As members of disci-