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ABSTRACT

This study used a five-phased, multi-modal research design to develop a pedagogical plan for collaborative learning in freshman composition classrooms, a plan intended to improve student writing within a collaborative environment and be readily adaptable to a range of teaching contexts. The five-phased project used the following methods: (1) teachers-as-researchers: naturalistic-descriptive mode; (2) teachers-as-researchers: interventive-descriptive mode; (3) teachers-as-researchers: interventive-descriptive mode; (4) teacher-researcher collaboration: experimental mode; and (5) teacher-researcher collaboration: case studies-descriptive mode. Phases one, two, and three involved the same three instructors, each responsible for at least one class of freshman composition. Results indicated that the three-tiered, five-point approach to collaboration appeared to increase the level of the students' interest and competence in collaborative learning and writing and was ready to be tested in more rigorous experimental conditions. Phases four and five involved four different instructors who taught freshman composition classes. Results indicated that collaboration throughout the writing process legitimized group talk about crafting writing, attitudes toward writing, and attitudes toward collaboration in all four experimental classes. The pedagogical plan may have a built-in gender bias, making it particularly appealing to female students. (Forty-eight references are attached.) (MG)

"COLLABORATION: SEE TREASON"

A Three-Year Study of Collaboration in Freshman Composition Classrooms

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ABSTRACT

This study used a five-phased, multi-modal research design to develop a pedagogical plan for collaborative learning in freshman composition classrooms, a plan that should (1) improve student writing within a collaborative environment and (2) be readily adaptable to a range of teaching contexts. Research findings included the following: collaboration throughout the writing process legitimized group talk about crafting writing, but did not guarantee it; the pedagogical plan improved student writing, attitudes toward writing, and attitudes toward collaboration in all four experimental classes; the pedagogical plan may have a built-in gender bias, making it particularly appealing to female students.

Problem: Collaborative learning as marginal pedagogy

Collaboration remains on the periphery of pedagogy. Although much has been said and written about collaborative writing and learning, and although educators at all levels of instruction are encouraging collaboration, students learning and writing together -- happily and effectively -- are still the exception rather than the norm. Regrettable but understandable are the attitudes of those teachers who, for reasons ranging from "I need to cover the syllabus" to "the old ways of teaching have always worked for me," reject collaboration without even trying it. Much more alarming is the growing number of educators who willingly "try collaboration" in

their classrooms and then reject it in disappointment and frustration over seemingly ineffective use of time. These educators, committed to reading about and trying innovative ideas to improve their students' learning, often feel betrayed by researchers and theorists whom they perceive as distant from the day-to-day exigencies of classroom teaching. But it is this group of educators, eager to participate on the cutting edge of pedagogy in order to improve their students' learning, that research needs to address and accommodate in order to diminish the swelling gap between the rhetoric and the reality of teaching and learning.

As I listened at recent conferences and in-services to several dedicated but frustrated teachers talk about their classroom experiences with collaboration, several broad questions emerged:

a) Why does collaboration sometimes work and sometimes not?

b) What factors enhance or inhibit what kinds of collaboration?

c) What speaking/writing relationships occur in collaborative classrooms?

d) Does collaboration really improve/enhance writing and learning? If so, how can this improvement be documented?

Partial answers to these questions may be found in the considerable research about collaborative learning and writing that has already been done. Karen Burke LeFevre (1987) presents a comprehensive theoretical and historical rationale for the social

nature of writing and learning, and Anne Ruggles Gere (1987) details the historical and theoretical development of collaborative writing groups in America. Since Kenneth Bruffee's seminal adaptations of British views of collaboration to American pedagogy (1973, 1978, 1982, 1984, 1985), educators have explored several aspects of teaching collaboratively: teacher and student attitudes (e.g. Freedman, 1985); the (beneficial) process and (questionable) necessity of developing consensus (Wiener, 1986; see also Trimbur, 1989; Bruffee, 1985; Leonard, 1917); analyses of group talk, both positive and negative (e.g. Nystrand, 1986; Gere and Abbott, 1985; Gere and Stevens, 1985; and Berkenkotter, 1984; Newkirk, 1984); classroom methods and strategies (e.g. Elbow and Belanoff, 1989; Huff and Kline, 1987; Elbow, 1985; Bruffee, 1985; Macrorie, 1979); and business and professional applications (e.g. Lunsford and Ede, 1990; Allen et al., 1987). Informative and inspirational as these works may have been, both to me and to the other teachers I have spoken with about collaboration, they share a common flaw as far as the needs of these teachers are concerned: either they decontextualize theory from practice or they progress linearly from theory to research to pedagogical implications, a logical progression well-founded in tradition, but less meaningful to practising teachers than might be expected or supposed. Frequently the pedagogical implications seem so tied to the particular context of the research that they seem not readily transferable to a wider range of contexts; many other times, teachers are unsure of how to accommodate the pedagogical implications or even particular

strategies to their current pedagogical ethos or practices. Furthermore, no single study has combined the rich "thick description" of classrooms needed to respond to the first three questions (above) with the comparative empirical data required to show the causal relationship between collaboration and writing improvement sought in the fourth question. I found a possible solution to these problems in Composition Research: Empirical Designs (Lauer and Asher, 1988).

Research design responding to teachers' needs

The Lauer and Asher discussion of the range of empirical research designs shows pointedly how different designs demand different kinds of questions and how different designs can yield different kinds of answers to similar questions. In order to find answers to the four questions (above) that might accommodate some of the needs of teachers wanting to implement collaborative learning and writing in their classrooms, I developed a five-phase research project incorporating naturalistic, case-study, and experimental designs, and using both teacher-as-researcher and researcher-intervention methods:

(a) phase one: teachers-as-researchers -- naturalistic-descriptive mode (examining collaborative processes in our own classrooms and attitudes about collaboration among our students and colleagues);

(b) phase two: teachers-as-researchers -- interventive-descriptive mode

(trying out several known collaborative methods and strategies in our own classrooms in order to determine what worked best for each of us under what circumstances);

(c) phase three: teachers-as-researchers -- interventive-descriptive mode (piloting a five-point pedagogical plan that evolved during phase two);

(d) phase four: teacher-researcher collaboration -- experimental mode (using experimental and control groups with associate faculty as instructors to determine possible cause-effect relationships between the five-point pedagogical plan and collaborative teaching/learning);

(e) phase five: teacher-researcher collaboration -- case studies-descriptive mode (tracking individual teacher reactions to the five-point pedagogical plan).

The intention in this five-phased design was to overcome teachers' frustration with the traditional theory-research-implications linear model by recycling the findings and pedagogical implications of each phase of the research directly into the next phase, culminating in a research-based, theory-driven pedagogical approach to collaborative learning and writing.

Theoretical base for collaborative composition classrooms

Since theories regarding collaborative research and pedagogy have been explored extensively (e.g. DiPardo and Freedman, 1988; Gere, 1987; LeFevre, 1987; and Bruffee, 1984), my brief discussion here

will serve primarily as a context for the particular kind of collaboration addressed in this research project. As DiPardo and Freedman point out in their historical overview of groups in the writing classroom (1987), the socially-based theory of language acquisition and development posited by Lev Vygotsky (1962) offers a firm core to collaborative learning theory with its stress on the social nature and conversational contexts of learning. In particular, his discussion of what he terms the "zone of proximal development" underscores the importance of the conversational sharing of ideas when learning new concepts or probing recently learned concepts more deeply. Michael Polanyi's exploration of tacit knowledge and personal ways of knowing (1958) complements Vygotsky's views by offering further understanding of how and why collaboration aids learning. Polanyi asserts that all of the knowledge that has been taken in through sensory experiences remains, albeit available, generally disconnected and unarticulated -- a tacit, inchoate collocation of the fragments of world knowledge that each person accumulates over a lifetime. Though presentational pedagogy adds to the accumulation of these fragments, conversation and writing are the primary means by which articulated connections are accomplished. The American psychologist, George Kelly, provides yet more depth to our understanding of how collaboration aids learning with his notion of each person's world representation -- the totality of connected and unconnected, articulated and unarticulated fragments of experience -- as his or her "personal construct system" (1955). His

consideration of learning "not as a special kind of human behavior but as behavior at its most typically human" (quoted in Britton, 1976: 78) underlies his theory of constructs: we order and make sense of random and fragmented experiences by categorizing or "constructing" on the basis of how they are like and unlike each other. Although Kelly's work focuses on the individual, sociologists more recently have applied his theory of personal constructs to social contexts, particularly to conversational contexts. For example, Berger and Luckmann write:

> The most important vehicle of reality maintenance is conversation. One may view the individual's everyday life in terms of the working away of a conversational apparatus that ongoingly maintains, modifies and reconstructs his subjective reality (1966: 172, quoted in Britton, 1976: 79).

Considered together, the theories of Vygotsky, Polanyi, and Kelly, drawn respectively from educational philosophy, science, and psychology, suggest that learning is most effective when students talk about and write about new or even seemingly familiar concepts, since each person's rich reservoir of tacit knowledge and personal construct system, when articulated in group conversation, will stimulate further connections in the tacit knowledge and construct systems of other students. The significant impact of conversation on school learning has been well-documented (e.g. Britton, 1972; Barnes, Britton, and Rosen, 1971; Hamilton-Wieler, 1986). Out of this work has emerged the particular form of collaboration

addressed in this research project.

Collaborative learning wears many guises in school and college classrooms, from peer tutoring to group projects to international sharing of writing, or, to use a different set of categories, from co-authoring to workshopping to knowledge-making (Reither and Vipond, 1989). Teacher intervention can vary from minimal (Elbow, 1973, Macrorie, 1979) to overwhelming and self-defeating (Freedman's discussion of teacher-prepared strategy sheets that evoke trivial, superficial responses, CCCC, Atlanta, 1987). The form of collaboration focused upon here draws directly upon the theories of Vygotsky, Polanyi, Kelly, and Barnes, Britton and Rosen: students work on their own individual projects, here, writing assignments, but within a group setting. They share and help one another with their ideas and writing from the earliest stages, setting goals for themselves and then pushing one another to achieve their respective goals as best they can: a communal process toward individual goals and products within the highly context-bound community of the classrcom. In consideration of Hillock's findings that the environmental mode of instruction, where clear goals are set and strategies worked out for achieving these goals, provides the optimum learning context (1986), teachers and students work together to develop these goals and strategies. The development of a pedagogical plan that may achieve this learning environment is outlined in the following five phases of this research project.

PHASE ONE: TEACHERS-AS-RESEARCHERS -- NATURALISTIC-DESCRIPTIVE MODE:

This phase involved three instructors, each responsible for at least one class of freshman composition: a visiting lecturer working primarily with ESL students, a lecturer working with students in a computer classroom, and the author of this article, working with a "regular" freshman composition class. Our two main objectives during this initial phase were to learn as much as possible about (1) collaborative learning and teaching in our own classrooms and (2) students' and teachers' attitudes toward collaboration within our department. We met bi-weekly throughout one semester to discuss the nature of collaboration in our classrooms.

The data collected during this semester included transcripts of eighteen audiotaped collaborative sessions (six sessions per class, one class per teacher), student journal responses to the six sessions, the students' written texts, observations of interclass visitations among the three of us, and notes from our bi-weekly discussions. We also collected 47 completed surveys about collaboration from the 62 faculty and associate faculty in the writing program, and 176 collaborative questionnaires from six additional freshman composition classes.

We conducted our classes as close to "normal" as our preoccupation with closely observing our students', our own, and

each other's collaborative learning/teaching processes would allow. Our major discovery during this phase was that, whereas the organization of classes into collaborative writing groups legitimizes and encourages talk about the craft of writing within a socially-based epistemology, it does not guarantee it.

Findings for Phase One

Our analysis of the transcripts revealed that, for the most part, students willingly discussed the ideas and content of their writing, as well as aspects of the craft of writing for which they had sufficient understanding and metadiscourse. An important aspect of this initial analysis of group talk was that, so as not to limit the focus of our reading of the transcripts too soon, we decided against predetermined categories. We each read the transcripts for all three classes individually, paying particular attention to anything that might lead to answers to any of the four questions listed earlier. We then met to compare and discuss the features of the transcripts we each had considered most significant, the first of several meetings to focus and refine our analysis. As it happened, we all began with content, looking primarily at the subject matter of what the students said. At this first meeting, a total of seventeen categories emerged from our separate readings, ranging from wording of titles to spelling to supporting details to organizational patterns. We then agreed upon a method of assigning group talk to these seventeen categories by counting the number of lines of the transcripts that focused on a

particular category. At our next meeting we informally checked the reliability of our assigning lines of text to content categories by comparing our analyses of the same transcripts and discussing portions of text difficult to assign to categories. Problems with reliability emerged, not so much through disagreement over categories but rather over determining as precisely as possible when the focus of talk changed from one category to the next. We decided to apply to each speech turn Britton's method (1976) of classifying according to the dominant function, breaking up single speech turns only when they obviously and explicitly focused on two or more categories. We also determined that the seventeen content categories could be reduced to five major functions of group talk: (1) oral reading of text (OR); (2) explaining and expanding content and ideas (C&I); (3) crafting writing (CW); (4) group functioning (GF); and (5) off-topic (OT). The second and third categories -- "content and ideas" and "crafting writing" -- were distinguished from each other on the basis of whether students explicitly mentioned how the writer might express ideas and content in written text. Classifying according to these five functions, we were able to achieve a much higher degree of reliability, agreeing among the three of us on 15,488 of 18,275 lines of transcript (84.75%), agreeing between two of the three of us on another 865 lines, leaving only 1922 lines (10.5%) of disagreement among our initial classifications. These lines were then assigned to one of the five functions after discussion among the three of us. The following table, showing one group from each of the three classes,

illustrates some of the data that resulted from this classication procedure:

Partial Summary of Coded Transcripts

Group	Date	Total # of Lines in Transcript	(1) OR	(2) C&I	(3) (CW)	(4) GF	(5) OT
I	2/10/88	510 (100%)	110 (22%)	260 (51%)	88 (17%)	10 (2%)	42 (8%)
II	2/22/88	1410 (100%)	350 (25%)	790 (56%)	99 (7%)	42 (3%)	129 (9%)
III	2/14/88	1155 (100%)	329 (28%)	554 (48%)	58 (5%)	115 (10%)	99 (9%)

We found, by averaging the percentage of each transcript devoted to each of the five categories, and then averaging those percentages for the eighteen transcripts, that talk related to ideas and content considerably overbalanced talk about crafting writing to more effectively express ideas and content in written text (52.5% C&I to 26.5% CW) (see also Gere, 1985, for similar findings). From this rather crude method of counting and classifying lines of group talk, one conclusion was patently clear: on average, just over one fourth of collaborative group talk in our three classes focused directly on crafting writing.

What this counting of lines does not reveal, however, is our overall impression that even this small percentage of talk about crafting writing was more limited, more superficial, more concerned with the mechanics of writing and less with deeper rhetorical problems of making meaning in written text than we had expected.

As these students' teachers, we knew, from whole class discussions and from one-on-one conferences, that the full extent of their collective and individual knowledge of how language works was not being tapped in these collaborative group discussions. Reading the portions of transcripts classified as "crafting writing" yet again, we realized that the metalanguage which characterized the class discussions and individual conferences we had with these students rarely occurred during group talk. We hypothesized that if students developed strategies for drawing upon their tacit knowledge of qualities of good writing, they could more readily articulate this tacit knowledge to help each other effectively express their ideas in writing for particular rhetorical purposes. We further hypothesized that communally agreed upon metadiscourse might enable them to transform their unarticulated, tacit knowledge about writing and writing processes into conscious conceptual awareness of particular needs of particular texts.

Our impression that students -- and their teachers -- lacked confidence in their ability to draw upon their tacit knowledge of language to help each other in a collaborative setting was confirmed by the aforementioned 47 teacher surveys and 176 student questionnaires about collaboration. Many teachers (33 of 47) thought that students in collaborative groups were less productive than they might have been either in a more traditional setting (11 of 47) or with more guidance on how to collaborate effectively (22 of 47). Although students enjoyed the social aspect of working

together (152 of 176), and thought their writing improved from having continually to redraft and revise for their peer audience (164 of 176), they frequently expressed feelings of inadequacy in their role as critical and helpful readers of each other's writing (156 of 176), as well as feelings of discomfiting exposure when sharing their writing (98 of 176). It was evident that these students needed to become more aware of their already considerable strengths as language users, and of how to utilize these strengths when talking about their own and each other's writing.

The consequent question that impelled phase two of the research project was as follows: How can teachers enable students to draw upon their tacit knowledge of language and writing in order to develop a socially-derived metadiscourse to talk comfortably and productively with each other about crafting their ideas effectively in written text?

PHASE TWO: TEACHERS-AS-RESEARCHERS -- INTERVENTIVE-DESCRIPTIVE MODE:

The second phase involved the same three instructors. Our major objective was to formulate a pedagogical plan for collaboration that teachers could apply in a large range of contexts and could modify according to their particular contexts. After reading and discussing methods of collaboration described in Elbow and Belanoff's Sharing and Responding (1989), Huff and Kline's The Contemporary Writing Curriculum (1987), Bruffee's A Short Course in

Writing (1980), Macrorie's Telling Writing (1979), and Elbow's Writing Without Teachers (1973), we each selected and adapted according to what best suited our respective teaching styles, so that, among the three of us, as many approaches as possible could be tried without subjecting our students to many changes throughout the semester. As before, we audiotaped several sessions (four per instructor for a total of twelve). We met monthly to talk about our impressions of the apparent effectiveness and general "feel" of these collaborative enterprises and to talk about the transcripts of the audiotaped sessions. The primary purpose of these discussions of our classroom observations was to move toward the development of a pedagogical approach to collaboration that would enable students to work together more effectively and productively on their writing.

Findings of Phase Two

After considering our notes of these monthly discussions, and analyzing transcripts using the same classification scheme as phase one, we agreed upon the following general impressions: (1) teacher-prepared peer-tutoring strategy sheets seemed to produce the most focused but most superficial responses; (2) non-or minimal-intervention often seemed to result in non-focused, rambling discussions; (3) highly-structured strategies seemed to produce more concern with the form and structure of responding than actual engagement with student text; and (4) once students were shown a range of different strategies, and encouraged to develop

familiarity and comfcrt with the use of them, they seemed to work most happily and productively, and often expressed, in their journals or in class, a sense of accomplishment with their writing. However, we also realized, from the nature of the metalanguage in the transcripts, that the students were primarily taking on board our concerns with their writing, using their collaborative groups as a means of converging upon their collective perceptions of what we wanted in their written texts. For example, after a lesson on transitional fluency, the students in the ESL class focused their comments for the next two collaborative sessions primarily on the concepts and terminology of transitional fluency used by their teacher (82 of the 89 lines classified as CW). After considerable work on sentence-combining, the computer class groups focused their attention almost exclusively at the sentence level. While pleased that our students were taking on board the concepts and metalanguage taught in class, we were concerned that our students were not <u>also</u> using their own metalanguage for collaborative work, to talk about their own individual concerns and responses, and that they shared almost no common metadiscourse, beyond that authorized by their teacher or textbook, for talking about and drawing upon each other's individual needs and strengths.

<u>Outcome of Phase Two: The five-point pedagogical plan</u>

The outcome of these discussions of in-class observations was the development of a five-point pedagogical plan that addressed the perceived problem of insufficient shared metadiscourse and

incorporated our impressions of what seemed to have been most influential in developing positive and productive collaboration. Although these five points might appear at first blush to be highly prescriptive, they are intended primarily as strategies to enable students to take more charge over their writing goals, processes, and valuations. However, at the same time that they are strategies, they are also ideological statements of a particular epistemological view of writing. They assert that writing is a context-bound, communally-evolved, socially-based act; that students have a broad, socially-shared yet idiosyncratic base of knowledge about language; that, with some enabling interventions, students can develop greater autonomy in drawing upon their tacit knowledge of language to help each other write more effectively. The message is implicit but strong: students are responsible for determining what they want to achieve in the class; they are responsible for helping each other to achieve their respective goals; their instructor has confidence that they have the competence and motivation to fulfill these responsibilities.

Point 1: Increased autonomy through shared metadiscourse. At the core of the plan is a class-determined description of qualities of "good" writing, this description to be developed during the first week of classes and modified as necessary during the semester. The purpose here is to establish -- communally and consensually -- a universe of metadiscourse, so that students hold a shared understanding of what to strive for, to value, and to talk

about in their writing. David Bartholomae (1983) and Patricia Bizzell (1986) have both written of the importance of a shared universe of discourse for learning in educational settings, one that acknowledges and draws upon students' diverse discourse communities while initiating students into specialized academic discourse communities. Lev Vygotsky assumes a shared and common discourse when he writes of the importance of language in social contexts for moving through the "zone of proximal development" to new or deeper understanding (1962). Michael Polanyi writes of the rich reservoir of tacit knowledge we all have, waiting to be tapped through conversational and experiential prods and probes (1955). This reservoir of tacit knowledge includes an extensive understanding of language (Chomsky, 1965; Hymes, 1980) and of how language works in a wide range of social contexts (Hymes, 1980). To impose a teacher's terminology and language values, or the terminology and language values of an unknown textbook author, without acknowledging students' knowledge of language and writing in their respective discourse communities would undermine the integrity of any approach to collaboration. The establishment, therefore, of a shared metadiscourse, based on students' views of what constitutes "good writing" and using students' language as much as possible, provides the basis for the rest of the plan.

Point 2: Increased autonomy through goal determination.

A major concern of teachers wanting to establish a collaborative learning environment is that, with demanding curricula and course

syllabi, class time needs to be used as effectively and efficiently as possible. George Hilllocks (1986) points out that the most effective learning occurs in classrooms wherein there are clear and specific objectives or goals, writing problems or tasks that engage students with each other throughout different processes, and high levels of peer interaction concerning specific tasks (122). This environmental mode of instruction can increase student autonomy and commitment when students determine their own goals, decide how they might go about achieving them, and reflect upon their success in having achieved them. Group histories can facilitate this growing autonomy and commitment in collaborative classrooms.

These histories, so-called because they document the intellectual and social growth of students within the community of their writing groups, are maintained in a folder with several blank sheets (or forms, if the teacher prefers). Each student in the group keeps a "goal sheet", for recording the following kinds of goals, each expressed, as much as possible, in the same metadiscourse established by the class in Point 1:

(a) one or two major writing goals for the semester -- overall features of writing that the student wants to work on;

(b) one or two goals for each writing assignment;

(c) a goal for each collaborative session that is a major part of the class period;

(d) a mid-semester analysis of whether and how these goals are being met, and what the student might do if they are not being met

(at mid-semester, students are given the option to form new groups);

(e) a final semester analysis of whether and how the goals were met.

These goals are rooted in the students' own writing concerns and expressed in their shared metadiscourse about qualities of "good writing." All members of the group read each other's goals so that they know what to focus on when trying to help each other, and also so that they have an idea of what other writers perceive as problems.

Point 3: Autonomy directing reader response: Questions to initiate group discussion to each draft.

Our observations during phase two confirmed Sarah Freedman's discussion of how peer-response sheets thoughtfully prepared by teachers can result in brief, trivial verbal exchanges that do not even begin to engage with the ideas or the crafting of ideas in students' written texts (CCCC, Atlanta, 1987). On the other hand, Hillocks' study of classroom modes (1986) and our observations during phases one and two suggest that just letting the students "have at it" by responding at the intuitive, gut level can result in engaging chat, but not necessarily effective talk about crafting writing. Student-writers need to take charge over their peers' responses to their drafts by formulating the kinds of questions that will provoke the kinds of response or assistance they require. Using the metadiscourse established at the beginning of the

semester, students formulate two or three questions to accompany each draft submitted to the writing group for response.

Point 4: Autonomy responding to group suggestions: Journal reflections.

The debate triggered by John Trimbur's response (1989) to Harvey Wiener's assertion that evaluation of collaboration should hinge upon the effective evolution of consensus (1986) highlights the dynamic processes that can enhance or inhibit learning in collaborative groups. Both Wiener and Trimbur agree that the process of achieving consensus can be important in collaborative learning, but they disagree on whether it is essential to effective collaboration and on what aspects of collaboration benefit from consensus. For example, procedural decisions usually require consensus or chaos could result. A focus for discussion might require consensus on particular occasions, and stylistic consistency on multiple-authored texts might well benefit from consensus. However, responses to written text are, as Stanley Fish (1986) points out, so idiosyncratic that a call for consensus might easily silence a tentative, inquiring voice in the group while it enforces a more strident, dominant voice. For this reason, the plan requires that students write journals after each collaborative session. These journal entries react to the group discussion, elaborating upon which of the comments were most and least helpful, which the student might incorporate into the next draft and why, and which (s)he rejected and why. In this way, the writer remains

in charge of the authored text, while articulating and therefore organizing and categorizing the kinds of suggestions that are helpful and the kinds that are not. To extend this growing awareness of the kinds of responses that might be more helpful, students also reflect upon how helpful they have been to others in the group, and how their ways of helping have changed as the semester has progressed.

Point 5: Control over teacher's response: Letters of transmittal and response.

The collaborative chain this pedagogical plan attempts to forge in writing classes has three interlocking links: whole class, small group, and student-teacher. Student writers therefore direct their teacher's responses to their writing just as they direct their group responses. Recent research has questioned the effectivness of teachers' responses, suggesting that either students do not read them or, that when they do read them, they frequently misunderstand them. When students direct their teacher's reading of their writing, they have a vested interest in reading the teacher's responses, and, since they are the ones who have chosen the categories or areas of concern, they are less likely to misunderstand comments.

Letters of transmittal provide the following information:

(a) goals for a particular composition, drawing upon the metadiscourse in the class-determined list of qualities of good

writing;

(b) how the collaborative writing group helped the student to achieve these goals (or hindered him/her);

(c) any particular risks taken, or worries, or features of the writing that especially please the student;

(d) directions on how the reader/teacher should read and respond to the paper; what particular features the author would like responded to.

Letters of response indicate students' reactions to their teacher's comments in order to maintain ongoing dialogue about writing using the metadiscourse established by and within the class. Students are encouraged to include reactions to the teacher's comments from group members as well.

These five points evolved consensually from our impressions and observations of student collaboration during phases one and two. However, consensus did not prevail in all discussions. Because of strong feelings that different contexts, for example those of the ESL and the computer classrooms, make different demands on teachers and students from those of a "regular" classroom, the pedagogical plan deliberately does not specify how to set up writing groups or what particular collaborative strategies to model for the students. Point 2 (d) encourages consistent writing groups for at least half the semester, but does not demand it. These kinds of organizational and pedagogical

decisions remain to be negotiated between teachers and their students, according to each teacher's particular teaching contexts and professional assessment of students' needs.

PHASE THREE: TEACHERS-AS-RESEARCHERS -- INTERVENTIVE-DESCRIPTIVE MODE

This is the final phase involving the three original instructors. Our major objective was to pilot the five-point pedagogical plan that had evolved from the first two phases in order to determine answers to the following questions frequently raised by teachers when asked to modify their current teaching approach:

(a) does the plan take much time away from the regular writing activities normally done in our classes?

(b) is it easy and comfortable to manage?

(c) do the students seem to benefit? are their collaborative sessions productive? is their writing effective?

Findings of Phase Three

As with phase two, we met monthly to discuss our observations. We audiotaped two collaborative sessions per teacher, one after the first month of the semester and one three weeks before the end of semester, made copies of the texts referred to in these sessions, and copies of journal entries reflecting upon these sessions. We also kept notes on the amount of class time needed to implement the different features of the plan.

Upon comparing our notes, we found that the five-point pedagogical approach did indeed use up more time than we had estimated, even though points 4 and 5 were done out of class. Goal setting took at least five minutes per class and sometimes as much as ten. Reflecting on the collaborative session took, on average, another ten minutes. Not only did we discover that the actual writing of goals and reflections took more time than we had anticipated, we also realized, from in-class and journal reactions, that students need considerable guidance and teaching for both activities. Our students seemed, in their reactions to these activities, to be more accustomed to trying to fulfill teachers' goals rather than their own, and more accustomed to tests rather than reflective journals as indicators of their efforts and achievements. Teaching the letter of transmittal and response also took more time than we had estimated, because our students were unaccustomed to directing their teacher's response to their writing and equally unaccustomed to assessing the helpfulness of their teacher's response.

Our overall impression, based upon our discussions of the implementation of the plan, our analyses of the transcripts of group talk following the same procedures used in phases one and two, and our readings of our students' journals, was that our students seemed to appreciate the challenge to take more control over their learning. However, the extent of this appreciation varied among the three classes. Although the ESL students'

journals indicated that most of them (8 of 10) enjoyed talking about and reading each other's papers, their transcripts revealed, primarily through frequent questions directed to their teacher, that they wanted continual affirmation from their teacher that they were doing what she expected. Similarly, the journal entries of most students in the computer classroom (16 of 19) indicated appreciation of the opportunities to formulate their own goals and questions; however, 12 of these 16 also expressed a preference for teacher-prepared strategy sheets to guide their collaborative discussions: "it's easier, and we know we're on the right track" wrote one of these students, epitomizing the message in the majority of the responses in this class. The journal entries of students in the "regular" classroom almost unilaterally indicated enjoyment of the challenge to formulate and attempt to achieve their own goals in collaborative groups --"I feel like I'm really in college now;" "it's harder than I thought it would be, but I learn more this way;" -- with one exception: "collaboration stinks! it makes me have to think for myself and [others in the group], and if I knew how to do that I wouldn't need to be taking this course!"

Outcomes of Phase Three

Some modifications, we found, were necessary. The class-determined taxonomy of "good writing," although helpful as a starting point for a shared metadiscourse to talk about writing, assumes a generic kind of academic writing that would suit all writing tasks, in direct contrast with our need to impress upon students the

idiosnycratic nature of writing that reaches out to particular audiences for particular rhetorical and communicative reasons. We determined that a communally developed rubric or taxonomy or other description of "good writing" or, depending upon the comprehensiveness of the initial taxonomy, a foregrounding of those features of "good writing" most applicable to the particular assignment, would have the potential to highlight the differing rhetorical demands of each writing task. A further possible advantage of this modification would be that the socially-legitimized metadiscourse of the class would expand as students learn new concepts directly related to the rhetorical needs of each assignment. A second change was to tie the third point, formulating questions for each draft, to particular collaborative strategies, in the manner suggested by Elbow and Belanoff (1989). Our analysis of the transcripts from phase three showed that feedback tended to be richer and more helpful when students formulated their questions in the following manner:

> As I read my paper aloud, write what appears to be the focus of my paper. If this focus seems to change, keep track of these changes. Then, when I'm finished [reading my paper], tell me all the changes in focus you've written down (Group I, 2/24/90)

than when they simply asked, "What is my focus?" (Group III, 2/16/90).

In summary, after considering the comments in our students'

journals, our analyses of group transcripts, and our own classroom observations, we three teachers concurred that the three-tiered, five-point approach to collaboration appeared to increase the level of our students' interest and competence in collaborative learning and writing and considered it ready to be tested in more rigorous experimental conditions.

PHASE FOUR: TEACHER-RESEARCHER COLLABORATION -- EXPERIMENTAL MODE

The question:

In this phase, I wanted to see whether any causal relationships existed between the five-point pedagogical plan and

(a) the percentage of group talk devoted to crafting writing;

(b) the quality of written text;

(c) student attitudes toward writing;

(d) student attitudes toward collaboration.

The design:

Four instructors from the associate faculty, none of whom had been involved in the first three phases of the research, volunteered for this experimental phase. The two male instructors, Ray and Steve, taught "regular" freshman composition classes and the two female instructors, Kathy and Julie, taught computer classes of freshman composition. All four had at least four years of teaching experience with freshman composition. The teachers were paired according to whether they taught in computer or non-computer classrooms; each pair was timetabled concurrently with two classes

and sequentially for two classes, in order to randomize classes and to give each teacher one experimental and one control class. We thereby ended up with a total of eight classes, four experimental and four control, taught in the same two time slots, experimental and control equally divided between the first and second time period.

Pre-test:

Although randomization precludes the necessity of checking for equality among the groups (Lauer and Asher), I wanted the additional assurance of a first-day writing sample in order to be able to assess as well as demonstrate equality among the groups in the area most pertinent to the study -- writing ability. During the first week, students also completed the CUNY Writing Apprehension Survey (National Project on Computers and College Writing: Student Questionnaire #1) and the IUPUI Pre-Semester Collaboration Anxiety and Expectations Questionnaire, both of which were checked by our statistician for internal consistency (CUNY = .9415 and IUPUI = .7457).

Treatment:

The regular freshman composition syllabus, which required five major pieces of writing (500 words or more) and four "companion" pieces (a composition proposal, an audience analysis, a comparative analysis of two of the five pieces, and a critical analysis of another student's writing) composed in a collaborative classroom

setting and presented in a portfolio, was followed in all classes, experimental and control. All control classes were taught as their instructors would normally teach them; all experimental classes used the five-point pedagogical approach to writing and collaborating. This phase, therefore, was not comparing collaborative writing processes with other kinds of writing processes, but rather comparing writing groups using the five-point plan for collaboration with writing groups not using it.

Four times throughout the semester, twice for collaborative work on the second composition and twice for collaborative work on the fifth, groups in all eight classes were audiotaped (I decided on the second composition to allow time for the instructors and students to gain familiarity with each other and with the procedures; I selected the fifth [next to final] composition, to relieve the congestion of end-of-semester demands on students' and teachers' time). The tapes of one group in each class were randomly selected after the second composition discussions for transcription, without notifying the teachers which groups had been selected. Tapes from the fifth composition discussions were transcribed for the same groups. Copies were made of every student's second and fifth composition, as well as journal entries related to collaboration and group histories.

Post-test:

The students completed the CUNY Writing Apprehension Survey and the

IUPUI Post-Semester Collaboration Anxiety and Expectations Questionnaire.

Analysis:

The transcribed audiotapes and compositions of each pair of classes were compared to determine the amount of group talk devoted to crafting writing and the quality of written text. The CUNY Writing Apprehension Surveys and the IUPUI Collaboration Anxiety and Expectations Questionnaires were analyzed to determine changes in student attitudes toward writing and collaboration. The following comparisons were made:

1. Holistic scoring of beginning writing samples between each pair of experimental and control groups to verify effectiveness of randomization. Scoring was done on a four-point scale by two raters with an inter-rater reliability of .87.

2. Holistic scoring of the second composition to provide a base line for comparison of improvement. Scoring was done by two raters on a nine-point scale with an inter-rater reliability of .811.

3. Holistic scoring of the fifth composition to determine whether there was a significant difference between the experimental and control groups. Scoring was done on a nine-point scale with an inter-rater reliability of .798. Two measurements were made:

a) straight comparison of the scores between each pair of classes (experimental and control);

b) a comparison of the scores on the second and fifth

compositions within each pair of classes.

4. Analysis of transcripts of group talk, comparing amount of time spent on crafting writing, with particular attention to the use of metalanguage. Analysis was done by the ESL and computer classroom instructors who had assisted in developing the method of analyzing transcripts during the first three phases. Of a total of 12,468 lines of transcription analyzed, differences of opinion occurred in 720 lines. These differences were resolved by discussion and agreement between the two raters. Comparisons were made

(a) between experimental and control groups;

(b) between first and last taped sessions within and between experimental and control groups.

5. Analysis of writing apprehension surveys and collaboration anxiety questionnaires, with demographic breakdowns according to age, gender, and race.

The assumption behind these measurements was that if the experimental groups talked more about crafting writing than the control groups, and achieved statistically significant higher scores on their written text, this study would have demonstrated that the five-point pedagogical strategy enabled these students to use collaboration to improve their writing. Furthermore, if student attitudes toward writing and collaboration in the experimental group changed positively more than student attitudes in the control groups, this study would have demonstrated that the

five-point pedagogical strategy increased these students' enjoyment of writing in a collaborative setting.

Findings:

The randomization of classes was successful. No statistically significant difference was found between any of the paired classes. Analysis of the scores of the second and fifth compositions yielded the following results:

Compositions 2 and 5: Change During Semester

	N	Mean	Std. Dev.	T	Prob. > [T]
Composition 2:					
Control	62	4.822	0.910	2.545	0.0124
Experimental	71	4.408	0.964	2.535	
Composition 5:					
Control	62	5.169	0.853	-2.941	0.0039
Experimental	71	5.605	0.853	-2.941	
Difference between Composition 2 and Composition 5:					
Control	62	0.346	0.597	-6.432	0.0001
Experimental	71	1.197	0.912	-6.259	

On the second composition, completed within four weeks of the start of the semester, the four control classes scored significantly higher than the experimental groups, with similar standard deviations from the mean. In contrast, on the fifth composition, completed within three weeks of the end of the semester, the four experimental classes scored significantly higher than the control groups, again with similar standard deviations from the mean. When the difference in scores on the second and fifth compositions are compared overall between experimental and

control classes, we find a mean improvement of 0.34 in the control classes and a mean improvement of 1.19 in the experimental classes, with a standard deviation of 0.91 in the experimental classes, suggesting that some students in the experimental classes scored considerably higher on the fifth composition than on the second, while almost all students in the experimental classes scored at least somewhat higher. With a 0.0001 probability of these differences occurring by chance, these results indicate that the five-point pedagogical plan for collaboration may indeed improve student writing.

However, considering that all eight classes could be considered "equal" for statistical purposes at the start of the semester, the fact that all four experimental classes had lower scores than the four control classes on composition two may appear to diminish somewhat the improvement suggested by their higher scores on composition five. Nonetheless, with the overall score of the experimental classes on composition five a half-point higher on a nine-point scale than those of the control classes, the lower scores on composition two (which we have tentatively attributed to the fact that both teachers and students were less accustomed to the experimental treatment than to the control treatment) seem more than compensated for in the degree of improvement suggested by the scores for composition five.

Analysis of the surveys and questionnaires yielded only one

statistically significant feature. There was no correlation between age or gender or race and writing improvement. However, in the IUPUI Collaborative Anxiety and Expectations Questionnaire, the attitudes and expectations of females in all experimental groups changed significantly more than males. The attitudes and expectations of females in the control groups were similarly higher than the males, but not to a degree of statistical significance:

Comparison of Post-Pre Differences on Questionnaire
(using Sheffe's test for M/F variable)

	N	Sex	Mean	PR > F
Control	33	Female	0.553	0.027
	30	Male	0.096	
Experimental	41	Female	0.977	0.0043
	26	Male	0.285	

The only explanation I can think of for this, since two of the four experimental classes were taught by men and two by women, and all classes, experimental and control, participated in writing collaboratively, is the possibility of gender bias built into the pedagogical plan, since it had evolved from the work and discussions of three female instructors. Gender biases in textbooks and standardized tests have been richly documented, as have gender biases toward collaborative approaches to problem solving in the business world, but the notion of gender bias in a pedagogical approach to collaboration seems, by this finding, to offer fertile ground for more in-depth research.

Analysis of the CUNY Writing Apprehension Survey yielded one

"almost" significant (.06) finding, supporting the suggestion of possible gender bias presented above:

Comparison of Pre-Post Differences in Survey

	N	Sex	Mean	PR > F
Control	33	Female	0.249	0.331
	31	Male	0.359	
Experimental	40	Female	0.394	0.061
	27	Male	0.137	

Females in the experimental classes indicated a stronger positive change in attitude toward writing than males, suggesting once again that perhaps the five-point pedagogical plan appeals more to female students.

Analysis of the transcripts originally focused on what percentage of talk explicitly related to crafting ideas for rhetorical purposes in written text. However, tidy as that distinction appeared to be in earlier phases of the research, I soon realized that much valuable talk was not being included in the count because its heuristic value was more implicit than explicit. For example, in one group, Tom mentioned that Sandra was overgeneralizing. Sandra replied, "I am not. All pets are emotionally bonding." There followed a ten-minute talk amongst the entire group about generalizations and overgeneralizations but it never managed to veer back to Sandra's text, and she did not change the expression in her final draft. I am certain that the intensity of that discussion will have influenced some members of the group to think more discerningly about overgeneralizing in subsequent

writing, yet I had no way to trace those invisible pathways from talk to text. And even as I tracked explicit suggestions made during collaborative discussions to their inclusion in subsequent written text, I discovered that, for the most part, spelling, punctuation, and other mechanical changes predominated, whereas more complicated, abstract, or less directive suggestions were often either not incorporated or not easily detected. The students' journals helped me to understand this discrimination. For example, Jodie writes:

> I honestly don't like for others to criticize my ideas, but rather to expand my thought with how to improve and relay my ideas better. When I am evaluating someone else's work, I have no problem pointing out grammatical or mechanical errors, but I find it difficult to say that I do or do not like the text.

Jodie articulately discriminates between others criticizing her ideas and criticizing the effective expression of those ideas, but leaves a huge gap between her responding to grammatical and mechanical errors and her responding to the rhetorical effectiveness of the text, unable to go beyond <u>that</u> she does or does not like a text to <u>how</u> the text might be influencing her reactions, and <u>how</u> those influences might be modified. This is the gap that effective collaborative work might help Julie fill. This is the gap that I hypothesized the experimental classes might fill more readily than the control classes.

Categorical analysis of the transcripts of randomly selected groups of four students in each class indicates that the experimental classes did indeed spend more time than the control classes talking about crafting their writing:

TEACHER/DATE	COMP.	EXPERIMENTAL NO. OF LINES TOTAL	CW	%CW	CONTROL NO. OF LINES TOTAL	CW	%CW
Kathy	2	958	450	47%	967	251	26%
	5	1052	936	89%	986	611	62%
Julie	2	897	431	48%	864	181	21%
	5	1121	1031	92%	942	358	38%
Steve	2	742	315	29%	721	187	26%
	5	761	381	50%	tapes unintelligible		
Ray	2	546	137	25%	432	108	25%
	5	622	230	37%	589	159	28%

Although the percentages suggest that the experimental classes focused more of their talk on crafting writing, an important factor needs to be considered: the nature of the talk about crafting writing. As I mentioned earlier, much of it focused on concern for mechanical correctness, a concern students found much easier to talk about and to correct. The figures in the chart also seem to support the gender bias which appeared in the statistical analysis of the surveys, but this time in relation to teachers using the experimental approach. Students in the male teachers' experimental classes showed a considerably smaller proportion of talk devoted to crafting their writing than in the female teachers' experimental classes.

Outcome of Phase Four

Analysis of the composition scores, questionnaires, and surveys suggests that the five-point pedagogical plan may indeed improve student writing as well as female students' attitudes towards collaboration and writing. Analysis of the transcripts indicated that the plan encouraged and perhaps enabled students to devote more of their collaborative talk to crafting writing.

PHASE FIVE: TEACHER-RESEARCHER COLLABORATION: CASE STUDY-DESCRIPTIVE MODE

This final phase of the research occurred during and following phase four. Because my intention in this project was to find a way to help teachers enable their students to improve their writing in a collaborative classroom environment, it is important to consider teachers' reactions to working with the plan. A critical feature of their reactions can be found in each teacher's understanding of "collaboration," and how that understanding manifests itself in the classroom. Reither and Vipond suggest that thinking of writing as a collaborative process leads to a richer theoretical and pedagogical understanding of writing as a social process than thinking of collaboration as one more pedagogical strategy to get students to write better papers (1989: 856). They go on to say that when "these strategies have . . . been introduced into classrooms as overlays on courses still otherwise governed by traditional preoccupations, they have not been persuasively successful" (855). A consideration of two factors -- the

participating teachers' attitudes about collaboration prior to and during their participation in phase four, and their continued use of all or part of the collaborative plan in their classrooms a year after the completion of phase four -- may give some insight into the potential of this pedagogical approach to diminish the gap between the theory and practice of teaching writing in a collaborative setting.

Teacher Attitudes Toward Collaboration:

Kathy and Julie enthusiastically agreed to participate in the phase four study of collaboration. Kathy had already been conducting classroom-based research on collaboration for a year and a half, paying particular attention to racial inequities and biases in collaborative groups. Julie informed me at the outset that she was less familiar with and less comfortable with collaboration than she would like to be, and spent more class time lecturing than listening, but was eager to learn more about how to use collaboration effectively in her classroom. Ray and Steve agreed with some ambivalence: they did not want the research to interfere unduly with their regular approach to teaching (both Ray and Steve relied heavily on individual student-teacher conferences to reinforce the ideas in their lectures); they feared that the research would constitute considerable extra work; and they distrusted empirical, especially experimental, research. But, like many of the other teachers I had spoken to who shared similar concerns, they were interested in learning how to make

collaboration a more effective part of their writing pedagogy.

During the phase four research semester, the concerns that Julie and Kathy expressed to me centered on the data collection aspect of the research rather than any particular feature of the pedagogical plan. For example, Julie sent me the following message after the first taping session: "First recorded session of collaboration [experimental group] -- very exhausting for me and all I was doing was observing." Kathy sent a similar note: "It's somewhat cumbersome to ask the students to tape and fill out the group profile for the same session." Ray and Steve both expressed concern over the group histories. Ray wrote that he had a difficult time explaining the rationale to his students, and that, consequently, they considered goal setting to be "busy work." Steve wrote that he considered goal setting "too analytical" during the early stages of composing, when students should be just "letting it all spill out." Later in the semester, Julie sent me another note, telling me of her difficulty with denying her control group the kinds of collaborative experiences the plan was providing her experimental group. "I want to have them [the control group] make goals, and have them write letters of transmittal and response because these are so helpful in the experimental class. But I'm keeping notes, and next year all my classes will be doing this [the pedagogical plan]."

Teacher continuance with the plan

More important than immediate impressions, however, are the lasting impressions that this plan might have on teachers and teacher-researchers. If it is a good plan, if it can help student-writers to collaborate more effectively, then surely the teachers who try it out will keep on working with it. A year following the implementation of phase four, I sent a questionnaire to the four teachers involved to learn whether their particpation in the study had had any lasting impact on their pedagogy.

When asked about which features of the plan they found particularly beneficial and which they have kept in their teaching repertoires since the research, Kathy specifically mentioned letters of transmittal and response, and indicated that she regularly uses all parts of the plan except the class-generated taxonomy of good writing. Julie found letters of response, journal entries after each collaborative session, and student-determined questions for peer response particularly effective, and has incorporated them into her regular teaching. Steve did not single out any part(s) as being particularly effective nor include them in his current teaching, saying that he uses "only those which fall within the revised [freshman composition course], since this is my first time to teach the new-n-improved version and I don't plan on messing with the curriculum." Ray now uses a class-generated taxonomy of good writing, journal entries about collaborative sessions, and student-determined questions to guide peer response regularly in his teaching.

In addition to the four teachers involved in phase four of the research, I also contacted the two colleagues who had participated during phases one through three. Nancy, the computer classroom instructor, has been gradually incorporating the plan into her teaching. She began with the class taxonomy and group histories, and, when comfortable with those, added the letters of transmittal and response. She is currently working with student-determined questions to aid peer response, trying to enable her students to formulate the kinds of questions that will motivate helpful responses. Journal responses to collaborative sessions had already been a part of her writing pedagogy when we began the study. Sara, also involved in the first three phases, uses all but the group histories, mentioning that as she keeps trying new collaborative strategies in her classrooms, and becomes more familiar with the strategies and the plan, both she and her students feel increasingly more comfortable with collaboration. She finds herself to be "much less directive. The students now control much more of the content and focus of the discussion." As the third member of this group, I also have been using and modifying the plan in conjunction with a series of collaborative strategies ranging from collaborative heuristics to descriptive, analytic, and editorial responding.

Conclusion

The purpose of the five-phase research project was to try to find a

way to enable teachers to establish a productive collaborative environment that would help their students to write better papers as they learn from each other how to become better writers. By incorporating the findings of each phase into successive phases, by using both teacher-as-researcher and teacher-researcher collaboration models, and by exploring ideas with naturalisitic modes of research and then determining causal relationships using an experimental mode, the research project demonstrates how different empirical designs can, as Lauer and Asher suggest, work together to enrich our understanding of teaching-learning relationships.

The eponymous "Collaboration: See Treason" is the sole phrase that greeted me three years ago when I looked up "collaboration" in the card catalogue at our campus library. At the time, I laughed. As this research project unfolded, however, I have come to realize that the association is more felicitous than it first seemed. An act of treason is an act against the established order, against what has been traditionally revered. If we are to believe Hairston (1982) that the paradigm shift is fundamentally iconoclastic, if we are to believe Kuhn (1970) that scientific knowledge is "intrinsically the property of a group or else nothing at all," and if we are to believe Rorty (1979) that all knowledge is a social construct, then, yes, we need to commit an act of treason for collaboration to work.

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