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# Does collaboration as a prewriting technique improve student writing?

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## DOES COLLABORATION AS A PREWRITING TECHNIQUE

#### IMPROVE STUDENT WRITING?

A Thesis Presented to the Faculty of California State University,

San Bernardino

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

in

English Composition

by

Cathy Cummings Brostrand

and

Kathleen Louise Knight

June 1997

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Approved by:

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#### ABSTRACT

This study was designed to determine if prewriting collaboration helps students to write better essays than those written by students who do not use peer collaboration. For the purposes of this project, we determined that a good essay should include an observable central topic with supporting arguments, and it should be well organized with control of style, demonstrating correct mechanics and grammar. Based on currently promoted theories of collaboration and many school administrations' push to implement collaboration in various disciplines at many educational levels, we believed that peer collaboration before writing would produce better student compositions.

Thirty-one eighth grade students in Kathy Knight's first period class were assigned to either control or experimental writing groups to examine the differences, if any, in writing produced by students who had brainstormed together before writing from writing of students who had not collaborated. The students' placement in the two groups was based on the following factors: balanced GPAs, equal gender distribution, and balanced ethnicity. Both control and experimental groups were given the same four essay prompts to write on. Students in the control group worked alone, both in brainstorming and writing. Students in the experimental group discussed the prompts in groups of three

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or four, brainstorming together. They then produced their essays independently.

In comparing the holistic scores of the essays, we found that there was no significant difference between the average scores of the two groups. There was a wider breadth of ideas in the essays written by the non-collaborative group. In four of the five categories we measured to assess writing performance (holistic scores, number of words in essays, number of t-units in essays, existence of a topic sentence, and examples in support of the main topic), the control group (those who did not collaborate in prewriting) out-performed the experimental group. The differences between the two groups, however, were not significant, and did not indicate that prewriting collaboration produced better essays.

Because this is a collaborative thesis, we need to explain our division of labor. Both Knight and Brostrand administered the study in Knight's classroom: student questionnaires, prompts, evaluation sheets, enumerating and grading. Cathy Brostrand wrote Chapter 1. Kathy Knight wrote Chapter 2. Brostrand wrote the rough draft of Chapter 3 and Knight revised and edited it. Together we revised and edited the entire thesis page by page. We used Brostrand's computer for the final compilation and editing.

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To Our Families and Mara

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#### CHAPTER 1

#### Introduction

Collaboration is currently quite popular and promoted widely in teaching composition in elementary, secondary and baccalaureate education in the United States. Teachers and professors tout the benefits of collaboration; seminars provide information and practice for new acolytes; and many scholarly journals provide information and data on research regarding the theory of collaboration to encourage its use as a part of the writing process. As Lisa Ede and Andrea Lunsford, fierce advocates of collaboration, state in the preface to <u>Singular Texts/Plural</u> Authors:

> [T]here is a tension between the need for theory and the demands of practice. . What we need--particularly if we are to fashion models of collaboration that will allow for a reconceived sense of human subjectivity, value diversity, and engage the full potential of contemporary technology--is not a disputational dialectic between theory and practice but a dialogics among multiple theories and practices. (ix)

Wanting to learn what is pragmatic, realistic, and possible for writing practitioners, we decided to investigate and study the theories of collaboration, and to investigate and study it in practice. We hope to provide to our readers some information about the implementation of collaboration in prewriting. Our study, which we discuss in chapter two, examines collaboration and its effects on the

writing of a group of composition students at the middle school level. In chapter one we present and discuss several theories of collaboration, some theories of cooperative learning, and the differences between the two. A brief history of collaboration precedes a discussion of the benefits of collaboration. We also discuss our reasons for establishing a collaborative study and our expectations of the results.

Initially, collaboration is in the form of "exploratory talk." William Sweigart, in his study of 12th grade students, finds that "exploratory talk is the initial step in finding meaning in a specific area of study." While such exploratory talk certainly serves a social purpose, it also serves as a way for a speaker to begin making meaning, to explore his or her understanding of a given situation and to build upon it. In our study we hoped to find that students had more ideas to use in writing their essays after collaboration, in the form of a discussion, with the students in their group.

In our collective experiences in both the business and academic world, we have found collaboration to be a useful tool to gain more knowledge or to get a task done more quickly and efficiently. Especially in an academic setting, collaboration is used extensively. Teachers collaborate with other staff members to design lessons across the

curriculum. Teachers and students collaborate on ideas to enhance a paper. Students collaborate in groups to design a project or make more meaning of a given subject. As Giles and Van Dover state in "The Power of Collaborative Learning," "Collaboration invites students to be decision makers. As they discuss and make plans, students practice not only their linguistic and cognitive skills but their social skills as well" (30).

There is no doubt that collaborative experiences can be a powerful tool for teaching and learning in the classroom. The students and the teacher work together to make meaning out of the material they are studying. Caryl Sills refers to a study by Johnson and Johnson which concludes that "working collaboratively with classmates increases the positiveness of students' mood states, thereby increasing their motivation to achieve" (21).

Collaborative learning is also very effective with limited English students. As students collaborate with each other, they realize that they have a larger body of knowledge collectively than they do on their own. Spencer Kagan's research has shown that cooperative classrooms foster improved ethnic relations and pro-social development. Kagan points out that " there is ethnic segregation in traditional classrooms, and this segregation increases with student age. However, research in classrooms that used

cooperative learning showed that the very strong ethnic cleavage observed in the traditional classrooms was reduced to insignificance" (Freeman and Freeman 122).

Collaboration as a part of the writing process is also important. Lucy McCormick Calkins, in her book The Art of Teaching Writing, explains that "the writing classroom as a whole must become a learning community, and everyone in it must be both a teacher and a student" (10). Writing is more than a piece of work that one author produces: the writer draws his material from the community around him. No experience is an isolated incident belonging to one person. Francois Mauriac talks about the community aspect of writing: "Each of us is like a desert, and a literary work is like a cry from the desert, or like a pigeon, let loose with a message in its claws, or like the bottle thrown into The point is: to be heard even if by one single the sea. person" (10). A limited amount of studies (Sweigart, 1991 and Freedman, 1992) show that students who engage in exploratory talk are provided with a powerful means for understanding complex topics.

## **Definition of Collaboration**

What is collaboration? In the field of literary and composition studies, we find many definitions referring both to collaborative learning and to collaborative writing. In the fields of education and psychology, we find a parallel but different dynamic of group activity which is labeled "cooperative" learning. We observe, however, that writers, practitioners, and some theorists freely interchange, often without distinction, collaboration and cooperation/cooperative learning.. We discuss both approaches in the following paragraphs, attempting to distinguish between the two. We explain why we have concentrated on collaboration but have adopted some of the most favorable aspects of cooperative learning that were adaptable to the constraints of our project.

Kenneth Bruffee, who has promoted collaboration since the 1970s, defines it as "a form of indirect teaching in which the teacher sets the problem and organizes the students to work it out collaboratively" (Collaborative 638). John Trimbur, a noted critic, historian, and professor of composition studies, in 1985 described collaboration:

> Collaborative learning is a generic term, covering a range of techniques that have become increasingly visible in the past ten years, practices such as reader response, peer critiques, small writing groups, joint writing projects, and peer tutoring in writing centers and classrooms. The term refers to a method of conducting the business at hand--whether a freshman composition course or a workshop for writing teachers. By shifting initiative and responsibility from the group leader to the members of the group, collaborative learning offers a style of leadership that actively involves the participants in their own learning. (87)

Anne Ruggles Gere in her monograph <u>Writing Groups:</u> <u>History, Theory, and Implications</u>, published in 1987, defines both collaborative learning and collaborative writing:

> Theories of collaborative learning, then, build upon an opposition to alienation and to the highly individualistic view inherent in traditional concepts of authorship and emphasize the communal aspects of intellectual life. In the collaborative view individual genius becomes subordinate to social interactions and intellectual negotiations among peers. When writing constitutes the task of collaboration, the process of working together enables writers to use language as a means of becoming competent in the discourse of a given community. Learning, when conceived in collaborative terms, assumes a socially derived view of knowledge and opposes a fixed and hierarchical one. The exploratory discourse of writing groups demonstrates the capacity of these groups to develop knowledge about the texts under consideration. (75)

Julia Gergits and James J. Schramer, practitioners and researchers who teach professional writing at the college level, in "The Collaborative Classroom as a Site of Difference," define collaboration as a "process in which individual participants redefine themselves as a group . . . [and] have to exchange the monologic discourse that so often marks negotiations between the powerful and the powerless for a dialogic discourse that allows for coexistent, often conflicting voices" (187). Gergits and Schramer want to prepare their students for collaboration in the professional world after school. They use the natural differences in the classroom--"contact zones between often conflicting cultures"--to encourage the students' acculturation to future worksite differences. Even in the classroom, the students "are not 'blank slates' with no experience; they are not open to any and all instruction on collaborating; their complex lives and beliefs color and sometimes impede whatever they learn" (190).

In the publication of the results of their study of collaboration in the workplace, <u>Singular Texts/Plural</u> <u>Authors: Perspectives on Collaborative Writing</u>, Ede and Lunsford pragmatically define collaborative writing as "any writing done in collaboration with one or more persons" (15). For the purposes of their study, they choose the broadest definition possible to lessen limitations caused by over-definition. Tori Haring-Smith, in her pedagogical <u>Writing Together: Collaborative Learning in the Writing</u> <u>Classroom</u>, tells her students that collaborative writing can be single authorship in consultation, review, and revision with others, as well as co-authorship, a work/project signed by two or more people, and developed by a group (6).

Frederick Erickson, professor of Education and Chair of the Educational Leadership Division of the Graduate School of Education at the University of Pennsylvania, posits that "collaborative practice is essential for excellent teaching and learning in the classroom. . . Collaboration means working together in ways that exchange mutual help" (431).

To summarize, we find that collaboration is the act of two or more persons working together for their mutual benefit. In a workplace or a classroom, collaborators exchange help and ideas, emphasizing the communal aspects of intellectual life; they learn to negotiate with peers and non-peers; they develop knowledge jointly about the topic or project on hand; and they acculturate themselves to collegial and worksite differences.

## **Definition of Cooperative Learning**

Educators and philosophers in the field of education in the United States and other countries, including Israel and Australia, have developed a separate, more structured, and more prescribed concept of collaborative work: cooperative learning. Spencer Kagan and Roger E. W-B Olsen, in <u>Cooperative Language Learning</u>, define cooperative learning as "group learning activity organized so that learning is dependent on the socially structured exchange of information between learners in groups and in which each learner is held accountable for his or her own learning and is motivated to increase the learning of others." They continue: "Not all group work or informal collaboration between students is necessarily cooperative. CL is distinctive because it may include attention to: positive interdependence, team

formation, accountability, attention to social skills, structures, and structuring of learning" (8).

Neil Davidson, in <u>Creativity and Collaborative</u> <u>Learning: A Practical Guide to Empowering Students and</u> <u>Teachers</u>, describes in detail five major approaches to cooperative learning. All approaches share five common attributes: a common task or learning activity suitable for group work, small-group learning, cooperative behavior, interdependence (often referred to as positive interdependence), and individual accountability and responsibility.

Additionally, there are nine attributes that vary among the approaches: grouping procedure (e.g., heterogeneous, random, student selected, common interest), structuring positive interdependence (e.g., goals, tasks, resources, roles, division of labor, rewards), explicit teaching of interpersonal, relationship, cooperative, or collaborative skills, reflection (or processing) on social skills, academic skills, or group dynamics, climate setting through class-building, team-building, trust-building, or cooperative norms, group structure, attention to student status by the teacher (identifying competencies of lowstatus students and focusing peers' attention on them), group leadership, and teacher's role (14). The Student Team Learning approach combines individual accountability and either group rewards or group goals" The Learning Together approach "leads to better achievements because students perceive that their goal achievements are positively related--'We sink or swim together.'" Thelen's Group Investigation model is a structured model for learning about a complex topic, which is divided into multiple subtopics to be studied by different groups.

Kagan's Structural Approach describes several simple group structures that teachers can readily use in their classrooms. "There are structures for practice and mastery, structures that foster thinking, structures for information sharing . . The job of the teacher is to choose and use the structure(s) most appropriate for the task at hand" (20). "Complex Instruction" is a model that features attention to individual students' status within the classroom. The multiple-abilities orientation sets the stage for the assignment of competence (21).

There are many studies (Slavin, 1980) (Sharan, 1980) that, according to Ede and Lunsford, "provide substantial evidence that when effectively structured and guided, learning groups can help students improve their mastery not only of particular subject areas or academic skills, such as writing, but also increase their general cognitive skills and their engagement with and interest in learning" (11).

Olsen and Kagan report studies that show cooperative learning "improved social development and prosocial behaviors, including increased liking for co-students, reduced racial stereotyping and discrimination, increased self-esteem, increased self-direction, increased selfexpectations, increased sense of intellectual competence, and increased liking for class" (5). We find this report especially relevant to adolescents.

To summarize, we find that cooperative learning is a structured group practice that must be extensively prepared for and taught to the students, into which the students must "buy" for it to be effective. All students must participate in a common task, each contributing something unique, each having a defined role, with the expectation of certain rewards, both collective and individual, for good performance. The cooperative tasks that the student groups are assigned, by the teacher, are rigidly structured and controlled.

What do we see as the main similarities of collaboration and cooperative learning? Both collaboration and cooperative learning stress and value the communal acquisition of knowledge and social experience. Both require advance coaching and some preparation before a group can successfully complete a project. Rewards accrue to the participants in each method.

What do we see as the main differences between collaboration and cooperative learning? Collaboration is relatively unstructured and not teacher-driven and controlled, in contrast to cooperative learning. In cooperative learning, each student has a role assigned by the teacher, and must have something unique to add to the project. While everyone in a collaborative group is unique, some people may bring similar knowledge, experiences, and expectations to the project, with no anticipated detriment to the success of the project.

Because of the long lead time necessary to prepare students to work together successfully, and the rigid structure and assigned roles and responsibilities in cooperative learning groups, cooperative learning did not fit into the framework of our two-month study. We elected to study collaboration in prewriting, to study our students participating and connecting with others and to observe, according to Ede and Lunsford, "the ways in which knowledge is constructed among members of communities" (118).

A plethora of definitions of collaboration are available from theorists with impeccable credentials. Which to use? Collaboration in writing, of course, can include planning, drafting, writing, revising, and editing. What should we emphasize for our limited study of the writing practices and results in a group of 150 eighth graders?

What would be effective and adaptable to our six-week experiment? Taking into consideration the psychology of adolescents--their need for peer interaction and approval as well as their short attention spans when it comes to schoolwork--we decided to limit their collaboration to prewriting. Thus, *our* working definition of collaboration involves collaboration in planning to write: a group of students working together, becoming involved in discussions of importance to them, sharing ideas, brainstorming, and helping each other prepare to write on an essay topic provided by the teacher.

As Edward M. White, professor, writer, and lecturer of composition studies, states in <u>Assigning, Responding,</u> <u>Evaluating</u>:

> Students will write better if they are required to think systematically before they put pen to paper. Although scholars debate what kinds of prewriting are most effective, there is a clear consensus that active engagement with an assignment before writing is immensely valuable, prewriting not only improves the quality of work to be done but also trains students in a crucial part of the writing process. . . . Any assignment demanding substantial student effort is worth discussing in class as the work progresses. The most valuable discussion often emerges from presentation of what the other students in the class are working on. As students listen to their peers' plans, they begin to envision new possibilities. As they express their own thoughts on the subject, they begin to acquire ownership of their topic. (8-9)

## **History of Collaboration**

How recent is the idea of collaboration? Lunsford and Ede maintain that community and collaboration have been a basic component of the American character since the Declaration of Independence. By the late nineteenth century, competition and individualism were more highly valued, although Gere reports some instances of collaboration in small groups, such as student-initiated literary societies and self-improvement groups, since the colonial times (109).

In the 1930s, collaborative learning focused on the importance of social, collective learning, with an interest in "interactive knowledge," rather than objective knowledge, according to Mara Holt. (540) Hitler and Stalin's collective policies seemed to trample the rights and worth of the individual and engendered a "Cold War distrust of collective endeavors, and consistently encouraged an antagonistic relationship among individuals," Holt maintains. (545) The pedagogues of the 1950s, in an era of optimism and expansion, exhibited an interest in objective learning and practical, competitive individualism. Groups were used to speed the learning process, to help grade other students' papers, to mimic the role of teacher, not to promote learning from other students, nor to benefit from a synergistic, social, interactive process. (540)

Trimbur, in "Collaborative Learning and Teaching Writing," asserts that the collaborative learning movement emerged in the 1960s with the student activism of the era, starting with their denial of total authority of the university to act as their parents, to the teach-ins, to the demonstrations against war, and to the self-study groups and consciousness raising among minorities and women.

With the large influx of students to colleges and universities in the early 1970s, collaborative learning became a practical necessity, as well as a way to reach and to meet the needs of underprepared students, many of whom were disenfranchised, non-traditional learners. According to Lynée L. Gaillet, in "An Historical Perspective on Collaborative Learning":

> Enlightened teachers realized that they needed a practical way to handle instructing and evaluating the increased number of students in their classes if these nontraditional students were to succeed in school and ultimately in society; and students with diverse educational, social ; and cultural backgrounds needed a way to achieve a sense of community in the classroom. (95)

As early as 1972, Kenneth A. Bruffee, in "Collaborative Learning and the 'Conversation of Mankind'," espoused the idea of collaborative learning. He feels that educators had to respond to the increased student population and another disturbing problem--even traditional college students were not succeeding academically as well as their native

abilities suggested they should. Institutions established several peer learning groups, classified as collaborative learning: peer tutoring, classroom group work, and peer criticism and evaluation.

Bruffee credits Michael Oakeshott with describing education as the initiation into the conversation of mankind, "which gives place and character to every human activity and utterance." Bruffee draws the natural conclusion and its implications for the academic community: "The first steps to learning to think better, therefore, are learning to converse better and learning to establish and maintain the sorts of social context, the sorts of community life, that foster the sorts of conversation members of the community value."

Bruffee links the importance of a community of knowledgeable peers to the discourse of writing. He states, "If thought is internalized public and social talk, then writing of all kinds is internalized social talk made public and social again. If thought is internalized conversation, then writing is internalized conversation re-externalized." Our thoughts are displaced conversation. When we write our thoughts, we have to imagine our own conversation and the conversation of our partner (reader), in order to carry on the "social symbolic exchange." As writing teachers, we want to encourage, then, the best social conversations that

we can in our students. We need to set the stage for them to experience, through discussion and exemplars, the conversational mode that will benefit them when they write-we need to "organize their collaborative learning." One of our main goals as writing teachers is "to provide a context in which students can practice and master the normal discourse exercised in established knowledge communities in the academic world and in business, government, and the professions" (Collaborative 637-642).

For our students, the talk-through is necessary for writing. As Bruffee states:

The practical task of writing is a process of collaborative learning. It requires us to use language in the service of thought and action. . writing viewed as a form of instrumental speech becomes a referential and interdependent one. Reader and writer become part of each other's sustaining environment. Like any other learning or problem-solving activity, writing becomes essentially and inextricably social or collaborative in nature. (Writing 166)

Students converse when learning writing collaboratively. They talk about the subject and the assignment, and their understanding about relationships between themselves and the subject. Bruffee states: "In short, they learn, by practicing it in this orderly way, the normal discourse of the academic community" (Collaborative 645).

# **Benefits of Collaboration**

What are the benefits of collaboration for our students? According to the experts, the benefits of collaboration are several and varied. Many of Bruffee's books and articles espouse and enumerate the benefits of collaboration in writing. In "Making the Most of Knowledgeable Peers," he notes that collaborative learning in colleges and universities "increases the students' ability to exercise judgment within the teacher's field of expertise, and to raise their level of social maturity as exercised in their intellectual lives." He believes it prepares students to enter the 'real world'. . . any field, in fact, that depends on effective interdependence and consultation for excellence"(41). He also states, "Collaborative learning calls on levels of ingenuity and inventiveness that many students never knew they had. And it teaches effective interdependence in an increasingly collaborative world that today requires greater flexibility and adaptability to change than ever before"(44).

Frederick Erickson believes that collaboration affects both the quantity of work and its quality. He feels that the "articulation of the efforts of partners enables all to accomplish more" and that collaboration "enhances the

individual work of each of the partners, making their work easier, or more meaningful, or less lonely, or in some other way more satisfying than if the same work were to be done alone"(431).

We hope that the findings of Goodburn and Ina accrue to our eighth graders. They find that collaboration "Enables students to explore multiple approaches to issues, develop a sense of community through group negotiation, view composing as an inherently social and dialogic act, and take responsibility for their own learning"(132). To us, it is especially important in the middle school years, as they state, that "composition classrooms, through collaboration, can recognize and examine the 'social construction of difference'. . . [and] Invite students to consider the notion that socially determined differences influence and construct the ways that they can relate to each other and to society . . .[and] encourage students to assume more responsibility for the production and interpretation of their own texts"(134).

Thom Hawkins, a practitioner who conducted a study of collaboration at the college level, cites Piaget in propounding the social, interactive benefits of collaboration in teaching communication skills:

> The adult, even in his most personal and private occupations, even when he is engaged in an inquiry which is incomprehensible to his fellowbeings, thinks socially, has continually in his mind's eye his collaborators or opponents, actual

or eventual. . This mental picture pursues him throughout his tasks. The task itself is henceforth socialized at almost every stage of its development(4).

Another benefit Hawkins notes is the blending of cultures in a group inquiry classroom: "The intense verbal interaction in these pluralistic groups is significant not because a leveling out occurs but because speech and cultural differences become identified, understood, and valued by all" . . .for many students, "small-group work is the first time in their educational careers that anyone in a classroom had listened to them with respect" (8).

Many middle school students, we feel, appreciate the teacher's desire to "value the differences that students bring to the classroom and to the production of their texts", a benefit cited by Goodburn and Ina (132). Bruffee, in "Collaborative Learning and 'The Conversation of Mankind,'" concurs: "Collaborative learning, it seemed, harnessed the powerful educative force of peer influence that had been--and largely still is--ignored and hence wasted by traditional forms of education"(638).

Donald Stewart, writing in "Collaborative Learning and Composition: Boon or Bane?" identifies four benefits of collaboration. (1) It attempts to do away with sterile and nonproductive authoritarianism of the traditional classroom. (2) It is an effort to involve students meaningfully and significantly in their learning. (3) It shows humaneness to

students who are nourished both socially and intellectually by the groups in which they work. (4) It recognizes the role that social forces play in the very nature of language and learning (64).

Judith Wells Lindfors, emphasizing the humanist approach, in "From 'Talking Together' to 'Being Together in Talk,'" speaks highly of collaboration: "It's our genuine interest in coming to know one another as fellow human beings. . . It's in our readiness to reveal our-SELVES. . . It's in our sensitivity to matters of interest and importance to the other" (141). Middle school students, especially, need to be constantly exposed to civilizing and sensitizing in their classrooms.

Frederick Erickson, including the teacher as necessary to help the students to collaborate, believes that "[n]othing enduring can be accomplished educationally without some mutual accommodation and shared thinking by teachers and their students, who are their chief collaborators" (431).

Also recognizing the importance of the teacher's role, Ester S. Fine, in "Collaborative Writing: Key to Unlocking the Silences of Children," quotes Roger Simon who describes an important benefit of collaboration in writing:

> Collaborative writing has the potential to become a tool for activating multiple voices and multiple versions of self and the world within the classroom: A teacher can set the stage for a pedagogy of possibility by ensuring that there are

multiple voices in the classroom, but the crucial task is in finding ways in which these voices can interrogate each other. Such an interrogation requires a serious dialogue (perhaps even a struggle) over assigned meaning, over the interpretation of experience and possible versions of self. It is this dialogue or struggle that forms the basis of a pedagogy that makes possible new knowledge that expands individual experience and hence redefines our identities and what we see as real possibilities in the daily conditions of our lives. It is a struggle that can never be won or pedagogy stops. The submission of all voices to one logic severs the process of education. (379)

We find David Bleich's comments on language use, in <u>The</u> <u>Double Perspective: Language, Literacy, and Social</u> <u>Relations</u>, pertinent to the discussion of the benefits of collaboration:

> I think the subject of language use. . . can no longer be taught using individualistic classroom practices. Furthermore, our need is not to isolate language, but to see it as a form of intraspecies action, not unlike grooming in apes or singing in birds, which are tied to social and ecological features of the species' existence. Grooming is related to authority structures in ape communities. Singing is related to nest-building, flying, and surviving for birds. By the same token, language use is related to every social instinct in human beings, and to disregard this fact would be to transform language--the name and the thing--into something else. (315)

Marion Fey, in her article "Finding Voice Through Computer Communication: A New Venue for Collaboration," quotes Bakhtin and seemingly extends Bleich's comments: "Bakhtin points to an inner-outer tension in the development of meaning, a process that occurs in communication with others, through "the layering of meaning upon meaning, voice

upon voice, strengthening through merging (but not identification), the combination of many voices (a corridor of voices) that augments understanding" (237).

The theorists we quote, to summarize, believe that collaboration enhances the students' ability to exercise judgment, raises their level of social maturity, teaches interdependence, enhances the quality of the individual's work, develops a sense of community, invites students to examine socially determined differences, encourages students to assume more responsibility for their work, socializes students in the "real world", enables students to explore multiple approaches to issues, exposes them to negotiation and mutual accommodation, involves students meaningfully in their learning, and allows them to investigate, interpret, and reveal themselves.

#### **Prewriting Benefits of Collaboration**

It seems to us that all of the above mentioned benefits of collaboration could, or should, apply to a prewriting group. As Zelda Gamson, a University of Massachusetts professor, states in "Collaborative Learning Comes of Age":

> We know that these approaches have important cognitive, affective, and social effects on students: complexity of thinking increases, as does acceptance of different ideas; motivation for learning goes up; a sense of connection among students, even when they are quite different from one another, is enhanced. These results hold for older and younger students as well as for poorly

prepared and well-prepared students from different class, ethnic, and racial backgrounds. (946)

Lorraine Higgins, Linda Flower, and Joseph Petraglia, in their study of first year college students in composition class, write in "Planning Text Together: The Role of Critical Reflection in Student Collaboration" that "collaborative planning can be used as a means of social support and as an instructional aid for moving students beyond topic information and into more rhetorical, constructive thinking" (6).

Even though we are studying collaboration in a class of eighth graders who may not wholly benefit as do Higgins et al's students, we hope our students will realize some of what DiPardo and Freedman visualize:

> In a collaborative classroom, teaching springs free of its traditional connotations, shedding the urge to dominate in favor of a less intrusive monitoring and shaping. If peer interactions in support of the academic work of writing are to take root and flourish, they must be grounded in a theoretic foundation that embraces this distinctive vision of the teaching-learning process, which allow instructor and students to take their respective places as members of a diversified community of learners--dynamically interactive and, like the business of becoming a writer, forever in process. (145)

Gere maintains that writers in groups exchange meanings. She quotes Bakhtin. "As a living, socioideological concrete thing, as heteroglot opinion, language, for the individual consciousness, lies on the

borderline between oneself and the other. The word in language is half someone else's" (88). She believes that student conversations:

> . . . help writers generate language about language. If we assume, with Kenneth Bruffee, that writing is 'internalized social and public talk made public again,' then the talk of writing groups, because it includes such a broad range of functions, creates a vernacular to be internalized for the members' future use. (92)

> This vernacular language often facilitates formative evaluation among writers (evaluation that occurs during the process of writing) and can be contrasted with summative evaluation that occurs when writing has been completed.... Writing groups are frequently credited with helping participants to produce better writing than their nonparticipating counterparts, and the vernacular of formative evaluation contributes directly to this better writing....Writing groups ... focus on creating meaning through dialogue among participants, and this creation enables writers to re-vision their work, improving it substantially. (93)

Gergits and Schramer believe that "fruitful collaboration often starts with the recognition that difference is essential if a group wishes to generate truly original ideas rather than to rely on make-to-order compromises that satisfy no one" (190). Collaboration can permit a "universe of discourse" to develop "in which social and familial, academic and managerial worlds bump into each other, perhaps even collide" (200).

What do we find from reports of studies of students' collaboration? Perhaps because the effects of collaboration in classroom settings are so difficult to study and to

measure, there are few research reports that address directly the topic we have chosen. In one peripherally related study, Sarah Warshauer Freedman (1992) reports in the journal <u>Research in the Teaching of English</u> that results of student collaboration are mixed. The goal of her study of 95 response groups in two ninth-grade, college preparatory classrooms over a seventeen week period was "to develop some ideas about how instructional goals and contexts for response groups relate to what students actually talk about in these groups and to identify what kinds of peer talk may be more and less productive" (73).

In groups of students who had no response sheets to direct their discussions, there were "substantial amounts of uninteresting off-task talk." Students spent "on average only six of the allotted 12 minutes on the task, one group giving the response work as little as 3.5 minutes. This off-task talk included topics such as weekend plans, friends, hair coloring, or jokes. By contrast, students in groups with response sheets spent at most a few turns talking about such entirely off-task topics" (79).

The talk of the students using response sheets was analyzed according to several classification schemes devised by the researchers who monitored sessions, and also audiotaped and video-taped them. They worked from transcripts of the tapes. They determined that the students' sheet-based

talk fell into three categories: (1) avoiding directions to evaluate one another negatively, (2) collaborating to complete the sheets in order to get the work done in ways that would preserve their relationships with their classmates and that would satisfy the teacher, and (3) discussing the substance of one another's writing as directed by the sheets. (87) The students in the two classes spent 67% and 59%, respectively, of their time on these topics. In the first class, the other 33% included spontaneous talk about format/mechanics (11%), content (7%), other, task-related topics (11%), and non-task related topics (4%). In the second class, the other 43% included spontaneous talk about format/mechanics (14%), content (22%), other, task-related topics (5%), and non-task related topics (2%). (The percentages total 102 because of rounding errors.) (91)

Freedman's study indicates that the students avoid evaluating each other negatively; they collaborate to complete the worksheets "just to get the work done"; and they "spontaneously and informally discuss content," but have "difficulty discussing matters of form or mechanics." (71) Even in college-bound ninth graders, it seems, collaboration in serious on-task talking, with the guidance of response sheets, does not produce peer evaluation, responsibility for self-learning, participation with the

goal of acquiring knowledge, nor discussions of format and mechanics in peer writing.

In another peripherally-related study, William Sweigart examined, in "Classroom Talk, Knowledge Development, and Writing, " in <u>Research in the Teaching of English</u>, "whether exploratory talk in small groups can help students assimilate new information on complex topics more effectively than can participation in a class discussion or a lecture" (469). He found the mean of the knowledge gain (.90) in the scores of students who participated in group discussions was nearly twice the mean of their knowledge gain (.46) when they listened to lectures prior to writing, or when they participated in a whole class discussion. He claims the differences are consistently statistically significant. He states, "It is clear from these data that the condition in which students have the greatest opportunity to talk had the most positive effect on topic knowledge" (483). The higher ability students had consistently higher scores in all areas, but Sweigart found students of all ability levels benefited from the small group discussions. Off-task behavior in all three protocols ranged from 0 to 23%. The students in the small group discussions had less off-task behavior than either the students in the lecture group or those in the whole class discussions.

Sweigart is convinced that "when students participate in small talk, particularly in small groups, they write significantly better opinion essays, scored on a rubric which assesses clear thesis and elaboration with supporting evidence" (492).

# A Collaborative, Not a Cooperative Setup

It is important to acknowledge the realities of teaching adolescents. One consideration that a teacher ignores at her peril is the short attention span of students. In an article titled "Scheduling the Classroom Day," Peter Sloan and David Whitehead of the Western Australia College of Advanced Education argue that the length in minutes of a low attention span of middle school students is 15-30 minutes, and that the length of high attention span is 25-40 minutes. Our project was timed to last a maximum of 50 minutes, with ten minutes of collaborative discussion for the experimental group. Bv mixing three activities (teacher instruction, prewriting, and writing), we felt we were well within the range of the optimal time for holding the interest of the students. As Sloan and Whitehead state, "It is important to ensure that learning activities (e.g., discovery, instruction and application) are not prolonged beyond the attention span limits" (7).

Another important reality of adolescents is their strong need to be accepted, to belong and to blend in with their peers. Knowing that we have a multicultural group, we endeavored to set up our collaborative sessions to promote racial harmony. According to Sonia Nieto, in Affirming Diversity: The Sociopolitical Context of Multicultural Education, "A number of research studies have demonstrated that cooperative learning not only improves academic achievement but also results in increasing cross-ethnic and cross-racial friendships among students" (253). Spencer Kagan finds, as Robin Scarcella reports in Teaching Language Minority Students in the Multicultural Classroom, that "in classes which use integrated student learning teams, positive race relations among students increases--students choose more friends from other races" (222). We hoped that through discussions of topics of importance and relevance to these early teens, topics comprehensible to all, we could promote learning of how different cultures would evaluate, understand, and handle the situations presented at the four different sessions. As Enright and McCloskey point out to teachers (reported in Scarcella):

> Your second language learners bring to the classroom an already-developed knowledge about the people, places, objects, and events in their families and in their native cultures. They often bring a rich experience with the discourse traditions of their native cultures; their peoples' ways of conversing; their ways of behaving appropriately in various social settings (including school); their ways of using reading

and writing; and even their ways of presenting information and telling stories. These resources, rather than being ignored or remediated, can be studied and used to enrich their owners' learning and the learning of the entire class. (219)

Adolescents also tend to value their peers' opinions and ideas more than authority figures' opinions and ideas. Many students have preconceived notions about cultures different from their own, and have reacted negatively to any formal instruction about differences. We hoped that informal education, through peer interaction, could help to erase some of these prejudices and provide valuable information at the same time. If all students were enjoined not only to tolerate, but also to accept the opinions of others, students who had traditionally been lower on the "pecking order" might feel less intimidated and feel less reluctant to share their opinions and information about themselves.

For our limited English students, we realized that interaction would have benefits beyond the hoped-for lessening of prejudice. "Working cooperatively with native speakers of English increases students' opportunities to hear and produce English and to negotiate meaning with others", according to Lynne T. Díaz-Rico and Kathryn Z. Weed, of California State University, San Bernardino, in <u>The</u> <u>Cross-cultural</u>, <u>Language</u>, <u>and</u> <u>Academic Development Handbook</u> (173). As reported by Robin Scarcella, a number of

researchers, including Wells (1986) and Lindfors (1980), have argued that learning emerges from interaction. The Bullock Report (1975) states that "talking and writing are a means to learning." Cummins, in <u>Empowering Minority</u> <u>Students</u> (1986) lists some of the characteristics of a pedagogy that enables students to use language in interaction:

- genuine dialogue between student and teacher in both oral and written modalities
- guidance and facilitation rather than control of student learning by the teacher
- encouragement of student-student talk in a collaborative learning context
- encouragement of meaningful use of language by students
   rather than correctness of surface forms
- task presentation that generates intrinsic rather than extrinsic motivation (xi).

An additional reality of adolescence is the importance of socialization. Margaret Cintorino, a practitioner, in her article, "Discovering Their Voices, Valuing Their Words," quotes Vygotsky, discussing cognitive strategies for adolescents:

> Unlike the development of instincts, thinking and behavior of adolescents are prompted not from within but from without by the social milieu. The tasks with which society confronts an adolescent

as he enters the cultural, professional and civic world of adults undoubtedly become an important factor in the emergence of conceptual thinking. If the milieu presents no such tasks to the adolescent, makes no new demands on him, and does not stimulate his intellect by providing a sequence of new goals, his thinking fails to reach the highest stages or reaches them with great delay. (108)

Another reality of adolescents is that they prefer to be with their peers. "Peers," of course can have varying definitions. Fearing that students would naturally congregate and group themselves ethnically, economically, and intellectually, we acted to forestall such action and established heterogeneous groups. We hoped to promote better understanding and congeniality among ethnic groups and to permit exchanges of ideas and learning from peers. Bruce Joyce and Marsha Weil, in Models of Teaching, report that research by Johnson and Johnson (1977) and Slavin (1983) confirms that "working together increases student energy," that "heterogeneous teams (composed of high and low achievers) appear to be the most productive", and that "the more heterogeneous groups learn more, form more positive attitudes toward the learning tasks, and become more positive toward one another" (236).

We can use collaboration in the prewriting phase in several ways. Our primary method is to group three to four students to generate ideas in a brainstorming session. Knight previously used prewriting groups to discuss a story

or television program or something that happened at school, or a student issue or problem. Also possible is collaboration as students are cataloging, webbing, and listing. Sharing with another or several students at this point can be beneficial prior to the drafting stage.

### **Our Expectations**

Knowing eighth graders as she does, Kathy Knight mistrusted the hoopla and expected results coming from theorists idealizing collaboration in the classroom. She hoped for social rewards from collaboration among her students, but doubted that academic achievement would be elevated by groups collaborating in prewriting. Cathy Brostrand was more optimistic, having devoured several books and articles propounding on or theorizing about the benefits of collaboration in the classroom--any classroom. We both hoped that Margaret Cintorino's results in her high school writing class would apply to our students:

> Students learn to work together, to get along, to tolerate difference. They learn to handle disagreements and to compromise. They learn to support one another and to form communities of learners. They learn to help one another learn. The social savvy required for and developed in small group work prepares students for the world outside of school, a world in which collaboration, tolerance, and social awareness are vital for success. (33)

We discussed Courtney Cazden's list of benefits of discourse among peers, highlighted by Douglas Brown's

statement that "speech unites the cognitive and the social" (2). She believes that discourse works as a catalyst which exposes students to alternatives. She notes that Perret-Clermont, a Genevan psychologist, concluded from a study of school-age children that "peer interaction enhances the development of logical reasoning through a process of active cognitive reorganization induced by cognitive conflict" She also feels that discourse permits the enactment (128). of complementary roles: "by assuming complementary problemsolving roles, peers could perform tasks together before they could perform them alone. The peer observer seemed to provide some of the same kinds of 'scaffolding' assistance that others have attributed to the adult in teaching contexts" (130).

Furthermore, she believes that discourse develops a relationship with an audience and provides the availability of immediate feedback when something said or written is unclear. Exploratory talk, instead of final draft, promotes learning "without the answers fully intact" (134).

Also important, but worrisome to us, were the negatives associated with group work. David and Roger Johnson address some negatives in "Cooperative Learning and Achievement." They list the "free rider effect" where less able or willing group members let others complete the group's task, "whereby group members expend decreasing amounts of effort and just

go through the teamwork motions. At the same time, the more able group member may expend less effort to avoid the 'sucker effect' of doing all the work. High-ability group members may be deferred to and may take over the important leadership roles in ways that benefit them at the expense of the other group members (the "rich-get-richer" effect). . . The time spent listening in group brainstorming can reduce the amount of time any individual can state their ideas" (27). Also listed as possible negative attributes of group work are self-induced helplessness, diffusion of responsibility and social loafing, ganging up against a task, reactance, dysfunctional divisions of labor, inappropriate dependence on authority, and destructive conflict (27).

We were concerned that "destructive conflict" would appear in the form of ethnic slurs or denigration of other students' economic class or intellectual capacities. We were also concerned about studies which report that males dominate peer discussion groups. Sommers and Lawrence, in research conducted in 1992, write in "Women's Ways of Talking in Teacher-Directed and Student-Directed Peer Response Groups," that males learn well "how to jockey for position, how to make themselves heard, how to represent female peers' ideas as their own, how to silence female peers." They state that females "tended to practice skills

that they had most likely already refined: waiting, listening, acknowledging, affirming" (25).

Reported experiences from our own daughters gave us pause to worry about the ability of students to remain focused on the discussions at hand. In college, high school, and in middle school, all five (collective) daughters recall discussion groups that were mostly offtrack, where discussions disintegrated into talk about dating, cars, girls, boys, the latest gossip. They also mentioned a drawback of discussion groups that we had not put much weight on: they don't really matter, for each student is ultimately responsible for her own grade and "reading the teacher" to know what she wants or what will "get a good grade out of her." The issue of power in the classroom remains--college students encouraged to collaborate still hesitate because of the competition for grades and their reluctance to compromise what they write based on others' opinions or reviews.

Our own experiences at CSUSB add to this informal criticism of forced collaboration. In group projects at the master's level, there were still slackers who relished the opportunity to cash in on a group project--one student admitted to other group members that he was the "free-rider" in our group, and he knew there was nothing the rest of the group would do about it.

# Gergits and Schramer address just these concerns:

Students are following our directions: we ask them to collaborate, so they do. We assure them that they will have to collaborate on the job; they believe us. We provide them with a language and rudimentary processes for successful collaboration; they use them. In most cases, however, they are doing what they believe minimizes personal conflict; they are performing and writing to please the teacher, a process strikingly similar to the performance models that worked for them in familial or social situations. Their cooperation . . . does not indicate that they have internalized collaborative processes or converted from individual strategies for problem solving to group strategies. They are primarily concerned with their individual grades; they are universally grateful that their grades are not harmed by the project. We must not fool ourselves into believing that our brief courses will convert students from socially adroit team players and individual students to people for whom collaboration is empowering, perhaps even liberating. (199)

Johnson and Johnson, in "Social Skills for Successful Group Work," have antidotes for some of the above-listed negatives. They maintain that "students must get to know and trust one another, communicate accurately and unambiguously, accept and support one another, and resolve conflicts constructively" (30). Teachers can follow steps to teach small-group skills. They must convince students that they need the skill; students must understand what the skill is, and when it should be used; students must practice the skills; students must process how frequently and how well they are using the skill; and students must persevere in practicing the skill (Educational 30). Cooperative

learning, they believe, can be successfully prepared for and taught.

After reading about cooperative learning structures and their concomitant prescriptions and proscriptions, we determined that it would take too much time to train and prepare for such a curriculum for our study--it would take an entire semester, which we did not have. Therefore, we adopted some of the major points, such as presenting the students with a project they could "buy into", presenting them with guidelines to help them to communicate well and to accept and support one another, and tried to incorporate them in our collaborative experiment. We did not envision a finished, fully collaborative project from our students; we only hoped for collaboration in prewriting and brainstorming, which, we hoped, would better prepare them to write. Our goal as English composition teachers, after all, is to build more competent writers.

Our ideal goal for our students was succinctly summed up by Flower and Higgins:

> On the other hand, the goals of collaborative planning are not to achieve a certain product or a valued voice, or a teacher-imposed ideological perspective. They are, ironically, to encourage students to take more responsibility for their own thinking, to take their sense of purpose beyond a formulaic representation into a more fully elaborated web of intentions. The goal is not to comply with a genre, but to help students explore their options and realize that they control a repertoire of text conventions. And in the larger picture, this educational construct was designed to foreground the real problems of writing for an

audience, entering a discourse that writers only partly control even as it exerts power over them. From the instructor's point of view, collaborative planning is a forum for students to try to build a representation of the task, to figure out what is expected, and to imagine how readers, including teachers respond. (60)

We found Gere's set-up for a semi-autonomous collaborative writing group to be the closest to the ideal that we could expect for and from our students. She lists four major considerations.

(1) It is necessary to divide the students into groups while "juggling constraints of size (usually 4-7 members), heterogeneity (of gender, writing ability, and personality type), and configuration (assigned roles such as recorder or chair)." She advises that teachers allow some selfdetermination to students by letting them chose their own groups, which we did within some prior constraints.

(2) It is necessary to establish trust because students are wary of exposing their writing and thoughts to others. "Being asked to change one's language means being asked to change oneself, to leave one community and join another, and the fact that this change is the goal of writing groups does not make the process of changing any easier or less threatening." Accordingly, teachers can prepare for writing groups by transforming the class into a community where all members feel secure, put-downs are not allowed, people are

encouraged to contribute, diversity is appreciated, and teachers show respect for students (103).

(3) It is necessary for the teacher to teach collaborative skills to her students and encourage their practice. Gere suggests asking students to introduce each other; tasks that depend on cooperation; opportunities for role-playing; reading of student papers to the whole class; developing listening skills in students (dictation exercises); the teacher's modeling of positive critiquing of student papers and positive responses to writing.

(4) The students need to learn to critique their own and others' writing. The teacher can provide models. She can list questions and ask students to draft questions. Gere notes that is important to calibrate the assigned tasks to the students' zone of proximal development. (We did not extend our project into the realm of peer evaluation.)

(5) It is important to have a definite teacher commitment: "Instructors who introduce writing groups successfully usually are those who have participated in writing groups themselves and know the benefits for their own writing" (106). Kathy Knight has enthusiastically participated in the Inland Writing Project and has used as many of its ideas and techniques as possible and practical in the set-up of our project in the middle school.

#### CHAPTER 2

# Introduction to Study

This study looked at one group of eighth grade students, investigating their brainstorming, collaboratively and alone, and their essays which followed. The main body of results came from the writings and various assessments of them.

In "How Does Collaborative Planning Compare with Peer Response?" Jane Zachary Gargaro, cited in Linda Morris' aggregate on collaboration, maintains that collaborative planning encourages writers to talk through their invisible plans that will give shape to and lead to a visible text. It is verbalizing thought, and "change may be initiated because it is not set in stone" (6). Collaborative planning thus may allow the writer to consider more alternatives as she designs her plan for the writing. Gargaro finds that collaborative planning adds a dimension of fluidity to the writing process, and it adds a new dimension of thinking out the writing plan with someone before any writing takes place (6).

The question examined by this study is: Do students write better persuasive discourse after they have collaborated with a small group of peers? We chose persuasive discourse as the genre for our students' essays

because we thought that the students would be more enthusiastic if allowed to give their opinions about subjects they found engaging or challenging. We expected that the students would write more and would enjoy the task more if the subjects interested them. George Hillocks addresses the issue of finding the right topic to enhance the writing task: "The phrasing or framing of topics is of particular interest to those concerned with the writing assessment because they wish to insure that a given topic will elicit a writer's best work and that topics used over time in testing situations will be comparable" (170).

We found no studies that examined the benefits of prewriting collaboration in a setup such as we envisioned for the design of our project. We looked specifically at collaboration in only the prewriting phase of the writing process. Other studies appear to examine collaboration throughout the writing process, usually including brainstorming, draft preparation, peer response groups, and peer revision groups. The next section describes the pilot study and the formal study conducted in May and June of 1995.

## **Responsibilities of Researcher-Collaborators**

Implicit in our wanting to test the benefits of collaboration was our desire to benefit from collaboration

ourselves. We wanted to know the benefits of "nourishing friends." Ellen Goodman, a nationally syndicated columnist, writes that we should look for friends who "feed" us. We were our own nourishment--our own support group. We "fed" each other in the face of daunting work, school, and master's degree work schedules, changing roles in our families, research results that were unexpected, unruly and rude and rambunctious students, and down days. We nourished with ideas provoked by the other, with good cheer in the face of the other's gloominess, with good news about newly found information, with progress reports, no matter how We encouraged each other with reminders about minuscule. what we were about to accomplish: a contribution to promoting collaboration in a world of university research and academics that values highly independent, solitary research and writing.

Although we had been brainstorming and planning for over a year the goals and concept of our study, the theories of collaboration, and our expectations, we knew we needed a plan. Tori-Haring Smith recommends that co-authors in a project such as ours attend to the four C's of group writing: Control, Communication, Calendar, and Credit (366).

Control involves naming a leader or facilitator. We opted to take equal responsibility for moving the project

forward. We decided that mutual revision was important, with each writer having exclusive control, if necessary. We knew that compromise is inevitable, but we wanted to grant to each other the right of exclusive authorship of a theory or section.

Communication is essential, of course. We both felt free to discuss with the other problems in coordination, workload, timing, production deadlines, and heavy outside work schedules. If anything, we were too quick to understand and excuse outside pressures that interfered with out calendar. Communication also involves our working together with friendliness and grace--important components of successful long-term group work. We tried to accommodate any eccentricities and demands for inclusion of certain ideas by the other.

Our Calendar was, in retrospect, much too casual. After an entire quarter of rewrites (at least fifteen) of our thesis proposal, all of which were done together, each excruciating sentence at a time, we were so relieved to finally submit a proposal that the graduate committee accepted that we decided to give ourselves a break--a chance to reinvigorate ourselves and find fresh energy for the daunting task ahead. We knew from our experience with the proposal that writing together would require much more time than writing alone, so we optimistically projected a minimum

of twelve months to complete our thesis. After all, we both had jobs, classes, and families to deal with. As it turns out, in the course of our collaboration, abetted by our casual calendar and empathetic attitudes, both Knight and Brostrand took on two additional teaching jobs, in addition to their regular employment. As some suggest, we should have at the outset doubled the twelve months to two years, which is what we finally needed to finish the project.

As the experts suggest, we set deadlines for segments of the project. We set weekly meetings to assess our progress, to encourage each other, to share information, to review what we had written, and to revise. Most of our revisions in the early stages were of our meeting dates-postponing them! Interestingly enough, we kept to our meeting schedule better when we were both taking classes and working. Being away from academic deadlines allowed us to slack off.

For both the pilot and formal study, Knight supplied the ideas and formats for the writing prompts. We edited them together and prepared the student surveys and questionnaires together. For both studies, Knight and Brostrand were in attendance for the entire class period when students participated in the project. Knight administered the prompt and led the whole class discussion while Brostrand took notes. In the pilot study, Knight and

Brostrand alternated accompanying the experimental group to its outside discussion area. In the formal study, Knight accompanied the experimental group while Brostrand remained in the classroom with the control group.

The evaluation of the questionnaires we performed together, after dividing the papers to tabulate separately. The same occurred with the tabulation of different measures on all of the student essays: we divided the papers to tabulate separately, and worked together to assemble the data. We scored the essays holistically together. After physically completing the study at the middle school and together tabulating the statistics, we divided the writing assignments into large blocks: chapters, sub-sections, subsub-sections, etc. We decided that Brostrand would do the research and reporting on theory, Knight would report the study, and that the rest of the chapters would be divided fairly. Of course, our outline changed many times with the evolution of our project and our increased knowledge of studies and research regarding collaboration. We both worked from the then-current outline, feeling free to alter it, to add to it, and to write comments and ideas--even blocks of paragraphs-on any part of the thesis. We deleted only in concert. Our revisions at our weekly writings were primarily done together, line by line.

Once we joined the first two chapters on Brostrand's computer (a major accomplishment!), most of the remainder of the writing we did together, either at Brostrand's dining room table on paper, or in front of her computer. Brostrand was then responsible for the formatting, revisions, and computer work.

How to handle the tricky problem of Credit? We felt that we should both receive equal credit, but knew that the first one cited is assumed to be the primary author. As Haring-Smith states, "As a result, the piece is usually catalogued under that author's name in card catalogs, indexes, bibliographies, and abstracts" (372). Since we plan to continue to work together, to publish more articles, and to condense this thesis for presentation to an academic journal, we decided to toss a coin to determine the firstnamed author. She will be first on this thesis, second on our next collaboration. Our attitude emphasizes "we over I" and "cooperation over competition," described by Janine Rider and Esther Broughton, two college-level English composition teachers who ran into many administrative roadblocks in their efforts to collaborate in teaching and publishing (251).

Ede and Lunsford follow a similar pattern of alternating the name of the first author cited. They decry the customary practice:

We are also committed to working to change the academy so that others can, without penalty, experience the satisfactions and challenges of collaborative inquiry. One hindrance to academic collaboration in the humanities, we believe, is the practice of insisting on the concept of primary and secondary authorship. By crediting the first author as primary and the second and following authors as secondary, this practice denies the reality of collaboration such as ours. Whenever we write together, however we list our names, our collaboration is equal. (xii)

One of the highlights of our collaboration, which, sadly, was probably not experienced by any of our eighth grade students, was a social dynamic described by Flower and Higgins as "shared metacognition." In their study of college freshman collaboratively planning to write, they occasionally found the following situation:

> The combination of teacher-designed prompts, with a partner who makes an opportunistic, in-process use of them as needed, and a writer who accepts the goals of the enterprise, prompts the writer to try to build a more elaborated, rhetorical image of his or her own meaning. In addition, this potent combination prompts the writer to selfmonitoring and both partners to reflecting on the state of the image. The partners engage in this shared metacognition by reminding each other to think about rather high level issues or try to carry out cognitive moves that students often ignore. (58)

#### **Participants and Site**

The participants in the study were eighth grade language arts students in Knight's class at Arizona Middle School. The students were grouped homogeneously into two groups which we refer to as the control and experimental

groups. The control group did not use prewriting collaboration before writing their essays. Instead, they used a form of graphic organizer known as a cluster or web diagram to write down their ideas before writing. The experimental group used collaborative group discussion as a pre-writing device.

The site of the pilot study and the subsequent, formal study, was Kathy Knight's classroom, #28, at Arizona Intermediate School in Riverside, California. The school is located in a middle-class, suburban area of the geographic subdivision known as La Sierra. The school has 1,200 students of mixed ethnicities, in seventh and eighth grades. There are 120 limited English proficient students distributed across three tracks. There were four limited English students in the first period eighth grade group that we studied. The language arts class itself was a class composed of mostly low to medium ability students. The average GPA of the class was 2.0.

# Placement of Students into Control and Experimental Groups

The primary criterion for placing the students in the groups was their grades from the previous quarter's language arts' class. We decided to use the language arts' grades instead of standardized testing scores because some of the students had not taken the standardized tests the previous

year, or the scores from the tests were not available. Additionally, we felt that standardized test results are not always accurate indicators of student ability. (In the past, Knight had proctored standardized tests for the eighth grade students and had observed students randomly marking test answers without first reading the questions.) Each group had students representing low, medium, and high student achievement, although the class as a group was overall rated as a low-achieving group academically.. The two groups were composed of an almost equal number of male and female students. Each group contained two limited English students. There were a total of thirty-one eighth grade students who participated in the study. Of the thirty-one students, fifteen were male and sixteen were female.

All of the participants were present for two of the four writing assignments. For the essay on abortion, only ten females and twelve males were present. For the essay on advice, fifteen males and fourteen females took part in the writing. It was not unusual to have up to ten students absent on any given day. We did not feel that the differences in the group numbers for the essay assignments was enough to be a significant factor in the outcome of the analysis of the holistic scoring of the essays, so we decided not to throw out any of the essays.

## Pilot Study

Our pilot study began on May 10, 1995, and ran from May 11th through May 16th. Initially, we hadn't intended to do a pilot study, but we found, after administering three writing assignments, that there were some things we needed to do differently to ensure an accurate representation of student writing abilities in the two groups.

We assigned a total of three writing prompts to the students in the course of the pilot study. Before the students were assigned the writing prompts, Knight reviewed the essay format and briefly talked about the holistic scoring rubric. She discussed the importance of having both a topic sentence in each paragraph and an overriding topic idea for the entire paper. She showed the class a prewriting cluster or web diagram for organizing one's thoughts. (See appendix.) It consists of one large circle in the middle, where the thesis or topic statement and three supporting statements are written, and three smaller circles coming out of the top of the middle circle. Each smaller circle contains one of the supporting statements and two examples to amplify or explain the supporting statement. Finally, a circle comes from the bottom of the center circle: it is for the conclusion.

In the course of the pilot study, the students wrote three essays. All of the essays were opinion-type essays.

For prompts, we decided to use readings taken from an eighth grade level text entitled <u>Reading For Real</u>, by Thomas J. Swinscoe. The text featured selections from different genres of literature. Our first prompt was from a unit on parenting. The class read an newspaper article taken from "Dear Abby" which questioned whether parents had the right to set ground rules for dating without asking their child for his/her input. The second prompt was from an opinion piece which questioned the right of the public to ban books in a public library. The third writing prompt was based on an editorial which questioned whether violence on television causes violence in society. We felt that the readings would stimulate the students' interest, and that they would enjoy writing about subjects so relevant to them.

Knight introduced the holistic scoring guide in more detail before the students wrote the first essay. (See the appendix for a copy of the complete scoring guide.) We felt that the students would take the essay writing more seriously if they thought that their grades on the essays would be averaged in with their language arts scores. She explained the criteria for scores which could range from a high of 6 to a low of 1. The numbers corresponded to letter grades: 6 equals a grade of "A", a 5 represents a "B", a 4 and 3 would be a "C" and "C-" respectively, and a score of two would be a "D". Knight used an overhead projector to

display the holistic scoring guide and later passed a copy of the scoring guide to each student. She instructed them to keep the guide in their notebooks for future reference.

The class received the first prompt on May 11, 1995: a letter written to "Dear Abby" titled "Steady Romance Stalls When Mom Sets Ground Rules." The essay question for the students to answer was: "Should the parents set ground rules for dating without talking to the son/daughter?" Before separating the students into control and experimental groups, Knight led a whole class discussion to make sure everyone clearly understood what the prompt asked. First, Knight asked, "What is an opinion paper?" A class discussion ensued, with the students' expressing what they thought an opinion paper was. Knight then gave a definition of what she thought constituted an opinion paper. "An opinion paper is one in which you take a position on the issue presented and defend your position with arguments for or against."

Next she passed out copies of the Dear Abby article and announced, "We're going into the advice business today." After reading the article aloud to the class, she asked, "Okay, what do you think should have happened here between the mother and the daughter?" The students gave a variety of responses: "The mom should have been easier." "He (the boyfriend) might have felt attacked." "She should have

talked to Lucy first." The mom has a right to talk that way but she shouldn't." Knight gave examples of some arguments she would use to support the argument on the topic at hand. She felt that most of the students were engaged by the topic, so she instructed, "Write on how you as a person feel about this. You are the son or daughter involved."

The control group, which stayed in the classroom, was instructed to use the prewriting cluster diagram to organize their ideas for the essay. The experimental group was told that they would be allowed to talk over their ideas for their essays in small groups of three in the multi-purpose room. Knight suggested that the participants take notes and list a few of the ideas that the group came up with in their brainstorming sessions to use later in writing their essays. Knight and Brostrand decided to take turns staying in class with the control group and going to the multi-purpose room with the experimental group.

Off-task behavior during the collaboration of the experimental group was significant. For the first session of the project, Brostrand went with the experimental group to the multi purpose room to supervise the prewriting discussion groups. Instead of discussing their ideas as instructed by Knight during the whole class discussion period, they fooled around and played tricks on Brostrand.

They asked, among others, the following questions to test the uninitiated Brostrand:

"Are we allowed to listen to Walkmen while we talk?" "Can we eat snacks while we meet in our groups?" "When can we go home?"

The ten minute collaboration period turned into a free-forall.

The second essay was assigned to the class on May 15, The prompt was based on a short reading called 1995. "Voices across the USA." The reading offered opinions from different people concerning book banning. The prompt asked, "Do you feel it is right to restrict students from reading certain kinds of books?" Before reading the story, Knight asked, "What is banning?" A student answered, "to get rid of it." Knight responded, "Right, to get rid of it. For example, if some parents object to a book in the school library, they petition to have it removed it from the shelf; they ban it." Knight read the opinion piece to the class and led a question and answer period. After the whole class discussion, she divided the class into control and experimental groups, and she took the experimental group to the multi-purpose room while Brostrand remained in the classroom with the control group.

The third prompt was presented on May 23, 1995. The subject of the editorial was violence on TV. Knight asked the class, "How many of you have parents who would not let you watch violence on TV?" A class discussion followed. The consensus of the group was that watching violent shows does not necessarily cause violent behavior, so it didn't make sense to forbid young adults to watch such shows or movies. Students observed that there has been violence since the time of Jesus, so it doesn't make sense to blame violence on TV or movies. Knight instructed the students to write, in their Cornell Notes so they would have it in front of them, their opinion: "Do you think violence on TV has a bad effect on society?" She further prompted, "How will you answer Yes or No? Give examples to support your argument. You can use quotes right from the article in your essay."

After the instructions, the control group began their brainstorming, and the experimental group went with Knight to the patio to write. After the experimental group had talked about the topic for ten minutes, they returned to class and wrote.

The control group began writing their essays as soon as the experimental group had left the room. Some of the students used prewriting clustering diagrams as a method of brainstorming, while others insisted that they did not need

to plan what they wrote. They just started writing their essay. The control students took more time turning in the essays than did the experimental group.

After the third writing session, Brostrand and Knight discussed the problems with the project : the pilot study presented several unexpected problems. We decided that collaboration was too unstructured a task for these immature students, who showed considerable off-task behavior in the discussion groups. If Knight went with the experimental group, since she was the primary teacher, she would have better control of the class. We both questioned the effectiveness of collaboration when so much of the ten minutes was spent monitoring student behavior. In our minds, we envisioned a collaborative partnership between students and teacher, if not between students and students. Teacher-student collaboration, however, would require that we to visit and remain with each group and provide constant support and encouragement to remain focused.

Our first concern was the off-task talking in the experimental groups during the prewriting conference time. Another concern was the lack of structure in the conference groups during the collaboration period. There was an assigned task to discuss--what they would write in their essays--but there was no work required at the end of the collaboration period. We questioned how much conferencing

went on at all in the prewriting collaborative groups. As Knight walked around from group to group to observe student behavior, it seemed that the participants in each group would quickly say something about the assignment just to satisfy the teacher, and then they promptly began talking about social subjects when they thought the teacher was out of hearing. As Knight moved between the groups, she caught snatches of conversation such as:

"Did you finish your homework?"

"What are you going to eat for lunch?"

"This activity really 'sucks.'"

An additional concern was that the control and experimental groups didn't have an equal amount of time to brainstorm their essay topic. The control group students in many instances did not do any prewriting, instead they immediately started writing. We wanted the students to have an equal amount of prewriting time, whether it was a written cluster or a discussion in the small collaborative groups. We decided that for our formal study, we would monitor the control students more closely to make sure that their prewriting time was equal to that of the experimental group. We would also insist that everyone in the control group do a prewriting graphic organizer.

Our final concern was the lack of a permanent place for the experimental group to go to conduct the prewriting discussions. One of the discussion groups had to be held out in the patio because the multi-purpose room was being used. We felt that the conditions for both the control and experimental groups had to be as similar as possible. We decided that we needed to find a room for the experimental group to meet in that closely resembled Knight's classroom. We found such an environment in the library, which had small tables clustered in one corner. We were able to use the library for our prewriting discussion groups in June.

#### Formal Study

## Writing the Essays

We began the actual study in June with a new plan to correct the problems found in the pilot study. For each session, after Knight discussed the topic with the whole class and wrote the students' brainstorming ideas on the blackboard, she divided the students into the control and experimental groups. Students in the control group were instructed to work ten minutes constructing a mind-mapping diagram (web) to help them organize their ideas. Knight required that the students turn in their web along with the rough draft of the essay.

The experimental students were taken by Knight to the library to the small tables area. The experimental students were divided into groups of three and instructed to talk to one another about their thoughts on what should be included in the essay. We decided to use groups of three because they are small enough for all students to be able to provide input in the time allowed. Also, groups of three allow for meaningful interaction between the students. As Bleich states, "the group of three is the smallest unit in which peer-group psychology can come into play. For many young people, the peer group is affirmative, a set of others who can be trusted more easily than parents, teachers and authority figures" (283).

While the groups were discussing their topics, Knight circulated among them to give encouragement and answer any questions that the students had. She believes it is a good idea for the teacher to visit all the groups in a random pattern because it helps keep the students on-task. After ten minutes, the experimental group returned to the classroom, and at that time the students in both the control and experimental groups began to write on the assigned topic.

Administration of the Writing Prompts

Each writing prompt was administered in the same manner. First Knight wrote the prompt on the board for the

entire class to read. The topics for the prompts were selected by Knight based on student interest demonstrated in past class discussions. The topic for the first essay was "Do You Think That English Should Be The Official Language of The United States?" The second essay prompt was "Do You Think Abortion should Be Legalized?" The third prompt was "What Advice Would You Give To A Seventh Grade Student?" The fourth and final prompt was "Do You Think The Drug Education Students Get At Arizona Middle School Deters Students From Taking Drugs?"

After the students were given time to read the prompt, Knight asked if there were any questions about the prompt, or if there were any difficult words they had trouble understanding. Next there was a teacher-led discussion of the issue brought up in the prompt. After the whole class discussion, Knight took the experimental group to the library where the students split into small groups of three to discuss their ideas.

The students in the experimental group were given an instruction sheet entitled "Guidelines For Group Collaboration." (See appendix.) Knight discussed the guidelines with the experimental group before they began their first collaborative session. The guidelines follow: 1. Members of the group will only talk about the

papers they are writing. The discussion group is to

help you write your paper. It is not an opportunity to socialize.

- 2. Each member of the group will write down any ideas she or he may have or get from the group members.
- 3. Under no circumstance will students waste group time arguing with the teacher. Remember, this is supposed to be a time set aside to help you get ideas to write a better paper.
- Write any questions you have about your paper and ask the teacher as she comes around to check on your group.
- 5. Remember, collaborative groups work only if every member of the group respects the ideas of all of the members of the group. There will be no put-downs in the group discussion.

Then Knight asked for questions about the guidelines. There were none. She instructed the students to think about the topic of the day and to begin their discussion. She went to each group in turn and monitored the conversations to make sure the students were on-task. She posed questions, commented on student ideas, and encouraged the participation of recalcitrant students. After ten minutes of discussion, the experimental group returned to the classroom and began, with the students in the control group, to write their essay.

It was important that the students in both the control and experimental group had the same amount of time to brainstorm before writing the essay. Although the brainstorming in the experimental group was mostly verbal, the students had the notes they had taken in their discussion groups to use while they were writing their essays. The control group was given the same ten minutes to brainstorm individually and to write notes on the things they wanted to include in their essays.

Throughout the school year, the students had learned and practiced a method of prewriting called a web. The web design (See appendix.) consists of a central circle into which the students put their main idea (topic idea) along with three supporting arguments listed underneath the main idea. There are three smaller circles which extend from the top of the central circle. Each of the smaller circles is used for the three supporting arguments of the main idea. Each of the smaller circles has at least two examples listed in support of the argument. Finally, there is another large circle which extends from the bottom of the topic idea circle. This lower circle is for the conclusion. In the concluding paragraph, the students restate the controlling idea and arguments for it and finish the paragraph with a

concluding sentence which expresses their opinion on the topic.

After the ten minute brainstorming session, the students spent the remainder of the period completing their essays. Some students finished before the remaining thirty minutes expired. Some requested more than thirty minutes to complete their essays, but, given the restraint that it had to be turned in by the end of the period, they were forced to turn in a finished rough draft.

Scoring the Essays

We used the holistic scoring guide created by the Inland Area Writing Project (see Appendix) to rate the student essays. The holistic scoring guide assessed topic sentence development, organization of the essay, style, use of vocabulary and mechanics, strong authentic voice, sentence variety, and grammatical errors.

It is commonly used to score essays in grades 7 through 12. Knight initially explained the scoring guide to the class before they began the first writing prompt. She used the overhead projector to demonstrate how the scoring guide functioned and to show the criteria for each holistic grade. To make the students accountable for their efforts in this research project, Knight told the students that they would be assigned a grade for the project which corresponded to the holistic grade they received on their papers. A "6" or

superior paper was an "A," a holistic score of "5" was a "B", a score of "4" was a "C", a holistic score of "3" a "D", and "2" and "1" were failing papers.

Three independent master's degree students from the English composition program at California State University at San Bernardino graded the essays. Their first task was to norm the essays in a fashion similar to Mohan and Lo's ideas in "Collaborative Teacher Assessment" (31). Mohan and Lo point out that its very difficult for teachers to agree on assessment standards for many reasons. Fair and consistent decisions on what constitutes a good paper across all levels are also difficult. With that in mind, our readers felt that eighth grade papers should be scaled down from the expectations of the quality of papers produced by high school students.

To avoid ambiguity and disagreements among the readers about which paper represents which particular grade in the holistic scoring guide, our readers followed the guidelines established in Mohan and Low's study. First, the readers reached "shared meanings" through discussions on what constitutes lack of clarity around "criteria surfaces". Second, they debated whether or not vocabulary was separate from ideas and opinions. Thirdly, the readers discussed their differentiation between the weight given to language and to content. After the readers had come to a consensus

on how to grade the papers, they decided the final, most important criterion for assessing the merits of an essay, the one deciding factor, would be the quality of the idea the student was trying to convey.

To begin the grading process, the readers established anchor papers for each number on the holistic grading scale. It took a considerable amount of time to decide which papers met the criteria for each particular holistic grade. All three readers read each paper, putting a grade next to the name on her private record sheet. At the end of the first readings for each topic, all three conferred to arrive at a grade for each individual paper. They took each paper, looked at their own grades, and called out what they believed the grade was. For example, for the first paper: there were two "4's," and one "3-4". So they agreed on "4." With disagreement, the reader who differed reread the paper and either changed, or argued for, her grade with the other readers. Here are some examples of the negotiations that took place among the readers for the different papers:

Regarding Ahmad's essay on drug education, they liked his good ideas even though they felt the ideas were not developed. The readers referred to the prototype holistic scoring guide and finally agreed to a grade of "4," reminding themselves that the quality of student's idea is the final arbiter in a draw.

For Jeff Garcia's essay, they called out scores of "1", "2", and "3". They agreed that his ideas merited a "3". Because of the low values in all other categories, they agreed his paper was only a "2."

Lisa's paper presented a problem: "lots of ideas but atrocious grammar and spelling, and no paragraphs." They put it aside, hoping to have more insight after grading several other papers. Lisa's paper finally scored a "3".

By the end of the day, with time running out, agreement was quicker. While the readers could agree readily on some, they set other papers aside, needing to discuss their differences. Some of the problems that slowed down the grading process were mechanical errors like spelling, grammar, and sentence structure. The readers always tried to show flexibility in the face of such distractions, reverting to their decision to let quality of ideas be the deciding factor. However, one of the readers observed that her biggest problem with many of the essays was that "the ideas were convoluted."

Brostrand and Knight also holistically scored the essays, at a different time. We used the same scoring guide as our readers. We wanted to compare our scores with the scores of the readers. Our scores were routinely lower than the scores given by the readers. We strictly adhered to the holistic scoring guide, not taking the age of our students

into consideration. We both read every one of the essays and individually gave a grade to them without looking at the grade assigned by our partner. If our grades differed, we discussed each essay separately and came to a consensus on what score to give it. We found that our biases and personal feelings for the students colored our grading of the essays. We tended to grade harder for students who were habitual troublemakers in class. We realized that having independent graders was a good idea because they did not know the students and could be more objective in applying holistic scores to each essay.

The exercise of scoring the essays had a positive effect for us as teachers. We could readily see which mistakes occurred most often. After noting the most common errors, it was easy to design mini-lessons to correct the mechanical and grammatical errors found in the student writing. When a teacher uses actual student writing to include in her lessons, it makes the instruction more meaningful. Instead of teaching random grammar instruction, she can focus on teaching what the students need to focus on. Even though the holistic scoring takes a long time to do, it is beneficial to a well-rounded writing program.

## Data Analysis

To evaluate the quality of our students' writing in all four essays, we looked at the following criteria: holistic

scores, number of words in the essay, t-Units, examples given to support the topic sentence, and the existence of a topic sentence. (1) As mentioned above, the holistic score evaluates content, organization, mechanics and grammar, topic sentence development, vocabulary, clarity, and style. (2) We believe, at the eighth grade level, that more words in an essay are, overall, an indication of a better written paper. (3) A t-unit is a group of words or phrases that express a complete thought. It may or may not be a complete sentence; it could even be a run-on sentence. (4) The topic sentence indicates a controlling or main idea for the essay. We feel that an essay without a topic sentence is not a good essay. (5) Any sentence that directly or indirectly relates to the topic sentence we labeled and counted as an example given to support the topic sentence.

We chose these categories because we realize that what constitutes a "good paper" is subjective and can be different from reader to reader. We feel that our abovementioned criteria are most likely present in a well written essay and can also be given a numerical value. We compared the differences between the control and experimental groups looking specifically at the mean scores, the median scores, and the standard deviation in each of the criteria (Holistic Scores, Number of Words Used in an Essay, T-units, Existence of a Topic Sentence, and Examples Used to Support the Topic

Sentence) for each of the four essays. Our data consist of these scores and are discussed in the following pages.

#### Results

We were surprised to find, after reading all the positive articles and theories on the benefits of collaboration, that our experimental group's essays were not as well developed as we had hoped they would be. Knight expected that they would develop the idea established in the topic sentence with particular emphasis on examples in support of it. She did not find it in many papers. For example, an essay on "Does English as the Official Language Mean Discrimination?" began with the following topic sentence: "Yes, I think it discriminates people that can't speak English." (sic) After the attempted topic sentence, the student wrote two supporting sentences which were never developed further. The first supporting sentence was "It's very hard for people that can only speak Latin, Spanish, or Chinese." The second supporting sentence was "It would not be fair to them because you would not like if you could only speak Latin or Chinese." (sic) After those two sentences, the student completed the essay, which actually amounted to only a single paragraph of four sentences. The concluding sentence was "I think it discriminates people of other races, you would not like it if you did not know any English."(sic) Of course, there were better essays written

on the subject, but many amounted to only an extended paragraph, as did the above example.

Marion Crowhurst, writing in "Interrelationships Between Reading and Writing Persuasive Discourse," examines the poor performance of students in writing persuasive discourse. She identifies several problems that seem to relate directly to our students' problems. One problem is that often the content of the discourse is inadequate. She found the persuasive essays were shorter than narrative compositions. The students often failed to support their points of view, and the content was less original than seen in other types of essays. In addition, the organization of the arguments was poor because of lack of knowledge of argumentative structure. Ms. Crowhurst states, "Some students in the middle school have been found to write narration or conversational dialogues when asked to persuade, or to write compositions consisting of a list of badly stated, unelaborated reasons, and beginning and ending abruptly, without an introduction or a conclusion" (315). In essay after essay, Knight and Brostrand found evidence of short, unsupported points of view.

Lad Tobin, in his book <u>Writing Relationships</u>, is skeptical of using collaborative groups to aid student writing:

> If we want to create new kinds of relationships in the writing class, we need to do more than tack on some student-student discussion before or after

the composing occurs. In some ways, the halfhearted collaboration created by peer review seems to me the worst of both worlds--lacking the energy and honesty of intense and total peer collaboration. What we often have instead of either competition or collaboration is a weird noman's and woman's land where students feign collaboration. It is a land that looks from a distance. Students are huddled together in small groups, talking about one another's essays. But to what extent are these students productively collaborating? As I argued in the chapter about competition, students in these sessions often hold back, consciously and unconsciously, in their advice to peers. To what extent is it fair or reasonable to ask students to help one another in some sense? And I have began to wonder whether students are best served by a peer editing task that often takes their attention away from the intellectual and rhetorical problems that they are working on in their own writing." (131-132)

In reflecting on Tobin's words, we realize another, related problem is that the students care very much what their peers think about them, and they don't want to reveal too much of themselves in the discussion groups or appear to be the only one in the group doing what the teacher has assigned. A review of the students' answers in the prewriting questionnaire to the question, "Were you worried that your classmates would make fun of what you said?" revealed that fifty percent of the students claimed that they didn't care what other students thought about what they said. Their answers appear to contradict our claim, and those of adolescent psychologists, that the students care very much what others think about them. As we circulated among the groups, we saw, in many cases, hesitancy to

express feelings or to contribute at all. The students' predictions of how they would perform were not accurate.

Contrary to our expectations, the control group had scores equal to or higher than the experimental group in many categories. We predicted at the onset of our study that the essays written by the students who collaborated before they wrote their essays would have the higher scores. When we tabulated the data, we found that there were several categories where the control group scored slightly higher than the experimental group. We will discuss the scores by examining the results of each essay individually. The scores in tables one through four are normed to a scale of 1 to 10. (See Appendix D for complete data.) For each essay, we compare the control and experimental group scores, showing the mean, median, and the standard deviation for the two groups in each individual category (Holistic Grade, Number of Words in the Essay, T- units, Existence of a Topic Sentence, and Examples that support the Topic Sentence).

In the first essay, "Does English as the Official Language Mean Discrimination?" the control group scored higher than the experimental group in both the mean and median scores in four out of five categories: Holistic Score, Number of Words Used in the Essay, T-Units, and Examples Used to Support the Topic Sentence. In the category, Existence of a Topic Sentence, the control group's

median score was identical to that of the experimental group, and the experimental group's mean score was higher than the control groups'.

Table 1: Does English as the Official Language Mean Discrimination?

	MEAN		MEDIAN		STANDARD	
	Control	Exp.	Control	Exp.	Control	Exp.
CATEGORY						•
Holistic Score	7.5	7.0	8.0	7.0	1.7	1.5
Words	4.8	3.7	5.0	4.0	2.2	.9
T-Units	5.4	4.4	5.0	4.0	2.1	2.2
Topic Sentence	7.5	8.7	10.0	10.0	4.0	. 3.1
Examples	6.2	4.7	6.0	4.0	2.0	1.9

In the second essay, "Do You Think the Drug Education in Our School Helps the Students to Not Use Drugs?" the control group scored higher in both the mean and median scores in four out of five categories: Holistic Scoring, Number of Words Used in the Essay, T-Units, and Examples Used to Support the Topic Sentence. The Existence of a Topic Sentence was the only category where the experimental group scored slightly higher on the mean score, but the median scores were identical.

Table 2: Do You Think the Drug Education in Our School Helps the Students to Not Use Drugs?

	MEAN		MEDIAN		STANDARD	
	Control	Exp.	Control	Exp.	Control	Exp.
CATEGORY						
Holistic score	5.6	4.8	6.0	4.0	2.3	2.0
Words	5.8	4.5	6.0	4.0	2.5	2.1
T-Units	3.9	3.0	4.0	3.0	1.6	2.3
Topic Sentence	9.3	10.0	10.0	10.0	2.5	0
Examples	5.3	4.3	5.0	5.0	2.8	1.6

The third essay was, "What Advice Would You Give to a New Eighth Grade Student?" This set of papers had quite a bit of variability within the scores for each category. For example, the control group's mean score was higher in the number of T-units and only slightly higher in the Number of Examples Used to Support the Topic than were the corresponding scores of the experimental group. In the Holistic Score section, the mean and the median scores were the same for the control and experimental groups. The only category in which the control group scored lower than the experimental group was Existence of a Topic Sentence. The students in the experimental group appeared to have more ideas in their essays on this topic than on any other, and covered the subject better. A possible explanation is that in the discussion groups, the students were more animated and vocal on this topic than on any other.

Table 3: What Advice Would You Give to a New Eighth Grade Student?

	MEAN		MEDIAN		STANDARD	
	Control	Exp.	Control	Exp.	Control	Exp.
CATEGORY						
Holistic score	7.5	7.5	8.0	8.0	1.4	0.8
Words	5.9	5.9	6.0	6.0	2.1	1.8
T-Units	5.3	4.1	5.0	3.0	1.8	2.6
Topic Sentence	4.0	5.8	1.0	10.0	4.2	4.5
Examples	6.1	6.0	6.0	6.0	1.8	2.5

The fourth essay evaluated the question, "Should a Woman Have an Abortion?" In the past, the class had had heated discussions on this subject. We felt certain that the students would have a lot to write on the subject. Indeed, the number of T-units, reflected in both the mean and median scores for this essay are higher in both groups than in the other essays. Of course, the students by this time in the semester had written three essays for this project and were certainly more comfortable with the format. This may have lowered their affective filters or levels of anxiety and allowed them to write more--finally allowed their ideas to spill over onto paper.

In this essay, the control group had higher mean scores in four of the five categories: Holistic Scoring, Number of Words in the Essay, T-Units, and Number of Examples Used to Support the Topic Sentence. The only category where the experimental group had better mean scores than the control

group was in the Existence of a Topic Sentence. In the median scores, the control group scored higher in the Number of Words and in T-units. The control and experimental group scores were the same in the median Holistic scores, Existence of a Topic Sentence, and the Number of Examples Used to Support the Topic Sentence.

	ME	AN	MEDIAN		STANDARD	
	Control	Exp.	Control	Exp.	Control	Exp.
CATEGORY						
Holistic score	7.5	7.1	8.0	8.0	1.6	1.0
Words	6.8	5.9	7.0	6.0	2.0	1.6
T-Units	6.8	5.2	8.0	4.0	2.3	2.0
Topic Sentence	7.9	10.0	10.0	10.0	3.8	the second s
Examples	6.8	5.6	6.0	6.0	2.9	1.6

Table 4: Should a Woman Have an Abortion?

Table 5 compares results across all four essays. It shows normed data summed for all essays; the scale is from one to forty. In all four of the essays, the control group did not perform as well as the experimental group in producing a topic sentence It is not surprising that most students had topic sentences--that skill had been drilled by Knight as an important part of writing for the entire semester. That one category, however, was the one that actually focused on the information that the students were to have received from each other while collaborating before they wrote the essay. The other categories, particularly the areas of vocabulary development (number of words), mechanics (the number of sentences), and knowledge of essay structure (examples used to support the topic), reflect more of the individual student's writing expertise. The experimental group's ability to write more topic sentences may have come from the ideas discussed in the collaborative groups, but the difference in scores between the control and experimental groups in this category was not significant enough (the largest difference between the mean topic sentence scores of the two groups, on a scale of 1-10, in all four essays was 1.8) to warrant drawing any conclusions.

Our control group out-performed the experimental group, with only a slight difference in results--the production of a topic sentence--in four of the five categories we measured. This difference is too minor to permit us to heartily recommend collaboration in prewriting. Although it is important to have a topic sentence, and we cannot judge a paper to be high quality without one, the remaining factors weighed heavily in our judgment of the quality of the We observed that the experimental group spent a lot papers. of time discussing and focusing on a controlling topic. But in writing, they failed to produce more examples to support their topic than did the control group. The control group also received overall higher holistic scores, which take into account all aspects of writing that make a good essay.

	MEAN		MEDIAN		STANDARD	
	Contro	Exp.	Contro	Exp.	Contro	Exp.
CATEGORY	n an					
Holistic	23.9	19.9	24.0	21.5	7.7	6.9
Number of	20.0	14.8	18.0	14.0	8.7	6.3
Number of t-	18.3	12.4	17.0	11.5	7.2	8.6
Topic	23.8	25.5	22.0	30.0	9.5	11.7
Examples	20.7	15.4	21.0	13.5	7.8	7.1

Table 5: Compared Results of All Four Essays

# Discussion of the Study

Our findings, supported by our research, are that collaboration before writing does not necessarily help students to write better essays. Contrary to an overwhelmingly large number of composition theorists who claim, without the support of substantiating research, that collaboration is an important and effective part of the writing process, and contrary to Sweigart's research results, we found that our students' writing did not significantly improve after talking over their ideas with their peers. We discovered that the control group, which did not use collaborative group discussions before writing the essays, did a slightly better job overall in writing their essays than did the experimental group, which did collaborate before writing. The differences between the scores of the two groups was not statistically significant, but the studies and literature on collaboration and

cooperative learning that we had read had led us to expect decidedly better essays from our collaborative group.

Mendonca and Johnson in the 1994 Winter <u>TESOL</u> <u>Quarterly</u>, describe the negotiations that occur during ESL students' peer reviews. They report that Brief (1984) finds that people internalize thoughts better when they converse. He argues that, like thought, "writing is related to conversation as the way they (students) talk with each other determines the way they will think and the way they will write" (746). We did not always see the relationship between student talk and the ideas they eventually put down on paper. In most instances, even when the students spoke a great deal about the way they felt about a topic, their ideas and their peers ideas did not necessarily show up in their essays.

As an adjunct to our study, we informally asked high school students in advanced placement English classes if they felt that working collaboratively with other students provided them with increased knowledge of their topic. The students replied that they already knew most of the things their peers had to say, and that they feared sharing would allow others to copy their ideas. They claimed that they occasionally got some good ideas from their peers, but, they, as well as we, felt the off-task behavior in the collaborative groups negated the benefits of collaboration.

The off-task behavior of the collaborative groups is not isolated to middle school and high school; it also happens at the college level.

Brostrand experienced off-task behavior while teaching English Composition 1A at Riverside Community College. The peer response groups in her class had to be reminded of the guidelines for group activities each time they met. Further, some members of the groups were uncooperative and spent as little time as possible discussing the assigned topic. An English composition teacher at UCLA stated that she finds in her classes that, "Collaboration works only if the students want to work together and are motivated to complete the task." Most of the students remarked that working in groups was not the most effective use of their time.

Knight has interviewed college students who complained of the off-task behavior in group projects. The students did not see collaboration as an important part of the composing process. They linked collaboration to a finished product for content course projects, where they could get more done in a shorter period of time by working in an assigned group. However, they did not find that group collaboration helped them to write better individual essays. Most collaboration in writing is not designed to produce a better product in a shorter time; rather, it is designed to

stimulate the exchange of student ideas and information. The students interviewed acknowledged that working together in collaborative groups afforded them an opportunity to socialize with other students, but it did not necessarily help them academically.

More than one student pointed out that a teacher gets paid for teaching, and students were not supposed to do the teaching. As one student stated, "The person you have to please is the teacher, for it is the teacher, not the group, who gives you the grade on the paper." In our traditional system, students are taught to value grades. Perhaps they do not value collaboration because they see no grade attached to it--it offers no pay-off.

Because our study did not prove that student talk necessarily produces better student writing, we came to question the relationship of student talk to student writing. If student writing is related to the way the students talk to each other, how good can the writing be when it is derived from speech that is grammatically incorrect and fragmented? One of the suggested benefits for having collaborative discussion groups is that it helps students who are limited in English to hear the second language in a natural context. Did our students receive positive enrichment of their English skills working in the collaborative groups which we overheard? The transcript

below is an example of some of the fragmented speech that we encountered in reviewing the transcripts:

Tami I don't think this school is as, I mean, they should do a little bit more.

Teacher Like more what ? Seriously, we need to know. Tami They should influence us more not to do it.

Rea Because they really don't talk about it around here.

Eva They don't. It's so scary. She's using it the last two weeks.

The thoughts of the students are incomplete, and it is difficult to follow their reasoning. Is this type of student talk useful? What did the participants get out of the discussions? In a composition classroom of fluent English speakers, the students do not need to be exposed to extra talk, especially superficial, fragmented English, as a preface to writing.

The students in the experimental group returned from the chaotic environment of the discussion group to a writing class where other students were quietly reflecting and writing. We feel that the stimulation they received prior to writing may have had an unsettling effect, making them take longer to refocus on writing. We wonder if the students in the collaborative group could have written better essays if they had had more time to individually plan

and expand on their thoughts and outlines. Based on the results of our study, there is no conclusive evidence to corroborate the theorists' enthusiastic touting of collaboration. The experimental group which used collaboration as a prewriting device did not produce essays of a higher quality than those produced by the control group.

#### CHAPTER 3

### Conclusions

In chapter three, we discuss our conclusions, based on the results of the formal study, and what we believe are important implications for further research. In this section, we argue that collaboration was ineffective as a prewriting device. As we evaluated our study, we found that the issues of student autonomy versus teacher authority, the structure of collaborative groups, and group dynamics may have been factors that determined its outcome. We discuss those issues and how they influence the results of our study.

Student Autonomy and Teacher Authority

Consider the following statement of Dana Herreman, a practitioner who unabashedly and fervently advocates collaboration, writing in "None of Us Is as Smart as All of Us":

> It's not only because I was both a speech and communications major and an English major in college that I'm an enthusiastic cheerleader for the group process; it's also because I have seen groups work in my classroom over and over again. Each time I watch my students struggle through the process, each time I talk about groups to my colleagues, each time I participate in a problemsolving, discussion, or training group, I renew my commitment to both utilizing and teaching the group process. As teachers, we should do more than use groups only as an occasional break from standard operating procedure; we have a responsibility to *teach* the group process. It is more than a mere teaching technique for a slow

# day: the group process is the life process (her italics). (5)

Why don't we feel that way? What are the possible critiques of our set-up and results? Did we "uncritically impose" collaborative practices on our classroom, yielding "merely disguised version of the same old teacher-centered, authoritarian theory of learning, a version that confuses students with the mixed and contradictory messages it sends," as Haring-Smith warns is possible?

The answer to that last question is "no." We did spend time preparing our students for collaboration, by providing guidelines for group interaction, by working in various groups from the beginning of the school year, and by providing opportunity for social interaction. When Knight first asked for their participation, as part of their classwork, in a research project for her master's thesis, the students seemed pleased and eager to help. They responded fairly completely to the pre-study questionnaires. Their responses indicated a willingness for group work, with which they were quite familiar.

Because the collaboration was to be only in prewriting, in the forming and expansion of ideas, we hoped for what Bruffee described as "a peer-based learning that takes power away from the teacher and puts it in the hands of the students." We deliberately designed unstructured student discussion groups, eschewing response sheets, in order to

provide for spontaneous student interaction and free-flowing exchange of ideas. It was our intention to provide students with autonomous groups which were student--not teacher-centered. We realized, as do DiPardo and Freedman, the danger in a teacher's tendency "to undermine [a group's] potential by channeling peer dynamics toward teachermandated guidelines, thereby subtracting from the process the crucial element of student empowerment and denying group members authority to become decision making writers and readers." (144)

We did not model, nor teach, nor try to "sell" brainstorming collaboration because we did not want to bias the students either for or against collaboration. Our ideas are supported by Bruffee, who argues that students must be allowed "to discover the social and emotional foundation upon which intellectual work rests" to prepare them to interact successfully with their peers in the professions and business world (DiPardo and Freedman 125).

Hawkins supports our concern for maintaining student autonomy: . . . "as the teacher demonstrates that he is listening and interested when others are speaking, so do students increase their attentiveness to each other; as teachers accede to, refer to, validate students' ideas--so then does student behavior begin to change" (9). Knight did listen and express interest in the student contributions to

the group discussions: she tried to validate their opinions. Unfortunately, she was forced to infringe on the student autonomy because the students did not remain focused on the essay topic. Contrary to Hawkins' faith in the students' being able to handle their autonomy, Knight had the definite impression that students decreased their attentiveness to each other and to the assigned topic the minute she moved to another group.

The open-ended nature of collaboration allowed the students to divert into far-ranging discussions, not usually of the topic at hand, but of whatever middle school teenagers discuss when unsupervised. Many students essentially used the collaboration period for socializing, not brainstorming, unless the teacher was within hearing range. After observing such behavior and the students' seeming lack of interest in the assigned topics, it was hard to "trust the students with shared authority."

Bruffee differentiates between autonomous and semiautonomous collaboration. We, Knight and Brostrand, engaged in autonomous collaboration in the writing of our master's thesis. That is, we were willing to collaborate; we granted each other authority over our work; we agreed to take on and assert authority relative to our work; and we worked in a context of friendliness and good grace. All elements must

be present for successful collaboration, according to Bruffee (Making 44).

Our eighth grade students did not engage in either of Bruffee's categories of autonomous or semi-autonomous Successful semi-autonomous collaboration collaboration. requires the same elements as autonomous. Bruffee's comments on the pitfalls of semi-autonomous collaboration are true for our students' collaboration: "But when instructors use semi-autonomous groups in classes, the stark reality is that willingness to grant authority, willingness to take it on and exercise it, and a context of friendliness and good grace are severely compromised" (Making 44). The students start the semester as strangers, authority rests with instructor, and students are "wary and not overly eager to collaborate." They need to be "reacculturated." Our students did not willingly grant authority to peers, even though they had collaborated informally many times throughout the year. They knew each other well, but we witnessed few examples of "friendliness and good grace."

We were unwilling to give up the authority of the instructor--we monitored and occasionally joined in the discussions. But that could work, according to Hawkins, if we exert "minimal intervention" and "participate as equals" (9). Hawkins, however, advocates collaboration based on his experiences with a small, mature group of college students.

When we were absent from our groups of eighth graders, what collaboration on the subject at hand was going on, dissolved. Our students enjoyed sitting in groups and talking, but the joy disappeared when they were given a task to perform. The students were definitely harder to manage in small groups than as a whole class. We found a great deal of conflict between what we as teachers wanted the students to do and what they wanted to do in the discussion groups. Erickson is aware of this problem. He questions: "How can one trust students with shared authority and yet set limits to preserve one's own integrity? How can competing interests be resolved when what students and teachers want or what administrators and teachers want is in conflict?" (432).

Many practitioners, aware of the theoretical potential for improvements in their students' writing ability, look to the implementation of collaboration as part of their curriculum. Many teachers, however, given the constraints of only forty minutes a day to teach, and given the breadth of material they are mandated to cover each semester, do not have the time to use collaborative techniques whose benefits remain unproved. Many may feel that collaboration, which they link with too many games and contrived experiences, leaves too little time for learning and practice of what students need to know to move ahead to graduate. Our

research tests the glorification of collaboration and finds it lacking at the 'down-'n-dirty' level of an eighth grade middle school class with over-crowded conditions in a typical under-performing California school.

Structure of Student Collaborative Groups There are those who insist that collaborative groups must be structured properly to be effective. Donald Stewart advocates proper organization to promote the group's success:

> The small-group work, usually four to six students, goes best when the teacher sets a problem and then asks students to work it out. Without this kind of direction, groups often will flounder and not work productively. One could say that they work best when students recognize the problem to be attacked as one which merits their effort and attention in the same way, for example, that the problem of preparing for an examination draws then together outside the classroom (63).

We partially altered Stewart's guidelines and followed Bleich's advice to establish small groups of three. Knight set up a problem, discussed it, and asked the students to work it out. The students were allowed to select their own groups of three, in spite of our concerns that friends would congregate, distract each other, and exclude others from their group. To our surprise, the composition of the groups varied from session to session, but all had their distractions. We hoped that the topics selected would merit the students' attention and engage them. Because they were

to be graded on the papers, we assumed they would take the project seriously.

Group Dynamics

With our written guidelines for student behavior in a group discussion, even though we realized that the guidelines were "teacher-mandated," we hoped to grant flexibility to the students even while warning of the potential for hurt feelings. DiPardo and Freedman cautioned against "the tendency to undermine [peer response group] potential by channeling peer dynamics toward teachermandated guidelines, thereby subtracting from the process the crucial element of student empowerment and denying group members authority to become decision-making writers and readers" (144). We certainly did nothing to restrict open discussions that led to students' making new meanings through interaction. In reality, though, it seemed to be threatening for the students to have their thinking exposed to other students and teachers. We observed students glancing nervously around to gauge reactions to their comments.

Many contributed nothing to the brainstorming sessions: they did not appear to "zone out", nor die they disrupt; rather, they just did not speak. E.S. Fine, a practitioner who wrote "Collaborative Writing: Key to Unlocking the Silences of Children," addresses the problem of silence:

In our schools we silence more than our personal histories. In fact, we are encouraged to silence many kinds of controversial issues and nontraditional points of view. By acknowledging and taking up those contradictions that make for rich discussion and debate we can lead students to important learning moments in science, social studies, and all areas of curriculum. . . Secrets about what has happened to the universal potential for human creativity are buried in powerful silences that are within us and in powerful silences that surround us. It is our greatest challenge as teachers, in collaboration with each other and in collaboration with our students, to search out those secrets. (508)

Perhaps our students did not feel that they could legitimately speak. Fine states, "Collaborative projects in which students have a guaranteed place in the discussion make it possible for us to begin to understand and shift those barriers" (507). One thing we did not ensure was that every student had a guaranteed opportunity to speak and to be attentively listened to in her group. We did not establish rules for turn-taking and inclusion. The students may have felt that even their peers would not hear them "through the barriers of difference and marginalization in classrooms" described by Fine (501).

Bleich, in spite of the above-mentioned weakness of collaboration, sees the silver lining in the cloud and advocates group work:

> For many young people, the peer group is affirmative, a set of others who can be trusted more easily than parents, teachers, and other authority figures. A small group functions in part as a 'safe haven', a place where one's doubts about authority can find a sympathetic response to begin with; perhaps an even more permanent set of

views can be cultivated and nurtured with less compliance to the teacher than if one had these views by oneself. Belonging to a group thus helps to validate differences between students and teachers and creates more authority for each class member to find common ground with teachers. (283)

We probably should have modeled good group behavior, such as listening, responding, agreeing, disagreeing, and clarifying prior to the start of the study. As Dana Herreman states, "Just because students can be put in a circle doesn't mean they can function as accomplished group communicators. Group skills, which in many ways are simply good communication skills, must be taught, and they must be Students should be taught the different types and modeled. functions of groups: discussion, problem solving, work, and training. Then, when they cluster together as a problemsolving or work group, their purpose is much clearer to them" (9). Given that we did not formally do this, our intervention in the wayward or off-task group brainstorming could have included, as Herreman suggests, an interruption to call on a student to the right of the leader or conversation hog to summarize what has been said so far and to make a statement of what the group should do next. Or we could have stopped the discussion to have students individually write down what they thought they just heard said in the group. Once students in other brainstorming groups observed such intervention, they probably would have better remained on-task.

As we stated above, the importance of the perceived status relationships in adolescent groups cannot be underestimated. We hoped to encourage appreciation of diversity by mixing students and providing topics that would allow them to speak from the heart, enthusiastically. Even though we were aware of possible gender differences that could lead to less than democratic participation, we mixed males and females. Cohen addresses another status concern in groupings:

> When classmates interact on a school task, some students are more active and influential than others. Teachers and researchers have observed that these more dominant students are likely to be the high achievers and/or the more socially influential members of the class. . . Research shows that status characteristics, whether diffuse or specific, tend to become salient in new collective tasks where they have no direct relevance to the task at hand. . . As a result, higher-status individuals will be more active and influential than lower-status individuals in the group task. (172)

We did observe that the sports players, cheerleaders, students active in student government, and students who were involved in many social activities seemed to dominate the group collaborative discussions. Students with limited English were mostly silent. Students who were very low academically were mostly silent, except for some males who tended to be loud and disruptive and display egregiously off-task behavior.

Courtney Cazden reports on a study by Hemphill which

looks at status in groups:

A contrast which emphasizes the importance of individual speaker roles for middle-class students, and of speaker-listener collaboration for working-class students, can explain why each group responds differentially to 'teacher talk'. My research supports a claim that middle-class children and adolescents have grown up in families who value the ability to floor-hold in conversation and to construct monologues unsupported by listener responses. My work also suggests that working class children and adolescents may have had not only less out of school experience with these styles, but may be accustomed in addition to another style, one that values collaborative topic development and elaboration in the role of listener. Classroom talk allows very few opportunities to display competence at this second set of abilities but almost exclusively creates opportunities where the first set of abilities can be displayed. Thus, working-class children may not only appear less competent to their teachers, they may also experience school as a place where oral language skills, as they understand them, are not valued. (146)

Without being privy to the economic status of her students, Knight can only theorize regarding Hemphill's assertion. She does feel that collaborative groups can socially benefit students of working class parents who have a lot to offer in the way of oral participation, allowing them to "shine" in this setting. Social benefits will accrue to the higher economic group as well as to the limited English students, in that they will have practice at speaking and interacting in a non-threatening, friendly atmosphere. However, Knight feels that the students'

overall reluctance to contribute meaningfully in the collaborative groups may be attributable more to the general low level of academic ability in the entire class and the adolescent's need to present a good face to her peers.

The lower academic level in the class (average GPA of 2.0) may also have had something to do with the quality of the discussions, and, thus, the quality of writing produced by the students. Gere states:

Collaboration is a necessary, but not sufficient, condition for collaborative learning. While the democratic give-and-take of collaboration is essential, it does not by itself guarantee that any learning will take place. Participants in collaborative groups learn when they challenge one another with questions, when they use the evidence and information available to them, when they develop relationships among issues, when they evaluate their own thinking. In other words, they learn when they assume that knowledge is something they can help create rather than something to be received whole from someone else. (69)

We argue that our students, at an elementary level, did engage in a give-and-take. Their language was certainly dialectic; we encouraged their free-for-all in terms that were the most comfortable for them. Some meanings of particular words were quite different to them than to us, but the group shared many common meanings that promoted dialogue. What we found lacking, in our observations of the collaborative groups, was a "challenging of evidence and information" and a "development of relationships among issues." We saw no evaluation of issues or even responses

to other students' statements. Our students seem to be of the group that believes knowledge is received from someone else, not created by them. And perhaps, given the state of education in California today, that is to be expected at this level.

Bruffee warns that collaboration may result in "conformity, anti-intellectualism, intimidation, and leveling-down of quality" (Collaborative 652). The grades of the students' papers in our experimental group may be evidence of and a result of that conformity and levelingdown of quality. The essays written by the students in the experimental group had fewer examples in support of topics, and a smaller range of topic ideas than did the control group's essays. The quality was not superior to the writings of the control group. The independently scored evaluations of the experimental group's essays were, on every essay, lower than the evaluations of the control group.

As Muriel Ridland of the University of California at Santa Barbara states in <u>Focus on Collaborative Learning</u>, some of the dangers of collaboration in the group writing process are:

> Group judgment may overwhelm the truly brilliant innovator, the one who has the potential to emerge from the group and become one of the few who will influence and change not just the group's thinking but potentially the thinking of the 'interpretive

community' or even that of the larger society. Do such minds dominate the group and thus nullify the concept of collaboration, or are they instead crushed by the process of 'intellectual negotiation'? (73)

There may have been no "truly brilliant innovators" in either of our groups. Certainly, no innovator stood out in the experimental group. The conversations recorded in the discussions groups revealed no one person who "influenced and changed the group's thinking," according to our reading of the transcripts. Sadly, we observed no "intellectual negotiation." In fact, those students whose essays we and our independent scorers judged the best were from the control group.

For all four essays (un-normed scores), Tonya and Lisa, both members of the control group of 16 students, scored at least 4 in the holistic ratings, with Tonya's average score for the four essays a 4.75, and Lisa's a 4.75. The only other student in the control group with an average score over 4.0 was Sonja. Her average was a 4.25. In the experimental group of 16 students, three students scored at least a 4.0 in three, but not four, essays. In the experimental group, only Kristen, with an average holistic score of 4.33, and Ryan, with an average score of 4.25, and Rea, with an average score of 4.0, approached the same high scores as the top achievers in the control group. The average score for the two top scorers in the control group

was 4.75. The average score for the two top scorers in the experimental group was 4.29. The average holistic score for all students in the control group across all four essays was 3.63; for all students in the experimental group, it was 3.46.

DiPardo and Freedman suggest that a lower quality of writing, in addition to a dearth of originality and introspection, may be attributable to a less than ideal collaborative classroom set-up:

> An occasional peer response episode does little to create a larger environment offering ongoing social supports for writers. As long as students are directed to share their work at a day and time arbitrarily deemed appropriate by a teacher, much of the recursive, organic nature of the writing process is obscured. Indeed, the isolated opportunities for peer talk that response groups offer may not always provide the most timely or effective support for developing writers. What if a student would rather read a given piece to a teacher? What if a student prefers to work alone? What if a student isn't ready to share a specimen of writing on the appointed day? What if response is needed earlier, as ideas are just beginning to form, as the first tentative words emerge? . . . Ideally, peer talk about writing should occur in an environment that is flexible and attentive to the role of individual differences and that fosters communication about issues of genuine significance to students -- a workplace organized and guided by a teacher, but offering the writer opportunities to solicit feedback from peers as well as from the teacher in support of one's evolving, individual needs. (145)

The flexible environment and attention to individual differences that DiPardo and Freedman refer to are not always achievable for the teacher with a large class and a

limited amount of time to complete a given task--a situation found in most public schools. But we did give our students a flexible environment for ten minutes of discussion and as much attention as Knight had time for. What did not occur was the students' taking an active part in the learning process, indeed, taking responsibility for their education. Knight has found that seventh and eighth graders, of all levels of students, are the least motivated to learn; theirs is a world of trying to meld with peers, and their peers do not place a high emphasis on learning and behaving in a scholarly manner in the classroom. They may truly see no value in discussing academic matters seriously in a setting in and at a time which is not of their choice. This may account for the lack of enthusiasm for discussion and the off-task behavior of our students.

Higgins, Flower, and Petraglia state: "We discovered that collaboration is a complex social and cognitive activity in which students must interpret and negotiate the collaborative process itself as well as their purpose for writing. The ways in which students interpret these tasks can effect the criteria they use to reason about and evaluate their own process" (22). Perhaps our students found the collaborative task to be more threatening and overtly scholarly than writing alone. With the fragmented nature of their discussions, with few intellectual

exchanges, our students may have been "more confused than enlightened," which could account for some of the lackadaisical performance in the discussion groups.

# Implications for Further Study

In this section we discuss what implications we draw from the results of our study. For two months, we looked at one group of eighth students, investigating their brainstorming, collaboratively and alone, and their essays which followed. The main body of results came from the writings and various assessments of them. Our conclusions are based on a very small number of students and student essays: we can only share observations which may give direction to others who would use collaboration or choose to study it in more depth. Future research is needed: we found no studies of prewriting collaboration in middle schools. In fact, we found few studies that established with any certitude that there are benefits to collaboration in prewriting.

To use collaboration effectively, as the Vygotskian tool that it could be, with a classroom as a resource center and the teacher as a knowledgeable coach, requires more than dividing students into groups, according to DiPardo and Freedman:

> Because the classroom filled with student talk represents a marked departure from what has long been the American norm, it requires a revolution

not only in the teacher's concept of language learning, but also in the home and school communities that shape students' ideas concerning what it means to be in school. . Peer response groups represent a step toward allowing student talk its due role in fostering the writing process, but, given the philosophical assumptions that still permeate most classrooms, such groups are but a small movement in this promising, still largely unrealized direction. (144)

A systemic revolution does not appear to be on the horizon. Our attempts at collaboration cannot negate the normal pedagogical structure of classroom instruction. Most students from kindergarten through college, constantly experience a teacher-centered, teacher-dominated classroom. Our traditions are firmly fixed.

Given that we do not recommend collaboration in prewriting at the middle school level, what can we suggest as an alternative? We as educators must decide where to place our focus in teaching students to write. We do not have the time to teach and model good collaborative techniques and teach writing skills as well. The average language arts class is fifty-five minutes long. When one considers that part of the period is spent on record keeping and disciplinary remonstrations, it leaves precious little time for instruction. California colleges and universities report dismally low writing scores in the entrance exams, and the professors find they must increasingly teach basic writing skills that should have been taught and learned in high schools. The students can get by without collaboration

experiences, but they need to learn the basics of good writing.

Collaboration has become the panacea for the over worked teacher. It is much easier to put students into groups and to have them talk and attempt to problem solve. Ultimately it is the teacher's responsibility to teach writing. The best way to help students is to work one on one with them. Peer editing and group read-arounds are ineffective. The students participate only half-heartedly because the comments of the peers do not carry much weight--it is the teacher who gives the grade.

In the course of our research, we spoke with many teachers who had used collaboration on a regular basis and did not see the benefits of collaborative activities. They found in their groups, as we did in ours, the students were on-task only if the teacher stayed with the group and constantly questioned and redirected the conversation back to the topic. There were many instances of students' misbehaving and talking off the subject while the teacher was engaged with another group. Would the writing have been better if the students had been given more individual time to plan and write their essays?

Quality writing does require time. The recursiveness of the writing process was obscured by the time constraints of our project. Our students had no opportunity to revise

their essays. In most classrooms, and in Knight's classroom under normal circumstances, where writing is taught as a process, revision is an important step in the process. If we were to repeat this project, we would allow the students more time in which to revise their papers. The lack of revision time was universal, though, for both the control and experimental groups. We believe our comparisons of the writing of the two groups remain valid.

We argue that students would be better served with an intensive language arts program that requires that the students be taught a variety of writing genres, do more writing on a daily basis, and, finally, as a complement to the intensive academic writing curriculum, give the students more time to do recreational reading. Stephen Krashen points out in his book, <u>The Power of Reading</u>: "Many people clearly don't read and write well enough to handle the complex literary demands of modern society" (ix). He also states that "more reading results in better reading comprehension, writing style, vocabulary, spelling, and grammatical development" (12). Isn't it time for English teachers to do what really works and stop trying to substitute collaboration for effective writing instruction?

For those researchers who continue to assess collaboration in the classroom, we have some suggestions. Investigators should carefully describe the groups under

study, specifying the activities and interactions that surround them, and try to determine the extent of their previous collaborative experience and/or training. Then it is important to look systematically for the conditions that stimulate the most productive kinds of peer talk. We realize that there are many uncontrollable variables in such an undertaking. When students are on-task but are not responding to one another, what are they talking about? When students are responding, what types of response do they offer? Do they need training or modeling in basic conversation skills, discussion techniques, and reasoning skills before they begin collaboration? Many students in our classroom seemed to lack these skills. They rarely responded directly to one another's comments, and we never heard a reasoned, logical argument. Perhaps the age of the students is critical--are students in middle school too immature for collaboration in prewriting? Do we ignore signals that indicate students must have more selfconfidence and self-esteem than adolescents do to perform well at the tasks of collaboration?

Another area of interest to future researchers is the focus of the group activities: are they relatively open or highly specified? Does the presence or absence of guidelines, directions, or response sheets to guide group

talk make a difference? How important is the amount of time students spend in groups?

It seems that the amount and kind of teacher presence in groups is worth studying. We observed a lack of on-task behavior in most instances when the teacher was away from a collaborative group. Interestingly, the teacher's presence with a tape recorder was often remarked by the students; some indicated a desire to hear themselves, while others were apprehensive about its use. Introducing technology was definitely disruptive. If the teacher contributes to the group discussion, does that also alter the group dynamics? Should we, could we, eliminate the presence of the teacher and instead appoint/elect student group leaders? We believe the students participating in our project would not have behaved responsibly without a teacher's presence, but there may be eighth grade classes where student leaders trained in skills essential to positive group dynamics could ably lead their peers in unsupervised discussions.

Practitioners, we believe, want to know how productive talk about content can best be stimulated. Teachers do not want to waste time on collaboration if it does not succeed in helping their students to think, to write, and to become better socialized. We would like the opportunity to experiment with two classrooms for a year--one that receives training in and practices student collaboration in

prewriting, peer responding, and group writing projects, and one that does not. A comparison of student essays, narratives, papers, poems, book reports, other writings, and student attitude surveys at the end of the period might shed valuable light on the question, "Does collaboration in prewriting help student writing?"

There are larger, societal implications that arise from this study. Can we afford the extra time necessary for collaboration in our classrooms today? American students spend much less time in school than their counterparts in Europe and Japan, and their scores on many tests of academic skills, knowledge, and writing are lower than are the scores of students in other industrialized nations. In Singapore, where the government regards people as its most important natural resource, students spend six days a week in class, and several hours daily at homework. Parents study to be able to help with their students' homework. Schools compete to attract the best students. The students are conscientious, regimented, and motivated to excel. The students score ahead of all others in international competitions in math and science.

In our increasingly competitive nation and world, where learning, thinking, reasoning, and technological skills are so important to success, and where so many people are competing for scarce resources, should we spend our limited in-class time teaching students to collaborate? Shouldn't

we start with educating our students through courses of content, with skills necessary for twenty-first-century, competitive life, with ideas and tools that enable them to want to continue to learn, read, become scholars, and excel? We must convince parents, business people, educators, and politicians of our overwhelming need for disciplined, motivated students, attentive parents, longer school days, better paid, and more, high-performing teachers, and the necessary personnel, facilities, tools, books, and equipment for teaching in this era. We must then convince those same people to encourage and motivate their own students. They must legislate longer school days, stricter requirements for passing and graduating students, and enforceable disciplinary codes. We also need to raise more money to go into schools and classrooms--for higher teacher salaries, for more teachers, for books for every student, for classroom equipment, and for more classrooms. Then efforts to exploit the benefits of collaboration will have a good chance of succeeding as well as the theorists predict.

### APPENDIX A: Classroom Guidelines

PROTOTYPE OF HOLISTIC SCORING GUIDE by Lane McDonough, teacher-consultant, Inland Area Writing Project

#### POINTS

6

5

4

3.

A SUPERIOR PAPER Develops topic with specific details Well organized Has flair or style Excellent use of vocabulary and mechanics Strong authentic voice Sentence variety and few if any grammatical errors

#### A GOOD PAPER

Somewhat thinner than a "6" paper; not as well developed Not as well organized Sentences relevant to the topic Adequate control of style Authentic voice, but not as strong Mechanics and grammar generally good Good vocabulary

AN ADEQUATE PAPER

Offers coherent response but not developed with many details Some sentences may by irrelevant or ideas repeated; style is plodding Errors in sentence structure, grammar and/or mechanics Loose organization Adequate vocabulary Voice is weakened

UPPER HALF/PASS

#### LOWER HALF/FAIL

AN INADEQUATE PAPER

Does not communicate clearly Topic not developed adequately for coherence Frequently contains irrelevant sentences Weak facility with language Weak control of sentence structure; appearance of fragments, run-ons and convoluted sentences Lack of organization Disturbing errors in grammar, mechanics and usage Authentic voice is barely audible, if heard at all A POOR PAPER

2

1

0

Possesses characteristics of a "3" paper but more frequently and in greater degree

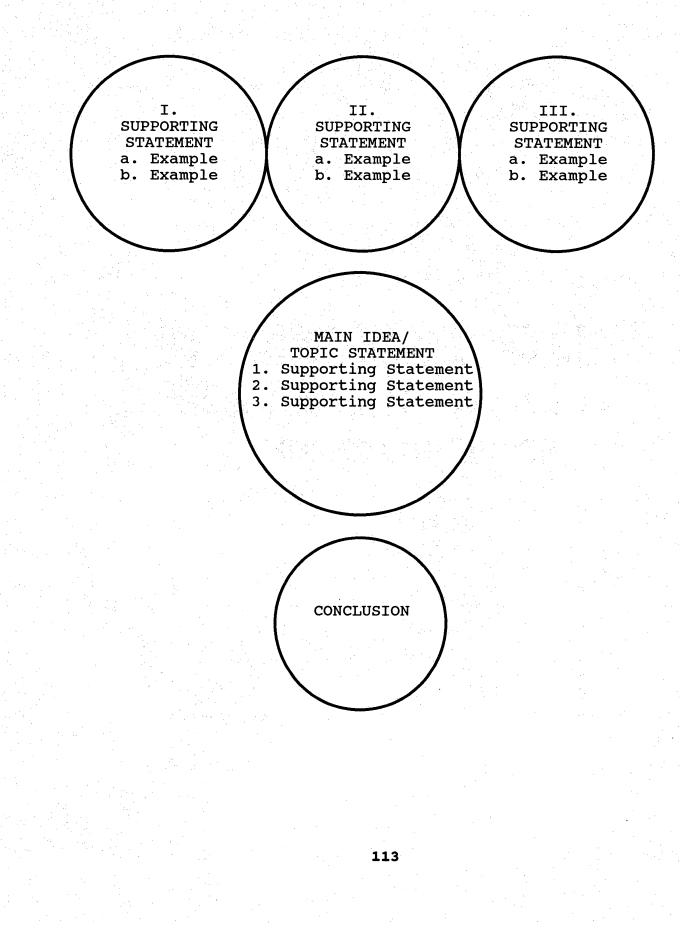
PAPER DEMONSTRATES VERY SERIOUS WEAKNESSES IN ALL ASPECTS

Barely readable

Little attempt to develop the essay Gross errors in grammar, mechanics and usage Organization and development virtually nonexistent

NO RESPONSE OR OFF TOPIC





APPENDIX B: Partial Transcripts Of Student Discussions

What Ad	lvice Would You Give to a New Eighth Grade Student?
T	You're talking about what advice to give, you know, different ideas.
Rea	Stay out of trouble and not be like Nick.
Nick	Kick back, relax, and have fun.
Tami	I would tell them where the bathrooms are.
T	Okay, seestuff like that is good advice, seriously, because
	between two students about the fact that the eighth would know where the bathrooms are.
T	What if it's a newbrand newstudent?
Tami	Brand new, brand new.
Jeff	Don't stare at no one.
<b>T</b> .	Okay, this is some stuff you guys should be writing down, though, if it's good advice.
Tonya	Listen to the teachers.
Tami	Tell them like what groups like they should be in.
Jeff	No, no! You're stupid! That's disgusting!
Tonya	I would tell them to do their work and stuff and get good trades because I missed out on a lot.
T	Adam and Jeff! You're not here to socialize.
Rea	Be friends with everybody.
Tami	It's a good thing to get good grades so you don't miss out on things like we did. Miss Knight, why do you have to record us? Keep your eyes in your head.
Jeff	When you walk through the halls, look down.

My first day here, I was staring and somebody said Tami what are you staring at? Jeff You call that "mad dog." Staring apparently is a big part of the culture Т here. Doing drugs is really bad, it's really stupid. Tami It stunts your growth. Don't ditch school. Rea Tami Yeah, ditching is real bad cause you get caught. Jeff I wonder who does that: hint, hint. I know. Gosh. Rea Т Okay, what other advice would you give? Remember, now, like you pointed out they probably know where the bathrooms are if they are eighth graders. Tami Bathrooms are an important place. To the social culture. Т Jeff Nah. Tami What happens to the girls if they are having their monthly and they don't know where they are? Jeff Dude! Okay! Come on! Tami Can we listen to it? T I'm the one who will have to type this, Later. you guys. And edit it. Jeff All you hear is "duh" when you're done with it. In case you look for a bathroom, there's one on Tami each side of the student. . . For you new eighth graders, you're not allowed to go on the boy's side on PE any more. Tonya No, we're not allowed to have PE with the boys anymore. Why not? Rea

- Tami I don't know. They're making it a rule next year. They're separating the girls from the boys.
- T That used to be that way in my day.
- Tami That's doo-doo.

Т

- Many voices talking at once.
  - You think it's better to have boys and girls together?
- Jeff Oh, yeah. They had some stupid eighth graders last year.
- Tami Oh, are you gong to keep this forever or are you going to record over it?
- T Yeah, we keep this. No.
- Tami Because then you can miss us and listen to our little voice.
- Rea I love you, Miss Knight!
- Tami I love you, Miss Knight! I'll always remember
  - you.

## Should a Woman Have an Abortion?

- As you are organizing your paper think about the topic, not your biases.
- Miguel Uh - Shoot- I don't think they should have babies. If you bring them in the world baby you have to have a parent.
- Ryan Sometimes the infant the baby might become retarded or something.
  - So you think they should have an abortion like preventative? You think that's why they have an abortion?

Jeff Coughing in an exaggerated manner.

Safe sex is no sex. Eva

- Okay keep bringing yourself back to the original topic -Keep thinking about how I'm going to write on this question.
- Student laughter

Nick Was that you Ryan ?

Laughter

Ryan

Т

 $\mathbf{T}$ 

T

Т

If the lady is pregnant- She shouldn't have an abortion she at least put em up for adoption.

I had a question for you quys- because you're quys. Do you have feelings about this question? You think like if you were a girl this would have a lot more importance? Lets say you were the father of the baby, okay, and your girlfriend decided to have an abortion and you really wanted How would you feel? the baby.

Ryan It's wrong.

T

Yeah, I mean, would you feel like you should have a say in it because it's part your child? Or should the girl be able to say "Sorry about that Ryan I'm having the abortion no matter what you say."

## Ryan I planted the seed.

Yeah, well I want you guys to think about this responsibility here you know. . .to your family.

Student laughter

T

T Ladies and gentlemen, that was fascinating--I have to transcribe that, you guys.

Jeff It's the person's decision about abstinence.

Eva A gift from God. You shouldn't throw it away.

Jeff If you were raped? My sister got pregnant at 15. I'm like the father. If you're not ready to support the family . .

Nick Hey, there's Miss Lafferty--Howdy!

Jeff Safe sex

Eva You must

Jeff Use a jimmy, I'm gonna quote you on this. Use a jimmy and you don't have to go through this.

T Think back to the original question.

Jeff It's a person's decision. If they can have sex, they can keep the baby.

Concern over the recording. Laughter.

Jeff It is wrong in some ways--I agree with the rape part.

	A second s	trol G	-	· · · · ·	•	
Does Engli	sh as the Offic	ial La	nguage 1	Mean Dis	criminat	ion?
LAST	FIRST	HLST	WRDS	T-UNTS	EXMPS	TPC
BARRAGAN	YURI	8	3	8	6	10
BUENO	MIRELLA	8	4	4	6	10
GALLUP	JASON	4	2	3	2	1
GOMEZ	LISA	6	2	3	8	1
JETTY	STEPHEN	8	6	5	8	10
MACHAEL	IAN	6	5	3	6	10
RECOTTA	TONYA	10	6	10	4	10
SHOOTS	LISA	10	6	7	8	10
SNOOKS	SONJA	8	5	6	8	10
SPRY	AMANDA	6	4	5	4	10
WILLIAMS	JASON	8	10	5	8	1
HOAK	ERIC		1		atoria de la composición Processo de las	
MARTINEZ	RUTH	<u> </u>			· · · ·	
MARTINEZ	SAMUEL	-				
THOMAS	AHMAD					
	MEAN	7.5	4.8	5.4	6.2	7.5
	MEDIAN	8.0	5.0	5.0	6.0	10.0
	MEDIAN STD DEV	8.0	2.2	5.0 2.1	6.0 2.0	
	MEDIAN STD DEV Experi sh as the Offic:	8.0 1.7 mental ial Lar	2.2 Group: nguage M	2.1 Mean Disc	2.0 criminat	4.0
LAST	MEDIAN STD DEV Experi sh as the Offic: FIRST	8.0 1.7 mental ial Lar HLST	2.2 Group: nguage M WRDS	2.1 Gean Disc T-UNTS	2.0 criminat EXMPS	4.0 ion? TPC
LAST ARMANIOS	MEDIAN STD DEV Experi sh as the Offic: FIRST EVA	8.0 1.7 mental ial Lar HLST 8	2.2 Group: nguage M WRDS 5	2.1 Mean Disc T-UNTS 8	2.0 criminat EXMPS 6	4.0 ion? TPC 10
LAST ARMANIOS BAUM	MEDIAN STD DEV Experi Sh as the Offic: FIRST EVA KRISTEN	8.0 1.7 mental ial Lar HLST 8 10	2.2 Group: nguage M WRDS 5	2.1 Mean Disc T-UNTS 8 5	2.0 criminat EXMPS 6 4	4.0 ion? TPC 10 10
LAST ARMANIOS BAUM BUSBY	MEDIAN STD DEV Experi sh as the Offic: FIRST EVA KRISTEN RYAN	8.0 1.7 mental ial Lar HLST 8 10 8	2.2 Group: nguage M WRDS 5	2.1 Mean Disc T-UNTS 8	2.0 criminat EXMPS 6 4 6	4.0 ion? TPC 10 10
LAST ARMANIOS BAUM BUSBY ELLIS	MEDIAN STD DEV Experi sh as the Offic: FIRST EVA KRISTEN RYAN EVAN	8.0 1.7 mental ial Lar HLST 8 10 8 6	2.2 Group: nguage M WRDS 5 5 5 3	2.1 Sean Disc T-UNTS 8 5 9 2	2.0 criminat EXMPS 6 4 6 2	4.0 ion? TPC 10 10 10
LAST ARMANIOS BAUM BUSBY ELLIS GARCIA	MEDIAN STD DEV Experi sh as the Offic: FIRST EVA KRISTEN RYAN EVAN JEFF	8.0 1.7 mental ial Lar HLST 8 10 8 6 8	2.2 Group: nguage M WRDS 5 5 5 3 4	2.1 Mean Disc T-UNTS 8 5	2.0 criminat EXMPS 6 4 6 2 2	4.0 ion? TPC 10 10 10 10
LAST ARMANIOS BAUM BUSBY ELLIS GARCIA GRAY	MEDIAN STD DEV Experi sh as the Offic: FIRST EVA KRISTEN RYAN EVAN JEFF JEFF	8.0 1.7 mental ial Lar HLST 8 10 8 6 8 4	2.2 Group: nguage M WRDS 5 5 5 3 4 4 3	2.1 Mean Disc T-UNTS 8 5 9 2 5 2	2.0 criminat EXMPS 6 4 6 2 2 2 4	4.0 ion? TPC 10 10 10 10
LAST ARMANIOS BAUM BUSBY ELLIS GARCIA GRAY HALLFORD	MEDIAN STD DEV Experi sh as the Offic: FIRST EVA KRISTEN RYAN EVAN JEFF JEFF ERIC	8.0 1.7 mental ial Lar HLST 8 10 8 6 8 6 8 4 6	2.2 Group: nguage M WRDS 5 5 5 3 4 3 4 3 3	2.1 Mean Disc T-UNTS 8 5 9 2 5 2 2 2	2.0 criminat EXMPS 6 4 6 2 2 2 4 4 4	4.0 ion? TPC 10 10 10 10 10 10
LAST ARMANIOS BAUM BUSBY ELLIS GARCIA GRAY HALLFORD HOLE	MEDIAN STD DEV Experi sh as the Offic: FIRST EVA KRISTEN RYAN EVAN JEFF JEFF ERIC NICK	8.0 1.7 mental ial Lar HLST 8 10 8 6 8 6 8 4 6 6 8 4 6	2.2 Group: nguage M WRDS 5 5 5 3 4 3 4 3 3 2	2.1 Iean Disc T-UNTS 8 5 9 2 5 2 2 2 3	2.0 criminat EXMPS 6 4 6 2 2 2 4 4 4 4	4.0 ion? TPC 10 10 10 10
LAST ARMANIOS BAUM BUSBY ELLIS GARCIA GRAY HALLFORD HOLE RAMIREZ	MEDIAN STD DEV Experi sh as the Offic: FIRST EVA KRISTEN RYAN EVAN JEFF JEFF ERIC NICK ALEJANDRA	8.0 1.7 mental ial Lar HLST 8 10 8 6 8 6 8 4 6 6 6 6 6	2.2 Group: nguage M WRDS 5 5 5 3 4 3 4 3 3 2 3 3 3 3 3 3 3 3 3 3 3 3 3	2.1 Iean Disc T-UNTS 8 5 9 2 5 2 5 2 2 3 4	2.0 criminat EXMPS 6 4 6 2 2 2 4 4 4 4 4 6	4.0 ion? TPC 10 10 10 10 10 10 10
LAST ARMANIOS BAUM BUSBY ELLIS GARCIA GRAY HALLFORD HOLE RAMIREZ RICHEY	MEDIAN STD DEV Experi sh as the Offic: FIRST EVA KRISTEN RYAN EVAN JEFF JEFF ERIC NICK ALEJANDRA REA	8.0 1.7 mental ial Lar HLST 8 10 8 6 8 6 8 4 6 6 8 4 6	2.2 Group: nguage M WRDS 5 5 5 3 4 3 4 3 3 2	2.1 Iean Disc T-UNTS 8 5 9 2 5 2 2 2 3	2.0 criminat EXMPS 6 4 6 2 2 2 4 4 4 4 4 4 4 4 4 4	4.0 ion? TPC 10 10 10 10 10 10 10 10
LAST ARMANIOS BAUM BUSBY ELLIS GARCIA GRAY HALLFORD HOLE RAMIREZ RICHEY SANDOVAL	MEDIAN STD DEV Experi sh as the Offic: FIRST EVA KRISTEN RYAN EVAN JEFF JEFF ERIC NICK ALEJANDRA REA MIGUEL	8.0 1.7 mental ial Lar HLST 8 10 8 6 8 4 6 6 8 4 6 6 8 8 8 8 8 8	2.2 Group: nguage M WRDS 5 5 5 5 3 4 3 4 3 2 3 4 4 4 4	2.1 Mean Disc T-UNTS 8 5 9 2 5 2 5 2 2 3 4 4 4 4	2.0 criminat EXMPS 6 4 6 2 2 2 4 4 4 4 4 4 4 4 4 4 4 4	4.0 ion? TPC 10 10 10 10 10 10 10 10 10 10
LAST ARMANIOS BAUM BUSBY ELLIS GARCIA GRAY HALLFORD HOLE RAMIREZ RICHEY SANDOVAL SKAGGS	MEDIAN STD DEV Experi sh as the Offic: FIRST EVA KRISTEN RYAN EVAN JEFF JEFF ERIC NICK ALEJANDRA REA MIGUEL TRISHA	8.0 1.7 mental ial Lar HLST 8 10 8 4 6 8 4 6 6 8 8 8 8 8 8	2.2 Group: nguage M WRDS 5 5 5 5 3 4 3 4 3 2 3 4 4 3 3 3 4 3 3 3 3 3 3 3	2.1 Mean Disc T-UNTS 8 5 9 2 5 2 5 2 3 4 4 4 4 2	2.0 criminat EXMPS 6 4 6 2 2 4 4 4 4 4 4 4 4 4 4 4	4.0 ion? TPC 10 10 10 10 10 10 10 10 10 10
LAST ARMANIOS BAUM BUSBY ELLIS GARCIA GRAY HALLFORD HOLE RAMIREZ RICHEY SANDOVAL SKAGGS SUZARA	MEDIAN STD DEV Experi sh as the Offic: FIRST EVA KRISTEN RYAN EVAN JEFF JEFF ERIC NICK ALEJANDRA REA MIGUEL TRISHA TAMI	8.0 1.7 mental ial Lar HLST 8 10 8 6 8 4 6 8 4 6 8 8 8 8 8 8 8 8 6 6 8 8 8 8 8 8 8 8 8 8 8 8 8	2.2 Group: nguage M WRDS 5 5 5 5 3 4 3 4 3 2 3 4 4 3 4 4 3 4 4 4 3	2.1 Iean Disc T-UNTS 8 5 9 2 2 5 2 2 5 2 3 4 4 4 4 4 2 5	2.0 criminat EXMPS 6 4 6 2 2 2 4 4 4 4 4 4 4 4 4 6 4 6	4.0 ion? TPC 10 10 10 10 10 10 10 10 10 10 10
LAST ARMANIOS BAUM BUSBY ELLIS GARCIA GRAY HALLFORD HOLE RAMIREZ RICHEY SANDOVAL SKAGGS SUZARA WALKER	MEDIAN STD DEV Experi sh as the Offic: FIRST EVA KRISTEN RYAN EVAN JEFF JEFF ERIC NICK ALEJANDRA REA MIGUEL TRISHA TAMI JAMAR	8.0 1.7 mental ial Lar HLST 8 10 8 4 6 8 4 6 6 8 8 8 8 8 8	2.2 Group: nguage M WRDS 5 5 5 5 3 4 3 4 3 2 3 4 4 3 3 3 4 3 3 3 3 3 3 3	2.1 Mean Disc T-UNTS 8 5 9 2 5 2 5 2 3 4 4 4 4 2	2.0 criminat EXMPS 6 4 6 2 2 4 4 4 4 4 4 4 4 4 4 4	4.0 ion? TPC 10 10 10 10 10 10 10 10 10 10
LAST ARMANIOS BAUM BUSBY ELLIS GARCIA GRAY HALLFORD HOLE RAMIREZ RICHEY SANDOVAL SKAGGS SUZARA WALKER DOUGLAS	MEDIAN STD DEV Experi sh as the Offic: FIRST EVA KRISTEN RYAN EVAN JEFF JEFF ERIC NICK ALEJANDRA REA MIGUEL TRISHA TAMI JAMAR BRANDI	8.0 1.7 mental ial Lar HLST 8 10 8 6 8 4 6 8 4 6 8 8 8 8 8 8 8 8 6 6 8 8 8 8 8 8 8 8 8 8 8 8 8	2.2 Group: nguage M WRDS 5 5 5 5 3 4 3 4 3 2 3 4 4 3 4 4 3 4 4 4 3	2.1 Iean Disc T-UNTS 8 5 9 2 2 5 2 2 5 2 3 4 4 4 4 4 2 5	2.0 criminat EXMPS 6 4 6 2 2 2 4 4 4 4 4 4 4 4 4 6 4 6	4.0 ion? TPC 10 10 10 10 10 10 10 10 10 10 10
LAST ARMANIOS BAUM BUSBY ELLIS GARCIA GRAY HALLFORD HOLE RAMIREZ RICHEY SANDOVAL SKAGGS SUZARA WALKER	MEDIAN STD DEV Experi sh as the Offic: FIRST EVA KRISTEN RYAN EVAN JEFF JEFF ERIC NICK ALEJANDRA REA MIGUEL TRISHA TAMI JAMAR BRANDI DECHANTE	8.0 1.7 mental Lar HLST 8 10 8 10 8 4 6 8 4 6 8 8 8 8 8 8 8 6 6 6 6 8	2.2 Group: nguage M WRDS 5 5 5 3 4 3 4 3 2 3 4 4 3 4 4 4 4 4 4 4 4 4 4	2.1 Mean Disc T-UNTS 8 5 9 2 5 2 2 3 4 4 4 4 2 5 7 7	2.0 criminat EXMPS 6 4 6 2 2 2 4 4 4 4 4 4 6 4 4 6 10	4.0 ion? TPC 10 10 10 10 10 10 10 10 10 10 10 10
LAST ARMANIOS BAUM BUSBY ELLIS GARCIA GRAY HALLFORD HOLE RAMIREZ RICHEY SANDOVAL SKAGGS SUZARA WALKER DOUGLAS	MEDIAN STD DEV Experi sh as the Offic: FIRST EVA KRISTEN RYAN EVAN JEFF JEFF ERIC NICK ALEJANDRA REA MIGUEL TRISHA TAMI JAMAR BRANDI	8.0 1.7 mental ial Lar HLST 8 10 8 6 8 4 6 8 4 6 8 8 8 8 8 8 8 8 6 6 8 8 8 8 8 8 8 8 8 8 8 8 8	2.2 Group: nguage M WRDS 5 5 5 5 3 4 3 4 3 2 3 4 4 3 4 4 3 4 4 4 3	2.1 Iean Disc T-UNTS 8 5 9 2 2 5 2 2 5 2 3 4 4 4 4 4 2 5	2.0 criminat EXMPS 6 4 6 2 2 4 4 4 4 4 4 6 4 4 6 10 10	4.0 ion? TPC 10 10 10 10 10 10 10 10 10 10 10

APPENDIX C: Tables Of Normalized Data

Control	Group: Do You	Think	the Drug	g Educat	ion in c	our
	nool Helps the					
LAST	FIRST	HLST	WRDS	T-UNTS	EXMPS	TPC
BARRAGAN	YURI	5	5	5		10
GALLUP	JASON	2	3	1	3	10
НОАК	ERIC	3	3	3	2	10
JETTY	STEPHEN	2	2	2		1
MACHAEL	IAN	5	8	3	5	10
MARTINEZ	RUTH	7	7	5	8	10
RECOTTA	TONYA	. 7	8	7	7	10
SHOOTS	LISA	10	10	5	10	10
SNOOKS	SONJA	<u> </u>	7	5	3	10
SPRY	AMANDA	7	4	- 3	5	10
THOMAS	AHMAD	7	4	5	5	10
WILLIAMS	JASON	5	. 8	3	8	1.
BUENO	MIRELLA					
GOMEZ	LISA		· · · · · · · · · · · · · · · · · · ·			
MARTINEZ	SAMUEL	the state of				
	MEAN	5.6	5.8	3.9	5.3	9.3
	MEDIAN	6.0	6.0	4.0		10.0
	STD DEV	2.3	2.5	1.6	2.8	2.5
Sch	al Group: Do Y nool Helps the					n our
LAST					-9	
ARMANIOS	FIRST	HLST	WRDS	T-UNTS	EXMPS	TPC
	EVA	HLST 3	WRDS 1			TPC 10
	EVA RYAN	HLST 3 8	WRDS 1 7		EXMPS	
	EVA	3	1	t-unts 1	EXMPS 2	10
DOUGLAS	EVA RYAN	3	1	<u>T-UNTS</u> 1 10	EXMPS 2 5	10 10
DOUGLAS GARCIA	EVA RYAN BRANDI	3 8 5 3 3	1	<u>T-UNTS</u> 1 10 2	EXMPS 2 5 3	10 10 10
DOUGLAS GARCIA GRAY HALLFORD	EVA RYAN BRANDI JEFF	3 8 5 3	1 7 5 3	<u>T-UNTS</u> 1 10 2	EXMPS 2 5 3 3	10 10 10 10
DOUGLAS GARCIA GRAY HALLFORD	EVA RYAN BRANDI JEFF JEFF	3 8 5 3 3	1 7 5 3 4	T-UNTS 1 10 2 3 1	EXMPS 2 5 3 3 5	10 10 10 10
DOUGLAS GARCIA GRAY HALLFORD HOLE	EVA RYAN BRANDI JEFF JEFF ERIC	3 8 5 3 3 3	1 7 5 3 4 4	T-UNTS 1 10 2 3 1	EXMPS 2 5 3 3 5 5 5	10 10 10 10 10
DOUGLAS GARCIA GRAY HALLFORD HOLE MANIER RICHEY	EVA RYAN BRANDI JEFF JEFF ERIC NICK	3 8 5 3 3 3 3	1 7 5 3 4 4 2	T-UNTS 1 2 3 1 3 1 3	EXMPS 2 5 3 3 5 5 5 2	10 10 10 10 10 10
DOUGLAS GARCIA GRAY HALLFORD HOLE MANIER RICHEY SANDOVAL	EVA RYAN BRANDI JEFF JEFF ERIC NICK DECHANTE	3 8 5 3 3 3 3	1 7 5 3 4 4 2 2 4	T-UNTS 1 2 3 1 3 1 3 3 3	EXMPS 2 5 3 3 5 5 5 2 3	10 10 10 10 10 10 10
DOUGLAS GARCIA GRAY HALLFORD HOLE MANIER RICHEY SANDOVAL SUZARA	EVA RYAN BRANDI JEFF ERIC NICK DECHANTE REA	3 8 3 3 3 3 3 3 5 7	1 7 5 3 4 4 2 4 2 4 9	T-UNTS 1 2 3 1 3 1 3 3 3 3	EXMPS 2 5 3 3 5 5 5 2 3 7	10 10 10 10 10 10 10 10
DOUGLAS GARCIA GRAY HALLFORD HOLE MANIER RICHEY SANDOVAL SUZARA	EVA RYAN BRANDI JEFF JEFF ERIC NICK DECHANTE REA MIGUEL TAMI JAMAR	3 8 3 3 3 3 3 3 5 7	1 7 5 3 4 4 2 4 2 4 9	T-UNTS 1 2 3 1 3 1 3 3 3 3 3	EXMPS 2 5 3 3 5 5 5 2 3 7	10 10 10 10 10 10 10 10 10
DOUGLAS GARCIA GRAY HALLFORD HOLE MANIER RICHEY SANDOVAL SUZARA WALKER BAUM	EVA RYAN BRANDI JEFF JEFF ERIC NICK DECHANTE REA MIGUEL TAMI JAMAR KRISTEN	3 8 5 3 3 3 3 3 3 5 7 7 3 8 7 7 7 7	1 7 5 3 4 4 2 2 4 9 9 4 6	T-UNTS 1 2 3 1 3 1 3 3 3 3 3 3 3	EXMPS 2 5 3 3 5 5 5 2 3 7 7 5 5 5 5	10 10 10 10 10 10 10 10 10 10
DOUGLAS GARCIA GRAY HALLFORD HOLE MANIER RICHEY SANDOVAL SUZARA WALKER BAUM	EVA RYAN BRANDI JEFF JEFF ERIC NICK DECHANTE REA MIGUEL TAMI JAMAR KRISTEN EVAN	3 8 5 3 3 3 3 3 3 5 7 7 3 8	1 7 5 3 4 4 2 2 4 9 9 4 6	T-UNTS 1 2 3 1 3 1 3 3 3 3 3 3 3	EXMPS 2 5 3 3 5 5 5 2 3 7 7 5 5 5 5	10 10 10 10 10 10 10 10 10 10
DOUGLAS GARCIA GRAY HALLFORD HOLE MANIER RICHEY SANDOVAL SUZARA WALKER BAUM ELLIS	EVA RYAN BRANDI JEFF JEFF ERIC NICK DECHANTE REA MIGUEL TAMI JAMAR KRISTEN	3 8 5 3 3 3 3 3 3 5 7 7 3 8 7 7 7 7	1 7 5 3 4 4 2 2 4 9 9 4 6	T-UNTS 1 2 3 1 3 1 3 3 3 3 3 3 3	EXMPS 2 5 3 3 5 5 5 2 3 7 7 5 5 5 5	10 10 10 10 10 10 10 10 10 10
DOUGLAS GARCIA GRAY HALLFORD HOLE MANIER RICHEY SANDOVAL SUZARA WALKER BAUM ELLIS RAMIREZ	EVA RYAN BRANDI JEFF JEFF ERIC NICK DECHANTE REA MIGUEL TAMI JAMAR KRISTEN EVAN	3 8 5 3 3 3 3 3 3 5 7 7 3 8 7 7 7 7	1 7 5 3 4 4 2 2 4 9 9 4 6	T-UNTS 1 2 3 1 3 1 3 3 3 3 3 3 3	EXMPS 2 5 3 3 5 5 5 2 3 7 7 5 5 5 5	10 10 10 10 10 10 10 10 10 10
BUSBY DOUGLAS GARCIA GRAY HALLFORD HOLE MANIER RICHEY SANDOVAL SUZARA WALKER BAUM ELLIS RAMIREZ SKAGGS	EVA RYAN BRANDI JEFF JEFF ERIC NICK DECHANTE REA MIGUEL TAMI JAMAR KRISTEN EVAN ALEJANDRA	3 8 5 3 3 3 3 3 3 5 7 7 3 8 7 7 7 7	1 7 5 3 4 4 2 2 4 9 9 4 6	T-UNTS 1 2 3 1 3 1 3 3 3 3 3 3 3	EXMPS 2 5 3 3 5 5 2 3 7 5 5 7 7	10 10 10 10 10 10 10 10 10 10
DOUGLAS GARCIA GRAY HALLFORD HOLE MANIER RICHEY SANDOVAL SUZARA WALKER BAUM ELLIS RAMIREZ	EVA RYAN BRANDI JEFF JEFF ERIC NICK DECHANTE REA MIGUEL TAMI JAMAR KRISTEN EVAN ALEJANDRA TRISHA	3 8 5 3 3 3 3 3 3 3 5 7 7 3 8 7 7	1 7 5 3 4 4 2 4 2 4 9 4 5 5	T-UNTS 1 10 2 3 1 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	EXMPS 2 5 3 3 5 5 2 3 7 5 5 5 7 7 4.3	10 10 10 10 10 10 10 10 10 10

What A	dvice Would Yo		to a New	v Eighth	Grader?	) 1
LAST	FIRST	HLST	WRDS	T-UNTS	EXMPS	TPC
BARRAGAN	YURI	8	8	7	10	
BUENO	MIRELLA	. 8	4	5	5	1
GALLUP	JASON	6	- 3	7	4	1
GOMEZ	LISA	8	7	9	8	1
HOAK	ERIC	6	4	3	5	10
JETTY	STEPHEN	4	2	3	3	10
MACHAEL		6	8	3	5	1
MARTINEZ	RUTH	8	7	6	5	1
MARTINEZ	SAMUEL	8	5	3	5	1
RECOTTA	TONYA	10	. 10	6	8	10
SHOOTS	LISA	8	6	4	6	1
SNOOKS	SONJA	8	. 7	7	6	10
SPRY	AMANDA	. 8	5	7	6	1
THOMAS	AHMAD	8	5	4	. 6	10
WILLIAMS	JASON	8	. 8	.5	9	1
· · · · · · · · · · · · · · · · · · ·	MEAN	7.5	5.9	5.3	6.1	4.0
	MEDIAN	8.0	6.0	5.0	6.0	
	STD DEV	1 4	0,1			
			2.1	1.8	1.8	4.2
	Expendence Would Yo	rimental u Give t	Group: o a New	v Eighth	Grader?	
LAST	Expendence Would Yo	rimental u Give t HLST	Group: co a New WRDS	v Eighth T-UNTS	Grader? EXMPS	TPC
LAST BAUM	Expendence Would Yo FIRST KRISTEN	rimental u Give t HLST 8	Group: o a New	y Eighth T-UNTS 8	Grader? EXMPS 6	TPC 10
LAST BAUM BUSBY	Exper dvice Would Yo FIRST KRISTEN RYAN	rimental u Give t HLST 8	Group: co a New WRDS 9 7	v Eighth T-UNTS 8 10	Grader? EXMPS 6 8	TPC 10 10
LAST BAUM BUSBY ELLIS	Exper dvice Would Yo FIRST KRISTEN RYAN EVAN	rimental u Give t HLST 8 8 6	Group: co a New WRDS 9 7 3	v Eighth T-UNTS 8 10	Grader? EXMPS 6 8	TPC 10 10 10
LAST BAUM BUSBY ELLIS GRAY	Expendence Expendence Expendence FIRST KRISTEN RYAN EVAN JEFF	rimental u Give t HLST 8 8 6 6	Group: co a New WRDS 9 7 3 3	v Eighth T-UNTS 8 10 1 1	Grader? EXMPS 6 8 1 4	TPC 10 10 10
LAST BAUM BUSBY ELLIS GRAY HALLFORD	Expen dvice Would Yo FIRST KRISTEN RYAN EVAN JEFF ERIC	rimental u Give t HLST 8 8 6 6 6	Group: co a New WRDS 9 7 3 3 3	v Eighth T-UNTS 8 10 1 1 3	Grader? EXMPS 6 8 1 4 6	TPC 10 10 10 10 1 10
LAST BAUM BUSBY ELLIS GRAY HALLFORD HOLE	Exper dvice Would Yo FIRST KRISTEN RYAN EVAN JEFF ERIC NICK	rimental u Give t HLST 8 6 6 6 8	Group: O a New WRDS 9 7 3 3 6 5	v Eighth T-UNTS 8 10 1 1 3 4	Grader? EXMPS 6 8 1 4 6 3	TPC 10 10 10 10 1 10
LAST BAUM BUSBY ELLIS GRAY HALLFORD HOLE MANIER	Exper dvice Would Yo FIRST KRISTEN RYAN EVAN JEFF ERIC NICK DECHANTE	rimental u Give t HLST 8 6 6 6 8 6	Group: :0 a New WRDS 9 7 3 3 3 6 5 5	v Eighth T-UNTS 8 10 1 1 3	Grader? EXMPS 6 8 1 4 6 3 9	TPC 10 10 10 10 10
LAST BAUM BUSBY ELLIS GRAY HALLFORD HOLE MANIER RAMIREZ	Expen dvice Would Yo FIRST KRISTEN RYAN EVAN JEFF ERIC NICK DECHANTE ALEJANDRA	rimental u Give t HLST 8 8 6 6 8 6 8 6 8 8 8	Group: :0 a New WRDS 9 7 3 3 3 6 5 5 5 5	v Eighth T-UNTS 8 10 1 1 3 4	Grader? EXMPS 6 8 1 4 6 3 9 9	TPC 10 10 10 10 1 10
LAST BAUM BUSBY ELLIS GRAY HALLFORD HOLE MANIER RAMIREZ RICHEY	Expen dvice Would Yo FIRST KRISTEN RYAN EVAN JEFF ERIC NICK DECHANTE ALEJANDRA REA	rimental u Give t HLST 8 8 6 6 6 8 6 8 8 8 8 8 8	Group: :0 a New WRDS 9 7 3 3 3 6 5 5 5 6 6	v Eighth T-UNTS 8 10 1 1 3 4 3 7 2	Grader? EXMPS 6 8 1 4 6 3 9 10 6	TPC 10 10 10 10 10 10 11 1 1
LAST BAUM BUSBY ELLIS GRAY HALLFORD HOLE MANIER RAMIREZ RICHEY SANDOVAL	Exper dvice Would Yo FIRST KRISTEN RYAN EVAN JEFF ERIC NICK DECHANTE ALEJANDRA REA MIGUEL	rimental <u>u Give t</u> <u>HLST</u> 8 6 6 8 6 8 8 8 8 8 8 8 8 8 8 8 8 8	Group: :0 a New WRDS 9 7 3 3 6 5 5 6 6 6 9	v Eighth T-UNTS 8 10 1 1 3 4 3 7 7 2 4 4	Grader? EXMPS 6 8 1 4 6 3 9 10 6 8	TPC 10 10 10 10 10 10 11 1 1
LAST BAUM BUSBY ELLIS GRAY HALLFORD HOLE MANIER RAMIREZ RICHEY SANDOVAL SKAGGS	Exper dvice Would Yo FIRST KRISTEN RYAN EVAN JEFF ERIC NICK DECHANTE ALEJANDRA REA MIGUEL TRISHA	rimental u Give t HLST 8 8 6 6 8 6 8 8 8 8 8 8 8 8 8 8 8 8 8	Group: :0 a New WRDS 9 7 3 3 6 5 5 6 6 6 9 5	z Eighth T-UNTS 8 10 1 1 3 4 3 7 7 2 4 3	Grader? EXMPS 6 8 1 4 6 3 9 9 10 6 8 5	TPC 10 10 10 10 10 10 11 1 1 10 10
LAST BAUM BUSBY ELLIS GRAY HALLFORD HOLE MANIER RAMIREZ RICHEY SANDOVAL SKAGGS SUZARA	Expen dvice Would Yo FIRST KRISTEN RYAN EVAN JEFF ERIC NICK DECHANTE ALEJANDRA REA MIGUEL TRISHA TAMI	rimental u Give t HLST 8 8 6 6 8 6 8 8 8 8 8 8 8 8 8 8 8 8 8	Group: :0 a New WRDS 9 7 3 3 3 3 6 5 5 6 6 6 9 5 6 6	z Eighth T-UNTS 8 10 1 1 3 4 3 7 7 2 4 3 2 2	Grader? EXMPS 6 8 1 4 6 3 9 9 10 6 8 5 4	TPC 10 10 10 10 10 10 11 11 11 10
LAST BAUM BUSBY ELLIS GRAY HALLFORD HOLE MANIER RAMIREZ RICHEY SANDOVAL SKAGGS SUZARA WALKER	Expen dvice Would Yo FIRST KRISTEN RYAN EVAN JEFF ERIC NICK DECHANTE ALEJANDRA REA MIGUEL TRISHA TAMI JAMAR	rimental u Give t HLST 8 8 6 6 8 6 8 8 8 8 8 8 8 8 8 8 8 8 8	Group: :0 a New WRDS 9 7 3 3 6 5 5 6 6 6 9 5	z Eighth T-UNTS 8 10 1 1 3 4 3 7 7 2 4 3	Grader? EXMPS 6 8 1 4 6 3 9 9 10 6 8 5	TPC 10 10 10 10 10 10 11 11 11 10
LAST BAUM BUSBY ELLIS GRAY HALLFORD HOLE MANIER RAMIREZ RICHEY SANDOVAL SKAGGS SUZARA WALKER ARMANIOS	Expen dvice Would Yo FIRST KRISTEN RYAN EVAN JEFF ERIC NICK DECHANTE ALEJANDRA REA MIGUEL TRISHA TAMI JAMAR EVA	rimental u Give t HLST 8 8 6 6 8 6 8 8 8 8 8 8 8 8 8 8 8 8 8	Group: :0 a New WRDS 9 7 3 3 3 3 6 5 5 6 6 6 9 5 6 6	z Eighth T-UNTS 8 10 1 1 3 4 3 7 7 2 4 3 2 2	Grader? EXMPS 6 8 1 4 6 3 9 9 10 6 8 5 4	TPC 10 10 10 10 10 10 11 11 11 10
LAST BAUM BUSBY ELLIS GRAY HALLFORD HOLE MANIER RAMIREZ RICHEY SANDOVAL SKAGGS SUZARA WALKER ARMANIOS DOUGLAS	Expen dvice Would Yo FIRST KRISTEN RYAN EVAN JEFF ERIC NICK DECHANTE ALEJANDRA REA MIGUEL TRISHA TAMI JAMAR EVA BRANDI	rimental u Give t HLST 8 8 6 6 8 6 8 8 8 8 8 8 8 8 8 8 8 8 8	Group: :0 a New WRDS 9 7 3 3 3 3 6 5 5 6 6 6 9 5 6 6	z Eighth T-UNTS 8 10 1 1 3 4 3 7 7 2 4 3 2 2	Grader? EXMPS 6 8 1 4 6 3 9 9 10 6 8 5 4	TPC 10 10 10 10 10 10 11 11 11 10
	Expen dvice Would Yo FIRST KRISTEN RYAN EVAN JEFF ERIC NICK DECHANTE ALEJANDRA REA MIGUEL TRISHA TAMI JAMAR EVA BRANDI JEFF	rimental u Give t HLST 8 8 6 6 8 6 8 8 8 8 8 8 8 8 8 8 8 8 8	Group: :0 a New WRDS 9 7 3 3 3 6 5 5 6 6 9 5 6 6 7 7	z Eighth T-UNTS 8 10 1 1 3 4 3 4 3 7 2 4 3 2 5 5	Grader? EXMPS 6 8 1 4 6 3 9 9 10 6 8 5 4 8 5 4 8	TPC 10 10 10 10 10 10 11 10 10 10
LAST BAUM BUSBY ELLIS GRAY HALLFORD HOLE MANIER RAMIREZ RICHEY SANDOVAL SKAGGS SUZARA WALKER ARMANIOS DOUGLAS	Expen dvice Would Yo FIRST KRISTEN RYAN EVAN JEFF ERIC NICK DECHANTE ALEJANDRA REA MIGUEL TRISHA TAMI JAMAR EVA BRANDI	rimental u Give t HLST 8 8 6 6 8 6 8 8 8 8 8 8 8 8 8 8 8 8 8	Group: :0 a New WRDS 9 7 3 3 6 5 6 6 9 5 6 7 7 5 9 5 9 5 6 7 7 5 9 5 9 5 6 7 7 5 6 6 9 5 5 6 6 7 7 5 5 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7	z Eighth T-UNTS 8 10 1 1 3 4 3 7 2 4 3 2 5 5 4 1	Grader? EXMPS 6 8 1 4 6 3 9 10 6 8 5 4 8 5 4 8 5 4 8 5 4 0 6.0	TPC 10 10 10 10 10 10 10 11 10 10

LAST	FIRST	HLST	WRDS	T-UNTS	EXMPS	TPC
BARRAGAN	YURI	6		8		
BUENO	MIRELLA	8	8	10	4	10
GALLUP	JASON	4	3	3	2	10
НОАК	ERIC	6	4	6	2	1
MACHAEL	IAN	8	7	3	6	10
MARTINEZ	RUTH	8	6	6	6	10
MARTINEZ	SAMUEL	6	6	4	10	10
RECOTTA	TONY	10	9	10	6	10
SHOOTS	LISA	8	. 8	6	8	
SNOOKS	SONJA	10	10	9	8	10
SPRY	AMANDA	8	5	8	6	10
THOMAS	AHMAD	8	8	8	12	10
WILLIAMS	JASON	8	9	8	8	10
GOMEZ	LISA					
JETTY	STEPHEN					
	MEAN	7.5	6.8	6.8	6.8	7.9
	MEDIAN	8.0	7.0	8.0	6.0	10.0
· · · · · · · · · · · · · · · · · · ·	STD DEV	1.6	2.0	2.3	2.9	3.8
Experime	ental Group:	Should a	Woman	<u>Have an</u>	Abortion	1?
LAST	FIRST	HLST	WRDS	T-UNTS	EXMPS	TPC
ARMANIOS	EVA	6	4	4	4	10
BAUM	KRISTEN	8	6	6	4	10
BUSBY	RYAN	8	7	10	6	10
GARCIA	JEFF	8	8	7	8	10
HALLFORD	ERIC	6	4	4	6	10
HOLE	NICK	6	4	4	4	10
SANDOVAL	MIGUEL	6	8	4	8	10
SKAGGS	TRISHA	8	5	3	4	10
WALKER	JAMAR	8	7	5	6	10
DOUGLAS	BRANDI				an a	
ELLIS	EVAN					
GRAY	JEFF					
MANIER	DECHANTE					
RAMIREZ	ALEJANDRA					. •
RICHEY	REA					
SUZARA	TAMI					
	MEAN	7.1	5.9	5.2	5.6	10.0
	MEDIAN	8.0	6.0	4.0		10.0
and the second	STD DEV	1.0	1.6			

Contro			1	1	1 · · · · · · · · · · · · · · · · · · ·	
LAST	FIRST		WRDS	T-UNTS	EXMPS	TPC
BARRAGAN	YURI	27	22	28	34	22
BUENO	MIRELLA	24	16	19	15	21
GALLUP	JASON	16	11	14	11	22
GOMEZ	LISA	14	9	12	16	2
НОАК	ERIC	15	11	12	9	21
JETTY	STEPHEN	14	10	10	11	21
MACHAEL	IAN	25	28	12	22	31
MARTINEZ	RUTH	23	20	17	19	21
MARTINEZ	SAMUEL	14	11	7	15	11
RECOTTA	TONYA	37	33	33	25	- 40
SHOOTS	LISA	36	30	22	32	22
SNOOKS	SONJA	33	29	27	25	40
SPRY	AMANDA	29	18	23	21	31
THOMAS	AHMAD	23	17	17	23	30
WILLIAMS	JASON	29	35	21	33	22
	MEAN	23.9		18.3	20.7	23.8
	MEDIAN	24.0	18.0	17.0	21.0	22.0
	STD DEV	7.7	8.7	7.2	7.8	9.5
Experimer	tal Group: C	ompared		Across	All Essa	
LAST	FIRST	HLST	WRDS	T-UNTS	EXMPS	TPC
ARMANIOS	EVA	17	10	13	12	30
BAUM	KRISTEN	26	20	19	14	30
BUSBY	RYAN	32	26	39	25	40
DOUGLAS	BRANDI	5	5	2	3	10
ELLIS	EVAN	12	6	3	3	20
GARCIA	JEFF	19	15	15	13	30
GRAY	JEFF	13	10	4	13	12
HALLFORD	ERIC	23	17	12	21	40
HOLE	NICK	21	13	12	13	40
MANIER	DECHANTE	13	9	6	12	11
RAMIREZ	ALEJANDRA	14	9	11	16	1. B
			19	9	17	21
	IREA	1 24		2	·····	
RICHEY	REA MIGUEL	23	25	15	25	- <b>Δ</b> Γ
RICHEY SANDOVAL	MIGUEL	25	25	15	25 13	4C 21
RICHEY SANDOVAL SKAGGS	MIGUEL TRISHA	25 24	13	8	13	21
RICHEY SANDOVAL SKAGGS SUZARA	MIGUEL TRISHA TAMI	25 24 22	13 16	8 10	13 15	21 30
RICHEY SANDOVAL SKAGGS	MIGUEL TRISHA TAMI JAMAR	25 24 22 29	13 16 23	8 10 20	13 15 31	21 30 31
RICHEY SANDOVAL SKAGGS SUZARA	MIGUEL TRISHA TAMI	25 24 22	13 16 23 14.8	8 10 20 12.4	13 15 31 15.4	21 30

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