This paper reviews the research on use of collaborative writing teaching methods at the postsecondary level. Following a brief summary of the theoretical framework of collaborative writing, the paper examines the research on the six features of collaborative writing most used in classrooms: disclosure, which encourages students to engage in deep levels of communication; peer tutoring, peer writing, and workshopping, three techniques which allow students to interface with each other to reinforce and expand their writing; co-authoring, where students work together on separate components or on entire writing assignments; and knowledge making, a form of active learning using critical thinking, experiential learning, and collaboration. The paper concludes that existing research suggest these techniques suggests their effectiveness in improving student writing. It also finds that the research on collaborative writing argues for culturally responsive instructional models to serve a diverse student body. (Contains 27 references.) (CH)
A Perspective for a Culturally Responsive Collaborative Writing Model for Developmental Students

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In the last 15 years or so, there has been a renewed interest in collaborative writing as postsecondary institutions seek alternative ways of improving students' writing skills. This resurgence of interest can be attributed to the demand for educational assessment and accountability as a result of the increasing number of culturally diverse students in postsecondary education, many of whom are developmental students. Locke (1992) reported that by 2075, African Americans, Alaskan Natives, Native Americans, Hispanic Americans, Asian Americans, as well as other minorities, will be the majority in the United States. Meanwhile, Morganthau (1997) estimates that by the year 2050, the population of the United States could increase by more than 500 million, more than double the 1990 census. With the emerging demographic changes in society, there is a critical need for innovative and interactive instructional approaches to sharpen the cognitive and affective skills of culturally diverse students. Educators must seek new instructional alternatives to respond to the nature and needs of students with culturally diverse backgrounds. As they search for instructional alternatives, collaborative writing is emerging as one of the preferred instructional approaches.

As a result, this article’s purpose is threefold: to examine the research to determine the effectiveness of collaborative writing, to generate information on its relative features in order to identify appropriate teaching strategies for use with culturally diverse developmental students, and to develop a perspective for designing a culturally responsive collaborative writing model.

Theoretical Framework

The theory of collaborative writing is premised in two theoretical perspectives: constructivism and social constructionism (Dale, 1994). Both are significant to the study of collaborative writing. Constructionists argue that knowledge is based upon one’s own
personal experiences (Bereiter, 1985; Erickson, 1983). Social constructionists, on the other hand, tend to stress "student discourse as a means of learning, and writing as a manifestation of internalized social interactions" (Dale, 1994, p. 335). This theory is based on the philosophies of a number of major proponents (Bruffee, 1984; Rogoff, 1986; Vygotsky, 1986). For the past 15 years or so, those of us who teach writing have for the most part adopted Bruffee's view of social constructionism. He suggests that "The basic idea of collaborative learning is that we gain certain kinds of knowledge best through a process of communication with our peers. What we learn best in this way is knowledge involving judgment" (Bruffee, 1980, p. 103). Finally, social constructionists argue that social interaction is embedded in collaborative writing. The best collaborative writing model then, may be that which is socially designed and whose aim is consensus.

A Review of Selected Research

The review of selected research provides evidence that the demand for new techniques to teach writing has burgeoned in the last three decades. It also reveals that collaborative writing has proven to be effective in teaching writing. However, there is little empirical research to validate its effectiveness (Sandberg, 1989). Proponents of collaborative writing argue that this approach has synergistic benefits accruing to both teachers and students across disciplines (Bruffee, 1984; Connors & Lunsford, 1993). This tends to be true since collaborative writing is a multifaceted enterprise with many features; therefore, this literature review is organized under six collaborative writing features: disclosure, peer tutoring, peer editing, co-authoring, workshopping, and knowledge making. Although there are other features of collaborative writing, these are the most used in the classrooms.

Disclosure

Disclosure is the first feature that should be employed if collaborative writing is to be effective. This is critical because disclosure enhances all other features of collaborative writing by encouraging students to share their inner selves with others to
improve their communication skills. It also enables students to engage in deep levels of communication that can have positive effects on their cognitive skills. When using disclosure in the classroom, however, teachers should plan carefully and set specific guidelines to create a "protected" environment. This view is supported by Bleich (1995) and Bruffee (1993) who acknowledged that disclosure is not merely "opening up" or "expressing oneself" in the academic environment, but rather an initiative with personal, political, and sociological implications. If students do not openly express themselves, communication will remain on the surface, making it less likely that collaborative writing will be effective.

The research on disclosure is limited; however, Mead (1994) has demonstrated a high degree of interest in disclosure through her research. She studied students (n = 16) enrolled in a professional writing class in an attempt to restructure course objectives. Her main purpose was to prepare students to write collaboratively since her first attempt at teaching collaboratively was unsuccessful. Mead divided the students into four groups. Each collaborative group was composed of four students who were assigned to design a brochure for real clients during the course of three weeks. During the first week, groups met as scheduled. However, in the second week Group Three began to experience dissensus. Mead observed that each group adopted different collaborative approaches. For example, Group One accomplished the collaborative task successfully because all members brainstormed, analyzed and revised in the construction of the project. Group Two chose to share equally in the writing. Group Four distributed the work based on researching, interviewing and prewriting. Group Three, however, neither delegated or shared responsibilities nor did they attend meetings.

As a result of these findings, Mead encouraged Group Three to critique the dynamics of their group and discuss the weaknesses that caused them not to accomplish the collaborative writing task successfully. Although results of her findings reveal that 75% of students completed the collaborative brochures successfully, Mead decided to
restructure the course on the following objectives: (a) to provide opportunities for students to collaborate with the instructor as mediator, (b) to provide options for students in selecting projects and group members, and (c) to provide opportunities for students to become familiar and comfortable with dissensus.

Peer Tutoring, Peer Editing and Workshopping

**Peer Tutoring**

The research indicates that peer tutoring is the most frequently collaborative writing feature used by college teachers. It is the process in which students interface with each other for the purpose of reinforcing and expanding their writing. Myrick (1993) believes that carefully designed and directed peer tutoring programs benefit the tutor and the tutee in the writing process. A number of studies have been conducted by college teachers who employed collaborative writing as an instructional approach to examine the effects of peer tutoring in the classroom (Franklin, Griffin, & Perry, 1994; Oley, 1992). Oley (1992) investigated peer tutoring to determine its impact on the quality of writing in a psychology course at Medgar Evers College. Seventy-six students (n = 76) between ages 17 to 60 participated in the psychology course for two semesters. The students were divided into two groups: voluntary and involuntary. Three of the four psychology classes taught by the same instructor were randomly selected for the voluntary group and the remaining section was assigned to the involuntary group. Oley's findings indicate that the grades of students (n = 65) in both the three voluntary groups and the one involuntary groups were significantly higher for those who consulted a peer tutor at least once than for those who never consulted a peer tutor. A chi-square analysis indicates that there was no significant difference between the two groups of students who had passed the prerequisite English course before taking psychology and who had passed the writing placement test. GPAs were significantly higher for the voluntary groups than the involuntary group. The findings revealed that there was significant improvement in the students' papers when they consulted a peer tutor.
Franklin, Griffin and Perry (1994) conducted an investigation at the Naval Education and Training Program Support Activity in Pensacola, Florida, to measure the impact of peer tutoring on the academic performance of students at the University of West Florida in Pensacola. They grouped the students who volunteered to participate in the investigation into an experimental and a control group. There was a significant difference in the academic performance of the two groups. The experimental groups performed better than the control groups on the criterion with $E = (1.39) = 4.18$ at the 5% level of significance. An analysis of variance was conducted to confirm the robustness of the results. The peer tutoring impact proved to be significant with $F = (1,139) = 4.10$, $P = .05$, indicating that the tutoring treatment effect was still significant even when controlling for the explanatory variables (Group Embedded Figures Test, GEFT and ACT) used in the study. Franklin's et al. study shows the effectiveness of peer tutoring in classroom instruction.

Peer Editing

Peer editing is an instructional approach that has been given considerable attention (Haaga, 1993; Hart, 1991). Hart (1991) investigated two groups of 20 students ($n = 40$) to determine whether peer editing and critiquing techniques help to improve their writing skills during a semester at Gloucester County College. He randomly selected two English Composition classes and placed them into an Experimental and Control Group. Both groups took a 50 minute in-class pretest (Essay I). The Experimental Group utilized collaborative learning activities, including peer editing, peer criticism, read aloud and peer interview. Meanwhile, the Control Group received instruction through the traditional lecture approach. Twelve weeks later, both groups took a 50 minute in-class posttest (Essay II). Using the Educational Testing Service guidelines, two members of the English Department simultaneously evaluated both the pre- and post-tests using the holistic evaluation method. Although each evaluator read the pretest and posttest, there was no discrepancy in scores which ranged from one through six. The means and
standard deviations of the pretest were determined and analyzed using a one-tailed t-test at a confidence level of .01. Since the determined value of t for the analysis of the pretest was 2.00, there was no significant difference between the pretest mean scores of the experimental and control groups. The means and standard deviations of the posttest were calculated and analyzed by also using the t-test analysis, which showed t was 4.83. Hart's findings indicated that there is a positive relationship between peer editing and the improvement of college students' writing skills.

Haaga (1993) evaluated a blind peer review activity over a span of four semesters where students in graduate psychology courses peer reviewed research papers. Students submitted three copies of their papers to the instructor. One of the papers contained information that identified the students while the other papers were assigned numbers. Within one week, each peer reviewer wrote two narrative reviews along with an evaluative rating and optional comments which were reviewed only by the instructor. The instructor returned the students’ papers with a cover letter and two peer student reviews to each student. In addition, the instructor provided a written statement to each reviewer commenting on his/her evaluation skills as a peer reviewer. The students had three weeks to resubmit his/her revised paper with a cover letter explaining how each key point in the instructor's letter was addressed in revising. At the end of the semester, the students anonymously rated the value of the peer review activity positively. This anonymous evaluation was based upon a rating scale from zero to ten. The writing process (drafting, reviewing, revising) for a student’s paper was given a mean rating of 8.9 (SD = 1.3, range = 5 to 10), with 45% of the students scoring a rating of 10. However, the educational value of reviewing other students’ papers was rated significantly lower, t(32) = 2.3, range = 2 to 10. On the other hand, the educational value of a student’s oral presentation received a mean rating of 7.0 (SD = 2.4, range = to 10). Furthermore, Haaga’s findings indicated that peer review for graduate students is not as effective; however, he reported that student feedback is beneficial.
Workshopping

Peer tutoring and peer editing gave rise to workshopping based on the theory of group dynamics. Workshopping is the process of sharing, analyzing, and critiquing in groups. Therefore, students engaged in workshopping are given many opportunities for generating ideas, providing feedback, responding to audience and composing papers, and thinking and writing critically (Strang, 1984).

Cullum (1991), Goldstein (1993) and Phillips (1991) investigated workshopping across disciplines. Phillips (1991) explored the impact of workshopping on the revision strategies of adult learners (n = 11) who lack confidence in their writing ability. The adult learners wrote narratives on self-selected topics from tapes collected during interviews with volunteer participants from the surrounding community. In small groups, they listened to and critiqued each others’ papers for two sessions. For three sessions they edited each others’ final draft and continued working on structure and clarity. During the final session, they proofread the instructor’s field notes along with responses from randomly selected participants and “researcher memos: from the instructor’s journal. To analyze the data, he employed Tesch’s (1990) multistep model. Phillips used Seidel’s (1988) computer software program and Jones’ (1985) inductive mapping methods to manage and to analyze the data. The instruments used to compile the data were cognitive mapping, clustering and connections techniques. The results of the study indicated that ten of the eleven adult learners changed their revision process, improved their writing skills and developed a more positive attitude toward writing.

Cullum (1991) implemented a semester-long (10-week) experiment to measure the impact of workshopping on students’ essay writing. The researcher used a pretest-posttest design using in-class essays. The sample was composed of students (n = 102) enrolled in seven sections of developmental English courses. The students were divided into four groups: Group A, Group B, Group C, and Group D, the Control Group. At the initial stage of the experiment, the students wrote in-class essays which
were checked with Grammatik IV (proofreader software). The experimental groups attended the workshops either in groups or individually. The control group was not exposed to the workshop or any other collaborative learning approach. After the ten-week period, the groups were tested again using the same measure on the in-class essays. The findings suggested that there is a direct correlation between the frequency of the workshop attendance and the groups' improvement in the tested areas. Cullum’s findings further suggested that developmental students are no different from other writers since they are in a stage of writing growth that other writers have already experienced.

Goldstein (1993) studied students in a counseling course to determine the effectiveness of workshopping in writing a research paper. He surveyed psychology majors (n = 51) during three semesters at the University of New Hampshire at Manchester. Students were assigned by groups to design and present a workshop on a particular therapeutic intervention along with writing an individual research paper. The data were collected through the form of an anonymous course evaluation at the end of each semester. Goldstein’s findings revealed that students’ overall grades improved and assignments were more creative than in previous classes. Although these findings were generally positive, he indicated that one of the drawbacks in using workshopping is that it can become time consuming; therefore, the instructor may need to consider using class time for group meetings and workshop presentations.

Co-Authoring and Knowledge Making

Co-Authoring

The writing skills of students can be enhanced by co-authoring (Aghbar & Alam, 1992; Dale, 1994). Co-authoring is where students jointly compose writing assignments by working together on separate components or working together on the entire writing assignment. Aghbar and Alam (1992) and Dale (1994) investigated the influence of co-authoring as a vehicle to improve students’ writing. Aghbar and Alam (1992) investigated co-authoring or full dyadic writing (FDW) to ascertain how it affects
individual student's writing and to identify and examine the procedures they used in co-authoring. The students (n = 31) were from two English as a Second Language (ESL) classes that were taught by the same instructor. Students self-selected a cohort who spoke a different native language. These dyads collaborated on seven essays; however, the first and fifth essays were co-authored entirely. Three dyads volunteered to have their working sessions videotaped. Aghbar and Alam used the instructor's evaluation as the measurement instrument. The findings indicated that the students performed better on the first (FDW) co-authored essay than on the following individual essay. There was no significant difference between the second co-authored (FDW) essay and the next individual essay. The findings further indicated that the positive effects of (FDW) transferred to individual student writing. The co-authored essays were more clearly focused and unified than the individually written essays.

A similar study by Dale (1994) examined eight collaborative writing triads of students in one class (n = 24) to determine factors that contribute to successful co-authoring. Three groups were chosen for the study. One group was labeled as the model group because they interacted more than the other groups. The group identified as typical experienced some problems; however, some interaction did occur. The group that experienced the most difficulty interacting was considered the problem group. After co-authoring was modeled by Dale and the classroom teacher, the students wrote three co-authored essays. The final one, an argumentative essay on the same controversial topic, was the measuring instrument. Audiotapes of interaction protocols, questionnaires, and interviews were used to collect data. On the basis of this data coupled with the groups' performance on the writing tasks, Dale concluded that what differentiated the model groups from the other groups were the same factors that contributed to successful co-authoring. These factors are the amount and kinds of engagement during the writing process, the level of cognitive conflict, and the kinds of social interactions.
Knowledge Making

Knowledge making is a relatively new feature of collaborative writing. It is defined as active learning that uses critical thinking, experiential learning, and collaboration to cause knowledge to occur. One of the difficulties associated with knowledge making is that it is an internal cognitive process; therefore, it does not lend itself to the same hard empirical outcome based evidence. Emerson, Phillips, Hunt and Alexander (1994) and King (1994) argue that knowledge can be constructed. For example, King (1994) paired students in two different science classes to examine probing techniques and their ability to make connections between prior and new knowledge. After observing teachers' presentations of science lessons, these students practiced the material by asking and answering self-generated questions. In addition, students were given training on how to generate explanations. In one phase of the study, direct intervention was used to guide discussion with questions specifically intended to promote connections of ideas which made up the text of the lesson. In another phase of the study, King used a mix of lesson-based questions and prior knowledge questions to promote connections between the lesson and prior knowledge. Although some of the analysis of variance (ANOVA) tests were inconclusive, most of them showed a significant difference between control and treatment groups. Specifically, the one for the posttreatment knowledge maps of the system of the body unit was significant with $F(2, 21) = 4.34$ and a probability of $p < .05$, showing that both of the trained experimental groups out performed the control groups. The findings of the study indicated that students who were trained to ask both types of questions were more apt to engage in complex knowledge making than those of the control group who were only exposed to lesson based questioning. On the basis of these findings and other performance measures on comprehension tests, it was inferred that questions designed to encode prior knowledge yield more effective and complex learning than lesson-based questions alone.

three case studies. The case studies were co-authored by these researchers. Hunt’s study was specifically concerned with whether there was a difference in student achievement using collaborative learning approaches as opposed to the traditional lecture approach. He paired up with Alexander because of her student-centered orientation. Each class session included an introduction and activities that promoted analyzing, synthesizing, evaluating, and summarizing skills. To evaluate students’ achievement, the stepwise multiple regression analysis was used to indicate that the students’ test performance increased due to their collaborative efforts. Seventy-two percent of the students viewed the knowledge making activities positively and indicated this approach should be used the next semester. Hunt’s findings further revealed that collaborative learning is an important instructional technique for the sciences.

Finally the review of literature has demonstrated that there is a need for more comparative research concerned with collaborative writing, especially at the postsecondary level. The research suggests that disclosure, peer tutoring, peer editing, workshopping, co-authoring, and knowledge making offer promising advantages. Even though educational assessments designed to test the outcomes of collaborative writing in measurable terms are limited, the improvement made in student writing, as evidenced by these research studies, is encouraging enough to warrant greater emphasis on the application of collaborative writing.

Implications for a Culturally Responsive Collaborative Writing Model

With an increase in the number of culturally diverse students on postsecondary campuses, institutions must move from the concern for equal educational opportunity to adequacy of educational attainment. If this is to happen, colleges and universities must be culturally responsive to the nature and needs of this student population. For instance, when teachers incorporate collaborative writing within the diverse classroom, they will inevitably encounter a myriad of demographic and psychosocial variables. These variables include age, race, gender, socioeconomic status, physical and health condition,
cognitive and learning skills, and religious beliefs. Since the college classroom is a microcosm of society with students from many different cultural backgrounds, teachers must be trained to deal with the various attitudes, beliefs, and behaviors of culturally diverse student groups. Needless to say, classroom dynamics caused by these variables creates the need for teachers to utilize the most effective student-oriented, social learning theories and methods.

This review of research and related literature builds a strong argument for incorporating culturally responsive instructional models when using collaborative writing. Most often the experiences, values, orientations, and perspectives of teachers are different from the culturally diverse students in their classrooms. Finally, postsecondary institutions must train teachers to be culturally responsive by providing them educational opportunities so they will become knowledgeable of the culture of cultural minority students.
A Perspective for a Culturally Responsive Model

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