
The Collaborative Textbook As Teaching Tool

by Mark Evans and Lela Edgar

Creating a Textbook

Writing Across the Curriculum activities have been successful not only in improving the art of writing but in fostering a wide variety of other skills critical to collegiate learning, such as conceptual integration (Weiss & Walter, 1980) and interdisciplinary study (Hamilton, 1980).

The creation of a collaborative textbook, documents in which student writing representing the bulk of course work is assembled, has been used extensively with young students (Weiss and Walter, 1980). Its use as the exclusive text in a college setting remains unreported in recent educational literature, although this does not mean it is untried.

Each semester during the 1992-93 academic year, two sections of undergraduates at Plymouth State College studied introductory psychology without purchasing any text or reserve materials. Students in these sections instead used a Writing-Across-the-Curriculum approach, in which writing and research skills were developed through mutually supporting projects. The students wrote their own textbook after researching key topics, while other students edited their work for accuracy, concepts, and form. All students reviewed and critiqued professional journal research for their semester papers. The students even proposed and wrote the questions on their final examinations.

By the end of their term, participants had found, read, and critiqued journal-level research with the familiarity of graduating seniors. They had written an average of two pages of critical essays each week. Three out

of four had used databases such as LOLA, ERIC, PsychLit, Dissertation Abstracts International and ProQuest within any given week of the course.

We will describe a course model used in one section per semester of an introductory psychology course currently taught at Plymouth State College. The course is intended to be an introduction to the major issues in psychology as well as the methods used to learn about human thought, behavior, and feeling. Like all courses at Plymouth State College, it is also designed to help develop scholarship, writing, critical thinking, and research skills.

Creating a Framework for Collaboration

Weekly research or writing assignments are not unusual in curricula. In most college courses, however, written exchanges between the instructor and students are conducted as private communications. For example, a student may write a term paper which is read only by the professor, and receive comments on the work only from the professor.

In the course design discussed here, assignments were read by the instructor, graded and received instructor commentary, but the learning exchange widened to include other readers.

The centerpiece of the course was the creation of a “collaborative” textbook. During the first night of class, a syllabus was distributed which described the ten chapters to be assembled, expectations for research and writing, sources of outside help, and samples of accepted citation and reference formats.

The introduction and written summaries of lectures had been compiled before the beginning of the course and arrangements had been made to print and copy each chapter for the students as they were produced. At the end of the semester, the chapters were combined, laser-printed and bound, and a

cover was added with student-designed artwork. Each participant received the book upon completing the course.

This course concept was the result of a desire for a break from the limitations of both instructor and student roles in more

traditional course designs. Mark Evans was the psychology instructor who designed the course. Lela Edgar was a sophomore psychology undergraduate who led the editing of the collaborative text and assisted in the evaluation of this approach.

Prior to initiating this course design, Evans found himself frustrated that the depth of discussions during class was not reflected in multiple-choice examinations and short-essay assignments. A writing-centered curriculum for psychology students was developed with the assistance of then-Psychology Department chairperson Dr. James McGarry and incoming chairperson Dr. Boyce Ford. The final course design required that a selected group of undergraduates would collaborate with the instructor in evaluating and editing a student-published psychology textbook.

The first student approached for such an assignment, Edgar, recalled having no past experience reading or writing journal research. Once the meaning of statistical information needed for this type of writing was mastered, the emphasis moved to working with other student editors to sift through weekly assignments searching for the unusually interesting or particularly relevant. Collaboration required consideration of a variety of viewpoints and some negotiation, since there were many times editors disagreed regarding the merit of a student submission or the best way of improving it.

Course Design

The goal of this course design was not only to promote expository writing skills, but to integrate these with

critical reading and research skills as well. The collaborative textbook was, therefore, only one component of the course design. Students were presented with a succession of projects which were intended to communicate complex concepts or procedures to undergraduates who were likely not familiar with them.

Like many other classes, this course met once per week for 2 1/2 hours. There were 14 regular class sessions and a scheduled final examination period in each semester. Unlike similar classes, the focus of this class was the development of writing projects which were goal-directed, published or shared in class discussions. The class topic also became the topic for the students' research, editing, and the chapter in the published textbook.

Only one hour of class time was devoted to a lecture upon the topic selected by the instructor. Lecture topics were the same as those in that week's text chapter. Chapter topics in psychology included subjects such as motivation, learning, and abnormal psychology. During the class period, each student received an assignment relating to these topics, due when class met again. Another hour of class time was devoted each week to a class-wide discussion of the completed individual assignments from the previous week's topic. Students, called upon either at random or at their request, summarized their assignments and outcomes. The instructor then linked these with concepts addressed in lecture, the results of other student assignments, and topics addressed in previous weeks. The method was Socratic, the use of class notes to answer questions was encouraged, and full participation was required.

Assignments For Text Chapters

Each chapter of this collaborative textbook was created by combining essays specifically assigned to ensure that the

most important concepts of the chapter's topic were all represented. The instructor determined the topic of the assignment, but participants might receive any one of nine different types of assignments, each requiring a specific set of research skills and writing style:

1. **Journal Research** — Summarization and citation of an original research article in a psychological journal. For example, in one week, students were asked to summarize recent research on eating disorders and another week, others were asked to address studies on mood.

2. **Essays** — Discussions which feature expository or persuasive essays, stories from literature or film, jokes or anecdotes, in which all outside sources were to be cited. For example, a pair of students were asked to read a children's book and address issues of memory and recall, and one student wrote a gumshoe detective story illustrating the concept of "instrumental aggression."

3. **Conducting and Reporting Surveys** — Design, reporting, and discussion of a survey or interview. Informants were asked by one student to define behavioral indicators of "love" in one survey. In another survey, subjects were asked to identify behaviors through which anger was expressed in their primary relationships. One student replicated research into children's artistic renderings of traumatic experience (Terr, 1991). Assignments required a discussion of design, subject selection, and a discussion of the findings, as well as outcome summary.

4. **Conceptual Understanding** — Explanation of a key concept in clear and concise language, using cited outside sources. The struggle to understand sometimes difficult or technical concepts and "translate" them into clear and simpler terms was reflected in essays such as those in which students described the major effects of traumatic brain injury

or de-mystified the Rorschach “inkblot” test.

5. Concept Application — Identification of a process in “real-world” settings. For example, one student created a hypothetical situation, in which an individual’s desperate need for high-priced AIDS medication locked in a store conflicted with a belief in law and order, to examine how moral conflicts are resolved. Another student who was interested in children’s evolving cognitive styles obtained artwork from children of different ages and discussed features of each drawing which reflected changes in cognition throughout childhood.

6. Biographical Research— Biographical sketches of major contributors to the field of psychology from cited sources. These contributors have ranged from psychoanalyst Karen Horney to Helen Keller.

7. Personal Integration—Discussion of a student’s personal experience which was related to the topic area. Many personal essays were light in tone, but serious self-examination was shared, such as one student’s discussion of the challenge of being described as “dyslexic” in school, and another’s recollections of puberty.

8. Citation/Quotation — Reporting quotations from cited works by or about persons assigned by the instructor, or providing several references available at PSC which would serve as a starting point for further reading, such as one student’s collection of fiction in which group processes are illuminated.

9. Artwork — Creation or procurement of originally-drawn artwork of specific focus, on occasion requiring additional analysis. Our text cover came from an art major randomly assigned to sketch a portrait of Sigmund Freud. Another student portrayed the brain’s pre-frontal cortex as it would appear in a magazine advertisement.

The type of assignment varied from week to week in order to present students with a wide range of research and writing challenges through the course of the semester. For example, a review of assignments made during a week in which brain physiology was studied included tasks such as:

- * Interviewing a client case manager for an area head-injury rehabilitation center, discussing the major effects upon brain functions the social worker saw in her or his clients.

- * Writing an expository essay in which the question of whether women and men have different brain physiology is discussed, and the student was expected to compare cited studies with her or his own perceptions.

- * Explaining how knowledge about opioid neural receptors had helped brain researchers understand and counter drug addiction, citing at least three recent studies.

How the Text Was Edited

The assignments were first read and evaluated by another group of students. A group of “editors” met once a week during the instructor’s office hours to select assignments for publication in the collaborative text.

Each editor read all submissions, marking those she or he found particularly informative, relevant, or entertaining. The submissions were ranked by the number of markings. Assignments could be selected exactly as written; changed in order to clarify, shorten, or correct factual errors; or not accepted for publication. Selected entries were corrected as necessary. Editors then took turns typing the entries directly into a computer file via a laptop computer.

The instructor worked with the editors to improve their critical reading, evaluation, and text-editing skills. This group met in Lamson Library, in part because editors were required to correct any citation or reference omissions and

mistakes during the process of assembling a chapter for the collaborative text.

These decisions were independent of instructor grading, which follows later. Grading was based primarily upon the extent to which the student addressed the exact requirements of the assignment. Use of proper citation and reference formats was also evaluated, as was writing clarity.

Individual Writing and Research Assistance

The instructor held regular office hours in Lamson Library one evening a week. The Reference staff of the library had been briefed as to the nature of the course standards. Between the instructor and library staff, in-library assistance was provided to almost all class participants during the semester. Students were also provided with specific information about the PSC Writing Center.

The “process” of scholarship was emphasized through instructor reviews of assignment or paper drafts, without grading, before any due date. The instructor kept writing guides and other references available.

Supervision of the student editors was also provided during this time. The review of content, citation and reference review, grammatical construction, and text-editing in order to co-mingle student assignments and instructor lecture notes were all addressed.

The “Term Paper” in Support of Collaborative Text

Participants were also required to complete a multi-part research project during the semester which was not included in the collaborative textbook. The final product of this effort was a “term” paper.

Students were required to use computer data bases and other library resources to identify three articles that reported

original research in a psychological journal. The three studies had to be related to one another. For example, the articles selected by one student included: “Police Stress in an Occupational Context,” “The Impact of Providing Help: Emergency Workers and Cardiopulmonary Resuscitation Attempts,” and “Emergency Workers’ Cognitive Appraisal and Coping with Traumatic Events.”

Students then wrote a review of each article, summarizing its hypothesis, methods, subjects, analytical design, and findings. Proper citations-in-text and references, using the format accepted by the American Psychological Association, were required.

A discussion of the three articles followed in which the methods and findings of the studies were compared and contrasted for reliability and validity. Student papers also included a conclusion, in which other directions for future research were suggested.

Each stage of development for the student’s research review received instructor comment before the final product was due for grading. A student had one deadline for producing three journal-published studies for review, a later deadline for ordering these articles through the inter-library loan program, another for a draft of the review and, lastly, a deadline for correcting the research paper for errors noted in the draft by the course instructor.

Each student wrote an abstract of her or his review. All abstracts were gathered and, like the collaborative textbook, made available to all participants at the end of the semester.

Discussion in Support of Collaborative Text

Individual responsibility and integration of the semester’s material were reinforced through classes in which the students worked in small groups to apply their knowledge.

For example, during one session, groups of students were assembled in different rooms. Each was provided with a psychological or interpersonal profile and asked to separate, describe, and summarize the elements of the situation, its possible antecedents, possible consequences, and suggested interventions.

In another session, students acted as a group to define research terminology and design an empirical study from start to finish. During the spring semester, this was augmented with a six-part workbook exercise students were expected to complete away from class.

A popular colloquium activity was the use of short excerpts of popular films as a springboard for a review of concepts presented throughout the semester. Students in the Fall 1992 section analyzed sections of "Silence of the Lambs" by Jonathan Demme, "Truth or Dare," about the singer Madonna, and "Aria," a series of short-subject films set to operatic arias.

Small groups were assembled at the end of the semester in order to compose a final examination. Each group was given sections of the text to review, and asked to compile both fill-in-the-blank and multiple-choice questions. Questions were reviewed by the instructor and modified until mutually acceptable. From the group-developed questions, 20 of each type were selected by the instructor for the final examination.

Outcomes of the Collaborative Format

Two semesters during which this format was utilized have been examined in terms of frequency of publication, grading, and student surveys. We have also included a more subjective evaluation of this format's impact upon student writing and the collaborative process.

Perhaps the most tangible outcome of this format was the

self-publication of a psychology textbook, averaging approximately 210 pages in length, featuring student art on the cover and student writing throughout its pages. Many students reported that they had used these texts in later semesters as a source of review for advanced psychology or other courses. We found that no participant has declined to keep her or his textbook. Copies of the text were shelved in the college library and in twelve other area school and public libraries.

Every participant had at least one essay published in the collaborative textbook in both semesters that we created the texts. The frequency of publication by students and their assignment grades were compared through an analysis of variance, and no significant relationship between the grades of student and the likelihood of publication was found.

The class mean for the 37 students receiving letter grades during the Fall 1992 trial was 82.3 with a Standard Deviation of 4.5, representing 17 "A"s, 10 "B"s, 6 "C"s, 2 "D"s, 3 "F"s, and an "incomplete."

The average grade for 34 students in the Spring 1993 trial was 84.1 with a Standard Deviation of 4.9 points, representing 11 "A"s, 10 "B"s, 8 "C"s, 2 "D"s, and 3 "F"s.

The average grades for the weekly assignments, semester papers, and discussion groups were also compared for differences in performance between types of academic work as well as between the two test groups of students. We found that the class average for weekly assignment grades in the Fall 1992 section was 82.9, while their average grade on their research papers was 84.0 and 79.9 for class discussions. All three grade averages fall within one standard deviation of the norm for the group, representing a remarkable consistency in writing performance despite the need to address different topics and utilize different formats or

styles when writing.

It was also found that there was no significant difference between groups of students who were part of this type of WAC curriculum. The class average for weekly assignment grades in the Spring 1993 section is 82.0, the average grade for research papers, 83.0, and the average grade for discussion work, 81.0.

Samples of Student Writing

The flavor of such accomplishment is not best shared through outcome studies or student comments, but through the words of student writers and editors who have together sought to bring the subject matter alive for themselves and their readers.

Excerpts of the collaborative texts have been selected which illustrate the blending of personal and professional, experimental and expository, achieved by students through repeated efforts to master a wide range of research and writing approaches. These excerpts follow.

In preparing a chapter regarding cognition and memory, a pair of students were asked to address thought patterns universal to all humans versus those which might be substantially different across cultures, using a Mexican children's story as the basis for comparison:

“Hill of Fire” (Lewis & Sandlin, 1971) is the story of a Mexican farmer who is unhappy because his life is the same day-to-day. Then a volcano erupts in his cornfield. His farm and the whole village are destroyed, and the locals are moved to a place of safety by soldiers...

...The cognitive styles of the rural farmers portrayed in “Hill of Fire” are no

different than those which would emerge following a natural disaster in a more urban setting such as Plymouth, NH. People here would use a variety of cognitive factors to frame their understanding of a powerful and mysterious circumstance. (Philbrick & Rodimak, 1992; p.51)

For a chapter in which theories of emotion and motivation were to be discussed, a student was asked to demonstrate his clear understanding of major emotions, such as anger, fear, guilt, depression and happiness, by preparing “lonely singles” ads presenting the attributes of each emotion in a humorous fashion:

DEPRESSED: My name is Oscar. I’m looking for someone to sit around and smoke cigarettes. I don’t leave the house except to rent movies. (Sakellarios, 1992; p.87)

Another student was asked to recall the emotional, social, and cognitive effects of puberty upon girls, for a chapter covering topics in human development. She chose to write a highly personal reflection on this process, which provoked a great deal of classroom discussion:

Puberty did not hit me by surprise at all. I was not embarrassed by it, as some of my friends were. I was basically begging for it. I was a late bloomer...Finally, after two years which seemed like ten, I once again felt content with my body. (Caron, 1992; p.95)

Another personal essay was written by a student who talked with a relative in order to better understand the process of latent learning, in which information is not consciously remembered during the trauma of combat:

My grandfather is a veteran of combat during World War II. He was wounded twice, and awarded the Purple Heart. His battles were waged in North Africa and Sicily. They were fought 50 years ago. Yet his memories of these events have not faded with time. What is it that prompts him to recall episodes half a world away and half a century away? (D'Agostino, 1993; p.89)

A dance teacher participating in the class was asked to describe the perceptual processes involved in her craft, using precise terminology wherever appropriate:

Dance is an expression of feelings. In an artistic sense, the dancer must feel completely present and impassioned by whatever theme the dance is conveying. The stimulus for dance can come from varying sources. The choreographer can not only use the music and the dancer as a means to express an idea, feeling, or emotion (an affect), but also stage props, lighting, costuming, and make-up (visual stimuli). (Milley, 1993; p.38)

In a final example, a student used the “Appalachian Spring Suite” by American composer Aaron Copland to examine

a theory of emotion which proposes that external stimuli are filtered through bodily changes and memory before emerging as a particular emotion:

Time after time, changes in tempo brought changes in mood, or flushed out an old memory. Stanley Schacter's ideas on emotion seem to play out well — I 'feel' the music, filtering it against my thoughts and, then, my memory. (Santos, 1993; p.109)

All student submissions received grammar, content, and citation editing from a group of 3 or more student editors, so these excerpts, like the collaborative textbooks themselves are, in fact, a product of collaboration between students. It can also be noted, however, that even after being edited by another group of students, these selections reflect a wide range of writing ability as well as a diversity in student perspective.

Survey of Student Evaluations

Due to the unusual nature of the instructional format, student assessment of the course was not only sought through the department's standard computer-recorded surveys, but through custom-designed surveys as well, conducted during the last scheduled class meetings. Computer print-outs of all student assignments and copies of the syllabus were made available in order to refresh the memory of participants.

Students were asked to rate the difficulty, level of learning, and enjoyment of each of their 10 assignments using a 10-point scale. Among the Fall 1992 participants, the average rating of assignment difficulty (1-very easy..10-very difficult) was 4.98 (with SD=2.68). The degree to which students learned

from the writing assignments (1-not at all..10-considerably) was given an average rating of 6.24 (SD=2.66).

The surveyed Spring 1993 participants rated their assignments as having an average difficulty of 5.02 (SD=3.45). They also indicated that the degree to which they learned through this format was, on average, high (M=7.33, SD=3.53). The enjoyment of the collaborative research assignments (1-not at all..10-very enjoyable) was reported in Fall 1992 as a mean 6.24 (SD=2.9), and in Spring 1993 as a mean 7.01 (SD=3.40).

Participants found a high degree of correlation between grades awarded for assignments and their level of difficulty (68% of 31 respondents in Fall, 77% of 11 respondents in Spring); an even higher percentage (88% and 90% respectively) reported a correlation between the grades awarded and the amount of effort they expended upon the assignments.

The degree to which classroom discussion of the assignments assisted students in the learning process was also assessed, using a 10-point scale (1-not at all helpful..10-very helpful). An average rating of 8.46 (SD=1.83) was reported by Fall participants, and an average of 8.75 (SD=2.92) by Spring students.

Participants in the Fall 1992 section also rated on a scale the effectiveness of each type of collaborative assignment in learning the concepts of psychology. The categories of weekly research projects which appeared most effective were 'personal experience' (M=8.77, SD=1.64) and 'concept applications' (M=8.29, SD=1.63).

One hundred percent of responding students in both sample groups answered 'yes' to an item asking whether or not they found this curriculum an effective method of learning psychology. Almost all (97% in both groups) also endorsed a statement that this curriculum was an enjoyable method of learning this subject.

Writing as a Collaborative Process

One outcome of this course which is difficult to measure is the sense of community in scholarship promoted by peer publication, peer editing, and peer supervision. Students commented to us that they felt that bonds between class members were established which are often lacking in large class sections. One student commented on this:

It's hard to describe. You go to the library to get help on a difficult assignment and you see this group of other people in the class all sitting around a table debating how to help improve somebody else's paper, and you realize that this is what's behind most of the marks on your last paper. They say hello and offer you suggestions.... You get the feeling that you really are some kind of scholar or something.

Another student focused upon the impact of being peer-published in the collaborative text:

I couldn't believe it when I saw my article on Sigmund Freud in the book. There it was — in black and white, edited, with a nice heading, laid out on the page of a real book, my name right there above it. Maybe I shouldn't make too much of this, but I was so proud of myself that I showed the page to my roommate and mailed it home to my mother. She told me she didn't think I knew so much about psychology. Well, I guess I do.

A number of students commented upon similar lines, suggesting that the combination of collaboration and visible recognition of scholarship promoted their sense of academic mastery, participation in scholarship, and self-esteem.

Evaluation of the Curriculum

The actual effectiveness of this course design as a WAC process cannot be assessed without further measure. The lack of a pre- and post-test of students' critical reading, writing, and citation skills needs to be addressed. Furthermore, such measurements have limited comparative value until there are college-wide standards for critical skills to be addressed and accepted techniques for doing so.

Student surveys indicate that the collaborative assignments were neither too difficult nor too simple. As well as a reported sense of enjoyment and learning, it appears that weekly, varied assignments produce a great deal of satisfaction. The wide range of grades was in marked contrast to the high agreement that the total curriculum package produced substantive learning.

Student editors noted that almost all completed assignments addressed more topics than those required by the instructor. This indicates to us that a WAC curriculum promotes motivation in students to perform to higher, self-determined specifications than to group standards of performance. Testing performance is determined by the normative scores of students, whereas research writing performance reflects the individual motivation, interests, and abilities of students.

These findings tend to confirm research by Robert Weiss and Simon Walters (1980). They report that a WAC curriculum, when compared to a control curriculum, did not result in better writing or a reduction in anxiety for students, but did significantly increase both learner-centered education and conceptual skills among participants (p.15).

The outcomes of the PSC psychology WAC curriculum also suggest that students seek not so much good grades as the clear opportunity to learn the heuristics of solid

scholarship: research, organization, and presentation. In fact, there were calls for more classroom structure, integrative assignments, and audio-visual aids which would supplement this educational milieu.

Special Requirements Upon Instructors

The collaborative and writing-intensive course curriculum we have described may require more time, written feedback, and course preparation than many lecture and testing models of instruction. The prospective creator of a collaborative text curriculum needs to be forewarned that this format often requires more frequent availability by the instructor, additional teaching hours during which student editors are supervised in their efforts, coordination with campus-wide writing and research resources, and considerable preparation time.

It has been estimated that weekly preparatory time for such a format is approximately double that of a lecture-testing teaching format. There is weekly grading and comment; office hours are almost completely devoted to assisting students in their research and writing efforts, so that “office hours” are best held in the library rather than the office. There are frequent conferences with library staff. Colloquium preparation requires additional time and study.

It is suggested that instructors contemplating the use of this curriculum weigh their teaching commitments carefully and begin pre-course work three to four months prior to the start of classes.

The delegation of research, editing, and re-writing duties expands the opportunities to learn for motivated students in the class, while reducing instructor-focused activity and its accompanying workload.

The development of a close working relationship with the college library and audio-visual staffs is believed essential

to the success of such a collaborative process. These professionals are ready and able to share the demands of creating a rigorous and textured educational experience if they are briefed, consulted, and supported.

Conclusion

Students who have participated in the collaborative textbook teaching format report that they enjoy their most success when integrating concepts with personal experience, learning to explain theory, and finding “real-world” examples of a concept. A course which includes opportunities for both inductive and deductive logic, empirical research and personal reflection, and reading and writing is highly desirable for both student and instructor.

One student commented several months after the course ended:

Our textbook seems real easy, really comfort-able to read. It’s not only the one textbook I’ve looked at after the end of a course, it’s a book I’ve browsed through or re-read any number of times. It’s different because it’s a book written exactly at the level of an undergraduate in college, instead of a watered-down version of a graduate school textbook.

This comment reflects what is perhaps the unique value for this type of curriculum: the marriage of developmentally-appropriate expression with academically-appropriate standards of research and writing excellence.

Overall, the authors feel strongly that this is a rich and rewarding method for learning, both for student and instructor. There has been excitement in re-creating the variability of life’s learning challenges in the classroom and library setting. Its adaptation to other coursework and settings is strongly endorsed.

References

- Caron, R. (1992). The change. In M. Evans, L. Edgar, B. Cotter, et al. (Eds.), The Plymouth Psychology Collective (p.95). Plymouth, NH: PSC.
- D'Agostino, J. (1993). Latent learning during combat exposure: A veteran discusses environmental triggers. In M. Evans, A. Randall, T. Wojtkun, et al. (Eds.), The 101 of Psychology (p.89). Plymouth, NH: PSC.
- Hamilton, D. (1980, March). Interdisciplinary writing. College English, 41 (7), 795-796.
- Milley, C. (1993). Representing sensation through dance. In M. Evans, A. Randall, T. Wojtkun, et al. (Eds.), The 101 of Psychology (p.38). Plymouth, NH: PSC.
- Philbrick, R. & Rodimak, K. (1992). Cognitive and memory issues in "Hill of Fire", a children's story. In M. Evans, L. Edgar, B. Cotter, et al. (Eds.), The Plymouth Psychology Collective (p.51). Plymouth, NH: PSC.
- Sakellarios, O. (1992). 'Singles ads' if they reflected major emotions. In M. Evans, L. Edgar, B. Cotter, et al. (Eds.), The Plymouth Psychology Collective (p.87). Plymouth, NH: PSC.
- Weiss, R. & Walters, S. (1979). Research on writing and learning: Some effects of learning-centered writing in five subject areas. Paper presented at the Annual Meeting of the National Council of Teachers of English, San Francisco,

CA, November 22-24, 1979. Reprint: EDRS.

Weiss, R. & Walters, S. (1980). Writing to Learn. Paper presented at the Annual Meeting of the American Educational Research Association, Boston, MA, April 7-11, 1980. Reprint: EDRS.