

Karen C. Williams  
[cachevki@uwyo.edu](mailto:cachevki@uwyo.edu)

Donald M. McLeod  
[dmcleod@uwyo.edu](mailto:dmcleod@uwyo.edu)

Jane V. Nelson  
[jnelson@uwyo.edu](mailto:jnelson@uwyo.edu)

Sonya S. Meyer  
[wildcat@uwyo.edu](mailto:wildcat@uwyo.edu)

Bruce A. Cameron  
[unsw@uwyo.edu](mailto:unsw@uwyo.edu)

James K. Wangberg  
[wangberg@uwyo.edu](mailto:wangberg@uwyo.edu)

University of Wyoming  
College of Agriculture  
Laramie, Wyoming 82071

**A Collaborative Faculty Approach for Improving Teaching of Writing and  
Critical Thinking Across Disciplines: A Wyoming Case Study**

Karen C. Williams

Jane V. Nelson

Donald M. McLeod

Sonya S. Meyer

Bruce A. Cameron

James K. Wangberg

Co-author Affiliations: The authors are Associate Professor of Family and Consumer Sciences, Director of the Writing Center, Assistant Professor of Agricultural and Applied Economics, Associate Professor of Family and Consumer Sciences, Associate Professor of Family and Consumer Sciences, and Associate Dean of the College of Agriculture, all from the University of Wyoming.

Acknowledgements: The authors wish to thank the following for support for this effort: the University of Wyoming Ellbogen Center For Teaching and Learning, College of Agriculture, and the Writing Center.

## **A Collaborative Faculty Approach for Improving Teaching of Writing and Critical Thinking Across Disciplines: A Wyoming Case Study**

### **Introduction**

Student writing causes many college faculty members to complain, but perceptions about whose job it is to teach writing vary. Faculty in the College of Agriculture at the University of Wyoming are no exception. This paper documents a two-year process undertaken to improve writing across the curriculum in two departments: the Department of Agricultural and Applied Economics and the Department of Family and Consumer Sciences. It will first provide background and a brief overview of the current literature on writing across the curriculum. Then it will outline a writing workshop project. That workshop was conducted to identify both faculty perspectives of student writing as well as student impressions. Next, it will present findings based on faculty interviews, faculty focus groups, and student interviews. It will conclude with a discussion of curriculum changes that resulted as well as dissemination opportunities generated.

### **Background**

The University of Wyoming adopted a general education core curriculum in 1990 called the University Studies Program (USP). One of its important components was greater emphasis on writing across the curriculum (WAC) with the purpose of ensuring that “writing as a mode of learning and as a means of communicating has a central place in the undergraduate education of all students (1989, USP, p.7).” The university’s approach was to require three writing intensive courses to infuse writing horizontally and vertically throughout the curriculum. The courses were labeled W-1, W-2, and W-3: W-1 represented the traditional freshman composition course, W-2 represented a mid-level writing course requiring investigative or analytical writing, and W-3 represented an upper-division course with emphasis on professional writing within the student’s major discipline. The university provided additional resources for its writing center and redefined the writing center’s mission to include faculty development.

The 2002 university bulletin lists 160 approved “W” courses offered in forty-nine departments or programs in all six of the undergraduate colleges. The general writing education emphasis has also increased university interest in, and attention to, student writing in a wide variety of settings beyond official writing courses.

The College of Agriculture has maintained these trends. The thirteen “W” courses in the College of Agriculture serve students in all of its departments and in disciplines as diverse as agricultural economics, agroecology, animal science, entomology, family and consumer sciences, molecular biology, rangeland ecology and watershed management, and renewable resources. This heightened faculty interest in student writing and critical thinking skills has translated into higher expectations of self, in terms of pedagogy, and higher expectations of students’ writing.

### **Writing Across the Curriculum**

Writing across the curriculum (WAC) is not a new concept. Since the early 1970s American teachers of writing have recognized the benefits of extending the British secondary school Learning Across the Curriculum (LAC) movement to college learners (Goodkin & Parker, 1987; Mahala, 1991). WAC programs historically have been built on the principle that students need to be active participants in their learning, and that writing is a vehicle for them to become engaged in course content while they construct their own knowledge (Fulwiler & Young, 1990; Gere, 1985; Lunsford, 1979; Pinkava & Haviland, 1984; Walvoord & Smith, 1982).

Centers for teaching, English departments, and writing centers have played a central part in conducting workshops and seminars to help faculty learn WAC concepts and create partnerships to improve teaching and learning. Eble and McKeachie (1986) reported that WAC workshops were found to be very effective in helping faculty improve the quality of student writing and learning. The University of Wyoming College of Agriculture, through a grant from the Ellbogen Center For Teaching and Learning, created just such an opportunity for seventeen faculty members. Six faculty members and their department heads (a total of four from the Department of Family and Consumer Sciences and four from Agricultural and Applied Economics) received additional release time and monetary support to form assessment teams. The goal was to assess writing in the specific disciplines and to develop action plans for enriching student writing.

### **Methods**

#### **The College Writing Workshop**

The workshop series, facilitated by the director of the University of Wyoming Writing Center, was designed to be a substantial seminar, requiring reading, writing, and a semester-long commitment to attend

seminar sessions. Participants in the workshop received free of charge a copy of *Engaging Ideas: The Professor's Guide to Integrating Writing, Critical Thinking, and Active Learning in the Classroom* (Bean 1996) and other workshop materials.

Participants initially constructed two contexts for their thinking about the place of student writing in their disciplines, in college majors, and in individual classes. They first discussed the ideal profile of students who graduate from the University of Wyoming in the faculty disciplines. The group rapidly bypassed disciplinary differences to focus on a common set of preferred aptitudes and abilities associated with critical thinking, reading, and writing. These abilities included the following:

- synthesis and analysis,
- problem solving,
- application of theory,
- differentiating the significant from the unimportant,
- understanding rhetorical conditions,
- using a breadth of available resources, and
- confidence in oral and written communication.

A major goal of the seminar, they decided, was to create writing assignments for students that would support the development of these abilities.

The second topic for constructing an overall context for the seminar was the issue of development in student writing. Most participants identified graduate school as the most significant contribution to their development as writers. The discussion then moved to how writers advance from novice levels to professional expertise. Seminar participants began to understand that they could not expect their undergraduate students to achieve graduate student quality. They also discussed the potential for shaping a student's writing development through some department-wide conversations about differences in expectations as well as content coordination between lower and upper division undergraduate courses.

Participants subsequently spent the five remaining seminar sessions studying Bean's text with the purpose of exploring ways to apply his principles and some of his suggestions in their teaching. Bean's central tenet in *Engaging Ideas* is that "critical thinking—and indeed all significant learning—originates in the learner's engagement with problems" (p. xi). Many of the chapters in his book focus on the

connections between thinking and writing and the value of problem-based writing assignments. Participants in the seminar discussed the relative values of personal and professional writing, or, in other terms, informal, exploratory writing and formal writing. They also examined the challenges students encounter with difficult reading assignments and with lengthy research assignments. The goal in all of the discussions was to design writing assignments and writing-intensive courses with a focus on the learners' engagement with problems.

A closely related principle in Bean's text is that teachers who value their students' critical thinking and engagement with problems "...need to be mentors and coaches, developing a range of strategies for modeling critical thinking, critiquing student performances, and otherwise guiding students toward the habits of inquiry and argument valued in their disciplines..." (p. xi). During the seminar sessions, equal attention was given to issues related to this principle. Participants examined a variety of ways to coach writing, including peer review and the reading of drafts. They also investigated several ways of evaluating writing, including the development of rubrics or scoring guides and the concept of "minimal" marking. The goal in these discussions was to discover ways for writing assignments to become central tools for learning both content and disciplinary practices in the undergraduate curriculum.

### **Faculty and Student Survey Research Methods**

During the seminar and extending beyond it, the Departments of Agricultural and Applied Economics and Family and Consumer Sciences pursued systematic data collection in order for faculty to study and improve practices. Multiple data collection methods were employed. Participating faculty members provided copies of writing assignments they were using that they felt were either working well or problematic. Those were later analyzed and compared with student perceptions of assignments. An initial email survey provided baseline information on faculty perceptions of student writing. The responses were also used to create the initial focus group discussion points. Faculty were asked the following:

1. Why did you decide to participate in this writing project?
2. What kinds of writing would your graduates be expected to do on the job?
3. How does the curriculum for your program prepare students to write well, and in what ways does it fail?

4. How do you feel that the University Studies writing courses prepare your students to write well, and in what ways do you think the classes fail?
5. How many writing assignments on average do you give in the courses you teach? What types of writing are students expected to do in your classes?
6. What kind of training have you had in the teaching of writing prior to these workshops? How comfortable do you feel teaching writing, and why?

Four focus group discussions were videotaped and field notes of the meetings were taken.

Instructors in the capstone departmental writing courses were asked to identify poor, adequate and good writers. Those students were contacted and invited to participate in interviews. All of the students were graduating seniors. Students were asked the question given below:

1. Would you classify yourself as a good, adequate or poor writer, and why?
2. What kinds of writing do you expect to be doing on the job after you graduate? Do you feel you have been prepared to do these kinds of writing in the courses for your major? Why or why not?
3. Think back to your writing experiences in the College. What writing assignment did you feel was the most beneficial and why? Tell me which class it was in, and how you think it was beneficial to you.
4. Now tell me which writing assignment (or kind of writing assignment) you feel was the worst or least beneficial to you. What course was it in, and why was it frustrating or non-beneficial?
5. Now I'd like you to reflect on the kinds of feedback you've gotten on writing assignments by faculty. What kinds of feedback have you felt was most helpful to you? What kinds of feedback frustrated you, made you feel angry or upset, or was non-helpful?

A total of twenty students representing both departments participated. Interviews lasted 30-45 minutes. All were audio taped, transcribed, and coded for emerging themes. Both of these sets of questions resulted in additional surveys for which the results are reported in the following section.

## **Outcomes and Results**

### **Faculty Surveys Results**

It was clear from the initial surveys that all of the participating faculty members were dissatisfied with the quality of student writing in their courses. None felt adequately prepared to teach writing. Each indicated that they wanted to participate in the workshop and assessment team to learn strategies for teaching writing as well as to prepare students more adequately for the kinds of writing they would be doing in their careers. The following comments indicate faculty sentiments and evidence the need for faculty development opportunities.

“I teach a class that requires several written projects. I didn’t get the best effort from my students on these projects last semester. Undergraduate majors would be expected to summarize business activities in clear writing to higher management and owners. Thus, being able to express themselves in writing would be very important to undergraduate majors.”

“It is difficult to grade for content when students do not have the basics. How many times can a faculty member write “this paper warrants a rewrite” before both faculty and students throw up their hands in frustration? Why can’t students transfer the knowledge received in one course to their others?”

“My comfort level with teaching writing is mid-range. (In my training I) perfected teaching Economics rather than writing. I want to improve my ability to guide students to become better writers and thinkers.”

“Dietetic students should be good communicators (verbal and written) and should be skilled at communicating nutrition information to a variety of audiences. I have had no formal training in the teaching of writing. Although I consider myself a reasonably good scientific writer, I do not know the cutting edge techniques for teaching writing and have relied heavily on giving students editorial-type suggestions.”



## **Focus Groups in Preparation for Student Surveying**

The focus groups provided a forum for the faculty from two distinct departments to meet and talk about common issues. Their common interests in writing instruction and a feeling of unhappiness with student writing skills seemed to be the motivation. It became clear that the common goal was for students to become adequate writers. This was a challenge for several reasons. Both departments rarely have freshmen as majors. Students also arrive with different levels of preparation for college writing and at different times in their college careers. Some students came from a wide variety of community colleges, and students who begin their careers at the University of Wyoming often do not start as majors in the two disciplines. This creates problems, since it is unclear what students learned in their freshman composition course or their mid-level writing course. The students lack a “portfolio of common experiences.”

The participating faculty realized that both course sequencing and focus needed to address writing skill development. Current courses were haphazardly related. Each department head then conducted a survey of faculty to determine what kinds of writing assignments existed. It was obvious that instructors could rely neither on the students using the campus Writing Center nor on carry-over skills from their non departmental courses.

Both departments had writing-intensive capstone courses that were writing intensive and focused on research skills in the discipline. Each department incorporated writing into other key courses as well. There were areas that needed improvement: there was not enough writing prior to the capstone courses, students were often not required to rewrite after receiving feedback, and no plan was in place to help students enter the capstone courses with more than their current “substandard skills.”

Several barriers to implementing curricular change were identified. Faculty buy-in was seen as a strong barrier, since many faculty did not see writing instruction as their job and were reluctant to change course assignments. The logistics of making widespread curricular change were daunting. Student evaluations were another barrier. Students resisted writing and their comments in evaluations for classes requiring substantial writing could be harsh, impacting tenure and promotion decisions for junior faculty. It was also clear that students held negative perceptions of the value of teaching writing in the content areas. Senior exit interviews and previous faculty evaluation comments showed that students felt they already knew how to write and saw the capstone course experiences as redundant or unhelpful.

## Student Survey Outcomes

Seventeen out of eighteen students identified their writing abilities in a way that matched the faculty assessments: students identified as poor writers knew that their writing was poor; students identified as good writers identified themselves as adequate to good writers. Only one student rated her writing as higher than faculty rated her. Most students blamed their high school or early college writing experiences for their success or failure, particularly citing the kinds of assignments, types of feedback, and amount of writing required. Several felt that the grading of writing was very subjective.

“(I’m) probably a good writer. I’m pretty wordy and I like to use big words and stuff, really elaborate on things and some professors don’t appreciate that, and some really do. So it pretty much depends on what the professor thinks and how they grade.” (#11)

“I would say adequate writer because coming up with ideas is not a problem and getting my point across is not a problem, but grammatically I don’t have much clue what I’m doing. And, after about eighth grade you don’t really get taught grammar any more. And you come to college and even in your (English) 1010 classes, those things, they don’t really teach you grammar or check on it.” (#15)

“Poor. I guess being out of school for the last eight years and then coming back had something to do with it. I don’t remember a structure of writing, and I guess my vocabulary isn’t very good either. . . . There’s not enough class time devoted to the preparation for writing assignments. A lot of the assignments are very vague.” (#1)

Students from both departments said that they thought the best writing assignments allowed thinking and the ability to convey their own ideas, had topics that were of high personal interest, came with models or examples, required individual rather than group writing, and had a direct tie to writing they thought they’d use later in other courses or on the job.

“It was my favorite assignment just because it was a topic I wanted to find out about.” (#8)

“Senior thesis was good. Other than that, Agribusiness Management with Dr. \_\_\_.

It (case study analysis) brought in a lot of the thinking process. It wasn't just research. It allowed me to think and convey my own ideas." (#6)

Students were equally clear about what characterized poor assignments. They were skeptical about the value of "research writing." According to Larson (1982), they may be justified in their skepticism if faculty members are incorrectly using this label. He asserted that the term "research paper" is overused, and essentially meaningless, and argued that all teachers can do is distinguish between those papers that incorporated actual research and those that did not. Students also did not like when only one type of writing was done for the whole course, such as memos or abstracts with no variety. When a topic was not of high interest to the students or when they were assigned topics, they perceive the assignment as irrelevant. Other dislikes included vague instructions, inadequate time in class to prepare students for an unfamiliar assignment, and group work when the groups are assigned. Many student comments illustrated these points:

"Group writing was always kind of tough on me. It's so hard to get everyone together." (#2)

"It's just hard to meld different people's styles of writing. (#8)

"Some of them I just did to get them done. Some were things I wasn't interested in, or might have had long-term goals but not immediate ones. A lot didn't apply." (#7)

When the topic of feedback was explored, students had definite opinions:

<u>Like</u>	<u>Dislike</u>
Specific comments and questions coupled with suggestions	"Narrow down" "This is awkward"
One-on-one conferences or email to discuss writing specifics	"Good" "Interesting" Paper all marked up
Using the campus Writing Center	"Go to the Writing Center"
Grading rubrics with comments	Rubric that's only a checklist with numbers

Many of the types of comments they received lowered their self-esteem and made them feel that they were lost and needed a roadmap. They liked it when they got direct, positive help.

“He sat me down and told me exactly what it was I had to do. That was the best thing he could do for me. To give me a list and say, ‘I want you to do this and this and this,’ so I knew where I was going. I would never had that sense of direction if he hadn’t done that. It’s tough to evaluate your own writing.” (#5)

Students indicated that they didn’t want to approach and meet with professors who “bled” all over the papers or made what they perceived to be “mean” comments.

“When the paper would be all marked up, and I had to go back and redo everything... .It kind of intimidated me. I wouldn’t want to go (to those teachers) for help.” (#2)

“The worst thing is to turn a paper in and just get back where they circle small grammar errors and don’t write anything as far as what they thought.” (#9)

Students also felt that each professor graded differently and had different standards. They saw the grading of writing as highly subjective, and a matter of “getting through” a particular professor’s writing expectations and grading methods. One student indicated that she had learned to do minimal work on a first draft, wait for the professor’s feedback, then rewrite the paper to meet only those comments to get the grade she wanted. A mismatch in expectations surfaced from the student interviews and faculty focus groups. Faculty members sometimes felt that students were not taking enough responsibility for their own learning and expected too much direction on their writing. Moreover, students and faculty had very different ideas of what kinds of writing would be done on the job once students graduated. There was less than a 50 percent overlap in writing categories listed by students and faculty. This could explain the students’ perception that much of the writing done in class was irrelevant. It was clear to the faculty that they had not done a good enough job of making the reasons for assignments explicit.

## **Workshop Outcomes**

The academic dean and workshop leader had several expectations from the semester-long workshop:

- 1) revised course syllabi,
- 2) new approaches to teaching and evaluating student writing,
- 3) a better informed faculty with regard to the writing pedagogy literature, and
- 4) improved student performance.

The first three outcomes were immediately evident. Two of the faculty participants substantially modified writing assignments for courses they were teaching the same semester they took the seminar: one faculty member transformed an assignment into one that encouraged students to be highly creative, and another developed an “economic summit” project that included community and political leaders as evaluators. Others waited for the next semester to revise their courses. One designed a radically different approach in his class that involved students in the creation of case studies. Two developed substantially different scoring guides for writing in their lab courses. Others revised their approaches to peer review in senior-level courses. The fourth goal, to improve student performance in writing and critical thinking, is the subject of further research, classroom experimentation, and analysis.

Faculty also identified other outcomes and benefits in their personal assessments of the workshop. Following are anecdotal faculty comments that reflect their perception of the quality and scope of the workshop benefits.

“One of the greatest benefits from attending the....workshops was just to hear the concerns of other faculty members from different departments within the college” and to discover that “their concerns about student writing were not dissimilar from my own.” Family and Consumer Sciences associate professor.

“I learned to give students the chance for free writing activities where all I am evaluating is their thought processes while not getting caught up in evaluating the technical aspects of writing. I have learned techniques to try to get students to take more ownership of their writing. I am trying to get students to learn how to revise their own work and making a more conscious effort to focus my time on higher order writing concerns.” Family and Consumer Sciences associate professor.

“Since participating in the workshop I feel I have paid closer attention to what I am asking students through written and oral instruction. I try to continually ask myself if expectations have been made clear. The one concept I came away with was probably one of the most obvious. When students enter our academic programs...it may very well be an experience similar to visiting a foreign land the first time. Students need to adjust to an entirely new vocabulary as well as customs and practices. I guess I am taking the job of communicating with my students more seriously.” Family and Consumer Sciences professor.

“The quality of the topics (referring to student selected writing topics) and analysis have improved. The students appear more able to link topic subject choices with course-driven skills. All who advance (to the graduate level) have indicated informally the usefulness of the undergraduate research and writing work.” Agricultural and Applied Economics associate professor.

Opportunities both to learn from the workshop and departmental assessments as well as to incorporate this knowledge into the writing instruction appear to be occurring among participating faculty.

### **Conclusions and Implications**

#### **Departmental Specific Implications**

The faculty members in both departments used these data to look more closely at types of writing in specific courses, and the sequencing of writing skills.

#### Agricultural and Applied Economics

The Department of Agricultural and Applied Economics chose to begin a “top down” (senior level first) approach to student writing by focusing first on their senior seminar course. The course syllabus was changed to reflect principles learned from the WAC workshop. The instructor solicited feedback from his colleagues in both departments as he made changes. Refined goals now are presented as student skill development through a sequence of activities, helping students understand where they are going in the course, and why. The syllabus specifies required books on writing style, grammar, and format. Speakers from the Writing Center, Career Services, and the Electronic Library are used to help make students aware of campus writing and research resources. Students receive expanded grading rubrics with pointers for each

assignment in the syllabus. Paper edits and comments are made on the first page only, with students having the responsibility for editing the balance of the paper. Students are now required to write a fifty word abstract as the final written assignment. Students are encouraged to provide a copy for the departmental poster presented during the graduation ceremony. Other faculty colleagues have similarly modified writing assignments within their courses to help students acquire the skills needed in the senior seminar courses.

### Family and Consumer Sciences

The Department of Family and Consumer Sciences took a simultaneous “bottom up” (from freshman level up) and “top down” approach. They began by presenting findings from the focus groups and student interviews at a teaching faculty meeting, thereby creating an avenue for discussion. Faculty buy-in to the need for curriculum reform was not a problem. Faculty members welcomed the opportunity to share their own experiences and frustrations with student writing, student learning, and concerns about their own assignments and teaching strategies. The department adopted style and writing manuals to insure that all students and faculty had common references and expectations. They are now required of all majors beginning in their initial “perspectives” course at the freshman/transfer student level. The manuals are used in all FCSC courses through the senior year.

The departmental course and curriculum committee was given the task of looking more closely at the kinds of writing activities students were experiencing in all FCSC courses. Using faculty feedback, the original list of writing assignments was expanded. The data were analyzed to look at sequencing of writing activities from freshman through senior year courses, matches or gaps with departmental expectations of necessary writing skills on the job following graduation, required and elective course choices for students, and how well writing activities fostered critical thinking skills. This activity is part of a three-year curriculum mapping and curriculum reorganization for the department focusing on assessment of core competencies and skills.

Two members of the team gave faculty members the first three pages of a paper from the senior capstone course and a chapter from Bean’s book, and then had them all respond to the students’ writing. This will lead to a discussion of consistency, expectations, and methods of feedback to student writing. Hard questions are being asked such as, “Can we and should we all agree upon and use the same methods of feedback in all courses within the department?”

## **Extended Results of the Project**

Writing to learn and learning to write do not have to be, and should not be, mutually exclusive or separate teaching activities. Following the WAC workshops and collaborative research activities, faculty members in Family and Consumer Sciences and Agricultural and Applied Economics were energized and motivated to focus on curricular change in ways that probably wouldn't have happened without the opportunity to share ideas and become a support network for each other. The team members in the two departments of agricultural and applied economics and family and consumer sciences have continued to meet beyond their workshop commitment to discuss writing issues and to collaborate on course development. Classroom research within and across departments has been conducted with more in-depth investigations of writing and critical thinking across the curriculum. Family and consumer sciences faculty have committed themselves as a department to long-term efforts in curricular revision to incorporate substantial writing instruction throughout all four years of the undergraduate experience.

The writing workshop series was deemed successful enough to be repeated the following year for a second cohort of faculty. The second workshop class consisted of seven faculty from the following academic departments: animal science, renewable resources and the college dean's office. Its structure and goals were similar to the first year's workshop. Both workshops stimulated the faculty participants to continue interacting within their own departments and with other colleagues as well as maintaining some collaborative efforts with colleagues from other departments, whose common interests were discovered during the workshops.

Perhaps the most interesting result of the workshop was the decision on the part of participants to organize themselves into an official group for sharing the goals of integrating writing, critical thinking, and active learning in the classroom. They adopted the label of WAG, Writers in Agriculture Guild. The 2000 inVISIBLEcollege Summer Conference, sponsored by the University of Wyoming's Ellbogen Center for Teaching and Learning, was the first opportunity for the faculty to present their commentary. An interdisciplinary group of faculty participated in a panel discussion at the conference to promote such workshops and formation of "WAGs". Videotaped segments of the WAG in action were shown to stimulate interest.



Dissemination of this work has now expanded to the national level as a consequence of the development of a successful grant proposal to the USDA Higher Education Challenge Grants Program. A grant was obtained to sponsor a three day “National Conference on Student Writing and Critical Thinking in Agriculture,” scheduled for April 2003 in Jackson, Wyoming. Bean, author of *Engaging Ideas*, the book that was central to the workshop activities, was enlisted to serve as a keynoter and workshop facilitator. Hence, a workshop originally conceived as a professional development opportunity for one college at one university has evolved into a national professional development opportunity for faculty in the food and agricultural sciences. A special outcome for the University of Wyoming faculty who have devoted time studying and reflecting upon Bean’s work will be the chance to personally interact with him at a national conference.

### Literature Cited

- Bean, J.C. 1996. Engaging ideas: The professor's guide to integrating writing, critical thinking, and active learning in the classroom. San Francisco: Jossey-Bass.
- Eble, K.E., and McKeachie, W.J. 1986. Improving undergraduate education through faculty development: An analysis of effective programs and practices. San Francisco: Jossey-Bass.
- Fulwiler, T. and Young, A. (eds.). 1990. Programs that work: Models and methods for writing across the curriculum. Portsmouth, NH: Boynton/Cook Publishers.
- Gere, A.R. (ed.). 1985. Roots in the sawdust: Writing to learn across the disciplines. Urbana, IL: National Council of Teachers of English.
- Goodkin, V. and Parker, R.P. 1987. The consequences of writing: Enhancing learning in the disciplines. Upper Montclair, NJ: Boynton/Cook.
- Larson, R.L. 1982. The "research paper" in the writing course: A non-form of writing. *College English* 44(8): 811-816.
- Lunsford, A.A. 1979. Cognitive development and the basic writer. *College English* 41(1): 38-46.
- Mahala, D. 1991. Writing utopias: Writing across the curriculum and the promise for reform. *College English* 53(7): 773-789.
- Pinkava, B.P. and Haviland, C.P. 1984. Teaching writing and thinking skills. *Nursing Outlook* 32(5): 270-272.
- University of Wyoming. 1989, December. University Studies Program Report.
- Walvoord, B.F. and Smith, H.L. 1982. Coaching the process of writing. In Griffin, C.W. (ed.). *New Dimensions for Teaching and Learning: Teaching Writing in All Disciplines*. San Francisco: Jossey-Bass.