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Journal on
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WAC and General Education

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Editor's Introduction

The WAC program at Plymouth State College was created in 1985 as part of a General Education reform. Now, in 2001, General Education is under review and will likely be restructured. A sense of WAC's success on campus coupled with the spirit of change inspired the theme for this year's journal: WAC and General Education.

The first two articles in this issue address how WAC programs are situated within General Education. Margaret Pobywajlo of the University of New Hampshire at Manchester explains in "Changing Attitudes about General Education" how WAC courses support broad goals of General Education. Jacob S Blumner of University of Michigan, Flint, John Eliason of Philadelphia University, and Francis Fritz of Ursinus College collaborate in "Beyond the Reactive" to argue that the typical institutional approach to WAC has weaknesses that need to be addressed.

In secondary schools, General Education is the curriculum, but to what extent are secondary schools using WAC to support their teaching efforts? Vickie S. Ostrow explores this question in "The Status of WAC in Secondary Schools."

Perhaps it is least obvious how WAC supports areas of General Education that involve heavy use of numbers. Sharon Hamilton and Robert H. Orr, however, show in their email exchange article "Writing to Learn Quantitative Analysis" (a modeling of writing to learn even as it explores writing to learn) how WAC techniques can be used to help students learn quantitative analysis.

All areas of General Education are being affected these days by new computer technologies, such as WebCT. In "WAC Meets TAC" Robert S. Miller shares experiences using WebCT Bulletin Boards and ponders whether use of such bulletin boards is really a WAC technique. Allan F. DiBiase in "Doing Philosophy Online" shares his success teaching long-distance via the internet, a teaching method in which all communication is written.

Every General Education and WAC program exists for the students, and from students we learn first-hand the effectiveness of our methods. In the final section of this issue, a student, Levi Castello, in "Covering All the Bases," and a professor, Meg Petersen (remembering when she was a student), in "The Atomic Weight of Metaphor," share their experiences with writing assignments and offer suggestions that are applicable across the curriculum.

Plymouth State College Journal on Writing Across the Curriculum

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WAC and General Education

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Reflections on WAC

Changing Attitudes about General Education: Making Connections Through Writing Across the Curriculum

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University of New Hampshire at Manchester

As Director of a Learning Center, a faculty advisor, and a parent of two college graduates, I have frequently heard students rationalize their minimal performance in courses by saying, "It's just a gen ed." To faculty who teach general education courses[1], who believe in the value of general education requirements and advocate a liberal arts education, those five words raise concerns. General education programs have several goals in common with Writing-Across-the-Curriculum programs. These commonalities, along with several ideas about writing and learning, persuade me that WAC programs, and Writing Intensive (WI)[2] courses, in particular, have the potential to effect positive change in student attitudes toward general education courses, and ultimately to effect reform in pedagogy in general education courses.

Since 1978 when the Carnegie Foundation indicted colleges and universities for the lack of coherence in their general education programs, slow but steady progress has been made toward reforms in general education. At the same time, we have seen growth in Writing-Across-the-Curriculum programs; one would hope this growth would be accompanied by increased influence of WAC on college general education curricula.

Writing-Across-the-Curriculum programs and general education programs share common goals. For example, both aim to broaden intellectual interests, give students practice in different modes of inquiry, and improve critical thinking, reading, and writing across the disciplines (Lucas, 1996;UNH catalog, 2000) in the hope that students gain the "ability to think like an educated person" (Menand, 1997, p.4). While the aims of general education programs are admirable, there are reasons for student disinterest in or indifference to general education courses.

Negative Student Attitudes about General Education

General education courses constitute one-third of their undergraduate curriculum, yet most students are unaware of the goals of general education. They do not see the point of taking general education courses except to fulfill some vague requirement, so they tend to choose courses that conveniently fit their schedules without regard to how the courses might be relevant to their major field of study or enhance other interests. As a result of constructing their programs in a haphazard or in a seemingly practical but misguided manner, they too often do not engage in their general education courses. Berthoff (1997) observed that until students' minds are engaged, "no meaning [is] made," i.e., no learning takes place (p. 308).

There are other well-known reasons for the students' attitude. First, universities and colleges convey the message that general education courses are unimportant or less important by offering those courses in large lecture halls where students' attendance goes unnoticed and student participation is minimized (Schilling as reported by Hardge, 1998). Second, breadth often takes priority over depth in lower division general education courses, thus reducing opportunities for higher order thinking. In survey courses, especially where classes are large, and lecture is the preferred mode of instruction, assessment tends to be done by multiple choice tests. Writing requirements tend to be limited to one long research paper, and class discussions are rare. Recently, one of our writing tutors told me he found writing in his general education courses difficult because he felt he had nothing to say; the teacher had said it all. While there is research about changing pedagogy in large classes, and there are individual efforts to make large general education classes more student centered (Bean, 1996; Brookfield, 1987), too many classes unintentionally encourage students to be passive recipients of knowledge instead of active makers of meaning. Third, some students find little challenge in their general education courses, or they perceive the teacher to have low expectations (Schilling as reported by Hardge, 1998). Although a few students complain when a course is too hard for "just a gen ed," most students associate a challenging class with a valuable class that is integral to their learning.

Fourth, and most importantly, students do not make connections among their general education courses and/or to their majors (Schneider, 1998). This disconnect may be due in part to students' immaturity, their inexperience with college, their stage of cognitive development. However, it is also due to the fragmentation in most general education curricula (Carnegie Foundation, 1978; Schneider, 1998). By fragmentation, I mean there is no discernible guiding and unifying principle for student choice of courses. The guiding principles may be clear to faculty and even to experienced students, but they are not clear to students as they experience their general education courses. Unless students have an attentive faculty advisor who takes time to help students see the relationships among courses and choose accordingly, students select unrelated courses and fail to make connections among them. This practice results in a lack of coherence in the overall program and undermines some purposes of the general education program. The Carnegie Foundation (1978) denounced such fragmentation as unjustifiable in general education, the curriculum which "should most clearly reflect institutional objectives" (p. 172). One of those objectives is to provide students with a coherent, meaningful undergraduate curriculum.

The Possibilities of WAC to Address the Problems

While WAC Programs and Writing-Intensive courses are not a cure-all, together they address the issues of the transmission model of teaching and student passivity, the lack of challenge in undergraduate courses, and, most importantly, the lack of connections and coherence in the general education curriculum. Each of the points which follows could be an article unto itself, but each one is necessarily summarized and oversimplified for this brief overview of the relationship between Writing-Across-the-Curriculum and general education.

Writing facilitates and improves learning

McLeod and Maimon (2000) point out that the concept of writing to learn has been central to WAC since its beginning; WAC serves students needs "both to write to learn and to learn to write" (p. 573). Writing helps teachers reach their goals of improved learning and student engagement because, as composition teachers know, writing facilitates and improves learning and thinking (Bean, 1996; Bertoff, 1981; Chiseri-Strater, 1991; Emig, 1977; Fulwiler, 1988; Vygotsky, 1978). Ever since Vygotsky clarified for us the connection between writing and thinking, researchers in composition have explored this relationship extensively. Nickerson, Perkins, and Smith (1985) claim writing is important to teaching thinking skills because "writing is so paradigmatic a case of thinking.... To teach people to write *is* to teach them to think better in an important sense" (p. 254). Thinking on paper is writing to learn.

Researchers in composition have learned that informal writing assignments offer students the opportunity to find their voices and discover what they know about the topic (Chiseri-Strater, 1991; Fulwiler, 1988; Walvoord & McCarthy, 1990). Students may write poorly in some classes because they do not think they have anything to say; sometimes they do not yet know enough. Writing to learn invites students to write about what they do not understand as well as to show what they know and understand. Students learn that they have something to say before they are expected to write formally on the subject. Through informal writing, students make connections in the course content; they are not dependent upon a lecturer to make connections for them. If our students have opportunities to think on paper before they write extended essays or take essay tests, they may feel more positive about these tasks.

Writing provides a way of assessing learning

Besides helping teachers reach their goals of improved learning, writing provides teachers a better way of assessing learning. A student's writing is a better representation of his learning than other forms of assessment, such as a multiple choice test (Bean, 1996). Vygotsky (1987) writes in *Thinking and Speech:* "With written speech, we are forced to create the situation or – more accurately – to represent it in thought" (p. 202). In other words, what students are able to put into writing represents what they really know about the subject. The student is constructing an answer rather than memorizing one. From writing, teachers can gain a better idea of what students really know and understand, versus what they have memorized.

Writing helps students make connections

Writing improves learning and thinking because it engages students in their learning and assists them to make connections. When students write, they are challenged to stretch intellectually to make connections among lectures, readings, class discussions, and prior knowledge (Bean, 1996). Levine and Cureton (1998) testify to the importance of making such connections: "The ability to make connections between, build on, and synthesize knowledge is crucial if purposeful learning and understanding are to take place" (p. 162). Unless students make connections, they lack a context for critical thinking.

Writing assignments add rigor and depth to a course

Writing, a student-centered pedagogy, makes students feel responsible for devoting time to their courses. On the Spring 2000 evaluations of WI courses, UNH students commented that frequent writing assignments made them keep up with assignments, helped them organize their time, and helped them be prepared for class. Their comments are supported by the Association of American Colleges and Universities (AAC&U) study in which researchers found *no* campus where students claimed to spend the recommended two to three hours outside class for each class hour, yet most students received satisfactory or better grades. The students in AAC&U study reported students doing little writing for their courses. One of the AAC&U researchers, Karen Maitland Schilling (1998, as reported by Hardge) concluded that when students are not required to write often, they get the message that little is expected of them in the course. Furthermore, Schilling found many students persisted in habits they established the first year. The programs that best convey high expectations are those that send "clear and persistent…messages about what students are expected to do" (Schilling, 1998. as reported by Hardge, p. 7). Writing Intensive courses help to clarify institutional expectations about students' responsibility for their learning.

Well-designed writing assignments add rigor and depth to a course and provide students more opportunities for higher order thinking (Bean, 1996). Writing is the near-perfect tool for promoting what Cinthia Gannett (personal communication, February 6, 1992) calls "creative disequilibrium," the uncertainty that can prompt dialectical thinking and higher order thinking. Richard Paul (1994) suggests that students learn to engage in dialectical thinking when they are presented with more than one view and are required to provide evidence for both views. Writing is the ideal medium for requiring students to practice dialectical thinking because having their ideas in print allows them to step back and examine the arguments on both sides. In so doing, students apply the higher order thinking skills of analysis and synthesis.

Well-designed writing tasks also promote more careful reading (Bean, 1996), what the UNH catalog (2000) calls "reading with discernment" (p. 14). Faculty comments on the WAC surveys at UNH from 1998 to 2000 indicate that faculty used regular informal writing assignments to encourage deeper reading. When teachers assign writing that requires students to process content, not just regurgitate it, they convey high expectations for students and for the course (Schilling, 1998, as reported by Hardge). WAC programs, and WI courses in particular, have the potential to create and convey such messages.

A Survey of Writing-Intensive Instructors at UNH

A survey I conducted at UNH in November and December, 2000, suggests that UNH teachers concur with the research that students learn by writing. My research question was: Are WI courses, in the faculty's view, improving learning and writing as they are intended to do? My survey questions were shaped partly by faculty and student comments on previous WAC/Writing Center evaluations at UNH, and partly by my beliefs and assumptions about the power of writing and my concern for the integrity of the general education curriculum.

After several attempts at phrasing the questions, I piloted the survey questions with twenty WI faculty. Finally, I e-mailed a cover letter to 293 faculty who had taught at least one WI course since 1997 in which I explained the survey and asked for faculty participation. Faculty were asked to complete the survey posted on a web-site linked to the UNH Writing Center. I chose the media of e-mail and the website because faculty had indicated in previous evaluations a preference for e-mail and on-line surveys or evaluations. Posting the survey on a website also allowed faculty to respond anonymously. The completed surveys were sent directly to my mailbox with no sender identified. A few faculty requested that I provide either an e-mail copy or a hard copy, which I did. Fifty-two surveys were completed by the end of the semester, and two additional surveys were sent to me after the study. This constituted a return rate of 20.5%. Twenty-eight male and 26 female faculty responded; of these 29 were tenured, and another 10 were tenure-track faculty.

While the number of respondents provided only a small sample, the range of responses to the questions, the relatively even division between male and female faculty, the fact respondents came from all seven colleges of UNH, and that the majority were tenured or tenure-track faculty gives me some confidence in viewing the 54 responses as representative of most UNH faculty teaching WI courses. Many of the findings are consistent with the research reviewed above.

* Sixty-eight percent of WI faculty who responded to the survey

said they believe students learn more in WI courses than do students in non-WI sections of the same course. Some faculty had no basis for comparison because they teach only writing intensive sections. One professor commented that since he had implemented teaching strategies he learned in WAC faculty development sessions, his students had begun to make connections between class discussion, lectures, and readings. This is consistent with the research of Levine and Cureton (1998).

* Two measures of student engagement are attendance and participation. Seventy-four percent of UNH survey respondents said attendance in the WI courses is good to excellent. Likewise, seventy percent reported that student participation is satisfactory to good in their WI sections. The survey indicated that students who are required to write frequently about their reading and thinking are better prepared to participate in class, and the ensuing class discussion promotes better writing and thinking. This is consistent with the research by Chiseri-Strater, 1991.

* Writing Intensive courses tend to be smaller, as they should be. Forty-four respondents indicated their WI classes had fewer than 40 students, and half of those classes had no more than 20 students. Smaller classes mean attendance can be monitored, students can actually be expected to participate, and teachers have time to read and respond to student writing. One respondent indicated that his classes had recently become too large to continue individual conferences, and he was considering dropping the WI designation from his course.

* Writing Intensive courses increase teacher contact with students. Thirty-six percent of UNH survey respondents reported that their contact with students had increased significantly, and others noted a moderate increase in student contact. While some teachers may see the increased time as a drawback, retention experts tell us that connections to faculty and frequent contact with them positively influence students' decisions to stay in college (Tinto, 1975). Students are also more likely to commit to their assignments if they feel teachers have an interest in them and their work. The increase in face-to-face contact was attributed to conferences; however, it appears faculty included increased time for reading papers in their responses to this question.

* Two-thirds of UNH respondents said their students made effective use of teacher conferences, and 88% said students made satisfactory to excellent use of teachers' written comments on their papers.

* In addition to improved learning, UNH faculty who responded to

the survey said Writing Intensive courses improve student writing. They indicated students made improvements in grammar (50%)[3], syntax and diction (56%), tone and voice (54%), use of topic sentences (52%), thesis statements (66%), development of ideas (80%), organization (84%), coherence of argument (60%), and integration of required reading (66%). It is likely that faculty emphasized in class the areas in which they saw the most improvement – development of ideas, organization, thesis sentences, and integration of reading – and perhaps they offered instruction or models in those areas. Disciplinary faculty may feel less comfortable commenting closely on grammar, syntax, and voice than on content and organization. It is also likely that the writing improved as the students learned more about the subject (Bean, 1996).

* Asked to what extent writing was helping them reach their teaching goals, 20% responded "not at all" and another 30% said only "somewhat." This finding suggests some faculty have not integrated their reasons for using writing with their teaching goals. Writing to learn does not *add* goals; it supports and works in tandem with the teacher's goals for the course. Bean (1996) recommends that teachers look at writing assignments "as useful tools to help students achieve the instructor's content and process goals for a course" (p. xiv). This is an area where WAC Directors might direct their attention for faculty development.

Nurturing the Tie that Binds

McLeod and Maimon (2000) discuss the "actual transformative possibilities WAC offers" (p. 578). Among those possibilities they include changes in pedagogy from a teacher-centered transmission model to a student-centered model that emphasizes "active engagement with ideas and content knowledge" (p. 578). I have asserted the potential of WAC to effect positive changes in student attitudes toward general education courses by using what we know about writing and learning to reform general education. Realizing the transformative possibilities depends on several things, all of which present more challenges to WAC Directors.

1. Faculty need training in how to design writing tasks that promote analysis and synthesis so students and integrate information and make connections. Teaching students to see connections within and beyond the course should be a goal of WAC and of WI course faculty, but teaching in this way may be new for some faculty. In

designing professional development activities, WAC Program Directors and Writing Center Directors could include activities that help WI faculty incorporate metacognitive activities and develop assignments that help students make the connections explicit within and beyond the course. Writing can be the "tie that binds" discrete pieces of information, helping students to see relationships and to construct a web of meaning (Vygotsky, 1978).

2. WI faculty need support from WAC programs in the form of frequent opportunities to share what they have learned, with regular faculty development opportunities.

3. WI faculty need institutional support in the form of trained teaching assistants, Writing Fellows, or class-linked writing tutors so they are not discouraged from using writing as a means of learning.

4. WI courses need to be small enough so teachers can assign writing frequently and give timely feedback, either in writing or in student conferences. WAC coordinators and writing center directors can continue advocating for reasonable limits on class size in WI general education courses.

5. WI faculty and WAC Program administrators need a voice in reforming general education reform. WAC is potentially an excellent tool for achieving the goals of general education, yet WAC program directors appear to have been only peripherally included in conversations about reforms in general education. WAC Directors need a voice on curriculum committees and in institutional efforts toward general education reform. WAC programs alone cannot effect change. Forming alliances with supporters of general education and participating in general education reform efforts are among the ways WAC Program Coordinators and Writing Center Directors can help to re-design undergraduate education. Any reform of General Education curricula should include an examination of how WAC is incorporated into the purpose and goals of general education at the institution and its potential to effect a shift from fragmented to connected learning.

Many colleges and universities have begun to reform their general education curricula; however, Schneider (1998) has found that few of the "new designs for integrative … learning infuse the entire curriculum" (p. 5). I suggest that, given administrative and financial support, WAC programs that include writing intensive courses have the potential to infuse the general education curriculum with the momentum to integrate, rather than fragment, students' academic experiences.

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Endnotes

[1] For purposes of this paper, general education courses is understood to mean those courses or areas of study required of most students.

[2] At UNH, Writing Intensive courses are those courses in which students are encouraged to participate in the full writing process from prewriting to revision; both formal and informal writing are required, and at least 50% of the grade is based on writing assignments.

[3] The percent in parentheses indicates percent of faculty reporting improvement in that area.

Beyond the Reactive:
WAC Programs and the Steps Ahead

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Many models of writing across the curriculum flourish in institutions ranging from small private schools to land grant colleges to large universities. In our combined experience of over 30 years as WAC consultants, we have seen a pattern borne out that reflects much of the pertinent literature on writing across (and in) the disciplines of higher education. Typically, WAC programs attempt to answer the call of faculty who a) believe that students need to improve their writing skills, and b) want resources that will help them assist their students. In many cases, the call begins with faculty complaints about students' poor grammar and punctuation skills, but in addition, faculty often recognize that students also need critical thinking skills, which include the ability to manipulate content, research effectively, and synthesize multiple points of view with their own perspectives.

Understanding the role that writing can play to foster these skills, many instructors extol the practice of using writing as a tool to improve student learning. The notion that learning-to-write and writing-to-learn function well together is explained recently in Susan McLeod and Elaine Maimon's *College English* article, "Clearing the Air: WAC Myths and Realities." Less recently, others have offered possibilities for WAC, including Toby Fulwiler (*Programs that Work*), John Bean (*Engaging Ideas*), and David Russell (*Writing in the Academic Disciplines*). In fact, a well-documented history exists to highlight and elaborate the benefits of using writing to facilitate learning-to-write and writing-to-learn.

Faculty members come to the point of using writing in their classes in different ways. Some attend a WAC workshop out of curiosity, then discover later the advantages of applying WAC ideas in the classroom. Other faculty respond to experiences from their graduate training, specifically those in which their mentors emphasized the benefits of having students write. And some seek solutions after hearing cries from their students' employers who ask pointedly, "Why can't your graduates write?" Faculty in all of these cases use writing largely because of self-motivation. In fact, nearly all of our experiences with hundreds of faculty have been ones in which they have voluntarily sought help on writing-related initiatives. Even in institutions with writing-intensive requirements, rarely are instructors required to teach writing-intensive courses. They volunteer for specific, individualized reasons, and they usually see the benefits of writing and continue using it semester after semester. We call this voluntary approach to WAC "bottom-up" because faculty come to it themselves, see the benefits, and promote them. This approach, so one hopes, will create a groundswell of support that develops into a thriving WAC program.

A primary advantage of a voluntary approach is that instructors become agents in making a successful WAC program. Whether they have read the literature about WAC or not, they see WAC's benefits. Within these voluntary programs, students write a variety of texts in a variety of classes across the curriculum. From WAC's modern beginnings in the 1970s, the gains have been tremendous. In her 1989 article, "Writing across the Curriculum: The Second Stage, and Beyond," McLeod describes the advances that WAC has made and the ways in which programs have grown and progressed. She praises the institutionalization of WAC. Yet a problem has emerged – the development of "pockets" of writing instruction within many institutions.

In most cases, the pockets reside within disciplines and schools because the only faculty who teach writing are those who choose to do so. Sometimes those pockets open up and consist of an entire department, as is the case with Nursing at the University of Michigan—Flint. Alternatively, the pockets might simply consist of one or two faculty members within a department who may be overburdened with writing initiatives. A problem with the voluntary approach with its pockets is that often no guarantee exists that students will take those courses that require writing or include writing instruction. In fact, most of us have probably known students who have avoided writing courses altogether.

More critical is the undesirable, fitful character of the pocket approach. Just when students find a lush pocket, they finish the term and, perhaps, find in course after course no subsequent opportunity for refining their writing. We sympathize with the notion that, in some cases, writing-intensive courses serve to promote writing within disciplines or in general education; regardless, the gains are minimal when contrasted with the prospect of a wider-reaching WAC agenda. In our view, WAC advocates can better serve their communities by doing more than relying on a limited number of courses in which they are assured writing is being assigned, merely hoping for WAC to take hold in their various institutional settings.

Unlike voluntary WAC programs, writing-intensive programs guarantee that students will be assigned writing. Each student's curriculum dictates that a specified number of writing-intensive courses or credits must be taken. The required number, level, content and structure of writing-intensive courses all vary by institution and, to some degree, by course. One readily identifiable goal of all writing-intensive programs, however, is to get students to write beyond first-year composition, and in ways both more sophisticated and situated than they had encountered as first-year students (Farris). From our perspective, students in writing-intensive courses need the support of a proactive WAC program to insure that they receive frequent, consistent writing instruction, regardless of the discipline or class level. They need more structure than can be provided by the occasional in-class WAC workshop or the writing center tutoring session.

Some institutions require students to complete a specified number of writing-intensive courses or credits. Bucknell University, for instance, requires three courses. One writing course (W1), a foundation course, is intended for first-year students. After their first year, students eventually take two discipline-based writing courses that may or may not be within their major. With some exceptions, those courses are typically offered at the sophomore and junior levels. A rationale for writing-intensive courses is that if students are required to complete a specified number of credits deemed writing-intensive, they will have sufficiently practiced and been exposed to specific writing conventions/genres.[1] At Bucknell, students may take more than the requisite three courses. In fact, the rare student has been known to take more than ten, simply because the courses he or she needed happen to be writing-intensive. But this student is an exception. Bucknell can only guarantee that graduating students have fulfilled the requirement of taking three writing-intensive courses. This is adequate for many Bucknell students; they arrive at the university as well-prepared writers, and some faculty use writing in courses not formally classified as writing-intensive.

Providing adequate instruction and opportunities for writing may be more problematic at other institutions, such as California State University, Long Beach (CSULB), which also has a three-course writing requirement. Students there must take a first-year writing course, then two interdisciplinary courses that contain "a substantial writing component" (California). CSULB serves a different population than Bucknell. In accordance with CSULB's mission, a larger percentage of their students are deemed underprepared, and the students generally need greater writing instruction to succeed in academia. Students may take more writing courses; the English department offers a number of them. Some faculty across campus use writing in their classes, a seemingly implicit WAC program. However, at CSULB students will not necessarily get substantial writing instruction and practice. The only assurance that students have learned to write adequately is that they must pass a writing proficiency exam to graduate.

The weakness in the voluntary as well as the writing-intensive approaches to WAC that have so well served many institutions, including our own, is that they are designed primarily to react to problems that instructors perceive in their classes. These approaches place writing in isolated courses across the curriculum as a need is identified. Such reactive models have structural problems; they do not consider writing as a complex set of abilities that must be continually practiced and enhanced. Instead, as mentioned earlier, these reactive models appear erratic and fitful. Students typically get some writing instruction when they enter an institution in first-year composition or its equivalent. Thereafter, requirements vary, but generally students are not required to write again until they opt to take writing-intensive courses, a capstone course, or happen into a course from an instructor who voluntarily teaches writing.

Regardless of the sites and contexts of writing, novice writers are better served with frequent instruction and myriad opportunities to write, just as a musician must regularly study and practice. Yet at most institutions, writing requirements might be fulfilled with a gap of years between writing courses. Few schools can guarantee that students write regularly throughout their academic careers, and still fewer ensure that students get formal writing instruction that helps them improve as writers and learners across the curriculum. Particularly with the growing popularity of introducing course add-ons such as computer technology and Information Literacy initiatives, we wonder if the ranks of faculty volunteers using writing might dwindle.

The second problem with the current models of WAC is that students often get inconsistent writing instruction. Instructors design assignments and classroom instruction to meet the needs of their individual courses, without necessarily taking into account the larger institutional goals for writing and learning. Many faculty assign as the only writing in a course a research paper due at the end of the term, with no class time dedicated to the assignment or to engaging the students' writing processes through such activities as prewriting or peer response groups. We have also seen faculty integrate multiple writing tasks into courses and take significant class time to talk about writing and its importance to learning and reflecting upon the course content. Thus the writing assigned and the attention given to it in class may differ significantly from one course to another. In certain contexts, both assignments may be valuable, yet the variation, unexplained to students, sends mixed messages about the uses and value of writing. If the academic community values writing, faculty as a whole need to demonstrate that value in classes across the curriculum. This should be the case whether they do it through extensive dedicated class time or through an extensive discussion of the assignment and its goals. Otherwise, if writing is assigned purely for evaluative purposes, students will come to see it as a narrow, hoop-jumping task unrelated to learning. Their potential to see writing as a valuable learning tool and a necessary and useful life-long skill will be diminished. Not all faculty must teach writing in the same manner or assign similar tasks, of course, but our view is that they should ascribe value to writing in a course beyond a grade and demonstrate to students how writing can be used and can benefit them in their futures. Equally important, faculty should develop an infrastructure for gaining knowledge about how and why their colleagues assign and use writing. Ongoing and spirited dialogue about these issues could lead to ideas about best practices for certain activities in the classroom. Such dialogue could also help colleagues address the inconsistency in and lack of writing instruction across the disciplines that undermine students' ability to use writing as a powerful tool for understanding discipline-specific content.

Both problems mentioned above present students with a fragmented vision of writing-to-learn and learning-to-write in the educational process and beyond. Considering the two dominant approaches to WAC, we can see that institutions do not have a holistic view of writing's role in education. Either faculty do it voluntarily, at schools like Kent State University or the University of Nevada, Reno, or they require students to take 10-20 units of courses that include some form of writing, a small percentage of their overall education that can be unevenly spread out over years. Students are then left to practice and value writing as they find it. It is our contention that students deserve more guidance than they generally receive, and we believe institutions should divide the labor of writing instruction across the faculty. Literature on writing-to-learn and learning-to-write supports the idea that writing deserves more status on campus as a tool for learning (Britton, Langer, Blumner). In fact, in spite of the institutional shortcomings, higher education continues to espouse the value of writing and writing education. We don't doubt the sincerity. We simply believe their efforts fall short, partly due to the fragmented, reactive character of many WAC programs.

Furthermore, the dynamic ideological and structural changes within and without the academy make this call for a spirited movement beyond the reactive all the more relevant. Writers provide numerous reports on how demographics of learners are diversifying, how distance learning and other applications of technology are on the rise, and how internal and external competition and commodification are increasing. James J. Duderstadt argues, for example, that the "array of powerful social, economic, and technological forces" (2) driving change in terms of people's needs calls for a reconsideration of the "social contract" between universities and the nation (1). Rowley et al., in *Strategic Choices for the Academy*, believe that concerns of immediacy, acceleration, and convenience "define the primary design criteria for education as we move into the twenty-first century" (xiii). Duderstadt cites changing U.S. and global demographics as motivations for understanding the contemporary university as a "truly international institution" (2). Market forces dictate that the university in the twenty-first century will no longer enjoy a monopoly. As Rowley et al. imply, distance education and for-profit learning centers are challenging all market constraints. Comparing restructured institutions such as health care with public education, Duderstadt posits that "we may well be seeing the early stages of a global knowledge and learning industry, in which the activities of traditional academic institutions converge with other knowledge-intensive organizations" (3).

To thrive in this impending climate of rapid change within higher education and beyond, WAC programs must transcend the principal habit of following or reacting to the prerogatives of individual faculty and disciplines. WAC can no longer simply afford to tailor its programmatic structure solely in response to individual agendas. We envision a model for WAC that encapsulates existing cross-curricular possibilities for writing instruction and advocacy while it expands the possibilities for WAC programs to help set rather than simply accept the institutional steps ahead. We maintain our advocacy of an inquiry-based approach to WAC that uses faculty expertise to advance WAC within courses.[2] At the same time, it is necessary to take additional and more assertive measures beyond offering campus-wide workshops on assignment design, for example, or working with those faculty who call the WAC program office for help. In short, more faculty need to be involved in a systematic way that ensures each student receives a cohesive writing education that reflects the goals of the institution and the student's chosen discipline, that connects the academic dots of classes, and that explicitly demonstrates to students, for example, the connections between learning and writing in a philosophy or history course and learning and writing in a psychology or chemistry course. Such connections borne from a proactive WAC program can be developed into an intricate web of practices and values that exemplify what institutions and individuals consider a quality education.

By specifically locating our concern and call for change within the domain of systemic connection, our intent is to develop a case for drawing dynamic linkages among the specialized and often necessarily disparate islands we know within the academy: classes, workshops, instructor conferences, and tutoring sessions. In addition, we share with many the assertion that all members of the campus community have a responsibility to define WAC initiatives. Writing instruction, in other words, is the job of the university, not the First-Year Writing Program, the Writing Center, writing-intensive courses, or the English Department.

Toward this end, we propose several steps for developing WAC programs that play a more integral, proactive role within the academy. The path is well worn by other WAC scholars who have helped build pieces of the vision by developing goals or outcomes for a new program or working with faculty to approve guidelines for WAC, as many campuses with writing-intensive requirements do. Bucknell University, The University of Toledo, and Iowa State University, for instance, each requires an extensive review process before courses can be offered as writing-intensive. As Susan McLeod asserts, however, WAC initiatives and practices must become part of the fabric of the institution. To successfully do that, WAC coordinators as representatives in these initiatives need to develop a greater vision of institutional writing needs.

Step 1: Develop—and Continue Developing—a WAC Program Strategic Plan

We recommend developing a strategic plan of what students should be learning through writing and about writing and how specifically to embed these needs in the institution's strategic plan as well as into the way the institution is linked to the larger community. Developing such a plan will most likely include closely studying aspects of general education, genre theory, learning organization theory, and management studies. The development of strategic planning has occurred definitively in the context of military strategy, but it is only in the last two decades of the twentieth-century that educators began to formally adopt variations on the longstanding theme. Much of the insight regarding strategy has come from scholars in business management, as well as practitioners within business settings. George Keller's *Academic Strategy*, Robert G. Simerly et al.'s *Strategic Planning and Leadership in Continuing Education*, and Rowley et al.'s *Strategic Choices for the Academy* provide but three examples of the ways in which strategy has been conceived in the academy. And in separate presentations at the 2000 National Writing Centers Association Conference, Kelly Lowe and John Eliason addressed the potential of strategic planning in higher education at both the program and individual levels.

A notable advantage of strategic planning is its resistance to mechanical and deterministic formulations. A good strategic plan favors capitalizing on existing strengths while developing new ones in response to changing environments. A plan by itself, however, can become static, and in the present era of rapid change, this is of particular concern for WAC advocates. In a post on the listserv for the Council of Writing Program Administrators, for example, Ed White notes that most mission statements "aren't worth the paper they're written on" because most people forget about them and file them away. He writes that, after taking part in a research study that asked 19 writing program administrators about their mission statements (and instruction goals and outcomes statements), the only statements with any lasting effect "were those developed, and developing, as part of some kind of assessment strategy" (White).

To avoid the static, it is prudent to follow the advice of management theorist W. Edwards Deming and many others who have noted that the planning is the point, not the plan itself.[3] Writing from the context of business strategy formulation, Anthony W. Ulwick also supports the idea that the act of planning and carrying out the plan is more important than the document itself. He defines strategy as "an executable plan of action that describes how an individual or organization will achieve a stated mission" (4). He suggests that many times when people attempt to define strategy, they are actually creating a strategy. This is what he calls a strategy formulation process, which involves defining the steps to take to formulate what will hopefully be the optimal strategy or solution. Management theorist Jack Koteen recommends that planners address the following key questions when discussing strategy:

> What business are we in? What is our vision of the future? What are our underlying purposes, directions, and values? What do we do best? Who are our target clientele? How well are we performing? Do we have top quality performance? Are we satisfying our key interests? Where do we want to go—in service, target group, or quality? How does the changing environment affect us? What changes in our decisions or operations are indicated? What opportunities or threats exist that we should exploit or avoid? What weaknesses should be corrected? Are we productive and effective in what we do? Do we learn from lessons of experience? (27)

Despite the perhaps undesirable 'marketplace' language that forms the tone and physical substance of many of these questions, we suspect that significant possibilities exist for such prompts to help WAC advocates in responding to a climate of rapid change, provided they work closely with the goals and objectives of their institutions as well as their programs.[4]

Step 2: Move WAC Beyond the Traditional

While the planning process is in motion, strategic action might mean moving beyond traditional contexts of writing across the curriculum. This can be (and is) done in a variety of ways. With colleagues from across the disciplines, WAC advocates can work to make writing an important component of student internships and co-ops, field studies, and service learning projects. Inviting members of the community-at-large to cross the institutional boundaries to serve on WAC committees or to consult for WAC is an option worth considering. This strategy can be particularly effective for professional programs. Encouraging and helping to design ways for colleagues across the curriculum to use and practice writing in faculty externships and other off-campus endeavors is another way WAC advocates can contribute to the process of shaping a program that plays a more prominent role in the institution. Moving beyond institutional bounds can also involve taking advantage of available technologies. Listservs, chat rooms, web boards and a host of other possibilities for on- and off-line correspondence can enhance the dialogue so crucial for responding to rapid changes on campus and off that may affect WAC program initiatives. Steve Parks and Eli Goldblatt envision similar goals in "Writing Beyond the Curriculum: Fostering New Collaborations in Literacy," arguing for "experiences that will help students and faculty see writing and reading in a wider social and intellectual context than the college curriculum" (586).

Step 3: Restructure Units/Courses to Allow for More Faculty Interaction and Reflection

To accomplish this goal, the strategic plan needs to include ways that academic units can work together to present students with a more cohesive writing education. For example, faculty from across a campus could use workshops as an opportunity to form networks in which they designed assignments that address specific concerns in both content and style. Their assignments would enhance the explicit exposure students receive to the interdisciplinary relationship of knowledge, thus connecting the disciplinary dots of education. Existing research on learning communities may be particularly informative in this regard. The National Learning Communities Project <http://www.evergreen.edu/user/washcntr/natlc/NLCPhomepage.html> offers a useful starting point for resources. Literature on interdisciplinary studies, learning organizations, and strategic planning could also inform decisions on unit/course restructuring.

Step 4: Lobby for Expanded Notions of Support for WAC Consultants and Faculty

Many scholars have acknowledged that any effort at systemic coordination and programmatic development of WAC must have administrative support to be successful. As David Russell argued in "Writing Across the Curriculum and the Communications Movement," WAC must have some central administrative structure, a component that helps it be proactive to answer the needs of students and faculty. The program description of Martha Townsend's pre-conference workshop at the 2001 National Writing Across the Curriculum Conference echoes this sentiment:

> One innovation from which many WAC/WID programs—new or renewing—could benefit is an effective oversight committee to assist in policy making, planning, advising program staff, and creating a presence for the program on campus. (*Fifth*)

Many WAC programs already have oversight committees, writing advisory boards, and the like, yet they still flounder in the face of academic and administrative hierarchy. Creating a presence for the program involves the contribution of top-down policy commitments. Grass-roots efforts can wither and often do, and for myriad reasons. Funding from the administration may seem the first and most immediate answer. Though monetary support is invaluable, it is not, in many cases, the fullest or most effective form of support a program can get. Besides, most WAC advocates know the difficulty of securing funding. Thankfully, money is not the only form of administrative support that can ensure success of a proactive WAC program. Each institution has its methods of reward for faculty and departments, and WAC coordinators, as part of thinking and working strategically, can collaborate with administrators to establish a plan that includes promotion, release-time, decreased class sizes, or additional faculty posts.

Conclusion

Once an institution has developed a strategic plan, or the rough outlines of one with some particulars, it can begin implementing its proactive WAC program. The program should begin simply with attainable goals, like increased, structured coordination among faculty about how they teach writing and the kinds of assignments they give students. This coordination does not require that every instructor teach writing the same way, use the same assignments, or assign the same amount of writing. It does ask that faculty, in the spirit of inquiry, talk with students and each other about writing and language and how writing shapes their discipline and possibly how writing shapes and is shaped in non-disciplinary contexts. It may also ask them to consider the nature of writing and importance of writing to the entire Western intellectual effort. Christopher Thaiss addresses the programmatic benefits of writing in general education:

> Maybe the greatest benefit of programmatic thinking about writing in general education is that you can help faculty design a program of writing for all students that doesn't overburden either student or faculty, that gives the students a well-conceived general education in writing, and that enables faculty to feel that they are contributing to students' overall growth without feeling the anxiety of 'not doing enough.' (106)

Clearly, a more programmatic sense of how to approach WAC in relation to the missions of various general education courses can offer administrators, faculty and staff a powerful tool for WAC coordination. One useful way to conceive of greater coordination of WAC is to invite students into the WAC administrative, classroom, and faculty discussions as a form of active and authentic inquiry about writing across the curriculum and community.

All of these are possibilities, and each institution must form its own vision of what students need to be capable of when they graduate. Imagine how much more powerful a writing education could be if faculty worked together, building upon what each teaches, and providing a broad, intensive writing experience. Imagine how much more powerful a writing education could be if assignments asked students to explore the tacit knowledge of the academy and the community. These might include pedagogic conventions, process-learning, and the range of multiple genres that they will be expected to understand and utilize in and out of the academy. Because of our interest in multi- and interdisciplinary inquiry and writing, we favor a WAC program model that builds bridges between academic units at the same time that it answers the call of individual disciplines and programs. This could be as simple as linked courses from different disciplines that use writing to bridge subject matter or as complex as a group of courses that coordinates writing tasks to ensure that students receive varied writing experiences that build their breadth and depth of writing ability, whether course content is shared or not.

How might institutions begin to build such bridges? WAC proponents will need to take steps toward campus-wide leadership, so administrators, faculty, students, and the community will understand what is necessary for students and faculty to use writing optimally in and out of classes.

Only a proactive WAC model can help higher education institutions look more globally at writing and writing instruction.

By reading WAC literature, attending WAC conferences, and participating in a WAC listserv, we clearly see that many schools have developed successful programs, far more than had responded to McLeod in the late 1980s. Programs have become more sophisticated to serve institutional needs, and WAC coordinators in many cases already proactively seek ways to improve the teaching of writing on their campuses. Yet all of these advances have taken place within two dominant WAC approaches, the voluntary and writing-intensive. We advance that WAC must move beyond traditional programs. WAC programs must develop and use a vision that moves beyond an 'institutional additive,' sprinkled seemingly haphazardly throughout the curriculum. WAC must engage general education, individual departments, administrators, the community, and any other necessary constituencies with a vision and plan to integrate writing into the curriculum, to ensure that all students learn and use writing in an extensive, cohesive, educational experience.

Endnotes

[1] We are making reference to *genre* as it has often been represented in late-twentieth century theory on genre. In their 1995 *Genre Knowledge in Disciplinary Communication*, for example, Carol Berkenkotter and Thomas N. Huckin offer the following five general principles for genre theory that we believe elucidate our use of the term:

> genres are dynamic forms that mediate between features of individual contexts and recurring features across contexts; genre knowledge is embedded in communicative activities of daily and professional life and is thus a form of 'situated cognition;' genre knowledge embraces both form and content, including a sense of rhetorical appropriateness; the use of genre simultaneously constitutes and reproduces social structures; and, genre conventions signal a discourse community's norms, epistemology, ideology, and social ontology. (4)

[2] For a cogent discussion of such an approach, see Mark L. Waldo's 1996 "Inquiry as a Non-Invasive Approach to Cross-Curricular Writing

Consultancy." [*Language and Learning Across the Disciplines* 1.3: 7-22.]

[3] For a useful discussion of pre-strategy considerations, see James C. Collins and Jerry I. Porras' *Built to Last: Successful Habits of Visionary Companies*, particularly Chapter 11: "Building the Vision." That section describes a vision framework that we believe has great potential for WAC advocates interested in strategic initiatives.

[4] In *Strategic Thinking and the New Science*, author T. Irene Sanders asserts that to think as well as act strategically, "we must first understand the context in which our decisions are being made. We need to see and understand the world as an interconnected whole, where our thoughts and actions influence and are influenced by many *unknowns*." For us, Sanders' comment furthers the case for WAC advocates to develop strategic plans in collaboration with colleagues across the curriculum who may be able to reveal unknown factors affecting the WAC program.

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The Status of WAC in Secondary Public Schools: What Do We Know?

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It's a cloudy Thursday morning in November, and the university writing center is humming. A peer tutor sits at a table near the center of the room, listening to a sophomore explain her essay assignment for a recreational therapy class while a second tutor helps a freshman fine tune his thesis statement for a research paper. In the far corner, a third tutor works at a computer, responding to an on-line submission from a student in a local high school's creative writing class. The director is conferring with a member of the mathematics department on ways to include meaningful writing activities in an advanced calculus class. It's a typical day at a college-level writing center, but it raises a question for educators. Are similar scenes occurring in our public secondary schools?

As an awareness of the importance of writing as a means of learning has grown, the writing-across-the-curriculum (WAC) movement has gained momentum on college campuses. One response to this increased focus on the importance of writing in the learning process has been the establishment of writing centers at hundreds of colleges and universities. These centers are designed to serve the needs of both students and faculty and aim to support learning in all fields. While these programs have flourished in many post-secondary settings, formal WAC programs in general and writing centers in particular still seem to be something of an exception in secondary public schools; however, interest in these practices appears to be growing there as well.

A number of publications show an increasing integration of WAC philosophy and strategies into secondary public school settings. Pamela Farrell's *The High School Writing Center: Establishing and Maintaining One* not only provides practical information on designing and running writing labs in secondary schools, but also illustrates the variety of forms that writing centers have taken in public schools and the range of functions they have performed. More recent publications demonstrate the wide range of applications possible for WAC practices in public schools. *The Astonishing Curriculum: Integrating Science and Humanities through Language*, edited by Stephen Tchudi, presents descriptions of classrooms and courses from elementary through college level where the mathematics, science, and English curricula are fully integrated and complementary elements of a unified learning experience. *Exchanging Lives: Middle School Writers Online*, by Scott Christian, demonstrates the impact electronic technology has had on increasing the integration of WAC practices in public schools through its description of an online conversation between middle school students in five classrooms scattered across the United States. *Programs and Practices: Writing Across the Secondary School Curriculum*, which is edited by Pamela Farrell-Childers, Anne Ruggles Gere and Art Young, chronicles the experiences of teachers across the country as they integrated WAC philosophy and strategies into their own classrooms and schools. The book also documents examples of collaborations between secondary classrooms and college-level classes – especially teacher education courses. Recent articles by Jacqueline N. Glasgow in *English Journal* and Donna Niday and Mark Campbell in *Voices in the Middle* describe programs where electronic technology and buddy journals have made cross-age and distance mentoring and communications possible. All of these publications show that many public school teachers and some administrators are taking the initiative by including WAC practices in their own classrooms and by encouraging other teachers to join them in informal WAC programs. These initiatives, however, often seem to be the result of the efforts of a few individuals collaborating with like-minded colleagues rather than the outcome of any school-wide or district-wide commitment to WAC philosophy. In other words, WAC appears to be integrating itself into individual secondary public schools primarily through the actions of one or two educators at a time.

My own experiences as an educator support this impression. For eleven years, I primarily taught seventh and eighth grade language arts, reading, and social studies in both a large traditional junior high school in Fullerton, California, and a small regional middle school in Tilton, New Hampshire. While I was in California, most of my classes were part of a then-experimental program where I had the same students for multiple periods and was responsible for teaching them multiple subjects in a fully integrated format. The cross-curricular nature of those classes led me to search for ways to meaningfully incorporate writing in all areas of the program, and that search evolved into a strong interest in WAC studies and practices. The happy fact that my California classroom was directly connected to a 17-computer writing lab also led me to pursue ways to use electronic technology to support my students' developing literacy. At that time, I gained professional support and information through workshops and seminars conducted by the California Writing Project and the University of California, Irvine, rather than from my own school administrators and colleagues. A few years after returning to New Hampshire, I was able to pursue my growing interest in WAC philosophy and composition studies by enrolling in the University of New Hampshire's graduate English program for teachers. As part of my studies at UNH, I worked with Dr. Cinthia Gannett, the director of the R. J. Connors Memorial Writing Center and the campus WAC program, to design an independent study where I could both work in the University Writing Center and participate in possible collaborations between the university and public secondary schools.

During the 2000 summer session at UNH, Dr. Gannett taught a course entitled "Writing To Learn Across the Curriculum." Teachers and graduate students from across New England gathered to discuss the possibilities and problems involved in establishing WAC programs and writing centers in their own schools. Some participants came from schools where "writing labs" already existed as a space where a group of computers dedicated to word processing were clustered and supervised by assorted staff members, while others had no personal experience with writing centers and writing labs. Part of the challenge of the class was to expand the educators' views of the many shapes writing centers could take and what functions they might perform. Over the course of several weeks, members of the class evolved and refined their personal visions of what writing centers can be and then designed potential writing centers for their own school settings, taking into consideration such issues as space, function, funding, and staffing. As a result of the strong interest shown by the participants in the course, Dr. Gannett wanted to continue and extend the conversations about WAC programs and writing centers in public schools that the class had initiated. In the fall of 2000, she and I decided to try to gain some initial insight into the status of WAC programs and writing centers in public middle and high schools within New Hampshire. As a beginning step, I wrote a brief survey and posted it on the EngEdNH liserv established by Linda Stimson at the New Hampshire Department of Education. This survey was an attempt to establish baseline information on the status of writing-across-the-curriculum programs and the existence of writing centers in public secondary schools in New Hampshire. It was also a move toward identifying schools and individual classrooms that might be interested in developing collaborations with existing college and university writing centers or specific college-level courses. The two of us then distributed copies of the survey during the NHATE (New Hampshire Association of Teachers of English) Fall Luncheon. In a third attempt to gain information, I used a list of online links to New Hampshire public schools through the New Hampshire Department of Education website (www.ed.state.nh.us) to identify the names and school e-mail addresses of a number of secondary teachers in the state. These teachers were then sent explanatory e-mails that included a copy of the survey.

After distributing over one hundred of the surveys to teachers associated with approximately forty middle schools and high schools in New Hampshire, we received only ten responses. In retrospect, it seems that our initial appeals were not adequate to gain enough data to draw meaningful conclusions or even to clearly indicate to what extent WAC programs and writing centers exist within middle/high schools in New Hampshire. It appears that the only way to obtain the kind of information that we desire may be to personally approach and interview as many middle school and secondary teachers within the state as we can. One place to take this next step may be through one of the Summer Institute classes that is being offered through the English department at UNH this summer or through some similar group or setting. This approach, however, is quite time-intensive and still might not be broad enough to yield a true picture of the status of WAC programs and writing centers in public secondary schools. However, Dr. Gannett and I continue to look for ways to increase our pool of information. In the meantime, the initial responses we received have yielded some interesting insights into what may be occurring in some public secondary schools, as well as suggesting the kinds of questions that might best be asked at this point in the process of gathering data.

Based on the responses we have received so far, there appear to be some self-identified WAC programs or policies within the state's public high schools. When respondents were asked if their schools presently have a WAC program or policy, only one respondent answered with an unequivocal "Yes." Other respondents, however, indicated varying levels of awareness of WAC practices and philosophy within their schools. A second teacher stated that although her school did not have a formal WAC program, the faculty had received training in WAC and that "the integration of writing through all curriculum areas has been important to us." A third said her school had "abandoned attempts" to implement a WAC program and writing center in the past due to a lack of "funds, space, [and] interest." All three of these responses show at least an awareness of WAC practices and at least some recognition of their inclusion within public secondary schools. They also suggest that perhaps we should seek more detailed information about specific types of WAC practices rather than the existence of formal WAC programs or policies.

Another item that appeared on two surveys and also turned up in conversations with teachers from two other districts is the fact that several schools have had their staff members participate in specific writing-training programs. During the past few years, at least three schools in central New Hampshire have participated in a program of training provided by The NETWORK and Collins Education Associates that is self-described as promoting writing across the curriculum. I have also attended one of Dr. John J. Collins' workshops and have read one of his publications, *Implementing the Cumulative Writing Folder Program*. I have used a number of his suggestions in my own classes with varying degrees of success. However, I am concerned by the possible perception in some schools that his program is the ultimate and best way to implement WAC policies and practices.

The Collins program is a very attractive package, and Dr. Collins is a dynamic and persuasive speaker. His workshops and publications incorporate many ideas and practices from WAC literature – writing-to-learn, write-pair-share, etc. – but these practices are embedded in a program that is highly structured and inflexible, and the regimentation of the program is touted as one of its strengths and selling points. For example, what Collins defines as "Type 1" writing assignments are primarily brainstorming or typical learning log entries, but in his program these assignments are also timed and evaluated according to the number of lines of text each student produces. According to Collins, the program's regimentation of writing situations and formats leads to ease in evaluation for the teacher and confidence-through-familiarity for the student. Collins states that his program is most effective if all the staff of a given school are trained in and using the same procedures. All students in every class should head their papers in the same manner, all should identify each piece of writing as "Type 1-5," and all should number the lines on the page and only write on every other line. Therefore, students will only have to be trained once in the correct way to format papers – a cross-curricular benefit, according to Collins, for all teachers. Certain types of writing will always have identified "Focus Correction Areas" at the top of the paper with points assigned for each area to determine the grade on the paper. This procedure is intended to not only help students identify and focus on specific writing skills in a given assignment, but to also help teachers in all curricular areas feel more comfortable about evaluating students' writing. All of the students' writing assignments are then to be kept at school in special folders that are marketed by the NETWORK.

The Collins program does incorporate many elements of WAC theory, but is it a WAC program? While Dr. Collins presents legitimate and logical reasons for the rules that make up the Collins method, it is the regimentation of the whole package that is finally so troubling. Does this program truly reflect WAC practice and philosophy? Does it genuinely help teachers incorporate WAC into their classes, and does it really help students write to learn? Finally, how much can the interest in these programs be attributed to the public scrutiny being focused on students' writing abilities through the lens of standardized tests? Are these training workshops primarily designed to increase students' writing abilities or to boost their test scores? In the workshop I attended, Dr. Collins strongly suggested that the implementation of his program would increase students' scores on statewide assessment tests. Given the influence this and similar training programs may be having on secondary public schools' understanding of what constitutes WAC philosophy and practice, feedback from participants in these programs may be of great interest to educators in the field.

In terms of writing centers in public secondary schools, those who responded that their school did have some sort of "writing center" described it primarily in terms of how many computers their center had. One teacher described an 18-computer "writing lab," another mentioned "30 iMacs connected to the school server," and an administrator listed "24 IBM Pentium[s]…networked [and] connected to Internet through a dedicated T-1 line staffed by English teachers 7 periods a day." This common identification of a "writing center" with a computer lab raises another interesting point. Pamela B. Childers recently wrote, in "Secondary School CAC/WAC and Writing Centers," that "[w]hether intentionally or as a result of paradigm shifts in educational institutions, Communication Across the Curriculum exists in middle schools and high schools across the country." Her article then goes on to describe a number of ways that electronic technology has become the means to increase WAC/CAC practices in science classrooms in particular and in other fields as well. In fact, based on several of the aforementioned books and articles on WAC programs, it could be argued that the introduction of electronic technology into classrooms appears to be one of the main ways that WAC practices and policies are spreading through secondary public schools. However, while technology often plays a vital role in writing centers, we should not lose sight of the fact that access to word processing programs, e-mail, the Internet, and the like is only a part of what a commitment to WAC philosophy in general and a writing center in particular can offer to a school's curriculum. The lack of computer access in my New Hampshire classroom did not cause me to abandon my commitment to WAC philosophy; that lack simply encouraged me to find alternative means of incorporating WAC practices into my curriculum. Therefore, Dr. Gannett and I see a real need to expand secondary public school educators' visions of what WAC means and of what a "writing center" could be and could do. At the same time, since an increasing number of schools do have computer clusters available, teachers need more information and resources on how to use that technology in order to promote literacy and connections rather than limiting the use of computers to word processing and research.

What teachers and administrators seem to need most is more – and quality – information. In response to a survey question about what information or support would be most helpful in promoting WAC/writing center awareness, one teacher wrote, "Basics! Starter info." They need the opportunity to explore the scope of ideas and practices that WAC encompasses as well as the benefits these practices hold for students. Another said, "Information on money and time for training, space needs, and the impact on schedule." They need to have their understanding of WAC expanded beyond a single workshop or an introduction to one person's writing program into an understanding of how WAC policies might work in their schools. A third wrote, “Logistics. Grants.” They also need a vision and some kind of support system as they explore the possibilities.

So, to what extent are there WAC programs in New Hampshire public secondary schools? That question still remains to be answered. There are obviously many teachers including WAC practices in their classes, but whether or not they recognize these activities as being a part of WAC philosophy and policy is not clear. The question of how to provide information about and ongoing support for WAC programs in New Hampshire’s public schools also remains unanswered. There seems to be a very great need in this area, and with the inclusion of writing competencies in state standardized testing, this need may become increasingly obvious.

One small way to begin may be with the creation of informal networks of support and communication. Both the EngEdNH listserv and NHATE Newsletter could provide forums for sharing information, ideas, and concerns about WAC practices and policies as well as the potential of writing centers within public schools. In the meantime, Dr. Gannett and I will continue to consider ways to gather information about the status of WAC programs in New Hampshire secondary public schools.

One of the most promising areas for support of secondary school WAC programs may be through college and university classes. The faculty at colleges and universities could actively promote collaborations between their writing centers and education classes on the one hand and local secondary public schools on the other. These collaborations could provide powerful support for WAC efforts in public schools while also broadening the experiences of the college students involved in the programs. Books like Farrell-Childers, Gere, and Young’s *Programs and Practices* and articles like the one written by Niday and Campbell demonstrate how mutually beneficial such programs can be. We can only hope that interest in these collaborations will grow along with our understanding of WAC practices at the secondary level.

- To subscribe to the EngEdNH listserv, send a message of “subscribe engednh” followed by your e-mail address to Majordomo@nici-mc2.org

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WAC Techniques
and
Applications

Writing to Learn Quantitative Analysis: Doing Numbers with Words Works!

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Background

While all institutions of higher learning value writing, each institution manifests its values in different ways. Indiana University Purdue University Indianapolis (IUPUI) has established an Office of Campus Writing, with a Director to design and offer faculty development opportunities to integrate writing more meaningfully and more effectively in the curricula of the 21 academic and professional schools that comprise the campus. One major faculty development offering is the annual two-week intensive Summer Faculty Writing Forum. This Forum accepts up to 15 faculty each year from schools and disciplines across the campus. These faculty, more used to the role of writing to demonstrate learning, investigate the capacity of writing to communicate learning, enhance learning, improve critical thinking, and reflect upon and evaluate learning. They design writing assignments, develop rubrics, and explore how to respond to written work more effectively. Upon completing the Forum, all faculty are asked to apply what they have learned to their own teaching, and to disseminate successful applications among their colleagues. This article focuses on the three-semester application of one Forum participant, an application that has evolved into a research project that clearly demonstrates the power of writing-to-learn to improve student understanding of quantitative analysis. It traces this evolution through e-mail exchanges between a professor of Computer Technology (Bob) and the Director of Campus Writing (Sharon).

September 1998

Hi, Bob. I thought I would check in with you to see what you have been doing in your classes with writing since the Summer Faculty Writing Forum. You mentioned something in passing the other day about having students write explanations for each other. Can you tell me more about that?

September 1998

Sure thing, Sharon. While attending your workshop, I picked up on something one of the attendees said (I think he was a mathematics professor) about sometimes writing test questions that required students to explain a process rather than perform it to demonstrate their competence and subject mastery. I thought, at the time, "What a novel and intriguing idea. I wonder why I have never tried that." I filed the notion in the darker recesses of my mind for further exploration. Later in the same workshop, I recalled discussions I had had with Barbara Cambridge concerning the use of dialog journals in the classroom. While this vehicle had always appealed to me, on the occasions when I had initiated such communications with my students, they seemed unwilling or uninterested in pursuing an extended interchange of ideas. The idea of combining dialog journals with questions that required explanatory responses seemed to me to be two ideas waiting to be introduced to each other.

By the time your workshop had ended, I had the germ of an idea as to how to proceed. I would write a question on the chalkboard and ask each student to answer it in the best manner possible without consulting any references. This would come immediately after I had presented a concept and thus, the responses might also serve as feedback on the effectiveness of my delivery, the level of student attentiveness, and so forth. In any event, once the responses were written, I would have students exchange papers. They were then to take these papers home, research the correct answers, and critique and correct (if need be) their "partner's" answer. Papers would be returned at the next class period with time allowed for each pair of students to discuss their reviews with each other. Afterwards, students would be instructed to rewrite their journal response correctly and these rewrites would be the ones I would collect and review for accuracy.

About a week later, I would spring an unannounced quiz on the class to determine whether they could apply the concepts they had recently explained. The final test would be based on an examination performance. This seemed like a good strategy to both engage students in helping each other to learn by making everyone both teachers and learners, but they would accomplish these activities mainly through their writing. Now I need to decide what kinds of questions to ask. They have to be pointed without losing their conceptual focus.

October 1998

Sorry to have taken so long to get back with you. That sounds as though it could be potentially very beneficial to your students. I have some questions to help me understand more clearly:

1. You mention having students write a response to a question you pose after having taught them a concept in quantitative analysis. Later, you refer to students as having "explained" something. Is the initial question one that requires some sort of explanation on the part of the student? Where does the explaining occur?

2. Have you noticed any impact of this writing strategy on the quizzes you have been giving?

3. When you refer to "the final test" based on examination performance, do you mean the final test of the efficacy of the writing strategy? Or simply that the final test of their understanding of quantitative analysis will be an examination? Or a combination of both? It would be wonderful if you came up with some hard data to support improved understanding of these concepts. I don't know if you could stipulate a causal relationship, because there are so many variables involved, but it would be very exciting if you could demonstrate some kind of link between your dialog journals and improved understanding.

I think combining the notion of dialog journals with explanatory writing-to-learn assignments is an excellent idea. What kinds of questions have you been asking the students?

October 1998

Since our last communiqué, I have given the questions and journaling considerably more thought. We are actually experimenting in class with a small band of topics. Results thus far are few, but they are promising.

Let me clarify a few points and try to answer your questions.

I first explain a concept in class in both theoretical and concrete ways. Students are taught an underlying concept and then shown how the concept can be applied in a specific case. It is at this point that I initiate the journaling process. I settled on posing two questions to my students: the first asks them to explain how to solve a particular kind of problem while the second question asks them to perform a computation to produce an indisputable answer to a specific mathematical problem. For instance, the two questions I used three weeks ago were:

1. Explain how to convert any base ten integer into its equivalent base eight value.

2. Convert (2164)10 into its equivalent value in base eight.

The answer to the first is algorithmic and may or may not be tinged with theory depending upon the approach taken by the student. The second requires a specific answer, in this case, only the number (4164)8 is correct.

After the students have had a few minutes to respond, they exchange papers with their (classroom) neighbor. The students then take these papers home, research the correct answers and critique their classmates. In most cases, the students are able to correct the work of their classmates accurately. About a week later, I gave everyone a short quiz to see whether they had mastered the computational part of the exercise. Despite the fact that most students seemed to get the journal questions correct, there was a bit of backsliding and only about 60 percent of the students correctly answered the quiz questions. But there is a happy ending to this particular tale.

Last week, I gave the class its first examination. Sharon, would you believe that 90 percent of the students successfully answered the questions relating to number system conversions? This compares most favorably with a historical trend of only 68 percent mastery for the same fundamental concepts. I attribute some of the improvement to increased emphasis on my part. Still…

The examination performance constitutes what I called previously the "final test." It really is too early to assess whether the efficacy of the writing strategy is significant, but I should have enough data by semester's end to at least suggest a tentative conclusion. I have already settled on two more sets of questions for the remainder of the course. Each set of questions will increase noticeably the level of difficulty of the previous pair of questions. As for causal relationships – well there are some statistical measures that could give us a degree of confidence concerning the success writing has in improving the students' ability to learn, but it will likely take a few more semesters' worth of data before we will be in a position to release some possibly significant findings.

November 1998

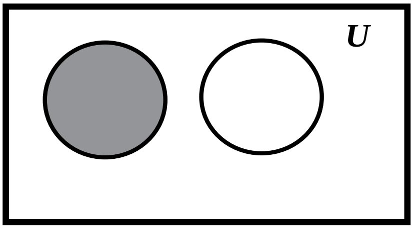
Bob, this is exciting news indeed. I acknowledge your concern that the positive results may be attributable in part to the extra attention given to those particular kinds of quantitative analysis tasks, but, even so, that says something about the power of writing to enhance learning. Here's what I would like you to do, if you have the time.

First, do you have any information from previous years on students' typical examination performance and proficiency in the analytical tasks you are foregrounding? If so, could you compare those results with this semester's results? You refer to differences in the degree of difficulty. Would it be possible for you to select types of questions at different levels of difficulty and then compare typical performance over past years with this year's performance? I'm not sure we can jump to any conclusions, but even some preliminary confirmation might point the way to further refining your exploration of the efficacy of dialog journals to improve learning.

December 1998

Sharon, I delayed responding so that I could complete the data collection for this semester. The results have proved to be most startling so you will understand my hesitancy. But I am getting ahead of myself.

After considerable thought, I settled on two additional pairs of questions. The first pair of questions treats the probability issue of independent events versus mutually exclusive events. I considered this subject area to be of "moderate" complexity and there certainly is a history of students confusing the two notions. Consider the following Venn Diagram:



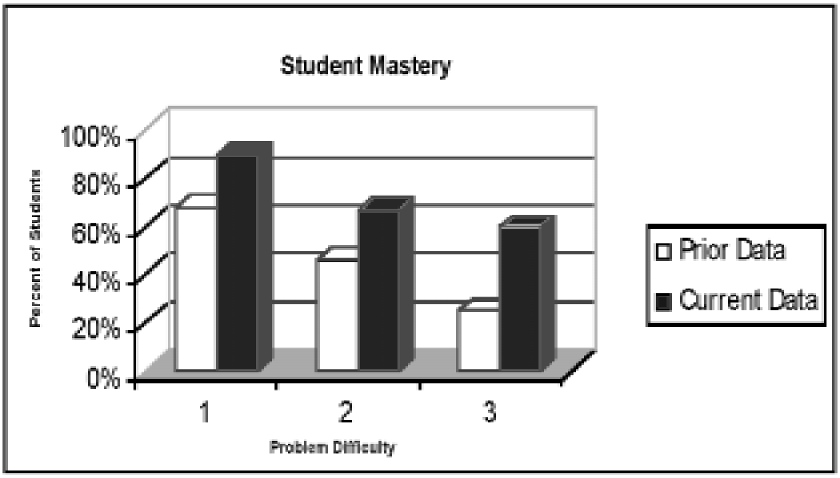
Suppose the Universe of Discourse is the Weather. The shaded circle represents days on which it rains and the other circle represents days on which there was no precipitation. Visually, the two "events" are separate and distinct. There is perhaps a visual inference suggesting independence, but such a conclusion is patently false. There is a definite relationship between the two. In fact, the occurrence of one event is totally dependent on the non-occurrence of the other. I know, this all seems so elementary, but apparently a significant number of students struggle with this distinction. As always, I coupled a question asking for an explanation of the concepts involved and one in which the students had to perform a computation to determine the existence of event dependence.

For the final pairing, I tapped into the subject of probability distributions. Specifically, we encounter binomial (two outcome) processes routinely. Binomial probability distributions are quite precise in their mathematical representations, but are often too labor intensive, if not impossible, to calculate by hand or even by computer. Under certain circumstances, the mathematics associated with either the Poisson probability distribution or the normal (bell-shaped) distribution can be used to approximate the binomial process. Although the solution method is quite algorithmic, students have a tendency to learn one or two methods to solve a problem and try to make do with them. While the need for the labor-saving approximations is appreciated, the very concept is counter-intuitive to a group of students schooled in the precision of algebra, trigonometry and calculus. In any event, historical results suggest that either I am failing miserably as a teacher or the students are having difficulty sorting everything out. My colleagues who also teach statistics acknowledge similar difficulties in getting students to master these notions concerning approximations.

In essence, I created three categories of problems based on the relative difficulty of subject mastery:

Category 1: Low difficulty
Category 2: Moderate difficulty
Category 3: Perplexing

As the following graph suggests, there was a dramatic improvement in the percentage of students who answered the categories of questions correctly.



In all three problem types, there was a dramatic improvement in mastery. Mastery improved from 68% to 90% on the least difficult problem, 46% to 67% on the moderately difficult problem, and 25% to 60% on the problem of greatest difficulty. Although some of this improvement must be attributed to the added emphasis and continual knowledge refreshment that the students experienced, there is additional data available that is noteworthy and suggestive that there is some definite merit to what we are attempting.

At the end of the semester, I asked my students to submit a minute paper containing their candid thoughts on the assignments. All of the students were supportive, were pleased that the writing itself was not being graded, and all felt this a worthwhile endeavor that should be expanded. Some were contrite and admitted with regret that they did not put forth their best effort.

May 1999
Sharon, I am truly excited by the results this semester. Next semester, I am going to expand the process and encompass ten to fifteen pairs of questions. That is proceeding on a basis of one journal pairing per week, which is admittedly ambitious, and I may have to scale that volume back a bit. The students are still in virtually unanimous support of the writing-to-learn concept and its applicability in the Quantitative Analysis II course. There was one dissenter – an extremely bright student who felt (rightly so) that he had his own learning methods and didn't need these journal exercises, but he was the exception rather than the rule. Check back with me next fall to see how we are progressing. Regards.

October 1999
Hi, Bob. I thought I'd give you some time to get into the semester before checking in on your much more ambitious program. I have been talking with several people both on campus and at national forums about your work, and they are eagerly waiting the results.

By the way, have you been spreading the word about writing-to-learn among your colleagues in Engineering and Technology? I'd like you to consider doing some presentations for some of the schools and disciplines that resist writing-to-learn processes and strategies for increasing critical thinking through writing.

December 1999
Sharon, I just finished a School "Tech Talk" in which I shared my work and results with several colleagues from the School of Engineering & Technology. Definitely some interest sparked. As for this semester's progress, I wish I had some good news to report. I put an end to the journaling after about nine weeks. It simply wasn't working the way I had hoped. Some of the difficulties I encountered included:

1. A considerable number of students didn't get into the journaling

right away. They got behind and then attempted to catch up by doing two or three entries at once, a circumstance their journaling partners failed to appreciate at all.

2. Some students got three or four entries behind and instead of continuing on so that they could dialog about material currently being presented, they attempted to submit older entries even after the assessment point (the examination) had passed.

3. Some students had to travel on business and were unable to link up with their partners electronically.

4. I was remiss in getting all of the questions posted on my website in a timely manner. No excuse for that other than the usual "overworked and underpaid" diatribe.

5. Students weren't motivated to do the journaling – my fault here as I chose not to grade the writing as part of the course. I felt improved performance and higher test scores would be reward enough. My bad judgment. Amazing that after all these years of teaching that we can still be naïve in some matters.

Anyway, my students suggested that for the extended journaling to work, they would have to be graded in some way. If the work is for credit, they will do it; otherwise, well you get the picture here. I am going to reflect upon a better way to administer these journal assignments so that they will impact positively on the students' mastery of important concepts. Enjoy the holidays! I have much work to do before I reinitiate the dialog journals next semester.

January 2000

Happy new millennium! Time for renewal and new breakthroughs. I did not get to your message until yesterday, but could feel both your discouragement and resolution to solve the problems. In fact, your message shows that you have already figured out some solutions:

a) making the dialog journals comprise part of the course grade
b) developing a system where students cannot fall behind
c) developing a system where the journal partners can stimulate their fellow students to appreciate their own intellectual growth.

Like the questions you describe last semester, these fall into the easy, moderate, and very challenging categories. I look forward to seeing how you resolve the problem. Please let me know if I can be of any assistance.

December 2000
Hi Sharon. I have just finished poring over mounds of data concerning the journaling outcomes for the last two semesters. What a confusing mess. First of all, I accepted the students' suggestion to incorporate the dialog journaling into the overall course grade; in this case, the writing exercises counted 12 percent of the total course grade. Even so, response was still mixed. I assigned partners randomly, but because of the work and travel schedules of non-traditional students, responses still weren't always timely. I offered to partner for those students with unresponsive partners and that helped a little – but it also altered the quality and consistency of the overall responses. Most students acknowledged in their term-end reflective papers, that they just felt too uncomfortable critiquing fellow students – especially when they were uncertain of their own understanding of the material. We had some teams that worked quite well together; others were minor disasters.

In analyzing examination performance, there seemed to be no discernable pattern. No matter how I chose to categorize the students, some did well, others were average and others under-performed. For example, in answering questions related to topics covered by the journal questions, some who completed all journal assignments did very well, while others who also completed all the assignments fared poorly. The same results occurred among those who answered only a portion of the journal assignments. It also didn't seem to matter whether the students had a strong mathematics background or whether they were math-challenged.

I know that if I served as the journaling partner for everyone, there would be a consistency that ought to spark some enthusiasm and motivation. I simply do not have the time. What I need is a Teaching Assistant. Hmmm.

March 2001
Sharon, I made one major change to the experiment. I was able to hire a student to help me with the journaling. Essentially, I trained her in the basics of dialoging and providing stimulating responses to student writ-

ings. So far, things have proceeded far more smoothly. She has some natural writing ability that helps. This semester, I am able to collect students' journal entries, give them to their journal partner (my assistant), and she is able to complete the evaluation of work for about 80 students in time to allow me to review and supplement the responses before returning them to the students, usually by the next class period.

Most of the students seem to be much more enthused with this arrangement. I still have some slackers, but I have been conscientious about sending email to those students who have fallen behind in an effort to encourage them to submit their journals. Although this group of students doesn't appear to be any more intelligent than those of previous semesters, I have noticed a startlingly improved performance in their first examination. Last semester, the class average was a 76; this semester, the mean for the same type of examination was an 83. That is significant, and by any measure, this new data strongly suggests rejecting any hypothesis that suggests an examination norm of 76. There is still the possibility of a statistical aberration, although this seems a slim possibility indeed. I eagerly await the opportunity to compare examination performances for the next two assessments. We may have found some conclusive evidence that writing can help students improve their mastery of quantitative concepts.

March 2001

And that last sentence says it all! Wonderful work, Bob!

WAC Meets TAC: WebCT Bulletin Boards as a Writing to Learn Technique

Robert S. Miller, Plymouth State College

Fall of 2000 seemed like the right time to introduce more technology into my undergraduate course Applied Child Development. Several forces came together to lead me to this decision. NCATE had encouraged teacher preparation courses to make more use of technology. The friendly folks at Information Technology Services were offering summer workshops on introducing WebCT into classes. The Computer Advisory Board (CAB) or the Technology Across the Curriculum (TAC) group—I've forgotten which, and I'm not sure I know the difference—was offering bribes, I mean honoraria, to people to make such innovations. And I was recovering from the experience of trying to teach the quietest group of students I'd ever encountered in one classroom, a group I had come to affectionately refer to as "mime school."

"Mime school" was my 8:00 a.m. section of Applied Child Development during Spring of 2000. There were only 12 students, and not an extravert in the bunch. Their written work was entirely satisfactory, better, in fact, than that produced by the very lively group of students I had in the 10:10 section, but they were the quietest group of people I've ever taught. Using every WAC trick I knew—journals, free writes, focussed lists—I was lucky if I could coax a single spoken sentence out of any of them. I eventually came to respect their introversion and let them quietly communicate with me in writing, but it saddened me that they weren't getting to hear one another's good ideas. When I heard that Jeannie Poterucha from Information Technology Services was offering a summer workshop on WebCT Bulletin Boards, the forces came together and I decided this might be the solution to my problem. I had heard a colleague talk about using electronic Bulletin Boards in one of his biology courses. I knew that they could be used to have students discuss course material on line.

At Jeannie's workshop I learned more. I learned, for example, the difference between an on-line bulletin board, where people post messages to be read whenever the others in the group happen to log on, and an on-line chat, which is more like a face-to-face conversation, but which requires all participants to be on line at once.

Jeannie has an infectious enthusiasm, and by the end of the workshop I had signed up to have my two sections of Applied Child Development in the fall be WebCT courses. I actually saw several uses of this technology in that course, but the one which excited me most was the Bulletin Board. I thought maybe this method of communication would appeal to the more introverted students.

I envisioned the Bulletin Board working a lot like in-class discussions. I would pose a stimulating question each week and students would give their opinions and respond to what others had already said. I hoped that those students too shy, self-conscious, or reflective to speak in class, might be liberated by this medium. Here was a chance to choose words carefully and edit comments before posting.

I saw as a secondary advantage that the technique would give us a chance to have more discussions. I never have time enough in class to discuss everything I want to. Getting through the basic material in the textbook seems to fill most class periods. In particular, we tend to never find enough time to discuss the articles in our supplementary book of readings, many of them reprinted articles from primary sources. I decided I would focus many of the Bulletin Board questions on these readings. I imagined that this would stimulate students to do the reading.

I decided that participation in the Bulletin Board would be required and graded. I realized that assessing the quality of each posting would not be feasible, but WebCT technology provides the instructor with several pieces of quantitative information that can be used as the basis for a grade: how many times each student has posted, how many postings the student has read, and how recently the student has visited the Bulletin Board. When Jeannie visited the classes early in the semester to introduce WebCT and explain the Bulletin Board, she alerted students to these monitoring systems. I told the students they would be graded at the end of the semester on the basis of how many times they posted and how many postings they read. This grade was to be weighted the same as each other major assignment (exams, papers, journal) in determining their course grades.

In thinking about the function of the Bulletin Board assignment, I came to think of it as another WAC technique. Like with journals, Bulletin Board response is expressive writing to learn. For a while I was planning that first semester to have the Bulletin Board replace the journals I had always used in this course. The journals had been successful, and though I had always enjoyed reading the students' expressive writing, doing so had taken quite a lot of time. If I replaced the journals with the Bulletin Board, I could use that reading time for the new assignment, which had as an advantage over the journals that the students would get to read one another's entries. However, I realized that I had always based one of the papers in the course on the informal observations of children the students had recorded in their journals. Since I didn't want to give that up, I decided to make the Bulletin Board an additional assignment rather than an alternative to the journals.

That decision was probably a mistake, one of several I made that first semester of using an electronic Bulletin Board. A second was that I tried to have each section of the class engage in a single Bulletin Board discussion. One section that semester had an enrollment of 29 and the other was overenrolled at 41. Jeannie had warned me she had no idea whether a discussion would work in groups that large. A third mistake was supposing that a general question about a report of a research study would produce lively discussion and debate.

My plan for stimulating the discussion was to pose a question once a week to get a new conversational thread started. Some of the time these questions simply asked the students for an opinion. For example, I thought a non-threatening way to begin this conversation about human development would be to ask, "What is your favorite age? If you could go back to an age or forward to an age what would it be? Why?" More often the question was designed to stimulate discussion about one of the readings, for example, "Which of the findings in Palmer's study of refugee children in Australia during World War II surprised you the most?" Sometimes the question was about the reading, but really a personal opinion question, such as "What did you think about the practice of co-sleeping common in Mayan culture which we read about this week?" Students were expected to respond to each week's question (or to the responses others had already made). They were also encouraged to pose questions of their own to start other conversational threads.

In general, students did the Bulletin Board assignment. Most students responded to most of the questions I posed. In each class several times during the semester, students initiated other conversations—one particularly lively and rather contentious one was about abortion—and many students contributed to those as well. Just about 50% of the students met the criteria I had established to earn an "A" for the Bulletin Board assignment: they contributed at least once a week and they read at least 75% of the postings. Most of the remainder came close enough to those criteria to receive a "B." In each class there were only a few non-participants who failed the assignment.

Because participation was so high, I had the impression during the semester that the Bulletin Board was working pretty well from the students' point of view. I quickly had reservations of my own, however. Between the two classes there were typically 50 or 60 entries a week, and I felt I had to read all these as well as the 70 or so journal entries a week these same students were producing. Reading the journal entries was more time consuming both because of physically handling the notebooks and because I usually make at least a minimal response to each entry. However, the journal entries were more varied and more interesting. The deadly part of the Bulletin Board was that everyone's entries were so much alike. To be frank, I found them really boring to read.

The opinion questions were somewhat more successful in producing variability and occasional dialog among the students. When the question was about what had been read, most of the students responded to the question and not to one another, and most said pretty much the same thing. I found these very tedious to read and could only imagine that the students must also.

That was confirmed in a big way by the results of the written evaluation of the Bulletin Board that I asked students to complete along with the course evaluation form. A majority of the students on the regular course evaluation form listed the Bulletin Board as the part of the course they liked the least. On the supplemental form they explained why. Their reservations were the same as mine: they were overwhelmed by all the responses they were expected to read and bored by the sameness of those responses. Many also reported that whereas they had at first enjoyed the Bulletin Board, they had grown tired of it as the semester wore on.

There were exceptions, however. A few students said they enjoyed the Bulletin Board, and many of these said they liked having a forum other than talking in class in which they could express their opinions.

"The mimes!" I thought. "There are indeed a subset of students who are more comfortable sharing their thoughts with one another in writing rather than orally." The desire to meet the needs of this subgroup had, after all, been what got me started on all this.

Ah, the power of partial reinforcement! Those few comments were enough encouragement to make me want to try again. Though the results of this first experiment had been largely negative, I opted to try to figure out how to improve the assignment rather than abandoning it.

Jeannie had told me that 71 faculty members used WebCT this year, and that of those more than 75% had used Bulletin Boards in one way or another. I asked Jeannie if she knew of people who might have had more positive experiences than I and she provided me with several names. I sent e-mails to these folks and got some insightful and helpful responses.

I was comforted to discover that other people had had some of the same problems I had had. Two colleagues from the English Department responded that the Bulletin Board had worked for a while and then quality of performance had dropped off. Andrew Symth put it this way:

> The Bulletin Board worked well for the first half of the semester in my Composition course last semester, but the students grew tired of it after the midterm point. Also, I had hoped that having students post responses to the readings before class would eliminate the need to give reading checks and quizzes, but the students quickly realized that they could read the other postings, respond in a similar fashion, and not even read the text to which they were responding.

Jeanne Dubino's response was similar:

> About the WebCT—it worked for the first part of the semester. I asked students to post a weekly response (no length specified) to the literature under discussion. I also asked them to post four responses to each other's postings. Students reported early on that they learned a lot from each other. They read each other's postings to figure out how to interpret the literature. They preferred to post their responses rather than hand in short typewritten responses. Things were promising.
>
> But past the midway point of the semester, fewer than half of all the students bothered to post weekly responses. Though postings

> accounted for 40% of their grade, though I reminded them on a daily basis of that, though I cajoled, urged, threatened them to post, I just couldn't get them to do it.
>
> The quality was variable. A few students—about three or four—invariably (when they chose to post at all) wrote fine and insightful interpretations. Others must have spent all of about 5 minutes. The level of thought and work was definitely lower than what I see when I ask students to hand in written responses.

Others too expressed reservations about the quality of the writing in Bulletin Board entries. Pat Cantor, who had used the technique in her early childhood classes, put it this way:

> In all cases, I think the use of the Bulletin Board is writing to learn, not (by any means) learning to write. Something about the Bulletin Board format does not promote careful writing, even though I do ask for correct grammar, spelling, and punctuation. Perhaps it's too close to e-mail. In any case, I have found that the Bulletin Board encourages writing to learn.

Despite such reservations, all of my respondents, like me, seemed determined to keep working to make the Bulletin Board work. A comment by Ken Bergstrom summarizes this determination:

> I do think there's a learning curve for both the instructor and the student: the goal, as I see it, is to have the student grasp this opportunity to communicate, to enter into the design and product of the learning. Too many, however, respond to the Bulletin Board requirement as something they have to do, so they input minimally. Like the task of reading, some take to the Bulletin Board far better than others.
>
> Perhaps a correlation exists between one's confidence in compositional skills and one's willingness to commit to public scrutiny. However, if the Bulletin Board is encountered in many courses over a student's years at PSC, then I believe we will see far greater student commitment and a benefit accruing to upper-level courses in particular.

Some reported considerable success on the first try. Pat Cantor, for example, had found a way of solving the problem of having to read dozens of similar entries.

> Last semester, I posted several scenarios of typical preschool and kindergarten behavioral issues on the Bulletin Board, and asked each student to respond to one of the scenarios by explaining how they would deal with that particular situation (there were 6 scenarios and 18 students, and no more than 3 could respond to each scenario). After they had posted their responses, I asked them to respond to someone else's reply. This generated some good discussion among the students. I was particularly struck by how supportive the students were of each other.

Several folks had already made changes for the second semester designed to solve problems they had encountered during the first. Jeanne Dubino wrote:

> What am I doing differently for my two sections of Introduction to Literature this semester? I'm going to have students post 250-word responses only twice over the course of the semester. Posting will count as part of their short writing response grade (15%). I want all students to read the postings, but they do not have to post their responses. Hopefully, the decreased amount will lead to less resistance, and will ensure that the quality of all their writing is higher.

Pat Cantor is presently trying several variations:

> This semester, I am using the Bulletin Board in all three classes to post journal questions and other messages for the students. The students can choose whether they'd like to hand in their journals or post them on the Bulletin Board (they know that everyone else in the class can read a posting, so most choose to hand them in). I am not planning to use the Bulletin Board much for discussion, because, frankly, it would be a lot of work for me! The exception will be the graduate class, which is small.
>
> One class (CD300) has an exam coming up on the 23rd. For their journal question this week, I'm going to ask them to generate a short essay question for the exam, answer it, and explain why it

> would be a good exam question. I'm hoping that this will be a good way to review for the exam and will help me identify areas that they have a strong or weak understanding of. If this works, I'm thinking of expanding it to a Bulletin Board discussion for the next exam—students could generate questions and comment on each other's questions by way of review for the exam.

As for me, I too am using the Bulletin Board in an entirely new way in Applied Child Development this semester. Like Jeanne and Pat, I was looking for a way to limit its use so neither the students nor I would be overwhelmed by what we had to read. The first change I made was to divide each of the two large classes into subgroups of six or seven students each.

I also changed the purpose of the discussion, giving it the purpose the journal formerly had and eliminating the journal. Several students had complained it was too much informal writing to keep a journal and post on the Bulletin Board, and reading both was a burden for me. Now instead of responding to weekly questions from me, students are simply asked to post on the Bulletin Board what I used to require in the journal: reports of observations of children they make outside of class. They are also asked to comment on observations posted by the others in the group, whenever possible bringing ideas from the course to bear on interpreting the observation.

I knew from past experience with the journals that the students are likely to vary greatly in terms of how many opportunities they have to observe children outside of class. Some are parents living with children; others have regular contact with young siblings, nieces, or nephews; some are taking classes that require them to visit schools or the Child Development Center. At the start of the semester, I had the students free write for me about the extent to which they were likely to have contact with children this semester. I then contrived the groups in order to distribute those with many opportunities to observe children. Those with fewer opportunities to contribute observations are expected to compensate by making frequent comments about observations others have posted. Shortly after I announced the subgroups, one student made a suggestion that struck me as so brilliant that I took it at once: she asked that we take class time for each subgroup to meet once face-to-face to introduce themselves to one another, "so we will know who we are talking to."

I am happy to report that these changes seem to have had highly positive results. There are eight subgroups conversing, five in one section of the course and three in the other. Six of the eight groups took off immediately and began posting observations and comments. The comments do often have a conversational quality lacking last semester, when most students responded independently to the questions I asked. One group had a problem for a while: they were posting many observations, but no one was commenting. A member of the group pointed this out, and I prodded a bit in class, and they are now commenting as well as observing. One group remains quieter than I would like.

I am a member of all eight groups. I read all the postings and comment occasionally. Sometimes I give my own interpretation of an observation if the group has missed an opportunity to relate it to ideas in the course. More often my comments are meant to congratulate and encourage insightful comments. I try to read the Bulletin Boards three times a week and can usually accomplish that task in less than half an hour. This is less total time than reading the journals used to take and way less total time than I spent last semester trying to read both kinds of assignment. As was the case with the journals, the observations are varied and thus interesting for me to read.

I did not want to make the mistake I made last semester of assuming the students' attitude toward the Bulletin Board was positive. This semester I did a written anonymous evaluation after only five weeks. The results confirmed my perception that this time the assignment is working. A majority of the students reported they are enjoying the discussions, think they are worthwhile, and value the opportunity to communicate with their classmates. Of the less positive responses, most were complaints that it is difficult to remember to do the assignment. They asked that I mention the Bulletin Board more often in class to remind them, and I have tried to do that. The early evaluation also gave me a chance to prod the group that was not commenting to do so.

I am cautiously optimistic at this point that when structured appropriately the WebCT Bulletin Board can be regarded as a useful WAC technique. WAC meets TAC and students have another opportunity to write to learn.

Doing Philosophy Online

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My aim here is to write out of the experience of "doing philosophy" with graduate students online through an educational web site template called WebCt. WebCt provides me with the ability to custom design a learning environment in which we can read, think, write and share our experiences, sometimes at great physical distance. Writing is the medium of communication for every aspect of my online courses.

The specific online course I will describe in this paper is ED 501: Philosophy, Education and Ethics. ED 501 is a core requirement in the Graduate Studies Program in Education at Plymouth State College. At the time of this writing, I am teaching two online sections of this course, each with twenty-five students. I have students in Bangladesh, Saudi Arabia, Honduras and in various areas of the U.S.

In the online environment that I've designed, "doing philosophy" is a kind of conduct and that conduct is expressed as writing that we share in various ways. John Dewey wrote in *Democracy and Education*, "To be the recipient of a communication is to have an enlarged and changed experience." Dewey claims that "social life is identical with communication" and that "all communication is educative" (1985, p. 8). Although he certainly had in mind face-to-face communication, we accomplish this fact of social life in ED 501 through writing within the online environment. Writing as communication is a form of educative conduct.

In a typical semester, ED 501 includes the following writing components:

- personal biographical statements which are made public to the class through posting on the website bulletin board
- an e-mail dialog with the instructor which is essentially private, but may be shared with the class as a final project
- responses posted on the website bulletin board to core questions and topics about a specific reading

- an assigned chapter of a book taught to the class through expository interpretation and writing on the website bulletin board
- rounds of critical response from members of the class to this teaching assignment, all posted on the website bulletin board
- a written presentation on a chapter of a book which relates particular topics and themes to the writer's interests and experience, again, posted to a bulletin board forum
- free writing and open forum debate on topics of interest or concern about schooling and educating in a special bulletin board forum
- final exams which might include editing the semester long e-mail dialog into a presentation for the class, or a type of *precis* writing to topics proposed by the instructor, or short essays on self-selected passages from the readings—all posted to the website bulletin board
- anonymous student course evaluations shared with the entire class

This paper will describe and give examples of these kinds of writing and how they encompass both the form and content of ED 501. But first let me describe the students who register for Philosophy, Education and Ethics.

Most students enrolled in ED 501 are earning M.Ed. degrees in various concentrations such as athletic training, educational leadership, integrated arts, counseling, elementary and secondary education. Many already are practicing professionals in these fields. Often students are returning to earn the M.Ed. to meet various certification standards or to open up alternative career possibilities. Some have not been in a classroom as a student since their undergraduate days. Most have not taken a philosophy course ever or are hesitant to admit that they have. Many are deeply apprehensive about being required to take a course with the words "philosophy" and "ethics" in the course title.

The general level of student preparedness in writing varies greatly. Students are intelligently concerned about this, usually fearing that the writing in the course will demand what I call "monological" expression (somewhat the normative mode of writing in traditional philosophy). But "doing philosophy" in ED 501 turns out to be dialogical in one manifestation (e-mail dialogs) and deeply pluralistic in others (bulletin board postings). The variety of writing proposed seems to allow most students to find a comfortable writing niche and then work from it toward developing other kinds of competency in written expression.

Finding out with whom I am working, what our dispositions are toward educating, and what we bring to the scene of instruction is the primary task of my teaching. For Socrates this happened through verbal dialog with people on the street. For those of us in ED 501, it means a digital dialog conducted in cyberspace. I try to create an online environment in which I am an equal inquirer into the various topics that we consider. I do not present myself as an expert in writing, philosophy, ethics, education, schooling or the use of a computer. But as a personal, public and professional inquirer, I do feel that I have a longstanding commitment to the reconstruction of a thoughtful, conduct-based practice of educating. This means getting away from "schooled" responses and into the realm of authentic, human communication and community.

Let me turn now to the various kinds of writing that we do in ED 501. It's tempting to call them "writing strategies" for a journal on writing, but that would be to misrepresent the work we do, which simply aims at the conduct of written communication centered around the topics of the course. We learn by doing. We learn through our shared experiences.

At the beginning of each semester I gather a public profile from each student in the class. These are posted on the ED 501 WebCt bulletin board in a forum called "Public Profiles." I provide my profile first by way of introduction. Here is an abbreviated version of that profile:

> You'll find out a lot about me from reading my responses on the bulletin board and through the e-mail dialogs. But a few facts? Sure.
>
> Grew up in New Jersey. Working class family. Working class town. Took piano lessons from the time I was five. Went deeply into debt to attend college where I majored in music. Graduated in five years—got married in the 5th year—we celebrated 30 years together this past October. Hope that doesn't make it seem easy.
>
> Immediately after graduating I got a job working for the City University of New York on Staten Island. My first year of employment, I made more money per year than my father did at the end of his life the same year. It's not a matter of "pride" but one of perspective.
>
> All the while I continued to make music whenever and wherever

> I could. Kind of the common thread of my life.
>
> I started a masters program in music but didn't like it. Shortly afterward I entered the doctoral program at Rutgers University (the State University of New Jersey) and over the course of eleven years I obtained my masters and then my doctorate in the Social and Philosophical Foundations of Education.
>
> About the time I finished my degree in 1992, my wife and I became increasingly unhappy with the state of affairs at CUNY. One day, at about year twenty-five in the CUNY system, we suddenly seemed to hear ourselves "complaining" and within the space of six months we both quit work and moved to New Hampshire. The first year we made less than fifteen percent of what we had the year before and were distinctly under the federal poverty line for income. It's a cliche, but we made ourselves happy.

This profile weaves together personal, public and professional aspects of who I am in narrative form. The tone and level of detail the full version provides are indications to my students that my "education" is rooted in my biographical continuity as a social, human being. I feel that it legitimizes a degree of self-disclosure in the first writing that students do for the class, which is to post their own profiles on the bulletin board next to mine.

Students consistently express surprise at the varied life experiences and backgrounds that are posted in the profile forum. Many are fascinated by finding themes that emerge from the complete reading of this forum. Not everyone writes in such detail and we respect everyone's level of comfort with self-disclosure. But in every instance, I find these postings to be a marked improvement over face-to-face classes in which everyone tells their name and major on the first day, nervously. The first writing is an endless resource in the course. It allows us to enter into the dialog process grounded in a sense of who we are.

I hope it doesn't seem overly didactic to write that even though the first writing in this graduate course is distinctly "non-academic," it is of the greatest importance. Again, working with an observation of Dewey: "Education is not preparation for life. It is life itself" (1971, p. 50). To me this means that our efforts to educate begin best if they flow out of our "life itself."

We then segue directly into a consideration of what is philosophy? What is ethics? What is education? And how might they be related? I do this via e-mail. When possible, I gather students' impressions of these things in a non-evaluative way. Then I write back asking questions about their understandings and suggesting, where it seems useful, ways of thinking that have been already mentioned abstractly in the online syllabus. This helps to condition our approach to whatever it is that we are reading for the semester. By the end of this informal process, I generally know where each student stands in relation to the materials of the course.

Here are excerpts from how I recently began the e-mail dialog process with each student in the class. An introductory paragraph addressed to each student prefaced what is printed below. Each preface was written with an awareness of and connection to the student's public profile as it had been posted on the bulletin board.

> **E-Mail Dialog Instructions**
> This will be the first installment of our e-mail dialog. It offers us a one-on-one opportunity to discuss issues related to the ideas and thoughts in the readings and to give you practice in expressing your thinking in writing. The e-mail dialog meets the writing requirement for ED 501 and should be rigorously spell-checked, grammatical and gender neutral. Part of the dialog will involve my giving you feedback about these things...
>
> Our dialog is essentially private, but good insights should be shared and I will ask to post them in the WebCT site when you are brilliant and insightful and teach me things. Anything that I write to you is yours and may be used as yours if you find it useful.
>
> When you write back to me, I will try my best to respond in a reasonable time. Usually I can do this, but there are points in any semester which become intense and the volume of e-mail can be too much. Watch the main forum of the bulletin board for postings about the e-mail flow.
>
> I usually organize the dialog by inserting comments into the material you send to me, like a written dialog, sometimes using different colors and dates to differentiate materials...

> **The Actual Dialog Starter**
> The course is called Philosophy, Ethics and Education. I'm curious about what you think the connection between these three words might be? This might involve considering your definitions of these three words and then offering an hypothetical statement about their relationship. I would enjoy responding to these hypotheses with some of my own.
>
> As you are reading Nussbaum, you already have encountered her version of a connection, especially between philosophy and education. Could it be that "doing her brand of philosophy" is what "education" is?
>
> In this regard "ethics" is a specific study or field within philosophy. If philosophy has to do with thinking, then is ethics thinking within a specific subject area? If education is the way we grow and learn, then perhaps this is an ethical endeavor?...

As you might expect, the responses to the above questions are greatly varied. I get dictionary definitions, definitions from other courses, somewhat original thought, and thought that at times I can tell comes from students consulting with previous ED 501 students! I consider the latter somewhat preferable to the dictionary approach.

This is the beginning of our e-mail dialog, which is how the formal writing requirement for the course is fulfilled. A continuous e-mail dialog is maintained throughout the course that integrates all aspects of the course in an asynchronous conversation. In all e-mail communication, I give a clear sense that I expect spell-checked documents and a sustained effort toward clarity of expression and purpose. Our object is not to write in the normative tradition of e-mail writing, but to use it as a tool for refining our writing. Writing to students in this way helps me be clearer about my own subject matter and thoughts, and I feel that I learn from each dialog. However, not every student feels comfortable with the process. Here is an example from a dialog with Kim Wilson:

> Kim: Boy, sometimes it is really hard to communicate through written word. I have tried to start this note at least 4 different times. Anyway, with that in mind here goes. I am having a diffi-

> cult time reading your expectations. I guess more specifically I am struggling with what to write about in our dialogues. My guess based on the nature of the course is that the dialogues will be driven by me and my needs. That I should take ownership of the experience and because we are often not given this opportunity, often I am struggling with "my new found freedom" (am I close?).
>
> Allan: You've hit the nail on the head.
>
> Kim: I am wondering, should I continue to respond to the question posed: the relationship between philosophy, ethics and education? Can I mention different pieces in the text that are standing out to me and maybe we could "talk" or "do philosophy" with them?
>
> Allan: The latter is always welcome........the first part......will take care of itself by the end of the course.........you'll know something then, that you didn't at the beginning........but it won't be from us "writing it" and especially it won't happen from me "telling you". However, if you want to work it out in writing.....that's fine too.
>
> Kim: Are you and I supposed to be debating?
>
> Allan: I do debate with some people. Spar and box with some.....and with others, the process is more comparative, reflective....people advance observations, experiences, ideas.....and then we together relate them to themes in the readings.......

Here is an excerpt of a dialog written early in a semester. Margaret Martin and I are establishing a working definition for a core concept in the course:

> Margaret: You ask, "What is an experience?" In my opinion, an experience is anything that we do, or is done to us. It is everything that happens in our lives. Right now, I am experiencing writing to you, although this type of writing is much different

> from what I might experience if I were writing a letter to a friend about last weekend's get-together, not only in content, but in the cognitive processes that go into it. So, everybody's experiences are unique, even in the same given situation each of us experiences it differently. We all approach situations differently and take away from those situations a different and unique experience.
>
> Allan: What is common to human beings is that they do "experience." Then, there are parts of that experiencing which we might call "experiences." These are qualitatively different for many different reasons. It's good to look at them. The writing that you describe above might be significant, valued, memorable, for more than just cognitive reasons. If we believe that experiences are important in learning, then we need to understand all we can about what differentiates some from others. This can at times not only involve interest and motivation, but elements in the environment which enhance the quality of the experiencing. We could work on this type of general description (of learning experiences) if you like.

In our writing we do not expect that every question or topic raised will be addressed. I let students self-direct the dialogs. If a dialog strays in a sustained way, I suggest how to get it back on track. I don't correct grammar. I ask content-based questions. Then the grammar clears up. We write philosophically from an ordinary language orientation. But I work to respect the diversity of ways in which people bring their thoughts and ideas to expression. I learn from this diversity about the true nature of "doing philosophy," and this nature is evolving in part through the process of our writing.

In doing e-mail dialogs, I have studiously avoided being overly descriptive about it as a requirement. I specify little else than what I've indicated above and try to keep each dialog as a form a genuine communication with its own shape and characteristics. The highest possible degree of student volition is essential. If I sense a student is responding "as a requirement" I usually make this the subject of the dialog. I consider the attitude of "meeting requirements" to be one of the most negative parts of the "schooling" syndrome and have no intention of replicating it in the conduct of ED 501.

In my ED 501 E-Mail Archives, I have an interesting dialog that, when printed out, single-spaced, runs to over forty pages. Although I suspect that roughly half the writing is mine, the quality of the other half of that dialog with Sue Fernely is memorable at a year's distance. Here is an excerpt from our dialog:

> Sue: I am examining myself. I do not like all that I see. I have ignored things I believe strongly in because I am afraid to make waves. I have seen children embarrassed and humiliated by adults and said nothing. I pick my battles. I choose very few to fight. Self-examination is not easy.
>
> Allan: But it's intelligent. It's how we begin to direct growth in productive ways. Wittgenstein wrote: "A confession has to be a part of your new life." This is the practical application of "self-examination."
>
> Sue: Dewey wrote in Chapter 24, "If there are genuine uncertainties in life, philosophies must reflect that uncertainty." I am uncertain. Perhaps I am on the right path?
>
> Allan: I would put money on it. And....I would consider, in the short run, the bet a good one, win or lose.
>
> Sue: My method of teaching is not smooth and natural with the subject matter. (Occasionally it is.) Perhaps I am trying too hard. It seems like too much to be an expert in all subject areas. It seems obvious to me that what Dewey suggests is true. I seem to be thinking out loud. How does one justify what one does, when one stops believing in it?
>
> Allan: The nature of a philosophical (thoughtful) problem is: "I don't know my way about." The nature of a philosophical (thoughtful) solution is: "How do I go on?" Most pathways are traversed one step at a time....and that brings us full circle to what you wrote above. We try to place that step as much in the right direction as we can, and on the best possible foundation, so as not to fall or trip. With the next step we adjust the error of the one

> before it....and if necessary we pick ourselves up.
>
> I'm thinking here of what Kristin Lombard [another member of the class] wrote to me in our dialog last week: "Our learning is happening on the path along the way to what we believe to be the answers."

Throughout the semester, I merely asked questions, made observations, and gave references and criticism when Sue asked. What I got in return was a rethinking of her personal, professional and public senses of herself as they related to our course of study. In the class meetings that we had, I felt Sue became increasingly empowered to contribute because of the nature of our e-mail work.

I would be less than honest if I did not indicate that sustaining one-on-one dialogs with students is at times overwhelming. It is critical to keep current with your responses. Given the tempo of work in the WebCt site, student questions about issues in their reading have to be answered in a timely way. Help that comes a week later is usually too late. At times the degree of self-reflection that the course and writing process evokes demands immediate attention. In general I write e-mail for several hours each day.

When possible, I alert students to periods when my response rate may be altered. For instance, this semester it is difficult for me to spend a lot of time online Monday through Wednesday. I let students know this and together we work within that. Whenever possible I try to exercise the same sensitivity to student schedules as well.

I usually respond to materials via the date and time order received. Each student has a different pace and form of expression. Thankfully, not everything is as intense as the excerpts above might seem to indicate. From students who seem to be "skimming," a few relevant questions from inside their "skimming" almost always gets us on track. But it does take time and a concentrated attempt to put yourself into a constructive communicative stance with each student.

The most stressful parts of this process are the initial ones. This, I think, is no different from getting acquainted with the individuals in any new group of people. It's the butterflies before walking into the first class session of the semester, except that in this case you are beginning a sustained and detailed human relationship through correspondence with each student.

I've found that getting off on the right foot (not putting it in my mouth especially) is the most difficult part of the entire dialog. Later, once I get to know a person and their style of writing, and they become familiar with mine, the dialogs become truly conversational. Just like real life. The incidence of "misunderstanding" is greatest at the beginning when there is an intense focus on how the words we use may represent us in some larger sense. I find that students generally are unaccustomed to having every word they write taken seriously.

I have the habit in writing e-mail dialogs of responding "in time" as I read through what the student has written. This means that within a block of student writing I make comments, suggestions, criticisms or references as I read. I do not read their entire communication and then give an overall response. This I find keeps the dialog, although asynchronous, somewhat spontaneous and keyed into the flow of thoughts and sentences much in the way that I would interpret and respond within a verbal dialog. This concretizes the transaction. I ask students to use the same methodology in their responses. Every e-mail is a close reading. Sometimes I find myself addressing an issue that the student moves to a few paragraphs down. But that is not such a bad dynamic.

Parallel to the e-mail dialog over the course of the semester, students read digital and hardcopy texts according to the syllabus. When possible we provide texts digitally within the WebCt site. In some instances, working collaboratively with colleagues in Information Technology Services, I have created hypertext linked commentary for the digital texts. Such is the case for Plato's dialog *Meno,* and for other readings that, by being what they are, would present difficulties for students reading philosophy for the first time.

The WebCt site contains separate study guides for most of the readings and also contains links to internet resources such as the Center for Dewey Studies, the Perseus Project, and various academic study projects around the world. In one class, a student with an unanswerable question about Martha Nussbaum's book *Cultivating Humanity,* e-mailed "Martha" at the Chicago Law School, and got a generous response, which is now posted in the WebCt site whenever we read that book.

The WebCt site is organized so that each of these readings has a forum. For each chapter of a reading, there are topic/questions in that forum. At the beginning of the semester each student writes responses to these question/topics, then posts them to the WebCt bulletin board. Recently, the first reading has been Martha Nussbaum's text mentioned above. Student responses provide twenty-five different readings of each chapter and a common experience for everyone in the class. Students also comment and criticize each other's writing and have the opportunity to read others' interpretations before writing their own. Here is one of the questions about the preface of *Cultivating Humanity:*

> Please react to Nussbaum's statement: "But philosophy should not be written in detachment from real life....." (p. ix). How does this idea relate to your beliefs about "what philosophy is"? (p. ix)

A student posted the following response:

> The crux of my initial fear of not succeeding in this course was based on my prior belief that the pursuit of philosophy was a pursuit of idealism and "what could be." I am more comfortable in a setting where a set of experiments could quickly prove a theory either "right" or "wrong." The statement, "But philosophy should not be written in detachment from real life...." (p. ix) came as a relief to me. Perhaps this book would provide tangible insight into the problems educators face rather than an apathetic approach of "If we could only..." or "If funding was only available..." I strongly believe that we as educators should continuously evaluate our efforts making note of those which fail and those which succeed and critically examine our teaching technique questioning our motives as teachers and revising our curriculum to meet the needs of each individual student. To me, that encompasses "real life." (Roberts)

Colleagues have raised concern about this process: "Only the first person's posting is guaranteed to be their own!" But, who is to say how a person learns? What's the problem with creating an environment in which we learn from each other? Why does this thought seem so unusual?

Later, in large works with many chapters, we divide them up and everyone writes and posts a response or explication of their assigned chapter. This has been our method for working on John Dewey's *Democracy and Education,* for example. We then schedule a framework for critical replies and counter-responses to the original postings. This is an online simulation of the graduate seminar form of teaching.

Here is an example from one of these forums. Joanne Roberts writes out of her experience of reading Maxine Greene's "Artistic-Aesthetic Considerations" in *Landscapes of Learning:*

> "To be aware is to be alive" (Thoreau, p.162) is one of the sentences in this section that connected with me. Greene's in-depth discussion of literary works as well as artistic works awakened a dormant part of my mind. Like so many others, I guess, I too have been in a bit of a rut, a life of routines and responsibilities. These chapters helped me to envision beyond the work I have been doing and life I have been living, and inspired me to incorporate a different perspective into my daily life..."to contemplate the peculiar blue of [my] jeans and to match it against the afternoon sky" (p.195). Reading these chapters prompted me to look up each painting mentioned so that I could better understand what Greene was describing. Vividly I can remember a student in my Science class who loved to draw—it was very disruptive in the class—usually drawing cartoons which were accurate but not appropriate. As I was reading the Greene chapters, this student, who I had many years ago, appeared in my mind and I thought "How could I have used his interest in art in my own classroom? How could I incorporate something he is so interested in into the class?" I now can think of many ways to have handled the situation differently and that, I think, is the beauty of teaching because we are constantly learning, constantly revising, and constantly changing our own definitions and enhancing our abilities to become more effective teachers—more "awake." If anything, this chapter allowed me to remember the joy of modern dance class, the sound of our feet pounding on the wooden auditorium floor, the smell of the art room paints, the pride we felt in chorus when we all were focused on the conductor as she held her hand out for the final note of the concert, the scent of Ponds cold cream which we used to take the dreadful stage make-up off after musicals mixed with the scent of flowers sent backstage, the joy of obtaining my first library card, the rippled texture of the pages on my copy of Charlottes Web (which I still have), the tears shed from The Yearling and A Separate Peace, the laughter from Dorothy

> Parker... these are things that are cut first from the school budget but remain forever in a student's mind and heart. I intend to continue to find ways to use art in my classroom and promote artistic outlets for the students in my class. By the way, how would you describe the color of your blue jeans?

The force of learning from the bulletin board postings is by example. I encounter both graceful and awkward writing, clarity and confusion, care and inattention, creative misreading, anxiety, excitement at discovery, and loads of great questions. I do not "correct" or intervene in what people post.

Although students are required to respond to my question/topics, they are encouraged to propose their own in addition, as mine are sometimes narrowly focussed in a disciplinary reading of the particular text. If students want comments on their postings, they can copy and paste them into our e-mail dialog and I offer thoughts on what they have written.

In most online sections we sponsor an informal discussion forum on the WebCt bulletin board. The first time this feature of ED 501 appeared, it was in response to a posting I had made about my reaction to a flock of baby wild turkeys and their parent crossing the road while I was on my way to the post office. This set off a flood of thoughtful and humorous responses which turned into the forum called "Turkey Talk." Sounds cute? Not really. It was quite intense, although informal, and provided students in the class an additional differentiated layer of expression and interaction. This particular forum really appealed to the creative writers. Part of the intensity and level of thought came in the form of puns. We had fun. After someone made a trip to the largest glacial erratic in the world (Madison, NH), we were treated to a treatise called "A Bolder Boulder is Owed an Ode." This forum was a manifestation of Wittgenstein's observation: "If people did not sometimes do silly things, nothing intelligent would ever get done" (Wittgenstein, p. 50e).

Sometime during each online semester I provide students with a series of "final exam" topics. Usually there are three topics for each reading. Students are asked to respond to one from each group of three. I give instructions for writing a version of *precis,* limit the responses to five sentences each, and provide for a final submission after a draft review for content and form. This process is the formal complement of the other various types of writing that have characterized the course. In many ways, the e-mail dialogs and the bulletin board postings are practice for the final, more formal writing.

All student exam responses are posted to the bulletin board, grouped by question. Here is a response to the final exam prompt, "Consider that Socrates is a teacher of a certain kind. Describe his conduct as a teacher."

> Socrates conducted his teaching in the form of the dialog, that is to say a kind of conversation: an essentially egalitarian structure in which both parties have an active role to play, the end of which is not known in advance.
>
> In these dialogs, which he conducted with a sharp wit and ready sense of humor, Socrates consistently denied knowing anything and avoided outright explanations or providing answers to questions posed to him.
>
> Rather, he himself asked leading questions of his questioners. Using the power of logic and reasoning, he made students examine their so-called knowledge and expressed opinions more closely and helped them break down their presumptions until they arrived at a place of "knowing" less than they did before.
>
> By not allowing himself or his students to be in the role of knowers, he was not practicing or advising false humility but demonstrating that knowing the answers is less important than the desire to know, that the process involved in the dialog, the investigation itself, is more important than the outcome. (Jaster)

At the end of the course, everyone's final exam responses are posted either with or without name identification on the WebCt bulletin board. Students respond to each other's exams before I grade them.

All the kinds of *sharing through writing* that are discussed in this paper combine to make a statement about how we can learn together through the conduct of communication facilitated in an online environment. The sharing dimension removes me from center stage and makes the members of the class their own best resource for learning. This process emphasizes issues of self-learning and initiative, pluralism and diversity, and capitalizes upon the development of shared meanings and relationships, which, I think, are ways of building a community of inquirers. Along the way, by writing through these experiences in diverse ways, we get practice at becoming better writers. From an e-mail dialog conducted this semester, this is how Crista Yagjian described her experience:

> This experience for me has been much different than I would have anticipated. There is a kind of sharing that is happening in our class of which I feel quite lucky to be a part. Many of my classmates have contributed such personal stories to connect us to what we are reading (our common experience) ... I have discovered that it has been much easier for me to voice my thoughts and ideas over the computer....this has been a bit surprising. It has become a different kind of experience.
>
> In my reading and writing I find that I am discovering myself as an educator in context of the world as a community to which we all belong........There is also a connectedness that I feel with my classmates—a kind of community that has formed—I don't think I would have believed I could have experienced this kind of learning over the computer— but I have....but I am ......

I have learned from this process too. I've learned that some people must express themselves in a more concrete way and that there are as many ways of "doing philosophy" as there are unique biographies. This is where each class starts, where we *all* start if we care to admit it, and where we all end as well.

Editor's note: The author welcomes response at
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Writing Experiences

Covering All the Bases: Addressing the Multiple Concerns of the College Writer

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As an English major in a teacher certification program, I am very interested in how different writing assignments and my approaches to them have affected my learning experience. While I realize that much of what a writer takes away from a writing assignment is a direct result of what he or she puts into it, I have found that certain kinds of writing assignments tend to result in more positive writing and learning experiences than others. The most common complaint voiced in the college level writing intensive classes I have taken has been that assignments are too directive, stifling the creativity of the students and making the writing process less interesting and stimulating for the writer. Although many students, including myself, often resent being forced to write in a very specific way, completely open-ended assignments can be just as troublesome. While I appreciate and enjoy being allowed to select my own topic or direction, I have found that being given complete freedom with an assignment can often be unsettling.

Learning the art of academic writing was a unique experience for me. Through elementary and middle school, I attended a private school where the administration took as much pride in the students' standardized test scores as they did in the school's immaculately groomed grounds and gardens. From second grade on, we went to test preparation class three days a week, more than art and music combined. We were taught to see through trick questions, spot the dummy answers in multiple-choice lineups, and make educated guesses with an accuracy that would put Dionne Warwick's psychic friends to shame. Since the primary goal of the school's program was maximizing the students' assessment scores, our teachers took this same utilitarian approach when teaching writing. Our first lessons were in assignment analysis. After all, to get the best grade possible, you first had to figure out what kind of paper your grader wanted you to write. We were drilled on the meanings of words like *compare, contrast,* *summarize, argue*, and *discuss*.

Our supreme goal was to identify and address the spirit of an assignment. To hone our skills as assignment fulfillers, we were given essay questions on subjects we knew absolutely nothing about so that we could practice constructing coherent and persuasive arguments unfettered by the constraints of reality or specific content knowledge. Our teachers trained us to get high grades and follow the guidelines of standard academic formats. They taught us that students who don't know what they are saying, but say it so well that no one notices, will invariably get a better grade than students who understand the concepts being tested, but falter in relating that information to the reader.

During summers, I discovered the joys of writing for the sake of writing. I enjoyed my personal writing but saw it as unconnected to my academic writing. The stories and poetry in my personal journals had nothing in common with my class work mainly because they were written out of inspiration rather than direct instruction. I never had a chance to apply what I had learned about my own voice as a writer to the papers I was assigned in class.

This remained much the same until I moved on to one of the most profoundly different environments imaginable, public high school. Here I began to see writing assignments as creative opportunities. I had an opportunity to take some outstanding English courses where my teachers were more interested in nurturing my creativity than my ability to answer essay questions. By the end of high school, writing had become one of my favorite artistic and academic pursuits.

During my first year of college level writing at a very conservative institution, my Composition instructor gave us this assignment:

Write a five paragraph argumentative essay supporting the thesis: "The removal of prayer and other expressions of faith from the public school system has contributed to the recent rise in school violence and juvenile delinquency." Your points should include the importance of faith in dealing with the stresses of adolescence, young people's need for spiritual guidance from as many role models as possible, and the negative effects of a secular upbringing. Your essay should be between 500 and 750 words long. The total word count of your paper should be written at the top right hand corner of the title page. Papers longer or shorter than the prescribed length will not be accepted.

Although this assignment did allow me to concentrate almost exclusively on the focus, clarity, direction, and overall quality of my essay, I thoroughly detested writing it. Knowing that my essay would say nearly the same thing as every other student's paper, but unwilling to sacrifice my grade to make an artistic statement, I wrote a lovely little conformist essay that said exactly what my instructor wanted it to. I got my paper back with an "A" scrawled in red ink on the upper left corner of the title page and promptly threw it in the trash bin in the hallway outside the classroom.

While this is obviously a worst-case scenario for the free thinkers that generally populate writing classes, it does illustrate their fears. With an assignment like this, a writer either does or does not follow directions. The only area in which the student can express his or her creativity or skill as a writer, and still achieve a good grade, is in the language of the text itself.

In a very different writing course here at Plymouth State College, my instructor asked the class to, "Write five pages or so about whatever you want and bring them in next Monday." At first I was elated. I viewed this as a challenging, but enjoyable writing assignment. I was going to be judged solely on my own merit. My paper would reflect my thought, creativity, and ability as a writer. Then I started to wonder about how exactly my writing was going to be judged. This was a graded assignment after all, and I had no idea what my instructor was looking for. I found it liberating to be free to take my paper in any direction I wanted. But at the same time, I was unsettled by the fact that I had no point of reference in determining which directions might be better than others. After second-guessing nearly every decision I made about the assignment, I was left with no choice but to forget about the fact that this was a graded assignment and write for the sake of writing.

The resulting piece was a short story that I liked; however, I could only hope my instructor would feel the same way. When I turned the paper in I was very nervous about how it would be graded. In the end, I was pleased with my grade, but I had very little idea of what criteria it was based on. My grade did make me feel better about an assignment that had caused me considerable stress, but it didn't show me how this paper was evaluated. My vague hope that my instructor liked the same things I did about my story was hardly reassuring or helpful when it came time to write for him again.

In yet another writing class, I encountered the following assignment:

Using what we have learned about the historical and political background of this piece, write a five-page paper analyzing the political intentions and motivations of any of the main characters or even the author. Any assertions you make should be supported by specific examples from the text.

Even though this assignment does have some specific directions I had no problems completing it. The assignment informed me of what my instructor was looking for and what my grade would be based on while still allowing me to write a paper that expressed my own ideas and reading of the text. Secure in my knowledge of what elements my paper should include, I went on to write a paper that challenged me but did not cause the kind of undue stress and uncertainty that the first two assignments did. This assignment yielded both a positive writing experience and a result that I was proud of.

While the first two assignments represent extreme ends of the spectrum, I had the same basic problem in completing both of them. As a student writer, I am concerned both with expressing myself creatively and achieving the approval of my instructor, usually in the form of a grade.

The first assignment exclusively addressed my concerns about the evaluation of my paper. The step-by-step instructions made my evaluation criteria clear. However, other than providing me with a chance to improve the technical aspects of my writing, this assignment completely ignored my voice as a writer. My frustration was rooted in the fact that I was asked to write someone else's essay in order to achieve an academic goal and, ironically, improve my writing.

The second assignment did just the opposite. It asked me to work in a purely creative way and ignore the academic context of my writing. Although I was uncomfortable writing this assignment, I eventually embraced the spirit of the assignment and repressed any concerns I had about academic success. The paper, which amounted to an overgrown freewriting exercise, gave me a chance to run with whatever ideas I felt like but didn't really teach me much.

Both these assignments were successful in achieving their specific goals, but neither one addressed my concerns as both a creative thinker and an evaluated writer. Although the third assignment was somewhat directive in its instructions, it still left room for my creative expression. Obviously some assignments require more emphasis on creative freedom or specific format and content requirements than others. However, this assignment concentrated on the instructor's expectations without ignoring my need to express my individual perspective.

I feel that the frustrating assignments I've had were troublesome, not because they concentrated too much on one of these aspects of my writing, but rather because they fail at least to address both these sets of concerns. In classes where the assignments had very specific directions for completing written projects, I have rarely found these directions constrictive if I am simultaneously given an opportunity to include my own creative input. Conversely, even the most open-ended assignment can be free of the stress and uncertainty that can accompany complete creative freedom if the writer is given an idea of what basic elements are necessary to succeed academically.

The Atomic Weight of Metaphor: Writing Poetry Across the Curriculum

Meg Petersen, Plymouth State College

In my first chemistry class in high school, the teacher set us at our lab tables with a few sheets of yellow paper and a candle. He lit the candles and asked us to write on the yellow paper about what we saw. Now, I was not what you would call a cooperative student in high school. I generally completed only those assignments for which I could see a clear practical purpose—this was not one of them. So I set my pen to paper with the aim of subverting his assignment by substituting one of my own. I decided to allow myself to be carried away by the dancing motions of the candle flame, to compose a sort of prose poem, an ode to the candle, a work of undying literary significance which would be utterly without scientific merit.

To my surprise, I not only received full credit for my assignment, but my response was held up as a model for the class. I was criticized only for writing some speculative sentence about how the beads of wax would eventually course down the sides of the candle, a speculation for which, as my science teacher pointed out, I had no direct evidence. He actually praised my use of metaphor, calling the whole thing a wonderful example of scientific writing.

My first reaction was to worry that I had given him the impression that I would be a good student, which would cause him to expect more of me than I was willing to give. But beyond that, his response unsettled me. My teacher's reaction to my response to the assignment did not fit my view of the world. The incident stayed with me, even though at the time I didn't know quite what to make of it. Even then, I vaguely suspected that I had been tricked in some way by my education into seeing artificial divisions of knowledge that did not, in fact, exist.

Many years later, I found myself with a graduate assistantship at Phillips Exeter Academy. My task was to work with minority students who were having trouble adjusting to the rigorous academic culture of the institution. I was supposed to be teaching them study skills, but with the demands of their academic program, they were both unable and unwilling to take on anything that would result, in their view, in their having to do more work. So I endeavored to teach the study skills through the medium of subjects with which they were having difficulty. Chief among these was chemistry.

My chemistry study sessions were filled with metaphor. Around a huge oak table, we talked our way through the chapters, gesturing wildly with pencils and drawing out models of what we understood. We tried to understand valences and atomic weights through the creation of visions of imaginary worlds—atomic structure as the solar system with a nucleus sun. Sometimes we would simply stop; the room would go silent and we'd marvel at the exquisiteness of organic compounds, the incredible symmetry of chemical reactions. We found beauty in the balance. Again, I felt as if I were living outside of the boundaries of acceptable science, but when my students started to do well on exams, again I questioned what I had been taught about the divisions between fields of knowledge.

I began to read scientific writing again when doing research for various fictional stories I was writing. In some reference books on botany and zoology, I was startled to find writing beautiful enough to be poetry. But in thinking about it, I began to make sense of it. Good scientific writing, like all good writing, draws on a wealth of detail and specific language. Meticulous distinctions (such as those between two nearly identical sub-species of flora) require precise language. If good content makes for good poetry, I wondered if we might conversely use content knowledge to enrich poetry.

Most work with writing across the curriculum has concentrated on bringing the techniques of writing to learn into the classrooms of various disciplines. We encourage science and history teachers to make use of response journals, to do in-class free writes, to allow students more latitude, both in responding to each other's work and in expressing themselves in different genres. I began to wonder if it might not be profitable to take it back the other way and to use content to enrich poetry.

When I noticed that much of the poetry produced in my Creative Writing class was vague and dealt with general subjects such as existential angst and emotional volatility, I assigned students to research a scientific phenomenon and use what they learned as a metaphor in a poem.

Creative Writing is an introductory level course, and many of the students were also completing their general education science requirement. Instead of doing extra research, they combined tasks. They were able to create metaphors out of the descriptions of the human skeleton in their anatomy texts or the progress of a tornado in the meteorology lab manual.

Their poetry improved, which had been my goal, but I began to think as well about how these poems might have affected their understandings of the scientific concepts they were using as their basis. It occurred to me that poetry would provide a way of approaching course material in various disciplines which might allow for the emergence of different types of understandings of the material. Poetry writing has the capacity to tap into the imagination, the unconscious and underlying knowledge structures. One problem I always experienced in my brief career in required science classes was that whereas I could do quite well while I was in them, upon leaving I would instantly forget everything I had learned. Without anything with which to connect and relate the knowledge, it all would seem to fly out of my head as soon as the course was over. Perhaps through writing poetry, students would be able to make connections on a deeper level than they might through other types of writing, and thus be better able to retain it.

Last summer I ran a workshop on using poetry to teach New Hampshire history. As the workshop participants had stronger backgrounds in New Hampshire history than I did, I had these mainly fourth grade teachers compose poems based on the content they were teaching. I was amazed at how well their poetic responses brought the content to life. Their poems made the content memorable in a different way. Many chose to write persona poems in which they took on the voice of a character such as an aboriginal inhabitant of the state, Hannah Dustin, or a colonist at the time of the revolution. The poetry allowed for connection to the material on an emotional level, with a depth rarely seen in other types of writing across the curriculum.

The teachers speculated that the poetry might help students with different learning styles to connect with the material. This certainly echoes my experience with chemistry over the years. Some students relate better when there is an opportunity for connection with the material on an emotional level, and many of us learn better through metaphor than formula.

In fact, this makes good sense, given that reasoning through analogy and metaphor, which poetry encourages (if not demands), are generally recognized as strategies of successful writers and thinkers in many disciplines. The ability to relate seemingly disparate pieces of information, through observing what can be applied from one process to a seemingly unrelated other, allows us to make leaps of understanding. Poetry builds on these processes, thus encouraging this kind of thinking.

Like all creative writing, poetry writing requires synthesis of material. In writing a poem in the persona of a 19th century mill worker, the student poet must not only know a lot of facts about life in that time, but also be able to move beyond those facts to create an entire world in his or her poem. After writing that poem, the student will understand the information in a different, more significant and more memorable way.

My forays into poetry across the curriculum have been necessarily limited by the fact that I am mainly a writing and not a content teacher. But all of this has caused me to wonder if some of those walls we erect between disciplines ought to come tumbling down. Those barriers we have constructed to protect our small patch of academic turf might also be shutting out light and air. Perhaps if my chemistry teacher had allowed us the chance to compose poems about our lab work, I might be teaching science instead of literature and writing. Infusing poetry across the curriculum might allow me to integrate both.

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