

4 / Supporting Writing Development Across Disciplines

So back to the innocent but fundamental question: how best to conceive of a subcommunity that specializes in learning among its members? . . . Typically, it models ways of doing or knowing, provides opportunities for emulation, offers running commentary, provides “scaffolding” for novices, and even provides a good context for teaching deliberately.

—Jerome Bruner, *The Culture of Education*

For her senior thesis in communication, Carolyn wrote a more than forty-page study of Northwest Airlines’ fifty-year campaign to promote their Asia-Pacific flights. She said that as a first-year student she could not have completed this final project. She would not have known how to formulate the problem, how to contact people from the company and get information, or how to analyze the information and not just report what they did. Having completed similar, shorter projects in courses in her major made her confident that she could take on this challenging writing task and “get the job done.” Carolyn said that when she chose the public relations major she thought it was about being good with people. But, by her junior year, she realized, “Most of the job is how well you write and developing your writing skills.”

It is beyond the scope of this study to explore in detail how students write in each of the disciplines represented. For one thing, there were only a few students from each field, and surely there is wide variation within each major. Instead, the study looked at similarities across disciplines, especially focusing on the ways students became more consciously aware of the disciplinary conventions in their major academic fields and more adept at negotiating these conventions. Papers in students’ portfolios indicated their growing ability (in varying degrees) to deal with complexity and juggle the

demands of academic writing including the following variables: employing appropriate genre and discourse conventions, locating and interpreting relevant sources, applying concepts from a discipline, developing evidence acceptable in the discipline, and organizing all of this information within a single coherent text. In interviews, students could explain specific strategies they used in writing and reasons for those strategies. Most came to see the requirements of their academic assignments as more than just “what the professor wanted” (though they did still encounter “picky” professors). Instead, they explained disciplinary conventions as necessary for writing in their academic fields and, perhaps, even useful in providing specific guidelines for specialized ways of writing.

It might be the case that students “pick up” the literacy strategies characteristic of their disciplines through reading texts in the field, listening and speaking in class, and unguided practice in writing. Certainly, much learning must occur in this way because, as Frank Smith (1982), Stephen Krashen (1984), and other literacy researchers have noted, the “rules” for writing are too many, too complex, and too little understood all to be explained consciously. However, students themselves pointed out important moments of transition when writing was consciously learned and they understood what was expected. As discussed previously, students did not always see these changes as improvements in their writing in general—they said that they already knew how to write—but as learning new ways of writing for specific purposes.

These new ways of writing were acquired as students spent more time in the academic “subcommunities” of their major disciplines. Though Pepperdine does not have an established writing-across-the-curriculum program, each of these subcommunities offers implicit or explicit instruction in writing through the strategies outlined in the quote by Bruner that prefaces this chapter. Each discipline, some more successfully than others, “models ways of doing or knowing, provides opportunities for emulation, offers running commentary, provides ‘scaffolding’ for novices, and even provides a good context for teaching deliberately” (Bruner, 1996, p. 21). As students take up the literacy tasks of their various disciplines, they

write under the constraints imposed by classroom assignments and develop strategies for negotiating those constraints.

Those composition specialists who succumb to playing the missionary role in writing-across-the-curriculum programs may focus on providing tips from composition courses that could improve the teaching of writing in other academic disciplines. These strategies, however, are unlikely to be incorporated in new settings unless they fit the local environment and the ways that the subcommunity is already providing “scaffolding” for novices. Scaffolding gives learners the help they need to move from what they can already do to more complex tasks. Applebee (1984), for example, uses this term to refer to instructional support provided by the teacher but also warns that scaffolding need not be viewed reductively as simply a teacher-centered “lesson.” Scaffolding also refers to how tasks can be structured and modeled and how the environment for working can be redesigned to support development. Scaffolding is the assistance that proficient members of a community offer to learners in Vygotsky’s “zone of proximal development.” What compositionists can do is assist the locals in other academic disciplines in identifying gaps in literacy development and suggest additional scaffolding to help students make transitions across those gaps. This process of assessing literacy development across disciplines is difficult because development occurs slowly over time and ways of “teaching” writing in other disciplines are often not explicitly articulated.

In this chapter, I want to focus again on “*what* is perceived, desired, feared, thought about, or acquired as knowledge” as students interact more closely with the local environments of their academic majors. Often to the frustration of faculty and students, the “skills” acquired in the first two years of college do not smoothly transfer to the more challenging tasks of specialized courses. Instead, in cultural psychologist Michael Cole’s words, “mind emerges in the *joint* mediated activity of people,” as students and faculty coconstruct the subcommunities in which learning occurs (p. 104). In this chapter, I look particularly at the scaffolding various disciplines provide to support student development in writing and analyze the

roles of direct teaching, teacher and peer response, “hands-on” experience and apprenticeships, and the college-classroom context in changing how students write. The goal is to understand these writing environments from the participants’ perspective, especially that of students, challenging again the fantasy that students should already know “how to write” for situations they have not yet encountered and demonstrating how their development continues, though not always in consistent ways apparent to individual faculty.

Direct Teaching of Writing, Research, and Ways of Knowing

Perhaps because of the perception that students should already know “how to write,” writing courses beyond English I and II at Pepperdine are offered only in English and communication departments and are not required for all majors within these disciplines, so most students take no upper-division courses that focus solely on writing. Few students, then, follow a coherent sequence of courses designed to build advanced writing skills. The exceptions are students majoring within the department of communication and in the writing/rhetoric emphasis in English who are preparing for careers where writing is a primary job skill. Carolyn’s public relations major is a good example of an academic subcommunity that has a clear plan for helping students make the transition from novice to experienced writers. From her first year, Carolyn was schooled in writing for the mass media, beginning with a general overview in Mass Communication 200. As a sophomore, she gained experience in editing and improving her writing. Because she failed by one point a standardized placement test of her grammar and editing skills, she was required to take Communication 200 where she was relentlessly drilled. While not all students in all majors would find this useful, Carolyn credited the class with teaching her not just rules but also how to use punctuation, varied sentence structure, and stylistic devices as “tools in order to make you a better writer; that’s what we really learned about in that class.” During the first semester of her junior year in Mass Communication 280, Writing for the Mass Media, Carolyn completed 33 different, short writing

assignments in genres from news stories to advertisements and, in Public Relations 355, developed her first major public relations campaign, promoting the cancer fund-raising of her sorority. By the end of her senior year, she had completed, among other projects, a public service advertisement using computer graphics to warn against drunk driving, a public relations project for a charity event, a group project marketing bottled water, and her senior thesis, the more than forty-page study of Northwest Airlines. Though, as a senior, she was not sure she would actually work in public relations, Carolyn felt confident of her writing, of her ability to analyze new writing tasks and apply the mass-media strategies she had learned.

However, in most disciplinary subcommunities, unlike communication, writing serves as a tool to construct and interpret knowledge, but not as a major focus of instruction. Undergraduate majors like history and English literature, while heavily text based, do not explicitly prepare students for careers as writers, and there is no sequenced curriculum to develop writing skills. Other disciplines, like psychology, for example, emphasize research and application over writing as a primary focus. Yet, to look exclusively at the explicit teaching of “writing” in these disciplines is too narrow a focus. Many disciplines—including history, English, psychology (and several others) at Pepperdine—do deliberately teach literacy practices in research-methods courses. Though these are not “writing” courses, students identified these courses as places where they became more explicitly aware of the interplay between theory, research methods, and genre conventions. Elizabeth, for example, although she had completed several Great Books classes and English literature survey courses, was not aware that ways of writing about literature could represent different critical approaches. A required course in critical theory and literary research, which she initially failed and repeated in her senior year, helped her understand critical assumptions in the research she read and in her own writing. For Terri, learning to use primary sources was an important step in her history research course. Without this experience, she would not have been able to research and interpret nineteenth-century church newspapers for her senior thesis on the Millerite religious movement.

In psychology, Georgia at first resented her professor's insistence on correct American Psychological Association (APA) format and style in a research-methods course. Initially, she saw this as just another example of "giving the professor what she wants." By the end of the course, however, she reported that she felt much more confident in being able to write for a professional audience. Like other students, she came to see APA guidelines not as the idiosyncratic preferences of her professor but as a useful format for reporting information. Paul, another psychology major, mentioned research methods as just one course giving him practice in reading and writing APA-style studies. He suggested that students actually find writing easier when they "pick a major with a set style of writing" that they can use "when they go out into the world." Paul added, "If you're going to be a psychologist, you have to know how to write APA."

However, this deliberate instruction in research and writing still does not magically transform students into experts who can now write effectively on all topics within their disciplines. Most importantly, as students struggle with the complexity of new content-knowledge and genre conventions, they may lose track of the arguments they need to make in their writing. As a writing center director, I worked for several years with students from the psychology research-methods course. These students were given three pages of guidelines on which their papers were evaluated. As they wrote literature reviews, like Georgia's on childhood depression, students tried to apply these guidelines but often simply summarized a series of research articles. They either forgot, or found it too difficult, to construct an argument about childhood depression and to organize their research material to support this perspective. For many students, it required looking at model papers, critiquing drafts in peer groups and individual conferences, and then revising to help them make this next step toward analyzing, not just reporting, what they were learning. Research-methods courses provide a space in the curriculum for students to address explicitly the formation and communication of knowledge in their fields. However, learning disciplinary conventions is only the surface of what students need to know. Telling why something is important, and not

just “dumping out your brain,” as Julia called it, continues to be the most difficult task for students. Presumably, this analytical ability is emphasized in English I and II but not generalized to the new styles of writing in the major disciplines, where the content, methods, and style of analysis are quite different. In the writing center, the challenge is to “remind” students to “go back to” general notions of making assertions and supporting them, while fully understanding how these concepts play out in their fields. Responses from teachers and peers as well as grades suggest to students how well they are succeeding in the balancing act between appropriate content and form.

Responding to Student Writers: Comments and Grades

Student papers in the psychology research-methods class were rated, using each of the items listed on the three pages of guidelines. In addition, the professor wrote detailed notes on both the rating sheets and the students’ texts. Because students could revise their work, some, like Georgia, felt more confident by the end of the course that they had mastered the basics of APA style and format. On the other hand, as Paul reviewed his portfolio, he explained that he never read the teacher’s comments. He received 23 points out of 30 on his first draft and figured with his test scores he was sure of a “B” in the class. As he said, he was not motivated to revise.

The running commentary, in the form of comments, grades, and corrections, offered by teachers, and sometimes other learners, is a second strategy, in addition to deliberate teaching, used to instruct novices in the literacy practices of their disciplinary subcommunities. How students assess and make use of this commentary seems to be as context dependent as how teachers assess student writing. The teacher’s commentary and the use students make of it cannot be understood outside the writing environment—the class, the content knowledge, the assignment, the teacher, and the student’s perception of these—in which the commentary is embedded. While some commentary may seem overly detailed or too focused on minor errors from the perspective of compositionists,

every type of comment seems to work with at least some students. Like student writing itself, commentary is, perhaps, best assessed in terms of the fit between the goals of the commentator, the text itself, and the response of the audience, in this case, the student learner.

Students, with limited time and many interests, are strategic about their uses of literacy. In general, they are as literate as they need to be to accomplish their own goals, including earning acceptable grades. In our study, students said they liked comments from teachers on their writing and that they usually read them. When there were no comments on their papers, they wondered if their professors had actually read their work. But grades, once again, functioned as important signals to students and influenced their response to comments. Students weighed the cost of spending time on a paper against the likely benefit of a better grade. For Paul, responding to three pages of comments meant a lot of work for a few more points on his paper and little improvement on his grade in the class. In addition to grades, students also considered the context of the class as a whole, especially how much they personally felt motivated by the content of the course and the teacher. Paul, who enjoyed theorizing, found his research-methods class mainly a matter of memorizing notes and textbook materials, something he could do without much effort. In keeping with his philosophy of being satisfied with a “good enough” grade point average and a good social life, Paul was not inspired to greater efforts by the teacher’s detailed comments.

On the other hand, the commentary offered by grades can be a signal to students that they need to make changes in their writing, especially when they are also personally engaged by their courses and when the teacher points out specifically how they can improve their work. For example, Andrea explained that she felt unprepared for upper-division courses in political science, a major with only one or two required lower-division courses to prepare students for advanced work. After receiving “As” in English I and II, she was dismayed by the low grades on her writing in three upper-division political science courses during the second semester of her sophomore year. When I asked if she could have been better prepared by

English I and II, she answered, “It’s something you have to learn in poly sci. It’s bad that you have to learn the hard way.” Andrea, who was highly motivated by her political science courses, needed rapidly to acquire both content-knowledge and new ways of writing. Of her jurisprudence course, for example, she said, “I loved the class. That was the thing. I just couldn’t understand why I was doing so horrible in the class.” Her professor’s detailed comments helped her to see what she could do differently. Her legal brief on the Supreme Court case, *Plyler v. Doe*, examined “Whether a state is obligated to provide a tuition free public education to children unlawfully present in the U.S.” Her professor’s comments combined encouraging praise with probing questions. For example, on page four of this eight-page paper, he wrote, “Good review of the applicability of E.P. [Equal Protection] clause to illegal immigrants. Brennan went on to demonstrate that the state could not legally restrict education to citizens. Why?” The grade of “79,” a “C+,” lower than Andrea expected, suggested that she needed a new approach for her political science papers. Most importantly, she said, she learned that she needed to read differently. While in the past in her reading and writing she had aimed at getting general ideas, what she called “the overall picture,” now she realized that she needed to focus on specifics, that small details and facts were needed to explain that big picture.

In all of her major courses, Andrea continued to struggle to find a balance between the “what” and the “why” of her writing, between reporting information and analyzing it with sufficient depth. Could this process have been less painful? Andrea suggested that professors helped when they assigned several papers giving students a chance to improve gradually. Students helped themselves, she said, by “going in to see the professor and see what you’re doing wrong.” Despite practice and detailed feedback from her professors, Andrea progressed slowly. She said, professors “already expect you to be at a certain level,” but she had to learn as she worked her way through each class. She summed up the story of development when she said, “I look back on my education at Pepperdine, and I wish I could have taken that class [jurisprudence] now. Because I

am ready for it.” Apparently college writing is another of life’s catch-22s; you have to be ready before you can do it, but you can’t get ready until you do it.

Grades and teacher comments, then, are read in context, a context not controlled solely by the teacher but coconstructed by the student’s interests and experiences. Terri, turned off by “C’s” in her English classes, and Deborah, who felt her teacher was biased, did not feel improved by their teachers’ comments, no matter how extensive or well thought out. Some of the most effective feedback we observed in portfolios was in speech classes, where students explicitly coconstructed the commentary assessing their work. In these classes, students wrote self-assessments, received critiques from other students, and wrote responses to their teachers’ comments. Students’ written responses to teacher comments meant that the students actually read what the teacher wrote and had a chance to describe how they felt about their own work, what they saw as their own strengths and weaknesses. Standards of assessment for speech were clearly spelled out in check-sheets and then exemplified and negotiated over the course of several different assignments. Students were not just “giving the professor what she wants”; they played an active role in assessing their own progress in the course.

The weakest feedback to student writing was on those papers and projects that Julia described as follows: “Well, we turn them in at the end of the semester and then I don’t know what happens to them.” Surprisingly, when we in the portfolio project occasionally retrieved these projects from professors, we found they sometimes had comments written on them, comments students had never seen.

Responding to Student Writers: Correcting Errors, Revising Style

In addition to grades and general commentary, many student papers in the study were marked with detailed corrections in usage, punctuation, and style. While we did not systematically study the effects of these kinds of corrections, it is clear, again, that the way students

take up corrections is dependent on the writing environment and the student's, as well as the teacher's, goals. Every type of correction seems to work for some students, but no one type works for every student. Despite teachers' complaints that students cannot spell or punctuate, the students in our study, in fact, did not make many basic errors in the conventions of written English, and many of the errors they did make could be attributed to their last-minute writing processes. Teacher corrections were more often addressed not to basic errors but to style, untangling vague or confusing sentences and modeling conventions of a specific academic discipline.

Randall, who graduated with a 3.23 GPA in biology, provides an example of typical "good enough" writing and some typical teacher response. As a preface to his web pages, Randall, in his senior year, wrote the following "Quote on Life": "Life is not about the accomplishments you can make and the number of letters after you [sic] name, its [sic] the people you were able to help along the way." Although the sentiment is admirable, I am sorely tempted to edit Randall's writing, which will appear in the public forum of a web site. When a colleague teaching business law at the University of California Los Angeles tells me that "students today" cannot write, her most damning piece of evidence is that they don't know the difference between "it's" and "its."

Randall's professors have certainly corrected his writing, especially to demonstrate stylistic choices appropriate to writing in science. Within academic disciplines, comments on style are another way of alerting students that they must change their "normal" way of writing. Randall's paper on "Density Control and Distribution of Great White Shark, *Carcharodon carcharias* Along the North American West Coast," written in the first semester of his senior year, was certainly more complex than his quote on life. His teacher corrected several items in Randall's first paragraph (see the following figure).

Throughout the paper, Randall was clearly trying to write in an appropriate scientific style. Although his sentences were sometimes vague and confusing, perhaps because he was trying to sound like a scientist, the only real "error" in his seven-page research report was a comma splice in a long and complicated sentence. His

many ^s studies involving interactions and distribution of sharks have long been ~~under-~~ ^{conducted}
~~way~~ in the last decade. Scientists struggle to gather data on these elusive, dangerous
 creatures in order to better understand their habits and life ~~patterns~~ ^{histories}. The Great White
 shark, *Carcharodon carcharias*, which ranks as one of the most well-known and most
 dangerous of all sharks, has recently gathered special attention ^{why?} in the pursuit of these
 patterns. Some of the many problems faced in studying white sharks include the limited
 lack of ^{and attainable} attainable data available to scientists on their behaviors. Data on the white is limited to
 their ^{at} ~~capture~~ and ~~its~~ ^{at} location and to the observations of known white shark feeding
^{at site of capture?}
 grounds. Until recently scientists have only been able to gather data on white sharks
 through baited interactions in which sharks are brought close to a vessel to feed on a
 carcass.

What?
 wt., size,
 stomach
 contents
 ???

professor acted as an editor, questioning unclear sentences and re-
 wording convoluted ones. Randall got a grade of 9.5 out of 10, and
 the teacher commented, "Good paper. Nicely organized and fo-
 cused. You need to work on explaining ideas more clearly." Randall,
 who said his hobbies were "surfing, surfing, surfing," had a strong
 personal interest in sharks and chose this paper as one of his best
 works to be included in his digital portfolio. While Randall did not
 revise this paper after it was graded or comment on the teacher's
 specific corrections, presumably, the comments indicated that he
 needed to continue his efforts to write appropriately for his disci-
 pline.

To some readers, certain kinds of surface errors, like Randall's
 disregard for the distinction between "its" and "it's," seem to stig-
 matize students as poor writers; yet, when I reviewed our study
 portfolios of work collected over four years, these errors seemed in-
 significant compared to the greater challenges that face students
 in writing critically about complex topics. Despite teacher con-
 cerns about commas and misspelled homonyms not caught by spell
 checkers, most of our study students made some but not many egre-
 gious surface errors even as first-year students, and they continued

to make surface errors even as seniors. The weaknesses in their style and word choice are hard to separate from their difficulties in dealing with complex subject-matter and, also, the time pressures under which they worked.

On the other hand, extensive corrections at the sentence level can change students' writing when they are motivated to work on style and, especially, when they have opportunities to revise over several papers as Carolyn did in English II. Because surface errors do stigmatize students in the eyes of many readers, certainly, classes that focus specifically on writing, like English I and II, should spend time on producing edited final drafts as well as exploratory first drafts. Further, in majors like Carolyn's, public relations, where the goal is to produce professional writers, students can be systematically trained to be good editors. However, unless a discipline wants to put this emphasis on editing, students are, again, likely to be strategic about their literacy and less concerned about punctuation than they are about content. Susanna, a science major who actually was a very skilled writer, said "If you're real into science, you just don't want to sit there and memorize comma rules and stuff. I just have no interest in that. And so, I figure if it's real important, an editor is going to be looking at it, and that's kind of their job." Almost every professor in Sarah's major, English, wrote on her essays the reminder that "the comma goes inside the quotation marks." I counted at least 10 examples of this comment in her portfolio. Yet Sarah always got "A's" and "B's" on her otherwise thoughtful essays and sprinkled her commas inside or outside of quotation marks, seemingly as the mood struck her. Allison, a friend of Sarah's, working for the portfolio project as a student assistant, told me that Sarah was "too intellectual" to be bothered by such minor details. Terri, as discussed earlier, agreed that teachers' rewritten versions of her sentences might be more correct but she did not internalize them. She said she continued to write as she spoke, that is, with just a very few markers of an African-American English vernacular typical of urban Los Angeles.

In some ways, the time and effort professors put into corrections may serve a symbolic, if not a practical, purpose. These cor-

rections indicate that the professor pays attention to editing. Leslie was impressed that her political science professor took the time to write a typed, full-page response to each of the 30 students in the class. After commenting on her content, sources, and analysis, he noted a problem with her use of “which” rather than “that.” He wrote, “I may be trying to fight a losing battle on this latter point, but I take my cue from Strunk and White’s *The Elements of Style*, which provides a logical (and comprehensible) distinction between the two.” While Leslie admitted she still didn’t really understand the distinction the professor was making between “which” and “that,” she took his comment as a sign that he had read her work and cared about her progress as a writer. If faculty wish to have more than a symbolic effect on student writing, they might first rethink how much emphasis they really want to put on style and editing and then provide the scaffolding to support this emphasis rather than relying primarily on corrections on completed work. Discussing models of writing, providing guidelines for editing, adjusting grading practices to reflect editing concerns, organizing classroom workshops, encouraging revision, and giving multiple assignments that require students to apply what they have learned are all rather homely but effective strategies.

Throughout, however, faculty need to sort out distinctions between errors and the specific stylistic conventions they want students to learn in their discipline and between sentence-level problems and the much more difficult tasks of researching, reporting, and analyzing information. By focusing too much on the sentence-level skills, which they think students should already know, faculty may miss the real problems students have in learning to write in new and more complex ways.

Response from Peers

Luckily, faculty need not be the only teachers for students. In addition to the deliberate instruction provided by teachers, Bruner (1996) points out “that learners ‘scaffold’ for each other as well.” This is another area we did not explore in-depth, but students in

our study provided hints of its importance. Interviews with students suggested that much informal tutoring goes on in residence halls and student apartments. At the beginning of his junior year, Paul took an upper-division history course on colonial and revolutionary America because he needed “extra units,” and two of his roommates were in the class. His final course paper on “The French and Indian War at Quebec” got high marks from the professor, and although this was the only history paper in Paul’s portfolio, it seemed quite appropriate in form, style, and supporting evidence. I asked Paul, a psychology major, how he knew how to write a “history” paper. As he explained his process, it was clear that he drew on his Great Books experience in selecting a topic, skimming sources for appropriate quotes and supporting details, and constructing an essay combining narrative and analysis of events in Quebec in 1759. In addition, Paul also turned to his roommate, a history major, as a source of information. The roommate was able to explain and check his overall format and his citation style, including the use of footnotes.

Teachers can, of course, build on this informal process of students teaching students. In Deborah’s senior-year telecommunications course in broadcasting and programming, she learned from the teacher’s feedback but also from in-class critiques where students assessed each other’s work. Unlike her English I class, where she felt locked in an individual struggle with her professor over her ideas, in this telecommunications course, the students helped evaluate each other’s projects. Deborah saw examples of good and bad techniques in their work, and she felt comfortable imitating their good ideas in her own projects. This was perhaps easier for her as a senior in a subcommunity with what she saw as the shared professional values of her telecommunications major rather than in the more heterogeneous classroom of English I during her first year. As part of the developmental process, Deborah was sorting through and adopting criteria to assess her own process. Deborah’s resistance as a first-year student may seem discouraging to a teacher, but, as a senior, Deborah was articulate and self-aware. She used the critiques of other students and the teacher to improve her work,

and by contrasting her projects to those of others, she said she came to recognize her own style.

Study groups are another way students learn from each other. Terri usually struggled alone with her course work and job responsibilities. She explained that professors seemed to assume she understood what they expected and added, “Maybe everybody else knows, but I didn’t know.” She said that because of her work schedule and her experience at an urban high school, where “students never talked to teachers,” she did not talk to her teachers, use resources like the writing center, or study with other students. In her senior year, professors coteaching an American legal history course organized the class into study groups and required that students attend once a week. For Terri, this was an enlightening experience. Although she could not say exactly what information she learned in her study group, just talking about ideas helped her to be more successful on her written essay exams. Paul, who went to a private high school and stressed the importance of having a “social life,” expected to get help from his teachers and his friends. But not all students will seek out this kind of support. Professors need to structure opportunities, perhaps required conferences and study groups, where all students can talk through what they do and do not understand, an important corollary to learning from written texts.

Learning Through Experience

The “hands-on” art history paper and other similar projects rated highly with students as they looked back on their experience in general-education courses. The “hands-on” experience continued to be a significant way of learning as students entered specialized subcommunities both outside and inside the classroom. One of the questions we asked students in yearly assessments was what important learning experiences were *not* represented in their portfolios. What would we not know about them from looking just at their portfolios? Carolyn pointed out that her experience as president of the Panhellenic Council of Greek Organizations on campus had been as important to her as her classroom learning experiences in

public relations. The council was formed in reaction to a movement by the university to ban all fraternities and sororities. Instead, Greek organizations were given the opportunity to reform unacceptable practices in choosing members, hazing initiates, encouraging binge drinking, and other negative behaviors. As the first president of the new council, Carolyn conducted meetings, gave many speeches, and wrote extensively—letters, memos, guidelines, and plans for events. As she said, “I couldn’t come off sounding like a babbling idiot. I had to use those skills that I had learned in my classes.” In turn, she brought her experiences back to the classroom, when she developed projects for her public relations courses based on sorority charitable fund-raising activities.

In the communication program, with its emphasis on career training, “hands-on” experiences and internships gave students opportunities to test their classroom learning. Deborah was perhaps more open to critiques in her telecommunications classes because she had first-hand experience with how television news shows are actually produced. After working for the campus TV station, she had internships with two local television stations. Her first internship was primarily clerical, but at the second, she was mentored by the manager of the assignment desk and had the opportunity to write news copy. Another measure of students’ development is their ability to handle these professional assignments. Clearly, their classroom experience helps. Natalie, interning at Nickelodeon television, credited a public relations class with teaching her to write under pressure. Initially, she said she disliked the course, where students were given assignments that had to be completed before the end of class. However, it gave her enough confidence not to panic when she had similar deadlines at Nickelodeon. Nonetheless, in these new roles, again, students needed some time and experience to adjust to new forms of writing. Natalie pointed out that every organization has its own style. She looked at models and got feedback from her supervisors to learn how to write press releases specifically for Nickelodeon.

While not directly focused on writing, Andrea was able to redefine her career goals during two summer internships in Washington,

D.C. A stint in the White House legal counsel office convinced her that she did not want the kind of high-pressure government or corporate job she had initially desired. Instead, a second internship working for a nonprofit legal-reform organization brought her in contact with people who could not afford more expensive counsel. After that experience, she decided she would like to be “some kind of advocate,” especially for women and children. When I asked about reading and writing in these jobs, her role was routine, reading letters and sometimes writing replies using boilerplate responses. However, these internships increased her interest and effort in courses on jurisprudence and constitutional law processes.

Terri, as a history major, was able to earn money and follow some of her own interests in her job at the Skirball Cultural Center, an educational center and museum in Los Angeles that traces the history of the Jewish people. Terri had turned away from writing about issues of race because, as an African American woman, she found them too personal and painful and had not felt supported in her early efforts in English classes. Terri reported that she found “the perfect topic” at the Skirball. She could identify with the oppression of the Jewish people, had excellent opportunities for research, and could explore her interest in civil-rights issues in a form other than personal narrative. These interests came together in her paper on “The Maryland Jew Bill.”

Apprenticeships can occur on as well as off campus. Susanna, a sports medicine major who wanted to be a doctor, is the best example in our study of this kind of apprenticeship learning and is a model of development nurtured over four years. Susanna illustrates the reciprocal nature of development, the interplay between the individual and the environment. Neither is static; the individual shapes her environment as the environment shapes her. I knew Susanna rather well because she was one of the students who spent a semester studying with me in Pepperdine’s program in Florence, Italy. She came to Pepperdine from a small, private high school in Michigan, graduating with a 4.0 GPA. She projected those stereotypical traits fairly certain to gain favor in the classroom; Susanna was likely to impress teachers as bright, mature, and hardworking.

Perhaps for this reason, Susanna was asked as a first-year sports medicine major to attend a weekly seminar in which her professors were discussing a new research project. Susanna, shaping her own environment, accepted. She read research reports and learned that even articles in the *New England Journal of Medicine* can be critiqued. During that first year, she attended the American Conference of Sports Medicine in San Diego where, she said, “I had no idea what any of these people were talking about when I would sit in these lectures. . . . it was more like let’s go to San Diego and have fun for the weekend.” Studying in Florence, she missed the conference her sophomore year, but, she said, “And then junior year I went and it was starting to all click in. But by the time I went senior year, I could understand everything they were talking about.” In addition to attending sessions at the conference in her senior year, Susanna also did a PowerPoint poster presentation, answering questions, for two hours, based on knowledge drawn from research done collaboratively with a professor and another student.

Susanna could explain, in detail, how she developed the skills to make this professional presentation on the “Effect of Gender on Myocardial Work during Progressive Treadmill Exercise.” From her first year, three professors that she worked with most closely emphasized research and writing. Especially in her junior and senior years, she had extensive practice in writing case studies, lab reports, and scientific research papers. For example, in her course on motor control, she said she spent five to seven hours researching and writing up labs that were due almost every week. Although she said it was frustrating that she could not often get “As” on these reports, she did get feedback and comments, so she could see improvement over time. According to Susanna, all three professors in her major seemed consistently to expect the same kind of writing, appropriate for journals in the field. Susanna participated in research projects with two of these professors and did her own research along with two other students for the third professor. By her senior year, she was working as a volunteer at Santa Monica–UCLA Hospital and wrote two case studies of patients that were rated “100/excellent” by her teacher.

much knowledge to be imparted, there is little room for leisurely contemplation of how knowledge and experience might be constructed otherwise.

This sense of too much to learn, too much to do, is a major constraint on student performance. When professors judge writing ability and learning based on individual student texts, they most often are assessing writing produced under tight time constraints. It should come as no surprise to anyone who has been on a college campus that most student writing is completed very close to a deadline set by the professor, rarely more than a day or two, often the night before the work must be turned in. Both Carolyn and Sarah, who were quite successful in their classroom writing, reported waiting until the end of the semester to write their senior theses. They had researched, made notes, and thought about their papers, but did not begin drafting. Sarah explained that she had written almost every one of her “A” English papers the day before it was due. Being able to write more quickly can be a sign of progress to students. While Randall said that as a first-year student it took him five days to write a science research paper, he reported as a senior that, after doing the necessary research, he could write a paper in two days.

In interviews, students always apologized for not spending more time on their writing. They felt like they should have begun writing sooner, but they didn't. However, although they didn't begin actually drafting their papers early, they did start the writing process. These writers had learned to manage their time sufficiently, so that they began going to the library, conducting research, reading, thinking, meeting with other students for group projects, interviewing, and generally gathering material before they actually began “writing.” Their difficulty was in setting aside a block of time to focus on producing a coherent text. Like many other writers, they could not have kept track of what they were thinking and writing if they had had to write in short bursts, say one page written during one hour a day for a week instead of seven pages written in five or six hours in front of the computer. These students, like other writers, looked for some kind of flow in order to produce coherent work.

They needed some uninterrupted hours to draft their writing. Theoretically, they should have had plenty of time available, since they spent relatively few hours a week actually in class. However, their time seemed fragmented, especially as they juggled their personal lives and the requirements of several different courses. It took the pressure of a deadline to push aside other commitments and make room for the hours needed for writing.

How do students manage their time? During their first year at Pepperdine, 28 students in our original study group kept time logs of their activities for a week. These logs were analyzed by natural science professor Laurie Nelson. She found that these students spent a mean of 16.7 hours in class and 23 hours outside of class on academic activities. Sleep took up 54.4 hours, the combined categories of social and other leisure activities accounted for 31.5 hours, personal affairs, such as showering and eating (which could also be counted as a social activity), took 23.1, and the remainder of students' time was spent in employment (6.2 hours), sports, campus activities, religious activities, and visiting their families and friends at home. While we did not repeat the time logs in subsequent years of the study, this gave us at least one picture of student life. My impression is that the time spent in employment or internships increased for most students after the freshman year. Even in students' first year, the amount of time spent studying outside of class showed a great deal of variation. With the exception of one student who reported 78 hours of study (a major project to complete?), the range during a midsemester week, not final exams, was from about 5 hours to about 40.

Certainly, some students had much less time than others. During his senior year, Paul worked almost 40 hours a week as a manager in a video store. As a senior, Terri put in 30 hours at the Skirball Cultural Center. Terri had worked three jobs the summer after her sophomore year to buy a car so she would not have to take a bus to school and work. She earned so much money that her financial aid was cut, necessitating working more hours during her junior and senior years. She said, "Professors may think I'm not trying, but I am."

Professors, however, may wish that students would reallo-

cate some hours from the social and leisure categories to invest more time in academic projects. Students often frustrate professors' efforts to get them started early on projects. In the psychology research-methods class, students had a draft deadline and the opportunity to revise before a final draft was due. While this did get them started on their research, many drafts were haphazard. Since this was not the "real" deadline, some students reported that they hastily produced a few pages for an in-class writing workshop and planned to write their "real" papers later. While students' final papers improved through discussing the ideas in even these very rough drafts, professors need to structure class activities carefully, if they really want to impact students' usual writing processes. Paul, you may remember, was satisfied with the "good enough" grade he could earn in psychology research methods without revision. That might be acceptable to both the student and the professor. However, if the professor wanted to push Paul a bit more, she might give the draft only part of the points for the assignment and reserve additional points for a revised final draft. Students need to be strategic in the management of their time and will weigh the cost of improvements, especially improvements as mandated by the teacher, against benefits they will gain from additional work.

From the students' perspective, professors may expect too much for the time allowed to complete complex assignments. During her first year, Andrea was frustrated by being asked to research her family history and relate it to library sources in only a few weeks. In-class essays sometimes seem to ask students to do the impossible in one or two hours. For Carolyn's art history class, an essay exam question read, "Twentieth-century art reflects the problems of our age. Discuss." The following semester, in a humanities class, she was asked, "Expand on the theme: The Romantic Hero. Give examples from art, music, and literature." To be successful, students learn not to address these assignments in too much depth. They have to do work that is just good enough for the time allotted. These are not necessarily bad assignments as long as professors make reasonably clear what they expect in the time allowed. Vanessa, with a family history perhaps more accessible than Andrea's, loved the

family-history project, and Carolyn wrote neat, coherent, informative little essays for those in-class exams in art history and the humanities. However, while any one of these assignments may be useful, the overall picture of student learning can seem rushed and fragmented. Again, it can seem that students are getting a kind of workplace training, a workplace, even in academia, where the ability to juggle many different tasks under time constraints is highly valued. Far from being an ivory tower of leisurely contemplation, college continues to sort students for future jobs, putting special value on time management.

Student Writing Strategies

In the context of social life and job responsibilities vying with academic demands for time each week, students struggle with problems familiar to most writers. At the beginning of their senior year, 16 students in our study filled out questionnaires, describing the difficulties they experienced in writing and the strategies they used to overcome these difficulties. Only one student mentioned “basic” writing problems. Stephen wrote that his greatest difficulties were spelling and conclusions, problems he addressed by getting help from his professors and other students and using a spell-check program. Almost half of the students (7) located their difficulties with the audience, with writing to meet the demands of their academic readers. The other half (8) located the problem in themselves as writers, in trying to draft in words the ideas they wanted to express. This difference in perspective in our small sample does not seem to correlate with students’ majors or their success as academic writers and perhaps simply reflects the two perspectives—audience and self—that every writer must maintain, sometimes focusing on one, sometimes on the other. Those focusing on audience mentioned again adjusting to what the professor expected, meeting requirements for length, and writing in different styles according to assignments, for example, “creative” versus “objective” writing. Strategies for overcoming these difficulties included studying professors’ comments, looking at models, getting opinions from others, brainstorming,

outlining, and, in Allison's case, screaming and crying "until my head is clear." Vanessa summed up the writing-for-the-audience problem when she wrote, "I have difficulty in writing when I am assigned something without clear expectations. . . . I am better when I have something specific to write about."

Andrea tried to bridge the gap between self and audience. She reported a typical problem for writers, "Sometimes I cannot find the appropriate word to convey what I am trying to say or what I want the reader to get out of my writing. It is also difficult, at times, to phrase a sentence to mean what I want it to mean." Other students echoed this difficulty in finding the right words to get down on paper their ideas and opinions. They expressed difficulties in getting started writing, organizing, being focused, being descriptive but not repetitive, and wandering off topic. Sarah noted, "My most often encountered difficulty is clarity and simplicity." Some of these students were explorers. Their strategies were, in the case of Paul, "I tend to just start writing," and, for Georgia, "I like to explore and play with my words and research." In contrast, Elizabeth's strategy was "I try to focus in on exactly what I'm trying to say and exclude all else. Often I do this by formulating a very precise thesis and an outline to follow before I actually begin writing in paragraph form." Susanna also emphasized, "Organization! I try to write a strong main statement & [sic] then follow that by back-up statements & examples until the statement is entirely picked apart & proven, followed by a memorable conclusion." Despite the emphasis placed on revision in composition courses, only two students mentioned rewriting as a strategy they used, and Carolyn, trying to avoid revision, said she tried to fit in new words, phrases, or ideas that came to her while she was writing, rather than go back and change what she had already written.

Although students could often identify their own writing problems and effective writing strategies, knowing what to do was not the same as knowing how to do it. Terri pointed out how solving one problem could cause others. Her biggest problem was writing long papers. She said that she had developed a system, "I divide it into sections or mini chapters [sic] and work on them independently. This is the only way I can be concise and thorough." Then,

her problem became one of creating transitions between these sections. This lack of transitions was apparent in her senior thesis as was some difficulty in keeping track of exactly what argument she wanted to make. And yet, clearly, she had developed over four years a much greater facility in handling a complex topic in greater depth and detail and in a style and format appropriate to her history major. When we judge the individual written texts students produce, we may lose sight of the students themselves as writers struggling with the same problems that all writers, including ourselves, face, and we may forget how many years of experience it takes to learn new strategies. Sarah had only three common sense words to explain how she overcame difficulties in writing, words which I will transcribe exactly as she wrote them, "Practice . . . practice . . . practice!"

Performing New Roles

When the students in this study, after four years in college looked back through their portfolios, first-year composition seemed very far away. The lessons that these students had learned in English I and II were subsumed in the much larger experience of making the long transition from being novice college writers to becoming more mature, young adults able to perform in a variety of new roles. From this longitudinal perspective, I repeat the admonition from chapter 1 that composition specialists should take first-year courses seriously, but I will add, again, the dispensation that we should not take these courses too seriously, especially if we expect them permanently to transform students' writing, writing processes, or thinking in only one or two semesters. The *how* of writing cannot be separated from the *what*. The *what*—in Bronfenbrenner's (1979) terms "*what* is perceived, desired, feared, thought about, or acquired as knowledge"—is developed slowly over time and "changes as a function of a person's exposure to and interaction with the environment" (p. 9).

Students cannot write expertly as social scientists, psychologists, or literary critics in English I or II, not only because they lack experience with academic genres but also because they lack basic

concepts and content knowledge that are essential for critical analysis. As Andrea said about writing for her jurisprudence course, “It’s something you have to learn in poly sci.” While beginning composition may introduce students to various social issues or cultural studies, as well as to ways of writing, I am skeptical of claims for English I and II courses that supposedly revolutionize students’ thinking. Students do not become more critical simply by *thinking* about a topic. Writers need concepts and knowledge to think with. While students in this study certainly brought concepts and knowledge with them to college, the *what* of their thinking was altered by being immersed in new academic subcommunities. The study students could explain more clearly the perspectives they learned in their major disciplines than they could recall the lessons from composition courses taken in the first few months of their college careers.

Whether their learning was planned or unplanned, students in this study did learn new ways of writing across the curriculum. These ways of writing were embedded in larger literacy tasks—how to formulate a problem, how to get information, how to analyze that information. Andrea discovered that in order to *write* more effectively in political science, she had to learn to *read* differently. Carolyn, in public relations, learned how to contact the right people and ask the right questions. Natalie was able to apply general writing skills from her communication courses to her internship at Nickelodeon, analyzing models and using feedback from her supervisors to write appropriate press releases.

Although, as Andrea said, professors “already expect you to be at a certain level,” the study students continued to develop as they transitioned into new roles and new environments. Each academic subcommunity provided scaffolding to support that development. Research-methods courses were effective places in the curriculum where writing was placed in the larger context of how the discipline constructs and reports knowledge, though, again, students hardly emerged as experts after a single semester. Grades on written work indicated to students how well they were acquiring the knowledge and discourse conventions of their disciplines. Comments and

corrections on individual student texts were part of a larger “running commentary” demonstrating how learners might improve their performance. This commentary continued in classrooms and conferences and outside of class as learners helped each other figure out what was expected. The *what* of this commentary varied: from questions of critical analysis, to examples of disciplinary style, to corrections of basic errors. Students needed to decide for themselves how to use this commentary, unless further direction was supplied by the teacher.

Students do best what they do most, and those who chose majors specializing in writing, of course, received the most explicit instruction in writing. These students, like Carolyn, demonstrate that very careful editing, which preoccupies many teachers, is actually a rather specialized skill that can be taught with sufficient time and interest from the student and teachers. However, few disciplines or students would care to invest the time in editing that is expected in communication, where it is considered a primary job skill. Instead, students, and many teachers, are strategic about their literacy and aim for work that is “good enough,” given the time constraints of classroom assignments and the goals of most disciplines to produce knowledgeable practitioners, but not necessarily professional writers.

When students faced major projects in writing across the disciplines, they struggled with the same concerns that trouble most writers, including professors. How does one carve out enough time for writing? Will this writing satisfy the audience? How can I find what I want to say and organize all of it in a coherent text? At other times, for students, their writing was a peripheral issue, not a major concern, as in Andrea’s internships in Washington, where writing followed a prepackaged boilerplate format. While she was not practicing her “writing,” certainly she gained valuable “hands-on” experience in problem posing and problem solving in two very different kinds of law offices. The writing of the study students across the disciplines did become more diverse and more complex during their years in college, but it was not the only measure of their learning.