

2 Using Computers to Teach Writing: Advantages and Disadvantages

When considering whether to introduce computers into the writing classroom, one question stands above the rest: do computers improve the writing of students? The answer, surprisingly, is that we don't know. Wolfe et al. report that "researchers do not agree about the effects of using word processors on the quality of student writing" (270). Owston, Murphy, and Wideman inform us that "the results to date have been equivocal" (251). Joram et al. tell us that, in regard to the accepted belief that computers facilitate revision, "there is little research that directly tests this claim" (168). Collier and Werier find that "research on the qualitative changes effected in writing by word-processing systems have been either contradictory or inconclusive . . . for all population samples—experienced professional and academic writers, as well as several categories of inexperienced writers" (47).

Despite the questionable ability of the computer to elicit improvement at the general level of "writing improvement," the computer does improve student writing at certain more specific levels. If we were to break the act of writing into its more specific constituent parts, we could then reformulate our original question: which particular components of the writing process are improved by using computers? Once we have analyzed the effect of computers on the various constituent parts of the overall act of writing, we will be in a better position to decide whether the pros of computer-assisted writing instruction outweigh the cons.

What Computers Can and Cannot Do

As we wade through one professional journal after another, the advantages of computer-assisted writing instruction begin to pile up, as do the disadvantages. Only through weighing and comparing these pros and cons can we ultimately determine the value of computers in the writing classroom; but before we enter any such discussion, let's take an at-a-glance look at the pros and cons in list form:

The Pros (as Compared to Students Writing with Pen and Paper)

Students:

- write better (Pennington 59)
- produce longer texts (Wolfe et al. 270; Kantrov 63; Pennington 59; Hawisher 11)
- produce neater texts; take pride in the neatness of texts (Wolfe et al. 270; Kantrov 70)
- produce more error-free texts (Wolfe et al. 270; Kantrov 63; Hawisher 10)
- are more empowered, see themselves as individuals who are “in print” (Gruber 29; Kalmbach 59)
- take more initiative; spend more time on assignments and more time on task; are more involved with assignments (Sandholtz, Ringstaff, and Dwyer 90, 94; Sabik 49)
- are more willing to experiment and take risks (Sandholtz, Ringstaff, and Dwyer 96; Kantrov 65–66)
- show more enthusiasm, more positive attitudes (Kantrov 63; Pennington 60; Hawisher 13; Sandholtz, Ringstaff, and Dwyer 90–91; Crafton 318)
- are more distanced from text; more likely to tap into authorial self as distinct from the actual self (Dowling 230–31)
- display more engagement with text (Collier and Werier 51)
- are more aware of recursiveness and the writing process (Takayoshi 247; Collier and Werier 51)
- gain a clearer, more well-defined sense of audience (Owston, Murphy, and Wideman 250; Wolfe et al. 270; Sandholtz, Ringstaff, and Dwyer 13; Takayoshi 247)
- are more able and willing to revise (Owston, Murphy, and Wideman 249; Kantrov 64; Pennington 60; Monroe 48–49; Sabik 49; Klonoski 74; Collier and Werier 47)
- are more able and willing to read one another’s writing or engage in peer review (Owston, Murphy, and Wideman 250; Dowling 228; Wolfe et al. 270), to collaborate (Hawisher 16; Takayoshi 247), to interact socially (Wolfe et al. 270; Rohan 21; Takayoshi 247), and to forge a unified class identity (Sands 37)
- are better prepared for the business/industry world or the “real” world (Ruenzel 26; Cuban, Foreword xi)

Other advantages:

- easier for the teacher to intervene/coach (due to the neat, orderly presentation of text on a monitor) (Rohan 20–21)
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- advantageous for basic writers: more initiative (Sandholtz, Ringstaff, and Dwyer 95); able to delete sources of embarrassment (Kantrov 65); improved writing (Hawisher 14)

The Cons (as Compared to Students Writing with Pen and Paper)

- increased difficulty for basic writers (Crafton 318, 323–25)
- difficulty in providing direct instruction due to difficulty drawing students' attention away from computers (Ruenzel 28); the computer can be a distraction (Sandholtz, Ringstaff, and Dwyer 59)
- inequitable access to computers: more access for the rich, less for the poor; also, low-achieving students are more likely to use computers for drill-and-skill, less likely to use computers for writing or holistic problem solving (Cuban, Foreword xi)
- more clutter in the classroom (Sandholtz, Ringstaff, and Dwyer 60)
- more downtime (Sandholtz, Ringstaff, and Dwyer 60)
- monotony; difficulty sustaining students' interest (Sandholtz, Ringstaff, and Dwyer 97, 102)
- potential dependencies created through prolonged use of word processor (Collier and Werier 48)
- less writing for pleasure, such as letter writing (Dowling 234)
- a technocentric attitude: students deduce that the equipment is more important than the teacher (Crafton 321)
- an increased vulnerability to business interests and the "commercial/technological alliance" that hopes to enlist future workers and consumers (Monke, "Web and the Plow" 34)
- less prewriting (Hawisher 16); less outlining (Kantrov 67)
- a distorted sense of audience: the computer becomes the audience; an impersonal, nonhuman audience replaces a human audience (Heilker 65–68; Dowling 231–32; Crafton 324)

Revision-centered problems:

- Students confuse revision with error correction (Crafton 322; Joram et al. 169).
 - Tinkering with surface-level error correction while in the process of drafting results in poorer writing (Joram et al. 169–70; Heilker 61, 63; Klonoski 73–74; Dowling 233; Crafton 318, 319, 325; Kantrov 66; Sharples 222).
 - Students actually do less revision because they don't have to re-copy (Kantrov 64).
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- Revision is made more difficult due to small screen size (Dowling 228).
- Text closure, due to ease of editing, is more difficult to reach (Dowling 232).

Students write more poorly due to:

- small screen size and seeing only a small part of the text (Kantrov 68; Owston, Murphy, and Wideman 250; Takayoshi 253)
- more focus on “product” features of word processing (such as font) as opposed to the “process” of quality text (Crafton 319; Kantrov 70; Sandholtz, Ringstaff, and Dwyer 98; Dowling 230)
- computers causing “memory overload” (Joram et al. 190)

This list summary is meant to provide an overview of the advantages and disadvantages of writing with computers. But within this general framework, certain issues stand out as more prominent than the rest and worth closer study. These are the issues of revision, audience, the business world, writing with pen and paper, social interaction, and attitude/enthusiasm. We now look at each of these issues in turn.

Revision

At one time, proponents of computer-assisted writing instruction claimed ease of revision as an obvious and indisputable advantage of using computers to teach writing. Today, certain revision-based drawbacks to using word processors have been identified. One drawback is that word processing, because it allows text to be so easily manipulated, lends itself more readily to surface-level or local-level revision than to deep revision. Therefore, student writers are far more likely to engage in surface-level revision. Ultimately, they begin to equate error correction with revision.

This increased concentration on surface-level revision¹ carries with it the concomitant problem of decreased concentration not only on deep revision, but also on the initial stage of text generation itself. Too much involvement with “evaluation early in the creative process may interfere with the fluidity that is necessary for generating ideas” (Joram et al. 169). Carolyn Dowling has noticed a disturbing trend among students and professional writers alike, finding that writers composing on word processors are frequently producing texts that—perhaps due to excessive cut-and-paste—appear to be “an aggregation of modules of text” that lack “conceptual flow and stylistic coherence” (233).

Features such as cut-and-paste, delete, insert, spellcheck, and grammar check may be redefining the concept of revision for the worse.

Meanwhile, another set of word-processing features—those that modify and amend the appearance of text on the page—might be whispering their own deceitful innuendo in the minds of student writers. Writing students who manipulate such functions as font size, font style, boldface, margin justification, bullets, and text centering are being given the “illusory impression of productivity” (Dowling 230) and being taught the lessons of “artwork and layout over content” and “glitz over guts” (Sandholtz, Ringstaff, and Dwyer 98). James Kalmbach reminds us that “students have always found ways to fixate on appearance rather than content” (58). These students are not entirely to blame, for they believe themselves to be imitating “what they perceive to be the values of literate society” (58). For the past few decades, this obsession with neatness as a virtue has been fueled by the existence of the comparatively low-tech Liquid Paper. Computers have taken this cult of neatness as symbolized by Liquid Paper and raised the stakes many times over. The result could be a generation of student writers who, due to the slickness of their word processor-generated writing, produce writing that lacks quality and depth because of a premature sense of smugness with their texts.

We have seen that a student writer’s infatuation with “displacement activities” (Sharples 222)—spellcheck, word counting, grammar check, etc.—can have three negative results for writers:

1. allowing local-area revision to replace deep revision
2. diminishing the creativity and logical continuity that should be the chief characteristic of the prewriting or drafting stage of writing
3. lending a false sense of security in which the neatness or slickness of computer-generated text gives the impression of quality writing

To these three, we might add a fourth negative result: the disturbance of rhythm. Rhythm in the writing process is the pattern of alternating periods of active writing with periods of reflection. In “Computer Support for the Rhythms of Writing,” Mike Sharples points out that though different writers employ different rhythms, all writers must bolster their writing with periods of reflection. But with the advent of word processing, the reflective stages of a writer’s rhythm are now replaced by the writer’s pattering with the various text-manipulating features that the word processor offers. The result is that “the rhythms of writing are becoming ever more complex and syncopated” (222). Sharples also expresses concern that future word processors “will offer yet more movements away from the text” (222) with innovations such as the dynamic outlining option of Microsoft Word.

But enough of blaming the technology. Much of the blame for the revision problems that the advent of computers has now amplified rests with us—teachers of composition at all levels. In his “Revision Worship and the Computer as Audience,” Paul Heilker traces the evolution of revision as a good idea gone bad. We began by focusing on writing as a process, followed by a focus on revision, followed by the collaborative workshop, “the teaching method by which we could promote and, indeed, attempt to insure such revisions” (61). Process, revision, and the collaborative workshop—three terms that most teachers of writing invest with positive connotations. The problem, Heilker points out, is that what should be natural and organic has become synthetic and institutionalized. Through the medium of the collaborative workshop, we *schedule* revision, which in turn “rips revision out of a holistic, continually recursive notion of writing process and firmly plants it in a linear one” (62). Computers have only exacerbated the situation. Because computers have eased the revision process—a task once associated with drudgery—we are now far more likely to set aside certain class periods for scheduled revisions. And to cap it all off, students who revise receive higher grades than those who don’t, thus promoting the objectionable student practice of revising for grades. All of this amounts to a series of messages to students that would be better off unsent: “that revision is always a good, productive thing; that revision is a worthwhile end or goal in and of itself; that every text needs to be or should be revised; that revision comes after writing as a separate, often last stage in a linear process” (63).

Audience

The issue of audience—much like the issue of revision—elicits mixed responses. There are those who say that using computers to teach writing augments and more sharply defines a student’s sense of audience. A recent study conducted by Edward Wolfe et al. concludes that “students who chose to take their writing assessment on a word processor were more likely to look at the writing of other students than students who took the writing assessment with pen and paper” (270). Sandholtz, Ringstaff, and Dwyer believe that the computer is superior to pen and paper in permitting the student to overcome “privately held constructions” (13). A student’s writing “needs to be reviewed by peers, explained to parents, presented to expert panels, considered for entry into personal portfolios, and reviewed and assessed against rigorous standards” (13). The computer—with its polished product, its publishing capacities, and

its adaptability to peer review—is an ideal tool for turning “privately held constructions” into public discourse.

Heilker and Dowling, on the other hand, in what might seem like recourse to science fiction, view the computer as competing with the student writer’s endeavor to formulate an audience—competing to such a degree that “the writer-computer relationship is displacing and replacing the writer-audience relationship in the rhetorical situation” (Heilker 65). Dowling describes writers who “are in the curious position of constituting themselves as manifested on the computer screen and, in this sense, may be seen as constituting the computer to a significant degree in their own image” (232). One danger of the computer-as-audience is an acquired sense of “talking” to the computer, which in turn results in “an excessively informal prose style.”

Heilker notes two definitions of audience: (1) “audience-addressed,” the real-life human beings who will read the text, and (2) “audience-invoked,” the audience that the writer imagines himself or herself to be writing to (66). It is the place of the invoked audience that the computer may be usurping. Heilker hypothesizes that the pseudohuman thinking qualities of computers allow us to readily invest them with human qualities: “But because we can and do somehow easily identify with our computers as intelligent beings (responders, commentators, questioners, teachers, collaborators, and allies)—as our audiences—we need not and do not engage other people to achieve that identification, to overcome that separateness” (67). The concern, of course, is that if computers *are* invading territory once reserved for human beings, we run the risk of losing the human dimension of writing, even of losing some of our own humanity.

Ties to Business: Ethical Questions

It would be highly naive for anyone to believe that all computers that materialize on campuses across our country and all monies earmarked for technology are the gifts of beneficent donors interested only in the advancement of education. The truth is that more often than not if a business or especially a computer company invests money in our schools, it makes that investment in the expectation of some future return.

Teacher opinion about the link between computers and business falls mainly into one of two categories. Those of us who take a more pragmatic view or who appreciate the value of vocational education are more likely to support the computer–business connection. Others of us—due either to our idealism or to our skepticism—see any links between schools

and business as evils against which unwitting students should be defended.

David Ruenzel is of this first category. In his “Is This the Future of Education in America?” he depicts New Technology High in Napa Valley as a high school overtly “modeled after a high-tech business start-up” (25). At New Technology High, students are groomed for the business world with the skills of the business world: “basic technology skills, a willingness to work in teams, and the ability to apply knowledge to real-world projects” (26). From this perspective, those of us who use computers to teach writing might easily congratulate ourselves with the thought that while we are teaching writing, we are simultaneously preparing our students for the business world. On the other hand, it might be just as easy to fret about whether we might be selling out to business interests. A campus is—or is supposed to be—a neutral ground, free and untainted by the commercial interests of business, industry, and advertising. But because so many schools are unable to afford the number of computers they want or need, various business interests find that the computer is a most efficient worm with which to bait the hook. Once business interests have insinuated themselves into the fabric of our schools, curricula itself become vulnerable; and “if business gains too much influence over the curriculum, the schools can become a kind of corporate training center—largely at taxpayer expense” (Oppenheimer 55). The warning is clear: once we have welcomed computers into our writing classrooms, we assume an ancillary responsibility “to protect the interests of the children in our care against the commercial/technological alliance that too often cares more about education as a market than as a servant of children’s needs” (Monke, “Web and the Plow” 34).

Pro-Word Processor

In this section, we compare writing with a word processor to writing with pen and paper, underscoring the advantages of the word processor. At first glance, pitting the low-tech pen against the high-tech word processor might seem like pitting David against Goliath—or more accurately, pitting John Henry against the steam shovel. But perhaps surprisingly, many are the voices rooting for David and John Henry, and we examine their perspective in the section following this one.

Of course, the advantages of the word processor over pen and paper are many and obvious, especially to those of us who have left behind “the barriers extant in an older technology” (Monroe 1) and who do all our composing on computers.² Ease of revision is perhaps the most prominent advantage. True, the previous section on revision sets forth

numerous arguments questioning the effectiveness of revising with computers, but those arguments are directed against the computer itself, not against the computer as compared to pen and paper. Owston, Murphy, and Wideman report that “the work of rewriting by hand may be a serious impediment to revising” (249). The advantage of the computer is not just that it allows for “far easier text modification,” but that it removes “the drudgery of recopying a composition” (250).

Ease of revision is one difference between computers and pen and paper. Another is text neatness. With the computer, the playing field has been leveled: those with poor handwriting are now judged on the same basis as those with neat handwriting. The result is that the producers of any text will be evaluated on content only, which is as it should be. Naturally, students are aware of the appearance factor; Wolfe et al. report that, due to the neater appearance of the text, “students favor writing with a word processor when their writing will be read for informative or evaluative purposes, such as a writing assessment” (280).

The use of computers for writing assessments may be an overlooked issue. If we run a computer-based composition classroom, fairness and consistency would dictate that students be given the option of word processing for assessment. This same principle should also be applied to standardized testing, for which handwritten tests are the norm. In “Writing a Wrong,” Jack McGarvey pleads for the conversion of handwritten standardized tests into word-processing-optional standardized tests. McGarvey is “utterly convinced that handwritten tests do not accurately measure the quality of kids’ writing” (52). He tells of a group of students who, “after experiencing the ease and speed of touch typing . . . were frustrated that they now had to write with something so crude as a pen” (52). For those of us who would like to see students using word processors in all writing situations, a reasonable course to follow would be to allow word processing whenever it is within our power to do so and, in the case of standardized tests, to agitate for change.

Of course, we must also avoid the extreme of enforced word processing in writing for assessment or in standardized writing tests. Some students may prefer pen and paper. In a test conducted by Richard Collier and Clifford Werier, students writing in both the pen-and-paper and the computer modes were given equal scores on various sets of essays (56).

Pro-Pen and Paper

In the previous section, we enumerated the advantages of the computer over the pen. We now examine those grounds on which pen and paper might be considered superior to the computer.

Although writing with a computer has many advantages, with our entry into the high-tech environment of composing with computers something is lost as well. What we have gained is a writing form described as “less personal” (Kantrov 71). What we have lost is a writing form described as more “physical” and that provides more “closeness” (Chandler 194); that provides “the pleasure of bodily involvement” (Berry 192); that yields an “intelligence in the hands” and a “kinesthetic way of knowing” (Chandler 195); that allows more “intimate contact” with the text; and that allows us to “feel the rhythms, the syntax, the word choices in ways that reading will not allow” (Crafton 325).

In “Who Needs Suspended Inscription?” Chandler explores more thoroughly the tangible, physical nature of handwritten text, positing that it is the romantic nature in us that sees “the process of generating text . . . as least as important as . . . the eventual product” (194). As we generate text, we engage in the process of discovery. Through the medium of handwritten text, our discovery process has always had a tactile, physical component. We have, perhaps in some metaphysical way, used the body as a medium for thinking. Without the reassuring material nature of the pen and paper, it would follow that our initial process of converting thought into writing by means of computer is inferior to what it was before.

Another conjectural point of comparison arises from the issue of speed. Chandler suggests that the speed with which word-processed thoughts reach paper might impinge on the depth of those thoughts. With the word processor, the danger exists of writing *too* quickly, of writing without allowing sufficient time for reflection, for “dwelling on,” or “mulling over,” the text.

Finally, Chandler suggests that the small size of the computer screen disrupts a text’s unity. Those writers who prefer to “spread out their sheets of writing in front of them on a desk, floor or wall seem . . . to get a better sense of the shape of their text and of their ideas as manipulable, physical objects” (197–98). Such writers are unable to tackle the job of major revision until they have first printed a hard copy of their texts.

A Place for Both

Several studies approach the word processor versus pen and paper question not to demonstrate that one mode of writing is superior to the other but to compare the strengths and weaknesses of the two modes. Recognizing that each of the two modes of writing is better suited to certain types of writing has led some teachers “to encourage students to develop

their own combinations of pencil and paper and computer-writing strategies" (Rodrigues and Rodrigues 16). Tenth-grade students of varying levels of writing ability were the subjects of a test conducted by Edward Wolfe et al. The students were asked which mode of writing they would choose for informative writing, which for narrative writing, and which for personal writing. The results: 80 percent of the students would use the word processor for informative writing; 83 percent would use pen and paper for personal writing. Narrative writing fell equidistant between the two at 50 percent.

In a more sustained comparison between the two modes of writing, Daniel Chandler makes these observations:

- The word processor is faster, though revision might slow down the final product.
- Pen and paper is more "direct and immediate"; word processing is more "indirect and delayed."
- Pen and paper provide "immediate availability of whole text on paper"; word processing provides "selective access to text" (due to the small screen) and "delayed access to text on paper."
- Text is easier to edit and to reorganize with word processing.
- When revision is necessary, text produced with a word processor does not require rewriting.
- Revision in pen "preserves" the evolution of the text; word processing "obscures" the evolution (192).

Based on these comparisons and on a survey of professional writers, Daniel Chandler derives a continuum of writing choices ranging from personal to public. He postulates that most writers have "a sense of a pen or pencil as appropriate for more personal writing and of a typewriter or a word processor as appropriate for more public writing" (193). Chandler also notes that in many cases the two modes of writing can be mutually beneficial. When the two modes are used together to produce a single text, writers will most often use pen and paper for the "tentative initial phases" of producing texts and use word processing for "later stages in the development of ideas," stages that are "associated with greater formality" (193).

Social Interaction

According to the constructivist credo, a proper composition classroom is marked by increased social interaction among the students. It might seem that the very nature of the computer itself would tend to make each student's experience in the classroom a more solitary one, but several

studies report that this is not so. Perhaps due to the ease with which one student can read the writing of another, computers tend to promote collaboration among students. Gail Hawisher notes “a spirit of cooperation rather than of competitiveness prevail[ing] in a classroom with computers” (16). Pamela Takayoshi calls computer-assisted composition “more public” and, again, more “collaborative and social” (247). Peter Sands describes how “a class can develop a new sense of itself as a group striving together” (37). Liz Rohan takes the idea of social interaction and extends the boundaries to include the teacher, who, in the environment of the computer-assisted composition classroom, finds himself or herself spending more time directly coaching students. All four of these writers agree that although the computer itself promotes sharing and collaboration among students, it is still the teacher’s responsibility to employ pedagogy that takes full advantage of the computer’s potential for producing collaboration.

Attitude/Enthusiasm

Most students display a positive attitude toward word processing, which in turn is converted into a better opinion of writing itself (Hawisher 13). Sandholtz, Ringstaff, and Dwyer, reporting on the Apple Classrooms of Tomorrow (ACOT) project, laud the technology-intensive classrooms, the laptops for all students provided by ACOT, and the many advantages brought about by writing with computers—especially the advantage of improved attitudes among students. The authors inform us that “students learned more quickly” and that “their interest reinforced [the] teacher’s efforts” (90). Teachers reported a myriad of welcome changes in student behavior, among them an unflagging willingness to work up until the last day of school, an unwillingness to return the computers at collection time, and an increased enrollment in computer-based classes.

My own experience corroborates Sandholtz, Ringstaff, and Dwyer’s observations. After taking three classes of ninth graders into a Macintosh computer lab (Maclab) over a period of two or three months, I asked the students to write on the topic “Writing with Computers.” No other instructions were given. Out of eighty-eight responses, only three were unfavorable, each of the three for the same reason—poor typing skills and/or confusion with the word-processing program. The other eighty-five students favored doing their writing on computers. The reasons for preferring computers, in descending frequency of response, were these:

- Spellcheck and/or grammar check. Students expressed little confidence in their own abilities to produce text that wasn't teeming with errors.
- Neatness or the professional look. Many students indicated that they appreciated the way the computer helped them overcome the obstacle of their poor handwriting.
- Fun. Writing on computers is more enjoyable than writing by hand.
- The vocational connection. Many students indicated that they were glad to be using computers because in "real life" they would be using computers. Our trips to the Maclab were seen as practice for functioning more competently in "the world of tomorrow."
- The virtual text. Some students appreciated the cut, paste, delete, and insert functions of the computer. Students can accomplish all these functions without crossing out or erasing, leaving them with "neat" text. Also, they need not carry around a sheet of paper or have to remember where that paper is; instead, the next time they need to access that text, it is waiting in the computer.

Summary

This book argues that composition instructors *should* favor using computers to teach writing, while at the same time avoiding the overly idealistic attitude that computers are the panacea for all pedagogical difficulties. As such, this chapter looks honestly at the place of computers in writing instruction. After weighing both the advantages and disadvantages of computer-assisted writing instruction—first a more superficial glance presented in list form and then a more in-depth discussion of certain prominent issues, we discovered that, even when the advantage of the computer over pen and paper is indisputable—during revision, for example—some questions regarding the efficacy of computer use yet remain. In a direct comparison of computer-assisted writing with pen and paper, we see that pen and paper still has its place in the writing classroom—for specific tasks, under certain conditions. We would do well to maintain in our classrooms the flexibility for students to choose the writing mode they feel most comfortable with.

The argument most damning to computer-assisted writing instruction is that despite the enthusiasm with which we continue to stock our classrooms with computers, research shows that students who write on computers show little or no improvement in the quality of their writing.

On the other hand, one cannot discount the enthusiasm with which students engage in computer-assisted writing as opposed to writing with pen and paper.

Do the advantages outweigh the disadvantages? Do we allow the importance of greater student enthusiasm to outweigh the research regarding lack of writing improvement? An answer to this question lies in the theory and pedagogy of Daniel Fader's *The New Hooked on Books*. Fader argues that pleasure alone should dictate what K–12 students read. Most students, however, rather than being allowed to read books that interest them, are force-fed a diet of canon-only texts. True, some students thrive on a diet of the classics, but many or most only learn to dislike reading. Teaching the canon is a case of good intentions, bad results. Fader suggests that students be allowed to read for pleasure. Schools should be flooded with paperbacks and, ideally, we would see kids all over campus, readers and ex-non-readers alike, with books stuffed into their back pockets. These students, through reading books that many literature purists would consider to be of dubious merit, would learn to enjoy reading. Eventually, this love of reading would carry over into their later years. In contrast to the canon-fed students who stop reading forever upon high school graduation, the students who read for pleasure will develop a habit of lifelong reading. Paradoxically, these same students who read for pleasure stand a good chance of becoming the readers of classics and other quality fiction and nonfiction; as long as they continue to read, the possibility exists that they may be weaned off milk and onto meat.

If the do-it-for-enjoyment principle can be applied to reading, it seems logical that it could be applied to writing as well. If our students leave our classrooms with a distaste for writing, the fact that they may have learned something about writing will, in the long run, matter little. Conversely, if students learn to enjoy writing, it matters little whether computers *improve* student writing or not. What matters is that students *will* write; and over a lifetime of pursuing a pleasurable habit, they will improve as writers. Enthusiasm and attitude, then, constitute the overarching justification for using computers to teach writing. And once the decision to use computers has been settled, the next subject we turn our attention to is the person responsible for seeing that the computers be put to their best use—the teacher. The next chapter examines the teacher's role in computer-assisted writing instruction in three sections that move from the general to the concrete. First we examine the position of the teacher him- or herself in connection with the decision to “go high tech”; then we move from the teacher to the general principles of teaching with computers; and finally we move into the most practical domain of all—specific lesson plans.
