

What we know about writing, and why it matters
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Every invitation to write is, or can be, an invitation to think, to reflect, and to learn. The elements of any writing task—the topic, the audience, the occasion, the purpose—interact to construct a unique intellectual and social opportunity. Over the past three decades, there have been dramatic developments in the study and teaching of writing. Theorists, researchers, and teachers have created a complex and detailed account of writing by drawing on a rich variety of sources, including the classical rhetorical traditions of Greece and Rome, contemporary studies of cognition, the sociology of knowledge, academic and workplace writing, new literacy theories, the digital revolution, and the day-to-day work of classroom teachers. The result is a body of knowledge about writing that has profound practical and pedagogical implications for teaching, thinking, and learning across the curriculum.

My intention in this paper is to draw some key principles from that body of knowledge, and to propose ways in which they might help us to promote more complex, critical thinking in our students. My emphasis will be on *using* writing as a means of making and sharing knowledge, rather than on *teaching* writing. I will argue that teachers across the curriculum can help students improve in writing, critical thinking, and learning, without reducing the attention paid to their own subject area or creating stacks of written texts to correct.

WRITING AND/AS LANGUAGE

I'd like first to step back from writing in order to take a broader look at that remarkable and uniquely human activity, language itself. I propose that we think of language as a human invention, a technology, a designed and deliberate way of acting in and on the world. According to Michael Cole (1991), language is the "master tool." We might be, as Chomsky (e.g., 1965), Pinker (1994), and others have suggested, genetically programmed for language—"hard-wired," as they say. We are certainly well suited for language physiologically: the human tongue and mouth are capable of shaping the noise produced by our vocal chords into an infinite variety of sounds. But those squeaks and grunts and barks are transformed by humans into what we know as language—a vast, living contract, an always-evolving agreement among people over time about what particular spoken or written symbols will mean, and how we'll use them to make meaning together.

For most of us, that social contract and its many sub-clauses are invisible; language is a human activity that surrounds us, as natural and ubiquitous as air. Day in and day out, we participate in it without apparent effort or even much thought. And yet, language is a complex set of rule-governed, interrelated systems, and we must know those systems to employ language correctly, appropriately, and effectively. Two speakers of English perform an extraordinary feat, even in casual conversation. With dizzying speed and fluency, they explain, agree, respond, question, elaborate, and so on. To an observer, they do this without apparent reference to rules of any sort. Instead, in the words of James Britton (1980), they "shape at the point of utterance"—that is, they make meaning on the fly, adhering all the while to rules of semantics, grammar, syntax, cohesion, and pragmatics that, for most people, are understood only implicitly. Such a conversation requires knowledge of parts of speech, rules of agreement, tense patterns, sentence types, and a sufficient lexicon—to list just a portion of the immense fund of knowledge needed for even simple social interaction. Again, that knowledge is more procedural than declarative: we can use it, but we can't explain it.

Humans are so adept at mastering this applied knowledge that by a young age, with little to no instruction, they are able to form and understand a virtually infinite number of sentences they've never heard before, and deploy their tacit language resources for a variety of new and unfamiliar purposes. The reason for this ability is that we are, first and foremost, rhetorical beings; we know what language *is* because we know what language *does*.

Of course, I am using *rhetoric* here not in the debased, contemporary sense of inflated or empty language, but in the older sense of language deliberately shaped to produce certain outcomes. For Aristotle, rhetoric was "the art of discovering . . . the available means of persuasion," and contemporary rhetoric and literacy scholars would say that all language seeks to persuade or influence or affect. We want our words to have an impact, to make a difference, to do something. Moreover, this impulse to persuade (and its infinite manifestations) is a fundamental and defining human trait. To appreciate how basic rhetoric is to human language and activity, consider that babies produce recognizable intonation patterns before they can speak any words. In baby-talk, they make statements, ask questions, demand attention, and even appear to tell

jokes and stories. In other words, we are rhetorical *before* we are linguistic; we can do things with language well before we have actual words or grammar. And it only gets better—or worse, as any parent of a two-year-old can tell you—a child who has learned such one-word sentences as “no” and “why” can exert a powerful rhetorical influence. We learn first, and very early, that language has consequences and outcomes, that language makes things happen.

In this way, language is a technology. It can be used to do things, but it is no simple or single-purpose tool; language is the ultimate Swiss Army knife, with a different implement for every use or purpose we can dream up. In our daily lives we use language for an endless list of routine rhetorical goals. At a more sophisticated level, we use this basic quality of language to shape specific results: we design and regulate language practices in law to produce justice, in governance to produce policy, in education to produce learning, in business to produce profits, and in science to produce new knowledge. Within schools, we shape modes and methods of disciplinary inquiry, at the heart of which are the forms and practices of language that help us produce the specialized knowledge we need and value. Not only do historians, scientists, and literary critics talk about different things, they actually talk in different ways and make distinct types of arguments—different rhetorics create different knowledges. Facility with day-to-day rhetoric comes through constant deep immersion in social activity, and the specialized rhetorics of our disciplines also require time and participation.

Working with this view of human language as fundamentally rhetorical, I'd like now to move to some of the things we know about writing, and some of the ways in which that knowledge might matter in our classrooms. My list will not be exhaustive but, I hope, evocative; it's not meant to record all of writing's qualities, but rather to offer some general principles on which a writing-rich pedagogy might be created.

WRITING IS HEURISTIC

First, like language generally, writing is heuristic: it does more than *express* meaning or knowledge; it *makes* meaning and knowledge. In James Britton's lovely phrase, “language is the exposed edge of thought.” Despite what common injunctions suggest—“think before you speak,” or “choose your words carefully,” for example—we rarely assemble language in our heads before we speak or write. Certainly, most written texts of any substance do not emerge fully formed; they are crafted, composed, and unfold through a process of transforming ideas into language. I'll return to a consideration of that process in a moment, but first I want to reflect on the heuristic effect of writing; that is, on the ways in which writing promotes intellectual exploration, problem-solving, and discovery. This is the phenomenon that Don Murray (1980) referred to as “writing finding its own meaning.” John Gage (1986) puts it this way: Writing is thinking made tangible, thinking that can be examined because it is on the page and not in the head, invisible, floating around. Writing is thinking that can be stopped and tinkered with. It is a way of holding thought still long enough to examine its structures, its possibilities, its flaws. The road to a clearer understanding is travelled on paper. It is through an attempt to find words for ourselves in which to express related ideas that we often discover what we think. (p.24)

Gage's claim is reminiscent of the question attributed to E. M. Forester: “How do I know what I think until I see what I say?” This generative or creative power of language is both personal and social. Language allows individuals to make sense for and of themselves. We employ this heuristic potential when we chat with a friend about a problem, write in a diary or journal, visit a therapist, or write our way into new understanding while drafting something. But we also use it in collective practice when we brainstorm ideas with colleagues, engage in public debate, or circulate a position paper within an institution.

How might we take advantage of this potential and employ it deliberately and strategically in our classrooms? That is to say, how might we be rhetorical about it? We could ask students to keep a learning log or journal and occasionally encourage them to stop and write, to define a key term or elaborate a concept in their own words, or to explain a technical or theoretical point in writing for a layperson or a younger sibling, perhaps. I have students keep what I call a “writer's notebook,” into which all sorts of ideas, comments, questions, and reflections go. When students come into my classes, I'll often have a quotation or question that is related to course readings, a previous class discussion, or a topic I want to broach posted on the board and, before we begin other activities, the students write in response to it. Sometimes I'll ask them to share their responses with classmates, or invite anyone who's willing to read his or her response aloud. The practice offers students an immediate and active intellectual engagement, and its spontaneity produces some surprising insights.

This capacity of writing to surprise—to *make* knowledge rather than merely record it—is the basis for the practice of inkshedding, a form of freewriting used by members of the Canadian Association for Studies in

Language and Learning at both their annual Inkshed conference and in their individual classrooms. Typically, participants in the practice are asked to write (or "shed ink") following a presentation, in place of the usual question and answer session. Generally speaking, the invitation to write is open-ended: people are encouraged to respond to or reflect on what they've heard. The texts are then passed around and readers underline or otherwise mark up sections that seem significant to them; those marked-up sections are then transcribed, published, and circulated back into the conference or classroom conversation. The practice, which mimics in miniature the writing activity of various academic disciplines, allows each participant to struggle with his or her own thoughts before hearing what others think, and it offers a relatively threat-free environment in which to try out ideas. I think the last point is critical: for writing to achieve its heuristic potential, it helps to allow for chance-taking, which usually means it can't be graded. Writing in school is too often treated as the end of the thinking process—the result of teaching and learning—and the written artifact becomes the object of assessment. Students are discouraged from pushing their written ideas beyond the safe or mundane because they risk criticism and failure; as a result, they write bland and boring essays.

As an aside, I noticed recently that my son and some of his university classmates had divided up the course readings in preparation for exams, and were supplying each other with synopses of the texts they had read during the term. The writing was refreshingly direct and funny and informal, much like speech, but it was also smart and insightful and—I would suggest—very helpful to both readers *and* writers. This was a student-initiated project, but it could be a course requirement, and not one that teachers would have to collect and "correct." How about a class web page or wiki, to which all students would be required to submit entries on course topics? This project would be something a teacher could monitor and, if necessary, alter or address, but which would be about sharing ideas, explaining, arguing, and responding, rather than performance or the final written product.

The same technology that makes web pages and wikis possible also makes online discussions possible, and I have found that many students will contribute to these electronic conversations more willingly than they would to class discussions. Those who are shy, those who want or need to reflect before expressing themselves, those who would like to consider the "structures . . . possibilities . . . [and] flaws" in their thinking, to quote Gage, would benefit from these types of writing opportunities. So I also post provocative comments and questions in the discussion space on my course web sites—most of them paraphrases of statements made during class discussions—and I require students to log on and respond at least once between classes. The requirement might get them there, but it doesn't account for the fact that students frequently make multiple contributions and even go back to old discussion topics long after we've moved on.

WRITING IS A PROCESS

Of course students must also produce finished and, ideally, polished texts, texts that allow us to measure their grasp of ideas, their creativity, and their application of disciplinary knowledge. It helps to know another thing about writing: that it is a process, a gradual movement from blank page or screen to final text. In the 1960s and 70s the acknowledgement of this temporal and developmental dimension of writing led to a revolution in writing theory, research, and pedagogy, to what became known as the "writing process movement." This movement was in many ways a re-invention of the classical rhetorical tradition, and the proposed three-stage model of the writing process—pre-writing, writing, and revision—was a return to the first three of the five canons of classical rhetoric: invention, arrangement, and style.

In the early and mid-80s, the ground-breaking work of Flower and Hayes (e.g., 1981) and others demonstrated that expert writers engage in complex cognitive and rhetorical processes as they compose. They plan, set goals, consider readers, edit, revise, generate and organize ideas, and so on. By contrast, inexperienced writers are often stuck at the level of text production and engage far too early in editing and revision. Later research in that decade and into the 90s revealed how those expert processes were embedded in and shaped by social contexts, and how collaborative practices such as co-authoring, peer-reviewing, document cycling, and other collective rhetorical strategies supported writing and knowledge-making in organizations and disciplines. I'll come back to these social practices in a moment, but first I'd like to consider the individual's writing process.

The knowledge that writing is a process matters because it prompts us to encourage students to take the time and make the effort that good writing requires. As it is, students frequently write at the very last moment, and we are all too familiar with the rambling, semi-coherent results of that abbreviated writing process. For major course papers, providing time and support for a more expert process might mean staging or sequencing writing assignments: a goal statement or proposal early in the term, for example, then an

annotated bibliography a little later on, then an outline, and finally a draft of the full paper two weeks before the due date. Not only does this reduce the likelihood of plagiarism, it makes reflection and revision far more possible. Correcting or even looking too closely at the intermediate stages of the paper would not be necessary, although collecting and recording the existence of the stages would be a good idea.

Each phase of that elongated writing process could be enriched by prompts from the teacher to produce reflective writing in the students' notebooks. Early on, for example, teachers might ask students to think and write about what they hope to achieve with their paper. Later, they could be asked to define key terms, jot down a quick outline, or anticipate a reader's questions. Intermittently, students might be asked to comment in their notebooks or in brief conversations with classmates about the progress of their papers: what problems are they experiencing or do they anticipate? Are class activities or readings helping them frame their topic or develop their thesis? These invitations take advantage of the heuristic potential of writing and link the students' thinking to their writing processes. Closer to the deadline, the students can be asked to exchange drafts and respond to others' texts. In professional writing, writers often ask their colleagues to read drafts of their work. Reviewers and editors are a critical part of the scholarly publishing process, so I am often surprised to hear students say that they have never passed a draft along to a classmate. Here again, technologies can help. I have students post drafts to each other online, and respond to at least two classmates' papers. These responses can be much improved if you also supply students with a list of your own key concerns and questions as a reader. If good writing is good rhetoric, we need to help students deliberately shape their arguments.

WRITING IS A PRODUCT

Attending to writing as a process doesn't erase or diminish the fact that writing is also a physical product. That's a third thing we know about writing that matters to teaching and learning: there on the page or screen is a material object full of graphic resources that carry meaning. Underpinning that physical appearance are patterns, sets of relations, narratives, various logical structures, and a sense that might not be common, but is nonetheless accessible to those who employ that particular text. Hypertext makes this component design of written products dramatically apparent—a fact I'll come back to—but paper texts also contain separate elements: tables of content, indices, introductions, transitions, summaries, and conclusions. Rhetorically speaking, each of those separate sections does something, performs some function, makes writers and readers think in different ways.

One way we can use this knowledge about writing is by explicitly naming the parts of the texts we want students to produce, and explaining what each part should do. What is the logic supporting the science lab report's layout? Why is information presented in a particular sequence? Is a history essay a simple listing of dates and events, or is there a form or pattern underlying the effective essay? What are the parts of a good story? How much and what kind of information should a summary contain? When two things are compared—texts, processes, historical periods, or theories—should each one be fully explained before comparison begins, or should they be divided into comparable parts? What are the components of a successful essay or term paper or case study? Can you break down the texts you assign and articulate their logic of design? These questions challenge even the experienced teacher: form is historical and disciplinary, and though we know what's correct and effective when we see it, we sometimes can't explain or justify it.

Another way to use textual form as a rhetorical or reflective tool in teaching and learning is to ask students to work with hypertext, where the reader's movement between textual elements is more evident, and the digital rhetor must be more conscious of moments of transition, summary, and conclusion. When should readers leave a web page, and when and how should they come back? What does each page *do*, and how does one relate to the next? Studies of digital literacy (e.g., Lankshear & Knobel, 2005) suggest that the new rhetorical spaces and forms provided by the web invite new ways of thinking, new ways of relating, and our students are often considerably more adept and fluent in those spaces. Moreover, these are the spaces and methods of new knowledge production. I am the editor of an online, open-access journal which allows authors—*encourages* them, in fact—to embed links to other relevant works in their own texts. The new text is multidimensional, multimodal, and multi-rhetorical; it draws on a wide variety of resources, and has complex outcomes.

Interestingly, students might not even think of the rhetorical activity they engage in online as writing. In a recent study (Hart-Davidson, 2007), when students were asked to log all of their daily writing activities, they dutifully recorded the drafting of school assignments but neglected to mention emailing, adding to their Facebook page, writing blog entries, text messaging, and other moments of writing. In fact, the researcher

estimated that the students failed to account for as much as 2/3 of their actual writing activity. This phenomenon points to my fourth and final point about writing.

WRITING IS A SOCIAL ACTION

Thinking about writing as social action means two things. First, writing is a specialized and collective practice that develops locally, in communities, organizations, and disciplines. Second (a point I've made repeatedly in this paper) is that writing makes things happen, it has consequences. Writing is social action. We don't write writing, we write *something*—a proposal, an argument, a description, a judgement, a directive—that we hope will have an effect, produce results, change minds, spur to action, create solidarity, or seed doubt. I thought about dividing this point into two—writing is social, and writing is action—but they are inseparable: writing works both in and on collectives to produce desired or required outcomes.

Moreover, writing is always part of some larger project or activity. Much of my early research (e.g., Paré, 1993) was concerned with professional documentation in social work. When I first started to interview social workers about their writing, they would respond apologetically that they weren't very good writers because they couldn't spell, or made mistakes in grammar, or didn't have extensive vocabularies—all the failings we draw to people's attention repeatedly throughout school. I realized that they referred to the activity as "recording," not "writing"; demonstrating some rhetorical savvy, they named what the practice did. Like the students I mentioned earlier, the social workers thought of *writing* as what happened in and for school. When I asked about *recording*, however, their focus shifted to the ways in which written texts contributed to the broader activity of social work, and they spoke about how documentation practices helped them collect their thoughts on a client, make decisions, plan treatment, establish grounds for collaboration with other workers, and create relations with judges, lawyers, doctors, psychologists, and other readers. The same workers who apologized for their writing bragged about their recording, and certainly my research indicated that they were sensitive to the complex rhetoric of the situations within which they worked. That sensitivity was an understanding of how texts would both affect others and influence the collective activities of social work and allied disciplines.

One insight to take from this is that writing disappears when it serves some broader action, when it has rhetorical force. Along with many others, I would argue that too much school writing is arhetorical: it lacks real readers and purposes, and serves merely as a display of other people's knowledge. Russ Hunt of St. Thomas University calls the products of such writing "textoids," because they bear the same relationship to real texts that androids do to human beings. He also says they have "a one-way ticket." Unlike authentic texts, which are links in a chain of texts, and which contribute to or influence activity of one sort or another, school texts travel to the teacher and stop. They are terminal texts, the end of the line.

Creating authentically rhetorical texts in the classroom is not easy, since school for many students seems to exist apart from their real lives. More texture or substance in writing tasks might surprise students into authenticity. And, of course, writing to display or apply knowledge *is* a real rhetorical goal. But what if texts could do both? What if they were directed to readers that required them for some reason, and also allowed teachers to determine if students understood course content? One of the most successful assignments I ever devised involved having engineering students prepare materials for a grade eleven physics course. In effect, my students served as consultants to the physics teacher, who identified concepts that his students often struggled with or that he felt were poorly addressed in the course textbook. My students worked in teams to prepare lecture notes and visuals for the teacher, handouts for the students, review materials, and other pedagogic resources. The teams reviewed and critiqued each others' work, consulted with the teacher, and spent time with the high school students. This was a writing course, but I rarely had to teach them about writing. The students were so deeply immersed in the rhetoric of their task that they constantly discussed their goals and readers, and adjusted their texts accordingly; they moved back and forth between pictures or graphs and text, wondering about the structure and design of their texts; they circulated drafts, responded to each others' work, and built a collaborative document. And also, by their own admission, they learned about physics in quite a different and deeper way than they had when they had been in high school themselves.

Designing assignments that would allow students to make use of their rhetorical knowledge might mean looking beyond the classroom. Students in a science class could write about global warming, evolution, space travel, or controversial issues like stem-cell research for an audience other than their teacher. Once again, new technologies offer new rhetorical possibilities, and students might create online presentations that inform people about any number of issues. For example, a YouTube site called Good Magazine (<http://www.youtube.com/GOODMagazine>) contains multimodal presentations on taxation, waste

management, nuclear weapons, and other topics, and there are blogs and web pages on almost every subject under the sun. These are the rhetorical spaces with which our students are familiar, and where they might meet real readers and find real reasons to write.

A final point I'd like to make about writing as social action has to do with disciplinarity, and returns us to comments I made earlier about the discipline-specific shape and content of academic writing. For the past decade, much writing research (e.g., Dias et al, 1999; Prior, 1998) has focussed on institutional and disciplinary texts and text-production. It is clear from that work that human collectives—from small companies to scientific disciplines—shape their writing practices to produce the knowledge required to advance their goals. The difference between domains is not just in the physical form or even the content of written products, however. The literary essay, experimental article, quarterly report, newspaper editorial, and ethnographic account all advance different types of argument, use different kinds of evidence, and make different sorts of claims. This variation reflects a range of theories and definitions of knowledge. In some domains, knowledge statements can only be defended by reference to empirical evidence; in others, logical or syllogistic support is sufficient, and some arguments even gain credibility by evoking emotional or affective states. How a poem makes one feel, or how social status affects one's self-esteem, might be acceptable for literature or current affairs, but are very different from the sorts of claims advanced in science labs. The point is not whether one way of knowing and arguing is better than another, but their differences *are* important, and helping students understand those differences is critical. Disciplinary arguments make disciplinary knowledge. How is historical knowledge different from literary knowledge? How are those knowledges different from physics knowledge or anthropological knowledge? And how are those differences reflected in writing practices? As teachers, we hope that the writing we assign will engage students with our subjects, and so we need to be as clear as possible about the rules of our disciplines. As they move from course to course and teacher to teacher, our students face a bewildering range of rhetorical demands, both idiosyncratic and discipline-based; whether we impose personal or disciplinary standards, we need to articulate what we expect and *why* we expect it. This is no easy task, since we may not know ourselves. But if we want writing to help our students think, and to think in different and specialized ways, we must try to make explicit connections between writing and the kinds and orders of knowledge valued in our disciplines.

CONCLUSION

To quote the phrase that Golde and Walker (2006) use, we educators serve as "stewards of our disciplines," and seek to preserve and promote knowledge within scholarly communities. There is in that task a responsibility to our disciplines' knowledge archives and to their knowledge-making practices, to their products and their processes. We want our students to grasp the best of what is known in our subject areas, but we also want them to take part in the practices and procedures that make disciplinary knowledge. Writing is central to that process. The careful, deliberate design of writing opportunities will, in turn, help students shape their ideas and their learning. We need to create invitations or opportunities that exploit the heuristic power of writing—not just writing to *display* knowledge, but writing to explore, to problem-solve, to take chances, and to *make* knowledge. We also need to help students develop their writing over time, as expert writers do, with moments of planning, organizing, drafting, and revising. Finally, we need to help them write and think within our disciplines. Aristotle's definition of rhetoric as "the art of discovering . . . the available means of persuasion" might well serve as a definition for learning more broadly. When we learn to be engineers, or scientists, or lawyers, or doctors—when we learn to participate in the intellectual life of any discipline or enterprise—we are learning to assemble the accounts, the arguments, the available means of persuasion. Because of this, we are *all* teachers of rhetoric.

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