Critical Thinking for Writers: Transferable Skills or Discipline-Specific Strategies?¹

Duncan Carter

Writing is thinking. Good writers think before, during, and after writing; they think as they read their own and others’ texts; they think as they revise. It follows that at some level, teaching writing is teaching thinking. So how do we do that? Are there certain generic, one-size-fits-all critical thinking skills we can teach that our students will be able to transfer to new writing tasks? Or is the ability to think critically so tied to context as to be discipline dependent? If so, where does this leave those of us who teach writing?

I regret that I’m not really in a position to answer these questions. Instead, what I hope to do here is ask the questions well, suggest the frequency with which they arise, and perhaps stimulate further thought, classroom experimentation, and research.

Our educational system has a tradition of seizing upon one skill deemed essential to the educated, and trying to teach that skill directly: reading, writing, speech, and now, critical thinking. For example, the California State University system has instituted a graduation requirement in critical thinking. Courses in critical thinking have evolved as well as courses in problem solving and informal logic. All tend to rest on the assumption that critical thinking skills can be decontextualized and that students will be able to apply these skills to other domains, including their lives.

An alternative point of view comes from the University of Chicago’s Institutes in Critical Thinking. At the institute in November of 1986, Joseph Williams assailed the developmental schemes of Perry and Piaget for encouraging the generic, brand X approach to teaching critical thinking skills.² The problem with these schemes, he argued, is that they ignore that experience with a domain matters. Even five- or six-year-olds can, on occasion, act like formal operational thinkers; on the other hand, you or I may think concretely as we enter an unfamiliar domain. Cognitive research comparing the thinking of experts and novices (notably the research of James Voss) suggests that thinking is more a function of expertise than of intellectual maturation. Experts pose problems for themselves differently than novices, putting a problem in a context of similar problems and working straight ahead to the goal. Novices, by
contrast, approach problems more concretely. The difference is especially marked when the problem is “ill-structured” (parts of the problem are left undefined); experts spend more time representing the problem for themselves and formulate it more richly. Not only was this the case for student novices attempting to solve a social science problem; it was also true for expert chemists who were novices in social science. In other words, Williams concluded, expertise doesn’t transfer well.

Expert thinkers, Williams argued, are people who have joined a discourse community. They have mastered a body of knowledge (defined by the community), they have learned what it means to think like an expert, they know “the history of the conversation” within the discipline, and they know the conventions of discourse in the community. As any lawyer knows, it’s not enough to be a lawyer—one also has to sound like one.

In light of the research of Voss and others, Williams generated his own developmental scheme, a way of describing students in relation to the community they are trying to join: they are either “pre-socialized” with respect to a discipline, “socialized,” or “post-socialized” (that is, able to address a lay audience from a position of expertise). According to this scheme, the teacher’s job is to socialize students.

Teachers should be aware of certain predictable problems during this process of socialization. What looks like bad thinking or writing may, in fact, simply be novice thinking or writing. The initial responses of novice writers will be concrete. Predictably, novices show an initial “degradation of performance” as they move into a new area—novice medical students write poorly; Williams also recounts the story of an anthropologist who went on to law school, only to discover that he could no longer write well. Novices will be ignorant of the conventions of a discourse. They will over-generalize and exaggerate a single feature of the discourse (much as our students sprinkle semicolons around after first learning about comma splices), and they will say things one does not say (such as opening an English paper with “Shakespeare was a great writer”).

Taken with Williams’ formulation, I asked him: “Where does this leave those of us who teach freshman composition?” He replied: “It should be abolished.” Well, I thought, maybe pigs should have wings, too. But since I didn’t think either eventuality likely to materialize in my lifetime, I knew I had to look elsewhere.

What I have since discovered is that the split between those who view critical thinking skills as generic or transferable and those who hold that such skills are domain specific reappears in almost every forum where people think about thinking. Tension between these two poles is, for example, present even in Aristotle, as well as in modern logic,
cognitive psychology, and composition studies—not to mention writing across the curriculum.

Clearly, Aristotle was trying to construct the universal rhetoric. Yet his *Rhetoric* is nothing if not context sensitive. Rhetoric depends, above all, on the audience; strategies must be modified for forensic, deliberative, or epideictic occasions. Aristotle’s *topoi*, or lines of inquiry for inventing arguments, are especially interesting in this regard. Aristotle operates on three levels. On one level are the twenty-eight *koinoi topoi* ("common places"), or universal topics. On another are the “special topics,” lines of inquiry that are occasion specific. On yet a third level are propositions that do not, properly speaking, belong to either rhetoric or dialectic, but to “a science”:

The better the selection one makes of propositions suitable for special Lines of Argument, the nearer one comes, unconsciously, to setting up a science that is distinct from dialectic and rhetoric. (I.2.31)

Is the thinking writers do, then, generic or domain specific? Both, Aristotle would say. Rhetoric involves generic lines of inquiry, special lines of inquiry, and at some point of specialization it shadows over into propositions that do not belong to rhetoric at all. In the rhetoric of a chemist are statements that need to be judged not by a rhetorician but by a chemist.

Turning to the relatively new field of informal logic, which might be expected to shed some light on the relationship between thinking and writing, we find a similar tension. J. Anthony Blair and Ralph H. Johnson, editors of *Informal Logic Quarterly*, offer an interesting account of the informal logic movement in Maimon, Nodine, and O’Connor’s *Thinking, Reasoning, and Writing*. Originating in the late ’60s, it was a reaction against the preoccupation of most introductory logic courses with formal, deductive logic. Proponents of informal logic believed that this emphasis left out too many other kinds of reasoning, that the cumbersome apparatus of deductive logic was “not a superior substitute for natural language,” and that studying logical theory had little impact on how students actually reasoned (95-96). In other words, they wondered whether what was being taught as “logic” would transfer to any domain outside itself. The new pedagogy emphasizes (1) real-life examples of arguments, (2) fallacies, and (3) argument construction (98-100). Very much like the syllabus of many a writing course.

Is informal logic the place to turn for generic thinking skills? Blair and Johnson note that
While most theorists would agree that the background knowledge needed for evaluating premises will be to a large degree dependent on ... the subject matter involved, almost all hold that the inferences from the premises to the conclusion can be assessed without reference to subject matter. (104)

So far, so good for the "generic, brand X" critical thinking school. But only if critical thinking is equated with logic, and most commentators see it as involving much more. As George Sefer of Purdue University has argued in an unpublished essay, critical thinking also involves an attitude of "reflective skepticism" and the creativity to generate alternatives. And, as Blair and Johnson point out, informal logic is not without its critics:

There are those, however, who argue that the standards which inferences must satisfy depend on warrants ... that are domainspecific, so that what may count as a legitimate pattern of inference in one subject area would not be acceptable in others. (104)

Blair and Johnson cite, as examples of this point of view, Stephen Toulmin and John McPeck. Toulmin’s six-part “layout” of argument, first presented in The Uses of Argument (1958), informs a number of modern composition texts such as Maxine Hairston’s Contemporary Composition (1986) and Annette Rottenberg’s Elements of Argument (1988). In Toulmin’s model, the “warrant” that connects evidence (“grounds”) to conclusion (“claim”) is a principle that has grown out of the work in the discipline within which one is arguing—which suggests why Toulmin has been appropriated by a number of writing across the curriculum programs.3 McPeck, author of Critical Thinking and Education (1981), is, if anything, an even more radical contextualist. He argues that critical thinking cannot be divorced from a subject:

Purporting to teach critical thinking in the abstract, in isolation from specific fields or problem areas, is muddled nonsense; thinking of any kind is always ‘thinking about X.’ ... The term ‘critical thinking’ has an identifiable meaning, but the criteria for its correct application vary from field to field. (13)

So within informal logic we see, on the one hand, a move to contextualize thinking in everyday, real-life situations. On the other, we find those who see thinking as inescapably tied to the context of a particular domain.

As for cognitive psychology, I have already mentioned the work of James Voss—as Joseph Williams interprets it. But Williams stresses those
parts of Voss’s work that fit his thesis. True, Voss does say things like “There is no substitute for domain knowledge when performing a complex task in that domain” (81); writing would doubtless be such a task, as would thinking.

But Voss also talks about “strong” and “weak” problem-solving methods. (Beware of the connotations of these labels; Voss may well have them reversed.) “Strong” methods tend to be domain specific—subtraction, for example, or the formula for solving an algebra problem. “Weak” methods are, by contrast, “strategies useful in a variety of subject matter domains,” such as “decomposition” (breaking a problem into parts), “problem conversion,” and analogy (74). Voss believes that weak methods allow a person to “take initial steps in the solving of a problem,” though they may not be as useful for “more specific, domain-related problems” (74). According to Voss, then, strong methods aren’t transferable, but weak methods are: “Individuals who have had experience in using weak problem-solving methods are able to use such methods even in domains where they have limited domain knowledge” (79-80).

If Aristotle, informal logic, and cognitive psychology all reflect a similar tension between the generic and the contextual views of thinking and writing, it should be no surprise to find that current thought about the composing process is divided along these same lines.

Composition researchers most influenced by cognitive psychology, notably Linda Flower and John R. Hayes, think of writing as a kind of goal-directed problem-solving activity; such researchers borrow from cognitive psychology both the expert/novice research paradigm and the technique of protocol analysis and attempt to describe and construct a model of the writing process that is most effective. In the words of Patricia Bizzell,

What interests [the cognitivists] are the “invariant” thought processes called into play whenever one is confronted with a writing task. In other words, they assume that although each writing task will have its own environment of purposes and constraints, the mental activity involved in juggling these constraints while moving to accomplish one’s purposes does not change from task to task. (220)

Clearly, this view of composing is compatible with teaching critical thinking as generic; indeed, the cognitivists come very close when they advocate various heuristic strategies.

Those who emphasize the social perspective on writing, like Joseph Williams, Patricia Bizzell, Ken Bruffee and David Bartholomae, would argue that there are no invariant, or universal, thought processes—that is,
unless we can find "patterns of language use and reasoning that are
common to all members of a society, patterns that are part of the set of
conventions of every discourse community within the society" (Bizzell
218). Thought and language do not occur in a vacuum, but arise from, and
are addressed to, a discourse community, and are constrained by its
conventions, of form, voice, audience, conceptual strategy, and what
counts as evidence. The community within which one operates even
"guide[s] problem definition and the range of alternative solutions"
(Bizzell 222). Therefore, Bizzell calls for writing instruction to devote
itself to "analysis of the conventions of particular discourse communi-
ties" (218)—precisely what Elaine Maimon has been advocating for some
time. Susan Peck MacDonald, Leslie Moore, and Linda Peterson have
also helped describe what this kind of writing course might look like.

So where does all of this leave those of us who teach freshman
composition?

As I admitted at the outset, I don’t have an answer. I do, however,
have two ideas about where answers might be found—and they are not
mutually exclusive.

First, though, we will want to divest ourselves of Voss’s terminol-
ogy as quickly as possible; we need to know more about the “weak”
problem-solving methods that thinkers and writers can usefully transfer
from one domain to another. How are these different from the heuristics
and invention strategies we now teach? Do the journalist’s 5 Ws qualify?
Burke’s pentad? Young, Becker and Pike’s heuristic? Freewriting? Or
maybe even Behrens and Rosen’s summary/synthesis/critique? What
about the good old expository modes, re-conceived as invention strate-
gies? What are the “patterns that are part of the set of conventions of every
discourse community within the society” that Bizzell speaks of? Would
it at least be possible to identify patterns common to every discourse
community within the academy? To most, or even many, of them? Even
Aristotle believed in “common topics,” useful for any kind of discourse.
One solution might be to teach “weak methods” or common patterns in
freshman composition (though I am by no means suggesting that the
traditional modes of discourse be resuscitated), then turn our attention to
more conventions in upper division writing courses or writing intensives
within the disciplines.

Second, why not turn the freshman composition class itself into a
discourse community? That is, have it focus in depth on a single subject
for an entire term, reading real texts and writing about them, with
students deciding among themselves what problems matter, what consti-
tutes an answer, what counts as evidence, and so on. This is not the same
as introducing students to the professional writing of an existing disci-
pline; this is asking students to invent their own.
The course designed by David Bartholomae and Anthony Petrosky stands as a model for such an approach. Their book, *Facts, Artifacts, and Counterfacts*, describes that course, a basic writing course focused on the theme of adolescent growth and change. As Bartholomae and Petrosky put it,

The key point here . . . is that students learn about reading and writing by learning to imagine and participate in a semester-long inquiry into a single subject. . . . They develop a freshman’s version of an academic discipline, one that constitutes a subject and makes its understanding possible (as though they were members of the Center for the Study of Growth and Change in Adolescence). The specialized vocabulary, the jargon, the key terms, the central concepts, the major figures, the central interpretive schemes—all of these emerge from the students’ efforts to find a way of talking about and understanding their common material. (31)

Joseph Williams ignores the fact that, while most freshmen need writing instruction, few know what discipline they will major in, which specialized discourse community they will be trying to join. But if, as McPeck argues, “thinking of any kind is always ‘thinking about X,’” a course like this certainly provides students an “X” to think about. And as they generate progressively more powerful ways of thinking and writing about X, they are learning how critical thinking within a discourse community works—from the inside.

*Portland State University*
*Portland, Oregon*

Notes

1 An earlier version of this essay was presented at the Young Rhetoricians’ Conference, Monterey, California, 24 June 1989.

2 What follows is an attempt to reconstruct Williams’ argument from notes taken at the time, which makes precise documentation difficult. Please consider any stylistic felicity Williams’, any error mine.

Works Cited


