What is it we do when we write articles like this one—and how can we get students to join us?

Michael Kleine

It was night, but I went to the college library anyhow. I was hoping to find in the library everything I needed to write this article on the research and writing processes of academics. But, perhaps because it was late at night and perhaps because I felt weary and depressed, I experienced a nightmare vision. Even though it was a Sunday, students were everywhere—high school students and college students working in small groups at scattered tables, segregated by age: they were all writing RESEARCH PAPERS. I knew they were writing research papers because they were talking and laughing, but not about their work. In a sense, the work was present, scattered across the various tables, but the work was not the focus. Really, the work was not work, just a jumble of texts: notebooks filled with doodling and copied textual fragments, encyclopedias, a few books. When the students were not talking, they were transcribing sections of encyclopedia text into the text of their own writing, into the notebooks. I knew they were writing research papers because they were not writing at all—merely copying. I imagined, then, that they saw their purpose as one of lifting and transporting textual substance from one location, the library, to another, their teachers’ briefcases. Not only were they not writing, but they were not reading: I detected no searching, analyzing, evaluating, synthesizing, selecting, rejecting, etc. No time for such reading in the heated bursts of copying that interrupted the conversations. The horror. The horror.

The nightmare vision deepened when I realized that I knew the high school and college students were writing research papers mainly because I was about to do the same thing myself—only at a more sophisticated level—and I saw myself mirrored back and forth by the student faces; I recognized the transcribing behaviors; I was one of them. And again the vision deepened: I was in that night library just then, watching in horror, but I had been in the same night library many times before. Years ago, I sat at one of the high school tables, copying. Some years later, I sat at one of the college tables, paraphrasing, summarizing, and quoting. Sometimes, still, I go to the night library, building my own authority by using the texts of others, carefully documenting.

I fled from the night library and decided, in the cool darkness outside, that this article would need to answer some questions that had suddenly gained meaning for me: do college-level academics—teachers, I mean—who actually do academic writing—really live in the night library? Or do they participate in a rich process of discovery and
communication, a process that might have both private and public value?

Research Procedure

I knew that in order to answer my questions I would need to talk to academic writers, probe with still more questions to discover what it is we academics do, and what distinguishes us from each other across the disciplines. In the beginning, however, I was not sure what sort of data, precisely, I wanted to get from colleagues in my own and other departments.

I decided, then, to guide my own research with a process model that two of my colleagues in the English department here (Steve Anderson and Barry Maid) and I developed to teach advanced writing classes. Steve, who teaches technical writing mainly, and Barry and I, who teach upper-level expository writing classes, had all become disenchanted with linear stage models of the writing process: not only do they fail to account for the role of data-gathering and reading in academic and professional writing, but they also, in their linearity, suggest that planning and inventing ("pre-writing") guides a writer through subsequent acts of text production and revision. All three of us agreed that academic and professional writing is a complex, recursive process that includes both research, or data-gathering, and reading from start to finish. Moreover, we agreed that academic and professional writers develop a sense of rhetorical purpose as the process unfolds, not strictly before the acts of researching and writing. Thus writing that includes research of any kind must be seen as being both "strategic" and "heuristic." Not only do researchers/writers need to collect data and write with an established and focused sense of their goal (strategic work), but they also need to accommodate and consider unexpected data and insights that are discovered during the process (heuristic work).  

Thus, the three of us decided that our own model needed to be bimodal (to account for both the strategic and heuristic aspects of the process), and segmented into stages that are both non-linguistic, or research-based, and linguistic, or writing-based. Thinking of Joseph Campbell's *Primitive Mythology*, we developed a metaphor for the strategic and heuristic modes of work. Campbell distinguishes between primitive "hunters" and "gatherers." A hunter must go into the world with a strong sense of purpose and direction, and employ deliberately strategies and technologies to kill his game, while a gatherer must look about widely, making sense and use of the food he discovers fortuitously. A hunter finds what he is looking for; a gatherer discovers that which might be of use. We agreed that in our own work we were alter-
nately hunters and gatherers, whether collecting data, reading, or actually writing: clear purpose at times helped guide our work strategically; the surprise of heuristic discovery acted as a force of change and revision.

We then segmented the process into four stages that accorded with our own rough sense of linearity: researchers/writers need to collect data; then they need to sift the data rhetorically, keeping that which is relevant to audience and purpose, and throwing out that which is irrelevant; then they need to seek patterns in the data—and use those patterns to either make or confirm hypotheses; and finally they need to translate their findings into writing. Implicit in this segmentation is the notion that research/writing is a form of discourse that includes both epistemology and rhetoric: its ultimate goal is not only the private discovery of new knowledge, but also the effective transmission of that knowledge to a community of interested others. Collecting data and seeking pattern in it seemed to us to be more intrinsically epistemic, while sifting the data and translating knowledge into text seemed more intrinsically rhetorical.

Although our model (drawn below in eight cells) seems static and linear, we knew, when contriving it, that it was at best a good fiction, and effort to segment and schematize our own intuitive sense of a recursive process that is, at bottom, cognitive and invisible. When we actually began to use the model in our classes to design assignments, teach, and guide work in progress, and found that the quality of student work and writing improved, we decided to maintain the fiction.

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HUNTING
GATHERING

Figure 1: A Metaphor for the Research/Writing Process

In my own research, then, the hunting/gathering model became a kind of heuristic that helped me discover what my colleagues really did when they were at work. I decided to interview a total of eight professors at the University of Arkansas at Little Rock, and attempt to trace and characterize their research/writing routes through the eight-celled model. Because I wanted to understand both my own colleagues in the English department, and others across the disciplines, I carefully chose my subjects: three from my own English department, two from the nat-
ural sciences, two from the social sciences, one from history. Although this sampling obviously does not include all instructional units (business comes to mind), it does represent significant and diverse areas of academic inquiry—the sciences, social sciences and humanities.

During the interviews, I asked the subjects to remember a recent academic writing experience. I told them to begin with their initial sense of exigence and then, in a narrative, recall the entire experience, attempting to remember the nature of the research, attitudes about the research, sense of audience and purpose, attempts to organize and interpret data, the writing itself, attitudes about writing, etc. Usually, I let the subjects develop the narrative on their own, but when the narrative seemed superficial or failed to consider some aspect of our model—pattern seeking, say—I'd ask a pointed question: "At some point did you worry about either finding a pattern in the data, or imposing an organizational design on that data?" As the subjects talked, I attempted to code their narrative sequentially into the eight-celled grid. If, as was the case with a creative writer I interviewed, the process began with something other than "collecting" (the creative writer said his process always begins with language itself, with writing) I would enter a "1" into the grid square I deemed appropriate. Thus, with the creative writer, I entered a 1 into the gathering/translating square, and continued to listen and code from there. My assumption was that the narrative would reveal not only the salient aspects of a subject's process, but also a kind of linearity that would help characterize the research/writing process.

Even as I conducted the interviews, I realized the limitations and problems inherent in such a procedure. Obviously, I was not doing composing research: never did I watch the subjects at work, or even interrupt them during a working experience. Quite simply, my procedure was incapable of uncovering what the subjects actually did during the process; instead, it helped me, and them, understand their own sense, and memory, of what it was they did when they wrote academically. Moreover, from the beginning I was aware of the highly interpretive nature of my coding; time and time again I heard things that didn't fall neatly into the hunting/gathering model. For instance, many of the subjects talked about the role of reading in their research/writing process, and I was forced to categorize and code their statements about reading out of my own sense of its relationship to the model. In most cases, reading seemed to be a kind of gathering/collecting act, so I coded that act accordingly. This is why I say I used our model heuristically: it helped me make my own subjective sense of what I heard from the subjects.

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After the subjects finished recalling their processes, I told them about our model, what I was trying to do, and showed them how I had coded what they had told me. I then asked each one to react to the model itself. Is it comprehensive? Is it capable of characterizing your sense of what you did? Does this sequence, or route, somehow capture your memory of what you did? Can you think of problems with the coding and my own attempt to trace the sequence of your work? In all cases, I found the post-narrative interview to be the most useful aspect of the procedure, as I'll explain later.

Despite the limitations of my own collecting procedure, I think that the interviews helped me gain at least a superficial understanding of what we academics think we do when we research and write. The news I will report next is, from my own perspective, happy and even exciting.

Findings

From the beginning of my research on, I was astounded by my subjects' eagerness to talk about their work. Each of the eight had not only recently done research and writing, but wanted to talk about the work at length. I expected to encounter some resistance and defensiveness, but the subjects seemed delighted by both my interest in them and the nature of my project once I explained it. In fact, now that the interviews are over, the subjects still return to me: "I just remembered something else," they will say, and away we go; still another narrative about some aspect of their experience. At first when these "return visits" occurred, I attempted to re-code the forms, but now I have given up. The more the subjects talk to me, the more I realize the depth of what they have to tell me about their work. In all eight cases, then, the coding form was not capable of capturing the complexity of what the subjects did, their ability to recall their experiences, or their enthusiasm about their work.

In all eight cases, too, I discovered other shared recollections of academic writing that I found heartening. All of the subjects recalled writing out of interest, not because of some external compulsion. Never did a subject say, "I wrote because I had to get tenure" or "My chairman made me do it." The exigence, in all cases, was personal interest and dissonance: some problem, some question, some contradiction, some opposition, some surprise was worth exploring, thinking about, writing about. The remembered motivation to write academically was internal, not externally imposed.

Moreover, all eight recalled starting points for their work that evinced their involvement in genuine research communities. The starting points included conversations with peers, reading the work of a
peer, listening to a paper by a peer, and the use of language with a community of careful readers in mind. Never did a subject remember writing for an authority figure, a critic, or a subordinate: always, the subjects gestured at a concerned community of peers and found starting points within the ongoing discourse of such a community. Typical memories of starting points went like this: “I was reading an interesting book by . . .” or “I was talking to another person in my department . . .” or “I was at a conference and I heard . . .”

Finally, all eight subjects recalled complex academic processes and talked about both the sloppiness and richness of their processes: they remembered struggling with both the research and the writing. In terms of “hunting” and “gathering,” they remembered moving freely and flexibly between strategic hunting and heuristic gathering, and described moments of purposeful control mixed with moments of dissonance, discovery, and revision of both plan and material. Tom K., the historian, characterized the entire group’s memory of the research/writing struggle: “As I see it, it’s a dialectical process. I go back and forth between all of the cells in your model, working toward a final sense of things and, of course, the book I am writing.” In fact, the word “process” is not one that I have imposed upon this interpretation of what I heard: the subjects themselves freely used the word in their own narratives; they recalled rethinking and revising their work.

There were, of course, some pronounced differences across the disciplines, and I will now attempt to characterize those differences according to patterns I myself found while in a gathering mode. What follows is, of course, my personal interpretation of the narrative data.

The scientists (a physicist and a biologist), the social scientists (a psychologist and a communications researcher), and one member of the English department (a composition theorist) remembered far more about the research process itself—about procedures, methodology, empirical data-gathering, etc.—than they did about the rhetorical implications of their work. On the other hand, the Americanist and creative writer in my own department, and the historian, talked quite a bit about audience and purpose, about problems of establishing authority, about the rhetorical dimension of their thinking and writing. Another way of saying this is: the subjects who were located in the sciences and social sciences recalled an epistemic orientation, and methods of inquiring relatively divorced from rhetorical implications; the subjects in the humanities recalled a rhetorical orientation, where the knowledge, attitudes, beliefs, and values of the audience seriously affected their own inquiry and writing. Interestingly, though, on a continuum between epistemic and rhetorical polarities, the scientists talked more about audience than did the social scientists. For some reason, the two
social scientists—the communications researcher and the psychologist—seemed more concerned with methodology, less with rhetoric and writing itself as a process of discovery, than the natural scientists.

Too, the division between the sciences and social sciences, and the humanities, was reflected in the focus of the work. Subjects in the humanities recalled research that was "text-centered," that is, work that involved their own interaction, through reading and writing, with other texts. Among the scientists and social scientists, research was recalled more as a long process of gathering data and subjecting that data to established procedures of quantitative analysis ("bench work," the biologist called it). Perhaps this division explains differences in attitudes about research and writing. The scientists and social scientists tended to regard research as a process of observing and quantifying that is prior to writing. Research itself is what leads to understanding, and the purpose of writing is, mainly, to clearly communicate the results of that research to the appropriate community. The subjects in the humanities tended to view writing and reading as activities inseparable from the research process: in a sense, writing and reading are the research. The creative writer, for instance, says that his process always begins with writing itself, though it includes reading. And while the Americanist and the historian talked about reading first, all three remembered more interaction between research and writing throughout the total experience than did the other five.

Perhaps because they view research as being prior to writing, and as an activity that needs to be performed and considered by itself, the scientists and social scientists tended to talk about writing formats instead of the strategic organization of information in a rhetorical context. Thus, the physicist, after selecting a particular journal for his article, knew that he would need to "first review the literature, then state the problem, then discuss his observational and quantitative procedure, then present the results, and finally discuss those results." The Americanist, on the other hand, tended to view organization as a process of understanding what her audience already knew, what they needed to know, and then revised her own text accordingly.

If the individual narratives and coding forms alone were used to develop a theory of academic writing across the curriculum, the disciplines considered might be located on James Kinneavy's discourse triangulation. In A Theory of Discourse, Kinneavy proposes that a discourse might be classified according to its purpose, and by the element of the total discourse situation that it emphasizes. Hence, discourse that emphasizes the encoder is "expressive"; discourse that emphasizes the decoder is "persuasive"; discourse that emphasizes reality, or
the world, is "referential"; and discourse that emphasizes the signal, or language itself, is "literary."

During each interview, however, I found the post-narrative discussion to be more useful than the narrative itself. When I attempted to discuss my own interpretations of what I was hearing, and present my perceptions of patterns across the disciplines, the subjects were quick to offer some important reservations. For instance, when I told the scientists that I found their work more epistemic (from Kinneavy's perspective, "referential") than rhetorical, they strongly asserted that underlying their research was a sense of the general knowledge of their own research community. In a way, then, all of their work was done within a context of potential readers and was from the beginning "rhetorical." Those in the humanities reminded me that while their work might be rhetorical in nature (ultimately "persuasive"), they still struggled with notions like "validity," with an effort to gather factual content objectively, epistemically. It may well be the case, then, that all academic research is both epistemic and rhetorical.

Moreover, the actual writing that academics do may well be both expressive and transactional, a form of effective communication and a mode of learning. When I asked if the research-before-writing approach of the scientists led to a kind of direct and strategic translating, or writing, the physicist told me that he uses writing expressively, instrumentally, to help him understand what he is trying to say. So even though he postpones the writing, it is, for him both heuristic and strategic—both a mode of learning and a form for communicating what he has learned. Thus, the function of academic writing cannot be regarded as only one of clearly transmitting knowledge (hunting mode). Nor can it be regarded as only one of discovering knowledge (gathering mode): it is too rich, when it is done well and sincerely, to categorize—
even by discipline.

The subjects also voiced some reservations about my effort to code the narratives. Though they all agreed that the hunting/gathering model is capable of elegantly explaining the sorts of things academic writers do, they were unanimous in questioning a rigid effort to categorize and code: when I showed the psychologist my effort to code her narrative, she said, "Yes, sort of. But I think that I go back and forth between the cells even more than the coding shows. And, during different projects, I might take different routes." In short, then, the post-narrative discussion led me, at last, to a relatively simple truth: among academics, the research/writing process is recursive, too complicated to code, and incredibly rich; although there might be some trends in different disciplines, an individual academic writer needs to be characterized independently, and probably characterized differently during
different research and writing occasions.

I am left, at last, with a strange contradiction: my subjects were all significantly alike—and significantly different. Alike in that they worked out of interest and sense of community. Different in that they recalled processes that varied not only according to discipline, but also according to personality and task.

**Pedagogical Implications**

My interviews across the disciplines did indeed help me answer my own questions, and they convinced me that academic writing is worth doing and teaching. For me, there are strong implications now for both writing-across-the-curriculum projects and the teaching of academic writing.

1. A hunting/gathering model of the research-writing process, while it has categorical limitations, has tremendous potential as a heuristic. Those who are interested in conducting writing-across-the-curriculum workshops might do well to use the model as I have used it: to help academics remember, and recall, what it is they do, and value, as they research and write. Not only does such self-examination help the content teacher remember what academic writing really is (certainly not the research paper as it is usually taught), but it also provides the groundwork for developing a university-wide pedagogy: if we can better understand what it is that we do when we inquire and write, then we might be capable of leading our students away from the night library.

2. All of us who teach academic writing need to work on building, in our classes, genuine research communities. This would involve downplaying our own teacher-as-audience roles, and instead encouraging writing to and for peers. The classroom would become a place of researching, reading, writing, and talking, and its focus would become an area of common investigation. Thus, the starting point for research and writing might be a shared question, a problem, a gap in the collective knowledge of the community, preferably student-generated, not teacher-assigned.

Such restructuring of a writing class, whether it be the second semester of freshman composition or a writing course in a specified content area, implies not just a new set of assumptions about the research paper and how to teach it, but a new set of assumptions about education itself. Students would be researching and writing to broaden their own knowledge and the knowledge of their own community rather than to transcribe the knowledge already generated by academicians (and teachers) in external communities.

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3. We need to promote genuine reading in our classrooms and allow for research that might not involve the library alone. Rather than suggesting definite research procedures, we need to encourage students to select, intelligently and critically, research procedures relevant to their own questions and problems. We need to help them see that academic research, reading, and writing is a constructive, personal process—one worth sharing with others.

4. We need to invite students to participate in a range of research tasks—some that would be more characteristic of the natural and social sciences, some more characteristic of the humanities. By moving toward writing across the curriculum, we could extend the range of academic writing invitations and experiences. If students wrote in different disciplines, and if content-area teachers modelled genuine research and writing, and invited their students to do what they really do, then students would participate in both epistemology and rhetoric. Their ability to think would be enhanced by different approaches to knowledge and its construction; their rhetorical competency would be enhanced because they would write for a wide range of academic peer audiences.

5. Finally, we need to help students who are already writing across the curriculum enrich their own processes. In my research, I discovered that academic writers in a variety of disciplines see their own writing as not just a vehicle for clear communication, but as a learning process as well. Students need to learn to both hunt and gather—to work with a sense of focus and purpose, but to change direction and accommodate new data when they encounter the unexpected—and they need to develop the sort of flexibility and resourcefulness I discovered among my colleagues: perhaps it is the absence of a direct and linear route through the research/writing process that is most characteristic of solid, and honest, work.

As I conclude my writing here, I realize that my own work was influenced by what I heard from others. Indeed, the scientists and social scientists rubbed off on me: like them, I did some research first, and only then began to write. Like them, I attempted to rely more on what I did, empirically, than on what I read. Like them, I even divided this article up into a procedures/results/implications format. But at some point during my own academic writing process I talked to my friend, the creative writer, and told him what was happening to me. He said he thought it was very unfortunate that writing was not a part of my process from start to finish: "Research is writing," he said, meaning, I
think, that there is no such thing as knowledge that is dissociated from
discourse. I learned from what he said—or from what I thought he
meant. When I did begin to draft and rewrite, I decided to at least give
the writing a chance to teach me something new, to change my sense of
the research I had done. So I wrote at first in the “gathering mode,”
expressively, even though I used a transactional and well-defined for-
mate and later revised extensively. The effort to “write to learn” con-
vinced me anew that writing brings with it, always, new knowledge,
change, growth. The physicist had told me the same thing, really, when
he said that no matter how objective his research, the process of writing
always gave him a slightly different view of what he had discovered
empirically.

In the end, I am left with this: my colleagues are men and women
who seriously inquire and who write both to learn and to share their
knowledge. I learned a good deal from them, and I think all of us,
across the disciplines, have much to learn from one another. What we
do when we write academically can be enriched by learning what oth-
ers do, by expanding our discourse. I believe, now, that the next step for
me, and for my colleagues, is to invite our students to join in what we
really do when we write articles like this one.

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NOTES

1Throughout this article I will associate the words (and concepts) “discovery” and
“change” with the kind of research and writing I am here calling “heuristic” and will
later describe as a “gathering” activity. My thinking grows from Young, Becker, and
Pike’s development of a new rhetoric, one that emphasizes epistemology and human
cooperation more than effective (and strategic) persuasion.

2Those familiar with the work of James Britton and Janet Emig will recognize the
language I am using here. For Britton, a writer’s development can be characterized as a
movement from private “expression” to public “transaction.” Expressive writing,
though it may not evince a writer’s awareness of a public audience and an effort to
strategically meet that audience’s needs, not only drives that writing which is transac-
tional, but may result in the kind of writing that surprises the writer herself, and leads
to discovery. Janet Emig, though she does not use Britton’s language, seems to be sug-
gesting the same thing: writing can be regarded as not only a form of communication,
but also as an instrument with which to construct new knowledge, as a “mode of
learning.”

Works Cited

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