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Author(s): Malcolm Kiniry and Ellen Strenski
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Sequencing Expository Writing: A Recursive Approach

Malcolm Kiniry and Ellen Strenski

This essay suggests a system for arranging assignments in a composition course that aims to prepare students for academic writing. It focuses entirely on exposition and its conceptual demands—the writing skills needed most urgently for students to survive in college, or to excel. The approach was developed within UCLA's Freshman Preparatory Program, an experimental program for underprepared students which was designed by Mike Rose (and described by him in *College English*, February, 1983, pp. 109-28).[1] Its materials are drawn from a range of academic disciplines and so may be of particular value to teachers and administrators who would mesh their concern for basic writing with their interest in cross-curricular programs.

Our approach draws on several others, and attempts to compensate for limitations of each. First, we accept the view that writing is a process best taught in stages. We move students through series of operations without expecting them to achieve polished products at each stage; at key junctures, students are asked to revise—and preferably to rethink—what they have written. But unlike most advocates of teaching the processes of writing, we do not, at the outset, put much stress on invention. We have found that to do so often gives students the impression that huge, time-consuming impediments must be overcome before an essay can get underway, and, furthermore, that a writer must develop fresh strategies for dealing with each assignment. (Both impressions act as disservices to students whose most immediate writing demands outside composition class are apt to be essay examinations.) Second, our approach also acknowledges the traditional method of teaching expository forms through encouraging the imitation of models. But the difficulty with this approach is that, unless given the opportunity to practice various rhetorical strategies in a variety of contexts, student readers are apt to become passive practitioners of formulas rather than active explorers of forms. Our approach exposes students to a small repertory of expository forms, but our assignments

Malcolm Kiniry is a visiting lecturer in the UCLA Writing Programs and, with Mike Rose, is compiling for publication a reader of materials for instruction in writing across the curriculum. Ellen Strenski is Upper-Division Coordinator of UCLA Writing Programs.

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challenge them to apply these forms flexibly in a variety of academic situations. Finally, by drawing on research in educational and cognitive psychology,[2] our system takes advantage of a schema suggested by several theoretical perspectives toward reading and learning[3] and creativity.[4] But while psychological theory has identified a hierarchy of cognitive operations and thus suggested an order for sequencing writing tasks, we treat this order merely as an initial framework, one from which to depart freely as needs arise. And rather than running students through a sequence of assignments in a linear or overly literal way (presumably in ever-increasing gradations of difficulty), we attempt to structure assignments recursively, so that even as students move on to more complex tasks, they find themselves increasingly capable of turning back profitably to those expository strategies they already have begun to master.

Before Mike Rose established this program, he surveyed the campus to determine UCLA's actual undergraduate writing tasks ("When Faculty Talk About Writing," *College English*, November, 1979, pp. 272-79). Overwhelmingly expository, most of these quizzes, examinations, reports, and papers seemed to reduce to eight basic "schema" or "superframes"—eight activities that all of us use to process information and make meaning. Arranged hierarchically from simple to more complex activities, they are, for the most part, the ones we see under the heading of "Exposition" in most composition textbooks. Still, there were a few surprises:

(1) *Listing*. An examination form which at its simplest calls for the rote display of memorized items (sample questions: "List the functions of the liver," "What are the characteristics of igneous rocks?"). But listing can also serve as the backbone of more complex essays (the list would provide distinct paragraph topics for requests like "List and explain five differences in the attitudes toward Indians held by New England settlers and Russian traders" or "Delineate the areas in which Glazer and Moynihan have changed their views in the most recent edition of *Beyond the Melting Pot*").

(2) *Definition*. Also both a short answer form and the basis of more extensive essays. Many examinations call for a formulaic definition which places the term to be defined in a class and then lists enough differentiating features to distinguish it from other members of its class ("Define mitosis," "What is synecdoche?"). But often definition is expected to furnish the structure for some extended inquiry ("Define the idea of the American Adam and apply it to *Huck Finn*"). At its most demanding a definition assignment calls for recognition of how problematic defining can be ("What is a romance? Explain why the stories in *Winesburg, Ohio* are, or are not, romances," or "Define and evaluate 'the discouraged worker' hypothesis as an influence on labor participation").

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(3) *Seriation.* The chronological, step-by-step format of the laboratory report and of many intermediate-length examination questions. All serial presentations demand the careful management of transition words connecting the steps and expressing their temporal relationships. The simpler seriations often are essentially paraphrases of diagrams ("Describe the Calvin Benson cycle"). Some seriations are disguised as definitions (the question "Define mitosis," above, can also be interpreted as a request for a stage-by-stage description of the process). The most demanding seriations are probably those in which students must select chronological relationships according to interpretations of causes and effects ("Discuss the escalating role of the media in the rise and fall of Senator Joe McCarthy," or "Was Stalinism the inevitable consequence of the Russian revolution?").

(4) *Classification.* Usually the application of established or accepted categories to specific data. For example, having been asked to learn the features of various genera of microörganisms, students are then asked to categorize microörganisms they have not seen before and then to defend their judgements. Some classification assignments merely ask students to recite categories and provide examples ("Characterize the prevailing forms of government in post-colonial Africa"), and some classifications are merely ways of restructuring lists ("What are the social, psychological, economic, and political causes of World War I?"). But many such assignments give students room to extend or refine the categories they have been given, and some seem to demand such refinements ("Discuss the varieties of attitude in John Donne's love sonnets"). Few college assignments ask students to generate categories of their own, although the ability to create such categories is usually rewarded (given the question "Respond to the charge that D. H. Lawrence is a humorless writer," a student who responds, "There are at least three kinds of comedy at work in the fiction of Lawrence . . ." is off to a good start).

(5) *Summary.* The most ubiquitous of demands in college writing, closely aligned with reading and listening skills, and often disguised as some more elaborate request. For example, a question apparently calling for "discussion" or "analysis" may actually be asking for a summarized version of a particular lecture or reading. At its simplest, summary involves being able to identify and pull out topic sentences; at its most sophisticated, summary involves delicate recombinations, inferences, and clarifications (a question like "What is Hofstadter's assessment of the Populist movement?" will require both selective treatment of Hofstadter and a deft representation of the general view to which Hofstadter is opposed; and the most successful responses to an

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instruction such as "Summarize Paley's Design argument for the existence of God" will probably tactfully acknowledge the instructor's treatment of that argument).

(6) *Comparison/Contrast*. One of the most persistent formats for both examinations and assignments for papers. It varies in difficulty with the complexities of the materials themselves and according to whether or not the assignment expects students to perform independent evaluation of data and/or provide appropriate categories for classifying information (the instruction "Compare the respiratory systems of amphibians and reptiles" is already structured so that a student's main job is to recall information, taking care to balance the second description against the first; a question like "Compare the ideological visions of Weber and Marx" requires first the invention of bases for comparison).

(7) *Analysis*. At its simplest—never very simple—analysis demands breaking down a text or phenomenon into constituent parts or causes ("What does the following chart suggest about the relation between interest rates and home loans in the 1970's?" or "What specific features of Constable's 'The Hay Wain' account for its tranquility?"). But usually analysis also requires an application of some theoretical framework to the object in question. Sometimes that framework consists of concepts implicit in a discipline (the concept of "competing interests" in political science, for example, or, in astronomy, the cosmological principle of "uniformity"); more often in college writing it also employs the interpretive methods of a specific school or thinker as a model ("Analyze Dora's dream from Freud's perspective"; "Analyze the effects of the San Francisco earthquake according to elastic rebound theory"; "Do a semiological analysis of a local foodstore"; "Discuss the Miami riots in light of one or more of the theories of civil disobedience you have read this semester"). An effective analysis will usually employ the special vocabulary of the field or theorist.

(8) *Academic Argument*. An assignment that asks for information-based argument, as distinguished from one that asks only "What is your opinion?" Students are expected to construct their arguments by marshalling other people's facts and opinions; their essays are controlled by a single governing purpose, of course. But in college studies writers are expected to draw upon course work rather than general knowledge or value judgements. Only in a composition course is a student likely to be confronted by the naked question "Are you in favor of capital punishment?" In a philosophy course the question might take the form "What are the chief arguments in favor of capital punishment and what objections must they surmount?" In a political science

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> course, it might take the form "When, according to Locke, does the state have the right to take the life of one of its citizens? Do you agree?" And in a history course it might take the form "At what period(s) of American history have the critics of capital punishment helped to decrease its popularity, and what forces have usually brought it back in favor?"

With the exception of the final category, "argument," which seems not so much more complex as more transactional in its aims, these types correspond, roughly, to the intellectual hierarchies of the cognitive psychologists. According to most generalized cognitive models, listing is simpler than defining, which is in turn easier than abstracting sequential relationships. But abstract steps are easier to grasp than abstract categories, so seriation is not so demanding as classification. Abstracting key ideas from their context via summary seems an even more selective operation, though not so demanding as comparison, which must bring together two or more arrays of such selections. Finally, analysis is more difficult than all the others because it must move back and forth across great cognitive distance, seeking to attach airy generalizations to unwieldy data. But, as our earlier descriptions are meant to suggest, these activities do not remain so tractable in their actual classroom contexts, where a simple comparison can be easier than a slippery definition. Each writing activity contains gradations of difficulty so that no one activity is invariably simpler or more difficult than others.

What advantages follow, then, from organizing a composition course according to this developmental sequence? It certainly offers a more than impressionistic order for moving students firmly through a number of relatively simple expository assignments to a number of relatively complex ones. (Even the ordering of the sequence is not absolutely rigid but can bend in favor of teaching preferences, as it does for us when, primarily for the sake of reading skills, we teach summary before classification.) However, above and beyond the benefits of a master sequence that builds in complexity, we recognize two further, and potentially greater, advantages. First, a format including exercises that are preliminary and supplementary to full-blown assignments provides excellent opportunities for sequencing gradations *within* each writing type. Second, as we move, during a term or a year, from definition to seriation to summary to classification to comparison/contrast to analysis and then beyond into argument, we discover that we are moving not only forwards but circularly backwards, reinforcing and recouping our previous gains as we call upon the earlier writing strategies in service of the later ones. Hence the claim to recursiveness in our title.

Perhaps the fertility and flexibility of the system, as we have modified and fleshed it out in our own classes, can be illustrated by the following chart of assignments:[5]

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	Simple	Intermediate	Difficult
Definition	After reading a paragraph, define a word by finding a synonym within the paragraph ("organism" is a "living system").	After reading the first chapter of Theodora Kroeber's *Ishi in Two Worlds*, construct a definition of the term "perspective" by placing it in a class, specifying its differentiating features, and giving several clarifying examples that illustrate the term's range.	After reading Peter Singer's introductory pages to *The Expanding Circle,* redefine the term "ethics" according to his perspective.
Seriation	After taking notes on your instructor's lecture about the stages of infant development, make a numbered list of these stages.	After reading about the process of photosynthesis, abstract the key phases of the process. Begin with a definition.	Unscramble information about the decimation of the Mission Indians so as to write a coherent description of their demise.
Summary	Construct a summary of the article about nuclear power by abstracting its key sentences and connecting them by means of appropriate transitions.	Write a summary of the *Newsweek* article about Vietnam's invasion of Cambodia, removing the context of reporter's narrative.	Construct a summary of these immigration statistics that can serve as part of an essay recommending or discouraging more restricted immigration laws.
Classification	Explain the classification system that structures the essay about ecology.	After reading about the classification of creation myths into two types and five sub-types, assign the following mythic stories to their categories and explain the basis of your choices.	Generate a classification system providing meaningful categories for the modern sculpture display you visited.

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Comparison/Contrast		
Compare the two historians' attitudes about the use of statistics.	Compare the three theories about language learning encapsulated in this chapter.	Compare/contrast the attitudes of the two writers about the history of science by comparing their treatment of two 18th-century biologists.
Analysis		
After reading the chart about the distribution of world trade, interpret it by employing the author's thesis about emerging African nations.	Analyze this excerpt from John Fowles' *The Collector* in light of the following theory about the Stockholm syndrome.	Evaluate these four theories about violence as a way of accounting for the punk rock violence described in the following essay.

The assignments in the left-hand column are manageable as in-class exercises, as practice in pre-writing, or as overnight homework assignments, while most of those in the right hand column lend themselves to more developed treatment, including revision. The chart is meant to convey some of the range of activities covered by each type; it is not meant to suggest the total number of assignments. What it cannot convey are the fine gradations of difficulty attainable within each of the major types. To do that, we need a different format. Here is a sketch of a sequence of assignments within the category, *summary*. Most are exercises and can be managed within the space of a single class period, though the intermediary ones may require advance reading and revising. The sheer number of assignments may seem dauntingly large, but by selective pruning the whole sequence can be compressed into a week's worth of work if necessary, and expanded into several weeks' worth if desirable. (The Freshman Preparatory Program at UCLA has time to work with; some of our students are with the program for three consecutive quarters.)

Sequence of Assignments for Summary

All of the summary exercises ask students to abstract, compress, rephrase, and selectively quote material without editorializing upon it. But we conceive the summary sequence as a series of discrete problem-solving exercises of gradually increasing difficulty, and we arrange them so as both to call upon the strategies students have already practiced and to anticipate those ahead. As the sequence progresses, the decisions about what to select, combine, and ignore become more challenging, and students are more apt to see the choices available to them.

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Exercise 1. Reading Passage: "Constructing an Educational Test." After adequately defining the meaning of "educational test," students have only to abstract four steps from eight sentences. Since most students have little difficulty recognizing the step-by-step format, the exercise entails simply eliminating the four illustrative sentences that follow each sentence describing a step.

Exercise 2. Reading Passage: "The Primary Effects of a Nuclear Explosion." Students begin by abstracting the sentences naming the five effects. Signposts ("the first result," "the second . . .") make the sentences easy to extract, but unlike the previous exercise, these abstracted sentences cannot be left as is; taken out of their context, they are irritatingly redundant (The first effect of a nuclear explosion is . . .", "The fourth consequence of a nuclear explosion is . . ."). So a second stage of compression is introduced, sentences are condensed to phrases, and the summary is expressed in a single long, simple sentence.

Exercise 3. Reading: a piece about the gradual modifications in the theory of evolution. The essay imposes reading difficulty because it is only roughly chronological, introducing Lamarckian theory after Darwinian theory so as to go on to make a relatively secondary point about the Soviet use of Lamarck. The difficulty for students lies in discovering that a thoroughly chronological approach makes the most sense for the summary and that the discussion of Lamarck must not only be shifted to an earlier position but deemphasized.

Exercise 4. Reading: "The Evidence for Mycenean Civilization." The task is complicated by some reading difficulty. The writer clearly announces his intention to present three types of evidence, but his subsequent explanation contains a digression and no clear announcements of when he is moving to the second and third types. Students must seek out the underlying three-part structure before selecting or constructing a sentence about each type of evidence.

Exercise 5. Reading: a *Newsweek* account of Vietnam's 1979 invasion of Cambodia. The difficulty for students lies partly in the length of the article and partly in learning to ignore portions of "you are there" reportorial narrative which are the journalistic tissue of the piece but which are peripheral to the account of the general invasion. Further, a theme running sporadically through the second half of the essay—what will be the U.S. reaction?—must be brought forward if the summary is to be coherent.

Exercise 6. Reading: "Four Types of Psychotherapy." This exercise, which points students toward comparison/contrast, is described in more detail below.

Exercise 7. Reading: a chart, "Regional Distribution of World Trade." The difficulty for students lies, first, in converting columns of figures to sentences and, second, in realizing that it is almost impossible to recount the figures without imposing an interpretation upon them. After a class discussion which reveals that the chart actually supports at least two conflicting interpretations, students are asked again to summarize it in a way that retains and balances the ambiguity.

Exercise 8. Reading: a list of Immigration Laws, 1700-1980. The task builds on the interpretive discussion of the previous exercise in presenting summary in the service of argument. Here students are asked to se-

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> lect those immigration laws relevant to a summary (within a larger argument) about the role immigration laws have played in U.S. foreign policy towards the Far East.

Such a format relies heavily upon repetition. But not, we hope, repetition of the stultifying sort associated with drill. Rather, students are asked quite literally to exercise—to stretch their ability to execute what is at first a relatively mechanical skill to the point where it becomes a versatile instrument, adaptable to a variety of situations and demands. Within the rhythm of problem-finding and problem-solving, students are much more likely to retain the organizing strategies they have learned from the inside out.

During the unit on summary, an instructor can address a variety of rhetorical and mechanical matters as they occur in the context of problems requiring summary. For example, questions involving quotation, paraphrase, and plagiarism usually arise early, and exercises in summary offer a commonsense forum for addressing them. The middle phases of the unit on summary also lend themselves to sentence-combining techniques, or, rather, to sentence-constructing techniques—for instead of working from artificially contrived "kernel" sentences, students will find themselves with ready-made kernels in notation form (here a half-quoted sentence, there a striking single word; here a clause-length paraphrase of a paragraph, there a string of sentences compressed into parallel phrases). Eventually, as students learn that there can be a wide range in the form of abstracts, they can be taught the differences between informal summaries and more rigorously constructed abstracts. When they have mastered the technique of sliding all details and examples out of texts, they can then be reintroduced to the function of particularly apt examples within the looser summaries they will be writing for most college courses.

A Recursive Approach

All these advantages may be sufficient to justify our claim that a sequence like that employed in UCLA's Freshman Preparatory Program is a good way to teach via repetition and exercise. But they may not do enough to make good the claim of "recursiveness" in our title. For further demonstration, we will turn back to exercise 6 in the summary sequence. First, however, notice that the sequence of eight exercises itself can be seen to recapitulate and anticipate the overall sequence of activities from definition to analysis and even argument. That larger sequence is perhaps not visible in each gradation of the summary sequence (each installment requires some sense of definition, and each exercise from the third onward calls upon analysis in the sense that the author's perspective must be sympathetically grasped), but we can see that the early exercises recall and re-use students' experience with seriation exercises while the later ones press them necessarily toward analytical interpretation and argument.

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Exercise 6, "Four Types of Psychotherapy," is particularly interesting because it serves indirectly as one of the preliminaries to the two major activities to follow, classification and comparison/contrast. The reading material consists of four short (1- to 2-page) descriptions of psychotherapeutic "schools": psychoanalysis, reality therapy, client-centered therapy, and behaviorist therapy. The four passages are not neatly symmetrical; they vary in length, in the amount of detail, in format, and in tone. One of the passages is quite repetitious; only two of the four describe a typical session. Instructors have tried various strategies in dealing with this assignment. One option, compatible with the emphasis on writing as process, has been to provide students initially with only the minimal instruction they need in order to summarize the material. What results for the most part are rambling focus-less essays or, alternatively, four tight but unconnected capsules. Then, in workshop, group discussion, or individual conference, students articulate the dissatisfactions they feel with their own and others' summaries. What usually emerges from such discussions is the sense that their summaries, as yet, lack a coherence-giving purpose; by recognizing this need, the class, individually or collectively, moves toward classification and comparison as means of discovering and expressing such a purpose. Sometimes at this stage an instructor can intervene with a rephrasing of the assignment that contextualizes it (a shorter version of this exercise can *begin* with this instruction: "For a psychology course, you must summarize these four psychotherapies to help a prospective client choose among them").

Armed with this instruction, students begin to marshal their skills in summarizing toward this new purpose of comparison. More important, in the face of this new requirement, students begin to consult their finite repertoire of established techniques (or at least well-exercised ones). They may discover that

they lack thumb-nail *definitions* of the separate types that would help to distinguish the psychotherapies one from another;

they lack a general *definition* of "psychotherapy," something that could give direction to the whole enterprise;

they can take advantage of their experience with *seriation* by describing the general movement of each therapy toward its overt or implicit goals;

they could take further advantage of their skills in *seriation* by including parallel descriptions of how representative therapy sessions proceed for each type, if only they had descriptions of all four types of session (a teacher may intervene by placing representative case studies on reserve at the library, or by encouraging students to invent a typical session based on the information they have).

At its best, careful sequencing of writing activities can foster this sort of strategic agility. Rather than becoming conditioned reflexes triggered by a

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recognized signal, these techniques can serve as a portable inventory of strategies which may be coordinated with one another and continually adjusted to meet new demands. As students move out of this freshman program and into the free-for-all of academic writing, they take something solid with them. Faced in a history course with a discouragingly vague request such as "Discuss the ostensible causes of the French Revolution," students can quickly consult their organizational repertoire and formulate a set of options from which to choose. They might ask themselves questions like the following:

How do I define and limit the term "French Revolution"? What does "ostensible" mean, and what distinctions does it ask me to make? With what other key distinctions might I define the key terms of my essay?

What sequence can I construct of important events leading up to the Revolution? Will my sequence express genuinely causal relationships?

Am I being asked to summarize? Which lecture? Which portion of which text? Am I being asked to combine several summaries?

How can I classify causes? How have others done it? Upon what basis? Can I see the French Revolution as belonging to a larger system of categories? Will placing it in a general category help me identify possible causes?

What is the range of theoretical perspectives (see item #7, p. 194, above) available to me in analyzing this issue? Has the instructor shown a preference for one perspective over others? With which am I most comfortable, and which can I apply with the greatest support of specific details? Does "ostensible" ask me to refrain in my analysis from adopting any single perspective, while trying out and comparing several?

Is there any one theoretical perspective that I find persuasive enough to serve as the basis of a sustained argument?

Some of these questions (and similar ones) will fetch only foggy answers. But one or more may call up substantial strands of information or valuable insights, while offering a coherent framework for controlling "discussion." And others may alert writers to sub-strategies which they can call upon to strengthen their main organizational choices.

As our examples suggest, we think that this sequence of cognitive and expository strategies is particularly useful in teaching cross-disciplinary writing. As the interest in cross-disciplinary programs grows stronger, the argument for such approaches—whether or not they take the specific form we have been urging here—grows stronger, too. Perhaps the most we can ask, finally, of an expository sequence is that it help make the opportunities for thinking, and thus for learning, systematically abundant. In its system of repetitions, gradations, and recursions, a sequence like the one we have been describing encour-

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ages students to develop a few basic expository strategies for approaching a multiplicity of university materials boldly and attentively.

Notes

1. The Freshman Preparatory Program is administered by the UCLA Writing Programs under the directorship of Carol P. Hartzog and under the executive directorship of Richard A. Lanham. Mike Rose, currently the director of the Freshman Writing Program, is the designer of the Freshman Preparatory Program and the Freshman Summer Program, of which it is an extension. We wish to acknowledge the sustained inventiveness of our colleagues in the Preparatory program: Gary Colombo, Bill Creasy, Pat Donahue, Diane Dugaw, Carol L. Edwards, Pat Gilmore-Jaffe, Mike Gustin, Faye Peitzman, Ellen Quandahl, and David Ward. We also wish to thank Jennifer Bradley for helpful comments on this article.

2. See, for example, B. S. Bloom and others, *Taxonomy of Educational Objectives, Handbook I. The Cognitive Domain* (New York: David McKay Co., 1956); Robert Gagne, *The Conditions of Learning* (New York: Holt, Rinehart, and Winston, 1970); William G. Perry, *Forms of Intellectual and Ethical Development in the College Years* (New York: Holt, Rinehart, and Winston, 1970). This approach has been applied to the composing process by James Britton and others in *The Development of Writing Abilities (11-18)* (London: Macmillan Education, 1975)—for instance, in their theoretical perception of "a hierarchy of kinds of writing which is shaped by the thinking problems with which the writer is confronted" (p. 52).

3. See, for example, D. E. Rumelhart, "The Building Blocks of Cognition," in *Theoretical Issues in Reading Comprehension: Perspectives from Cognitive Psychology, Linguistics, Artificial Intelligence, and Education,* ed. Rand J. Spiro, Bertram C. Bruce, and William F. Brewer (Hillsdale, NJ: Erlbaum and Associates, 1980).

4. See, for example, *The Mind's Best Work,* ed. D. N. Perkins (Cambridge, MA: Harvard University Press, 1981).

5. From a sourcebook of interdisciplinary materials being compiled and edited by Malcolm Kiniry and Mike Rose.

Penn State Conference on Rhetoric and Composition

Richard Lanham and Andrea Lunsford will be the Major Consultants at the fourth Penn State Conference on Rhetoric and Composition, to be held 9-12 July 1985 at State College, Pennsylvania. Featured speakers will include Linda Flower, Lee Odell, James Raymond, and Stephen Toulmin. If you are interested in more information about attending the conference, write to Professor Jack Selzer, Department of English, The Pennsylvania State University, University Park, PA 16802.

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