DOCUMENT RESUME

ED 390 469 JC 960 048

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TITLE The Rigor and Exorbitance of Reading: Teaching Critical Thinking in the Freshman Honors Seminar.
PUB DATE Feb 94
NOTE 8p.; In: Proceedings of the National Conference on Successful College Teaching (18th, Orlando, Florida, February 26-28, 1994); see JC 960 033.
PUB TYPE Viewpoints (Opinion/Position Papers, Essays, etc.) (120) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *College Freshmen; *Course Objectives; *Creative Thinking; Critical Reading; Critical Theory; *Critical Thinking; *Curriculum Development; *Heuristics; Higher Education; Instructional Innovation; Seminars; Systems Approach; Teaching Methods
IDENTIFIERS Freshman Seminars; Valdosta State University GA

ABSTRACT

Traditional views of critical thinking instruction focus on teaching students to develop skeptical responses to the texts they read. Genuinely powerful and generative forms of critical thinking, however, require students to read creatively as well. To balance the rigor of analysis and exorbitance of creativity, a freshman honors seminar was developed at Valdosta State University, in Georgia. The seminar is designed to alert students to the operation of systems while empowering them to resist those system's claim to universality and to inculcate the values of individuality, originality, and dissent. The first 4 weeks of the 10-week quarter are devoted to mastering concepts presented in an assigned text on critical thinking. The last 6 weeks are devoted to developing students creative thinking by introducing the concept of heuristics, or the processes or systems that practitioners in a given field follow. Students are introduced to the idea that different perspectives or systems yield different meanings through a simple application of the concepts from a heuristic grid used in the course. The course concludes with students reading and engaging in point-counterpoint exchanges from a scientific journal, discussing the use of evidence and the effect of systems of thought. The goal of the seminar is not to create skepticism nor to foster relativism, but to enable students to reject given systems to create their own. Contains 15 references. (TGI)

The Rigor and Exorbitance of Reading: Teaching Critical Thinking in the Freshman Honors Seminar

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Paper included in the Proceedings of the Eighteenth National Conference on Successful College Teaching (Orlando, FL, February 26-28, 1994)

THE RIGOR AND EXORBITANCE OF READING: TEACHING CRITICAL THINKING IN THE FRESHMAN HONORS SEMINAR

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Abstract
Traditional textbooks on critical thinking teach students to develop skeptically intellectual responses to the texts they read. Genuinely powerful and generative forms of critical thinking require teaching students to read creatively as well. The work of Troyston Roberts, David Killefer, Sigmund Freud, and rhetoricians Richard Young, Alton Becker, and kenneth pike provide an intellectual framework for designing assignments that emphasize the creative dimensions of reading.

Introduction
When the mystical painter and poet William Blake wrote "I must Create a System, or be enslav'd by another Man's" ("Jerusalem" 288), he inadvertently articulated the highest goal of liberal education. As members of the academy, most of us want to help our students to create a "System": that is, a logically consistent world view, an ethically coherent vision of life. The academic disciplines we seek to instill, however, are riddled with systems that we and our colleagues would impose, either consciously or unconsciously, upon our unsuspecting charges, systems encoded in our disciplinary boundaries and procedures, our personal idealogies, our social values and political convictions. For our students' sake as well as our own, we must be careful that we do not merely perpetuate in, and to question, the processes of system-making--fostering the kinds of intellectual self-awareness generally treated as a higher order of "critical thinking."

When used to describe a pedagogical aim or method, however, critical thinking becomes immediately if not intractably problematic. What, precisely, do we want our students to critique? How should they conduct their critical activity? If not carefully monitored, critique itself replicates and perpetuates existing systems, hindering rather than fostering the development of new systems of thought.

Freire Pedagogy
In Pedagogy of the Oppressed, Paulo Freire agues that education must uncover the nexus of power relations that oppress our students' lives. Its goal is not disinterested contemplation, but freedom. Blake would applaud these aims, and, at first glance, he might well find the methods equally attractive. In Freire's system, the teacher does not impose a program; instead she poses problems that teacher and students work together to solve. However, as such sympathetic practitioners as Gregory Jay and Geoffrey Graff have recognized, such a pedagogy is less liberating than first glances might suggest. They ask:

> "How real can the Freirean dialogue be, when Freire clearly presumes he knows in advance what the authentic 'will of the people' is or should be? However much Freire may insist upon teaching 'problem-posing' rather than top-down solutions, the goal of teaching for Freire is to move the student toward a critical perception of the world,' and this critical perception 'implies a correct method of approaching reality.'"

Critical Perception
This critical perception is predetermined: the student is either oppressor or oppressed. The limitations of Freirean pedagogy become evident when we consider the question raised by Jay and Graff:

> "Suppose a student ends up deciding that he or she is not oppressed, or is not oppressed in the way or for the reasons Freire supposes?...Freire can only count such decisions as the result of the student's having been brainwashed by the dominant culture."

In this model, critique is reserved for society, not for self. It is an aggressive, not reflective, process with predetermined aims and conclusions. As Jeffrey Robinson, a devoted proponent of Freirean pedagogy in the

literature classroom, explains, a "radical literacy education" based on Freire's model should undermine and subvert aestheticism with political consciousness. Clearly, this education is about power, not beauty or truth.

The so-called "oppositional pedagogy" of Donald Morton and Mas'ud Zavarzadeh engages even more openly in a pedagogy of power and exacerbates the Freirean reluctance to engage in self-reflective critique. Jay and Graff again illuminate the blindness of it political aims and methods. As they explain, "The teacher is not only authoritatively right about the issues but is also justified in assuming the inauthencity of the student's opinions"; "he or she treats each students viewpoint as merely another case of false consciousness to be demystified". Again, under the guise of freedom and power, this pedagogy engages in intolerant and unreflective radicalization, confrontation, and indoctrination.

Counterpoised against this pedagogy of power is the pedagogy of truth that Plato articulated in Gorgias. In this dialogue, Socrates explores the aims of "liberal" education, which fourth-century B.C. Athens situated in the study of rhetoric. In this dialogue, Gorgias, the noted rhetorician, argues that rhetoric is good because its confers the power to satisfy one's desires or to destroy one's enemies. That is, rhetoric gives one person power over others. As Socrates relentlessly exposes the venality and dishonesty of Gorgias, Polus, his young disciple, and Callicles, his host, the three become successively more menacing, with Callicles obliquely threatening use his own considerable powers of oratory to destroy Socrates in a court of law, thereby foreshadowing Socrates' death.

Socrates' reply to Callicles' threats is as surprising today as it was twenty-three centuries ago. He argues that philosophy it superior to rhetoric better because it gives power over one's self, rather than over others. Furthermore, it is better to suffer wrong than to commit wrong, because the first may improve the soul while the second inevitably destroys the soul. Unlike Freire or Morton, Socrates seeks moral improvement, not political power. His method is self-reflective rather than confidently aggressive; it pursues the painful and elusive benefits of truth, not the apparent yet morally perilous benefits of power.

As these summaries suggest, a pedagogy for critical inking that this writer would foster owes more to Plato than to the contemporary pedagogies of the radical left. (Or for the right, for that matter. This presenter certainly envisions more than taking students for a spin down Rush Limbaugh's "turnpike of truth.") Specifically, such a pedagogy shares in the Platonic indirection, its belief in transcendent benefits, its willingness to suffer as well as to assert. In design, this pedagogy would not seek for truth by perpetuating a myth of objectivity but by a deft balancing of dualities. It does not end in a skepticism, but it does foster what John Keats called "negative capability," which he defines as occurring "when a man is capable of being in uncertainties, mysteries, doubts, without any irritable reaching after fact and reason" (370). It pursues truth while recognizing the inevitable will to power that colors--and all too easily transmogrifies--that pursuit. Finally, it seeks to encourage ethical thinking: thinking that sees clearly and considers carefully, that judges generously yet scrupulously, that clearly yet tentatively asserts.

Honors Seminar

In the freshman Honors Seminar devised by the writer at Valdosta State University,, the course was envisioned as one that fostered these ambitious aims. Specifically, the course should balance the rigor of analysis and the exorbitance of creativity. It should alert students to the operation of what Blake calls "systems" while empowering them to resist those system's claims to universality. Finally, it should inculcate the values of the Socratic and later, scientific posture that Jacob Bronowski articulated in Science and Human Values--individuality, originality, dissent (62)--those liberties of thought and expression denied to Socrates, liberties inimical to the social projects of political ideologues.

In this course, students are introduced to the rigor of analysis through a standard critical thinking textbook, Neil Browne and Stuart kelly's *Asking the Right Questions: A Guide to Critical Thinking*. This text was selected because it is brief, clear, and consistently recognizes that thinking is inseparable from language.

The first four weeks of the ten-week quarter were devoted to mastering the concepts presented in this text. Students began by identifying claims and classifying the kinds of issues they develop. The easiest to spot are claims of fact ("The American educational system favors the learning styles of men over women"). More challenging are claims of value ("Contemporary movies are not as good as movies from earlier years") and claims of policy ("Following a third conviction for a violent offense, criminals should be imprisoned for life without parole.")[1] Following this, practice was provided spotting the unwritten assumptions that underlie overt statements, weighing the strength and validity of evidence, and evaluating logic.

The writer has found it especially helpful to supplement this text with Stephen Toulmin's jurisprudential model for describing discourse and evaluating the validity of arguments. Following Toulmin's lead, students refine the traditional categories that Browne and Keeley present, discovering the ways in which statements are connected. In addition to claims, data and warrants, they also learn to identify restrictions and qualifying statements. This paradigm is particularly useful as an analytical tool because it not only alerts students to what an argument says but also to what an argument lacks. This first, analytical part of the course culminates in a written analysis of a selection from *Mein Kampf*, in which Hitler weaves a flimsy textual fabric out of bad science, suspect history, ad populum appeals, and ominous personifications of nature. If the exercise has no other value, it underscores the need for rigors analysis if we are to avoid the beguiling blandishments or skillful scapegoating of demagogues.

The last six weeks are devoted to creativity, the second, essential, component of critical thinking. The notion of creativity is introduced with the concepts of *heuristics*, a term derived from the Greek verb *heureskein*, to find. Every discipline, of course, has its own heuristics, processes that practitioners follow, from the "scientific method" to varying schools of literary criticism to protocols for anthropological inquiries or marketing surveys. The application of heuristics forces students to confront the idea of *systems*, encouraging them to recognize both their value and their limitations.

Heuristics

With the heuristic grid that Young, Becker, and Pike propose in *Rhetoric: Discovery and Change*, the idea of heuristics is presented. This heuristic is particularly valuable for an interdisciplinary seminar because it respects the simultaneously physical and linguistic qualities of the phenomena we think and talk about, the systems we devise. The three columns of this grid draw from contemporary physics, which recognizes that matter may be viewed, alternately, as particles, as waves, and as a parts of a field. (*Newton's Optics*, for example, taught that light was composed of particles; textbooks of the latter nineteenth century taught that light was wave motions; contemporary textbooks teach that light exhibits some of the properties of both waves and particles. In doing so, they underscore the presence of indeterminacy in the natural world or, perhaps, the inadequacy of language to express precisely what light is.) The three rows draw on tagmemic linguistics to focus on those elements of speech that confer meaning: sounds take on significance in contrast with other sounds, they maintain significance within certain rangers of variation, and they function significantly as they are distributed in predictable ways.

With a minimum of effort, students can be introduced to the idea that different perspectives--might, the writer say, different systems--yield different meanings through a simple application of the concepts of particle, wave, and field to familiar poems. Successively, the author views a single sonnet by John Donne--"Batte my heart, Three-personed God," through each of these lens. It may be read as a "particle," a closed system of verbal patterns that possess meaning insofar as they exhibit an identifiable order, possess distinctive tensions, achieve a significant balance. On the other hand, it may be read as a wave, discussing how it resembles or differs from other sonnets written earlier or later, functioning as an expression of the historical flow of Donne's life and work. Finally, discussed was the possibility of viewing the poem as part of the constellation of Donne's sequence of holy sonnets, a member of the even larger literary galaxy of Renaissance lyric poetry, or a member of still broader national or ideological contexts. With each shift in perspective, the poem's meaning changes.

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[1] I am indebted to Annette Rottenberg's Elements of Argument (3rd ed. Boston: Bedford/St. Martin's, 1991) for this tripartite division of claims as well as for the selection from Hitler's *Mein Kampf* that I refer to later.

The concept of varying perspectives, varying systems, receives greater resistance when one moves from the arts to the sciences, especially the natural sciences. Nurtured on the "scientific method" of observation, hypothesis, experimentation, verification, and restatement, most students here resist the notion of equally valid and competing systems. The writer challenges the notion that this process is the single heuristic for science with David Killeffer's *How Did You Think of That? An Introduction to the Scientific Method*, in which Killeffer follows John Dewey, Alfred North Whitehead, and others who describe a much more fluid process of inquiry that begins with an awareness of a problem, an effort to articulate the problem, preparation for solving the problem (which includes subconscious incubation and imaginative activity) followed by conscious verification and refinement.

The class follows Killeffer's text with a Bronowski's *Science and Human Values*, particularly useful because it reminds students that imaginative activity is, essentially, the perception of resemblances, the drawing of connections. (Hence the seductive appeal of Unified Field Theory, that would discover the connections between all of the natural sciences.) Even more importantly, perhaps, Bronowski reminds students that science is not, fundamentally, about data; it is about concepts. In his words, science is in fact a "system of concepts" (41). Thomas S. Kuhn's studies in the history of science further reinforce the idea that science is the battle ground, and the proving ground, for competing intellectual systems. While Kuhn's *The Structure of Scientific Revolutions* (1962) is too long and complicated for a freshman seminar, his essay "The Essential Tension: Tradition and Innovation in Scientific Research" provides a concise introduction and illustration of his insights. To further extend this crucial idea, the writer uses an article by Jeanine Czuberoff, a student of the rhetoric of the social sciences. In this analysis of the debate surrounding the competing paradigms for language study articulated in Noam Chomsky's *Syntactic Structures* and B. F. Skinner's *Verbal Behavior*, both published in 1957, she illustrates the extent to which the social sciences, like the natural ones, are primarily concerned with creating systems, not discovering facts. Her conclusions are the students' own: "Strategic scientific disputes are about cosmologies and metaphysics, about research methodologies and programs, about values and goals--issues for which no simple or singular answers are available" (45).

The course is concluded by having the students read and enter into a point-counterpoint exchange appearing in the April, 1992 issue of *Scientific American*. The first article, written by Allen C. Wilson and Rebecca L. Cann, is entitled "The Recent African Genesis of Humans"; the second, by Alan G. Thorne and Milford H. Wolpoff, is "The Multi-Regional Evolution of Humans." Neither is technically written, and in this exchange students can easily detect the competing systems that drive the debate. On the basis of genetic evidence, Wilson and Cann argue that all living humans descend from a single African woman who lived no more than 200,000 years ago. As they make their case, Wilson and Cann privilege the evidence of molecular biology because they believe it yields more reliable data than does paleontology. Because their science (read "system") focuses on "a set of characteristics that is complete and objective," "molecular biologists know the genes they are examining must have been passes through lineages that survived to the present; paleontologists cannot be sure that the fossils they examine do not lead down an evolutionary dead end" (68). Predictably, Thorne and Wolpoff argue for the superiority of paleontological evidence, asserting that the "African Eve" theory could not be correct because they find no archeological evidence that the postulated new peoples form Africa brought with them new any new cultures and technologies (76-77). That is, the "Eve" theory could not be true because it ignored the paleontological evidence that years of archeology has uncovered. Clearly, this debate about evidence is , in fact, a debate about systems. One's conclusions--at least in this point in the debate--depend upon which system she privileges, whether genetics or archeology.

Goals

The goal of this seminar is neither to create skepticism, nor to foster relativism, the refusal to systematize. Blake again is our guide; our goal is not only to reject all system, but, perhaps ultimately, to create our own. To reinforce the danger of abandoning existing systems, the seminar is closed by returning to Thomas Kuhn's article, "The Essential Tension," where he alerts students to the irony that the greatest advances in basic science occur when single theory or paradigm is dogmatically held by consensus. The scientific community advances from consensus to consensus; it does not thrive in an environment in which a multiplicity of paradigms--or systems-exist. The reasons are not hard to find. As individuals seek to extend the application of systems to which they are fully committed, they discover the perimeters of each system's applicability. Whereas the inventor benefits from willfully

divergent thinking, basic science depends upon convergent thinking for its advances. The moral or the story? Systems must be firmly grasped, but lightly held.

In 1950, John Huizinga described our species as *homo ludens*--playful man. The products of our "play" are the systems that define, explain, shape, and create our culture. Critical thinking--another term for the forms of creative play that construct our world, is equally analytical and creative. It is never a simple heuristic, a list of positions to take or points to consider. Instead, at its highest level, it is thinking about systems, both examining and fashioning them. It is dialogic and often agonistic. It never occurs (or never occurs well) in a vacuum. We need to prepare all of our students, especially our better prepared and more motivated ones, to enter into the written dialogues of the academy. As students learn to read in a variety of registers and to exercise what Robert Scholes has called the rigor and exorbitance of reading, they will have accomplished the first step toward achieving this vision of critical thinking, a critical thinking that can inculcate a moral equilibrium that is personally and socially valuable.

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