Methods of Thinking and College Education

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Six years ago, I was offered the opportunity to teach a freshman seminar called "Introduction to the University." I accepted the offer on the condition that I could change the focus of the course. It seemed (and still seems) to me that students are plunged into college work without its aims and methods being explained to them. They are in the same position as a person who is asked to play a game of chess without being told the rules of the game or what counts as winning. So I created a course in which the focus was on intellectual methods in the various disciplines and on questions of aims and methods which cut across the disciplines. I taught this material for two years. During the third time around, I became extremely dissatisfied with the papers that the students were writing. These were analytical and critical evaluations of arguments and essays. I suddenly realized that I was giving assignments and writing critical comments on students' papers without explaining to them what I wanted. I was telling them what not to do without telling them what to do. So one day I walked into class and said "You don't know at all what to do with these assignments; this must stop"--with which sentiments the students totally agreed. During that session and the following several weeks, I went step-by-step through the process of argumentation and of constructing an argumentative paper. I described the steps but especially emphasized the reasons why each step should be included--for example, why a good piece of argumentation raises objections to arguments previously given. The students participated enthusiastically, primarily by asking questions about the role and purpose of each step as we went along. Their questions showed me that they did not understand the first thing about intellectual method. They did not understand what an argument is or why arguments are given. They even had difficulty in distinguishing among intellectual questions, positions taken in response to those questions, and arguments given for those positions. It was not their fault; instead, it was the fault of their teachers. No one had ever told them these things. No one had ever tried to teach them basic intellectual skills, and yet those same teachers expected them--required them--to do intellectual work. These class sessions were some of the most intense sessions I have ever taught. The attention of every student in the class was absolutely riveted on what we were doing. Students said repeatedly that this was the sort of thing they had come to college to learn; they had been disappointed when they did not find it in their other courses. They felt that at last the sacred mysteries of academia were being revealed to them. And that is indeed one of the aims of my course: the demystification of college work and of the academic world generally.

Because my colleagues were criticising student writing at the same time that I was discussing the purpose of the argumentative paper with my students, I asked some faculty what they felt to be the great defects of students papers. The most serious faculty complaints were not, by and large, about grammar or about writing style. Instead, the most frequent complaints were that students did not know how to develop their ideas and organize their ideas. They did not know how to formulate their ideas clearly, argue for their ideas, develop replies to possible objections, uncover hidden assumptions, discover the implications and consequences of a position, and so on. The students' problem, that is, was not a problem in writing in a narrow sense of that expression; instead, it was a problem in thinking. Students' responses to my description of argumentation and faculty complaints about students' writing

reinforced me in my decision to teach basic skills of thinking in my course.

My assessment--that college students do not know how to think and are not taught how to do so by current practices in higher education--is reinforced by a report which appeared in the December 9th, 1981 issue of The Chronicle of Higher Education. It is a report of a study of the writing of law students at the University of Texas Law School:

> The widespread complaint that many lawyers are poor writers was described at a legal-education conference here (New York) as somewhat off the mark.
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> Law students do not have much trouble with formal grammar or with recognizing errors in other people's writing, said Dean John F. Sutton, Jr., of the University of Texas School of Law. The main problem, he said, pointing to research fndings at his institution, is that students don't know how to organize their thoughts.
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> "Most law students do not have a writing problem," agreed James M. Douglas, Dean of Law at Texas Southern University. "They have a thinking problem."

The striking implication of this report is this. All law students are already college graduates. If they have a "thinking problem," then it seems clear that colleges are failing in the teaching of thinking even though the teaching of thinking is one of the chief officially declared purposes of most colleges.

I repeat that this is not the students' failure. It is the failure of college faculties. Apparently college teachers think that students learn basic techniques of thinking in their courses. But their own complaints about student writing, let alone studies like the one just quoted, show that they are not teaching these techniques--or at least not teaching them effectively so that the students actually learn them. Colleges are simply not providing students what they need.

Students sense this. Often they will take a course in logic in order to learn to think. But courses in logic usually do not fill this need either. All too often, an introductory course in logic will concentrate on the following: giving a logical analysis of arguments in ordinary language; detecting formal and informal fallacies; setting up symbolic systems and deducing theorems of logic. The last of these is obviously of interest only to those interested in the properties of deductive systems; it is of no help in learning to argue and to theorize. The logical analysis of everyday arguments is useful, but it does not go nearly far enough. Neither it nor the detection of fallacies in already constructed arguments helps the student to learn to construct arguments. Nor do most textbooks on English composition take up the slack. In many cases their chapters on writing the argumentative paper consist solely of lists and descriptions of informal fallacies taken from logic texts. Is it any wonder that students in my course say "This is the first time anyone has told me what to do rather than what not to do." One cannot teach students to think and to argue merely by telling them what mistakes of reasoning to avoid. This is like trying to teach someone to play chess by teaching him the traps and strategic situations to avoid. To teach effectively, we must tell students what to do.

Students need to be taught intellectual skills directly and explicitly. There are many intellectual skills necessary for effective thinking. I have already mentioned a few of these: identification of issues or problems; specification of what is problematic about an issue--why it needs to be discussed; why it is important; why obvious or easy solutions won't work (thus bringing out the full and essential nature of the problem); description of various alternative positions or theories; eliciting of hidden assumptions, and so on. These and many other skills must be taught to students as early as possible in students' college careers so that they may use the rest of their college work as conscious and deliberate practice of those skills. This is what much college work is supposed to

be, anyway. When we assign a term paper to students, we do not expect the students' papers to be a contribution to human knowledge. Term papers are exercises intended to improve the students' skills and their understanding of the material. These exercises would be much more effective if the students understood which skills the assignment was an opportunity to practice and if the student had been told how to do the work required. A good piano or violin teacher does not simply tell the students to do this or that exercise. Instead, the teacher carefully explains exactly how to do the exercise and exactly what the exercise is intended to achieve.

I teach various skills of thinking by teaching the associated forms of writing. For example, I teach the skills of argumentation by teaching students to write argumentative papers. This makes the teaching of these rather abstract skills much more concrete and meaningful for students. It also enables students to measure their progress: if their papers get progressively better, they know that their thinking is getting progressively better.

A course which teaches skills of thinking must have some particular content in order that students may think about particular issues and topics. I choose topics of various types for discussion. Among them are these: creationism and evolution, technology and society, freedom and morality in scientific research. The creationism-evolution topic is perfect for my purposes. It surfaces periodically in the media, and this assures students that these techniques of thinking have practical application to issues of real concern in our lives. Moreover, this topic has at least four different aspects: educational policy and decisions about what to teach; the nature of scientific theories; political, social, and legal issues connected with separation of church and state; and liberal toleration of opposing views. Such topics illustrate the value of carefully identifying and distinguishing different issues and of carefully determining the relevance of various positions and arguments to each issue I use materials of all kinds, ranging from letters to the editor and newspaper articles to scholarly articles and books to materials I compose myself. The following reading selection and related activities illustrate how I provoke students to identify and distinguish issues about a topic in preparation for discussing the topic in class, for preparing an inquiry paper about the topic, and for critiquing each other's writing about the topic.

University Course 101, Section 1

Paper Assignment: Analysis, Interpretation, and Argumentation

December ??, 1981: Mr. Washington George, Director of Americans for Moral Purity, an organization with headquarters in Rockrib, Massachusetts, held a press conference yesterday at which he spoke out against "moral laxity" in the United States.

"Some of our citizens," declared Mr. George, "tell us that we have no right to enforce our views on the American people. They tell us that even though they themselves believe that abortion is wrong, they favor freedom of choice by each individual. This is a nonsensical position. If they believe that abortion is morally wrong, then they have a moral duty to take action against abortion. What else can it mean to have moral beliefs?

They may reply that what it means is that they themselves would not have abortions, that abortion is wrong for them. But if abortion is wrong for one person, it is wrong for everone. That is what it means for a type of action to be wrong."

1. What is the issue, problem, or question being discussed here? (There may be more than one, but present what you take to be the main question.) Explain and support your answer by showing how the various statements made by Mr. George are related to this main issue.

2. If there are any arguments in the above passage, state them clearly and fully, explaining how each argument (if there is more than one) is different from each other argument.

3. Does Mr. George make any hidden assumptions (that is, assumptions which he does not state explicitly)? If so, state these assumptions clearly and support your answer by referring to specific

statements by Mr. George, showing how the statements you cite are related to these assumptions.

4. What might be some of the consequences, acceptable or unacceptable, of adopting Mr. George's view? Present some argumentation to show that these are indeed consequences, again referring to specific statements in the news conference.

5. Can any objections be raised to Mr. George's view? Explain.

6. Can any arguments be given for the position that Mr. George opposes? Explain by giving such arguments or by showing why such arguments cannot be given.

7. Which of these two views, Mr. George's or the view which he opposes, do you favor? Explain why by arguing for your answer. If you accept neither, explain why, again arguing for your answer.

To illustrate how students respond in writing to these topical assignments and how they receive constructive written criticism to their writing, I offer the following examples. The first is the inquiry paper one student, Bill, wrote in response to the question of whether universities should accept donations regardless of how donors have acquired their money. The second is the critique another student, Caroline, offered Bill after reading his paper. The third is the comment I wrote to Bill after reading his paper and Caroline's critique.

(See pp. 27, 28, 29, 30).

In teaching inquiry and argumentation, I deal with particular topics, particular readings, and particular theories. My principal aim in discussing this material with students is not to decide which theory is better than other theories, but instead to explain the intellectual motivation behind each move made by the theorists. Why does the theorist feel the need to say this at this point in the inquiry? In this way, I hope to give students a sense of the structure of inquiry. Theorists make the moves that they make at this or that point not from whim but instead because of objective intellectual imperatives. The very nature of inquiry forces a theorist to make this or that move. But one is forced to make a given move only if one has a particular end in view. For example, a very popular intellectual goal is explanation. The natural sciences are often said to aim at explanations of natural phenomena. Explanation is not the only goal that one could have. One could aim instead at categorization or at appreciation. And even if one chooses to aim at explanation, different sorts of things may be regarded as explanations by different inquirers. An explanation of a tribal ritual couched entirely in materialistic terms may satisfy some anthropologists and completely fail to satisfy others.

In conveying the structure of inquiry to students, I constantly strive to exhibit alternatives, both in methodology and in goals. I try to set each piece of inquiry in a context created by eliciting the fundamental (and often hidden) presuppositions of that inquiry. In this way, methods and goals--and hence results--which at first seemed inevitable and absolutely valid to students are seen to be dependent on human choices. Knowledge is seen to be a human construction responding to particular human needs and purposes. We need to combat the view which Lewis Thomas describes so well in talking about the teaching of science:

> But science, it appears, is an altogether different kind of learning: an unambiguous, unalterable and endlessly useful display of data that only needs to be

Bills's Paper

Universities and Accepting Donations

Should a university accept donations regardless of how the donor acquired the money? This is a question facing many colleges in America today. Colleges get their support from many different sources. For example, colleges recieve money from such sources as the federal and state government, corporations, private citizens, and anonymous donors to name just a few. With all the different sources, one wonders how this money was acquired. Should the university accept donations from reputable sources which list exactly where they received their legally earned money as well as donations in which the money comes from anonomyous or questionable sources which acquire it through uncertain means.

I feel that a university should not accept money regardless of how the donor acquired the money. How the donor acquired the money is very important. Many universities overlook where donors acquired the money for their donations because they need the money. I disagree with this procedure because the money may have been illegally obtained, maybe even from the university itself.

I feel that universities should not accept these donations because the money often comes from sources who acquire the money illegally. It has been estimated that 15% of all the anonymous donors of money get the money through criminal means. Many universities do not check out how the money is acquired and therefore they take all donations whether they are acquired legally or illegally. Many times the criminals who are donating their illegally acquired money are trying to attain respectability in their community. When they gain this respectability, they use it as a front to gain respectability in their community. Once they have gained this respectability, they use it as a front to continue their illegal activities. Because of the hugh amouts of money that they acquire, even a large donation by our standards would not harm them financially in return for the respect and public image that they gain. Often times the money that they acquire is taken from innocent innocent citizens, wo, because of their financial lose, may not be able to contribute money to the university. It is reported that 40% of the American public supports universities in one way or another while crimes against the innocent citizen increase 5% per year.

An objection that can be raised to the foregoing argument is that universities desparately need money and if the donations go for a good cause, it does't matter whether the money was acquired legally or illegally. Also many times the criminals that donate money to gain respectability want a new chance at life. They want to start over and get a good legal job. their first step in the right path is to donate money to a very needy cause, the universities. Universities are failing

financially and need money desparately. Last year, tuitions for all univesities natonwide increased 8%. The federal government, the largest contributer to universities, announced that they were voting on whether to limit their aid to colleges so that they could build up the defense budget. This situations comes at a time when college deficits are at an all-time high. Universities should take all donations, even illegal ones, to educate the young who, when they are older, may donate their own money. Therefore, the university is inaway paying for itself. The donations from all sources, legal and illegal, are a means to an ends of the colleges' self- sufficiency. There is proof in the fact that over 63% of college graduates contribute donations that add up to 15% of the total cost of running the college.

A reply to this objection is that al- though universities need money, much of the money that they need is wasted on red tape and beurocratic mismanagement. Therefore, the money which is gotten from illegal sources is not really needed at all and should be discontinued. In a study of uni- versity spending, it was discovered that through some economic cost-cutting, university budgets could be cut by 13%. This more than accounts for the illegally acquired dona- tions from anonymous donors. thus, the illegal donations could be eliminated without increasing the university deficit.

In conclusion, my arguments has not been refuted sufficiently enough to change my position that universities should accept donations regardless of how the donor acquired the money. I believe that universities should make a through check to see how or where the donor ac- quired the money. Finally, I believe that if the donor ac- quired the money through socially accepted means, than the donation can and should be used to help out a needy university.

Caroline's Critique

Critique of "Universities and Accepting Donations"

Clarity through Argumentation:

para. 2, sentence 3-- when you make an assumption like this, you should have some authority or study to back it up, and you should include this in your paper

para. 3-- almost this entire para. is asserted as fact. Don't write your own hypothetical situations as if they actually exist; if they are true, tell me how you found out about it

para. 3-- this argument seems ludicrous; I don't see how you can correlate the two statistics in the last sentence

paras. 3,4,5-- you don't tell me why "questionable" money should not be accepted

para. 5-- what should universities do with "questionable" money from know sources? How much is donated by anonymous donors?

Clarity through Organization:

Argumentative form is used very well in your paper. I see clearly an intro., (with question), position, argument, objection, reply, concl.

para. 4-- put why the university needs money and should accept any they can get in the beginning of this para., then make a separate para. for each objection.

My Comment

I agree with Caroline in a general way. You are getting the idea about organization. You do understand what arguments, objections, and replies are and roughly how they are related to each other. That is good. But I also agree with her that the actual argumentation in the paper is somewhat loose and needs to be tightened up.

I will mention only one or two points here. In paragraph 3, you give a certain argument down to line 14. At line 14, it seems to me that you start in on a new argument. I grant that it is an argument which perhaps supports the same conclusion. But it does seem to be a different argument, and the trouble is that you spring it on the reader with no warning or explanation of what it is. In fact, I'm not even sure that it is a new argument. I'm only sure that there seems to be a change at line 14, and it leaves me puzzled as to what is going on.

I want you to think more about the relations between objections and arguments. Is the objection in paragraph 4, lines 5-9 an objection to the argument (or arguments) which you give in paragraph 3? If so, just exactly how is it an objection? What exact point in the argument does it object to? You should tell the reader so that the reader will be convinced that it is an objection to the argument rather than, for example, an objection to the position. You say that it is an objection to the argument, but just saying so doesn't make it one.

At the beginning of paragraph 3, you talk about anonymous donors. Then you give the argument that donors often give money to gain respectability. But it is difficult to see how an anonymous donor can gain respectability in this way--after all, he can't gain respectability if no one knows who he is (since he is anonymous).

You have got to proofread your papers before turning them in. Typos mar the paper. Get in the habit of turning in work without typos now, and this will pay off in your later job or profession. If this were a job application, you would not get the job because the typos show that you are not sufficiently careful and painstaking.

> packaged and installed somewhere in one's temporal lobe in order to achieve a full understanding of the world ("The Art of Teaching Science," The New York Times Magazine, March 14, 1982).

Tom McMillen, a Rhodes Scholar, now a professional basketball player and aspirant to political office, describes his education in this way:

> In high school and at Maryland I was, more or less, a grind," he says. "I had a retentive memory and I took in whatever information was given. Then I regurgitated it when I was asked. At Oxford, they not only expected me to take in information but also to speculate about it, analyze it, and create something from it. I was in a daze for a few months, but it was one of the most important experiences of my life. I learned how to think and to enjoy it (Sports Illustrated, April 5, 1982, p. 49).

To make what I am saying more concrete, I want to recount briefly two experiences recently reported by students because I think that they are paradigmatic of the kinds of experiences that we ought to be producing for our students. The first experience is that of a young woman, a sophomore, who was taking two psychology courses simultaneously. These two courses covered the same topics and content, but they were at different levels of sophistication; one was intended for freshman and sophomores and the other for seniors. The woman found that everything that she was being taught as fact in the lower-level course was being questioned and sometimes rejected in the upper-level course. This coerced her to meditate on the aims of the sciences and on the nature of knowledge in a way which advanced her education rapidly and led her to a much more sophisticated grasp of intellectual method. She came to have a more sceptical attitude and a critical awareness in dealing with intellectual matters. The second student had a course from a history professor who emphasized conflicting interpretations of various historical events. The student would read one historian and become completely convinced by that historian's account.

Then he would read another historian on the same topic and be completely convinced by that historian's very different account. This proved to be an extremely illuminating experience for the young man, producing some of the same effects in him as the two psychology courses produced in the young woman.

All of this is old-hat to teachers. Teachers' reactions to what I have just said are likely to be: "Of course, there are different interpretations of a given historical event. Of course, knowledge in psychology is hypothetical and subject to revision. We know all that already. There is no revelation for us in what you are saying." My reply is this. Of course, there is no revelation for teachers in this. That is because teachers are professionals and have had the experiences which lead to these attitudes. But we must remember that we are teaching students. Our courses are mainly for the benefit of students. And consequently we must pay close attention to the situations of students--to their state of minds, their attitudes, and to what they need. We must remember that students come to us from high school where critical thinking is not necessarily encouraged, where they are asked to do "research" reports which consist mainly of recording materials from various references, where pieces of knowledge are often presented to them as incontrovertible facts to be memorized. College is, or anyway should be, different from high school. And it should be different not just in presenting students with more difficult knowledge. It should be different in that it raises students to a more sophisticated intellectual levels by giving them valuable perspectives on intellectual activity.

Those of us who are college educators must ask ourselves several basic questions which we cannot repeat too often because what we do is take students in their late teens and have them spend four years in a college. The questions are these: On what grounds do we have stu-

dents spend four years in college? What do we hope to achieve by doing this? In particular, if we do not regard most of our students as pre-professionals in one or another field of inquiry--that is, as probable graduate students--then why do we attempt to fill them with knowledge? The usual answer to these questions is that there are certain things that one must know in order to get along well in the world. But is this so? Are there some specific pieces of knowledge of which this is true? Most colleges implicitly answer "no" to this question, since they allow students to gain degrees by taking widely varying programs of courses. The result is that there is no group of pieces of knowledge deemed essential for everyone to know in order to get along well in the world. By what right, then, do we encourage young people to spend four years with us when they could be doing other productive things with their time? The answer I have been suggesting is that we prepare them for the rest of their lives by helping them to develop certain attitudes toward knowledge and certain skills which increase their intellectual independence and which help them become the kind of individuals they already want to be.

Unfortunately, most instructors rarely say anything explicit about intellectual skills and ways of thinking. Instead, they may feel that students can and should absorb ways of thinking by osmosis. Some instructors have told me that even if they wished to talk with students about analytic approaches or methods of thought, they would not know what to say. Others profess lack of interest in intellectual method, preferring to practice it rather than talk about it. Yet one would think that if the purpose of college work were to impart "helpful approches" and "valuable methods of analysis," as Derek Bok, the president of Harvard puts it, college instructors would attempt to give direct instruction in these topics or at least regularly make remarks about them in teaching the material of their courses. They generally do very little of this. If the ultimate purpose of college education is the imparting of ways of thinking, it would seem appropriate to attempt to give direct instruction in ways of thinking rather than leave it to chance and osmosis.

We can approach this same matter in a slightly different way by asking this question: If we, as a faculty, are involved in liberal education, what is it that we intend to liberate the students from? Those educational theorists who emphasize the transmission of knowledge would answer this by saying that students are to be liberated from the darkness of ignorance and falsehood by teaching them the truth about history, society, the individual, and nature. These theorists would continue by saying that one major purpose of teaching students the truth about these matters is to allow them to formulate beliefs and make decisions on the basis of knowledge on the grounds that beliefs and decisions based on knowledge are better than those based on ignorance and falsehood. My own answer to this question is that we should aim to liberate students from domination by dogmatism and by experts. This includes liberating students from dependence on teachers too. We should want to put students in a position to make up their own minds. Happily, this coincides with what students want, too. They want to learn to be independent individuals, people who can weigh evidence and claims for themselves and form independent opinions rather than be blown back and forth by every intellectual, cultural, and political fad or impressive expert who comes along.

If this is our aim, or one of our aims, in education, then the study of methodology and an examination of the goals and limits of the major fields of inquiry are not subjects appropriate only for graduate students or professionals students. They are essential for undergradutes too, in order that students may orient themselves in a sea of conflicting claims and exploding knowledge and make intelligent judgments and choices.

Intellectual methodology includes both such specific skills as analysis and argumentation on the one hand and "the

rules of the game" (the moves and purposes of inquiry) on the other hand. Teaching intellectual methodology to undergraduates not only leads them to think critically and independenty, but it also helps students to integrate their studies. As Professor Jonathan Z. Smith, Dean of the College of the University of Chicago has put it, "To dump on students the task of finding coherence in their education is indefensible. Colleges shouldn't be allowed to collect tuition on that basis" (Time Magazine, April 20, 1981, p. 50). By showing students that some basic intellectual principles and intellectual techniques and skills apply to all fields of inquiry, we give them a sense of common purpose and of the unity of knowledge. By talking about cognitive frameworks and about world views, we showed them how seemingly disparate data and theories can be integrated into an intellectual whole.

At the present moment, there is a great unease in the academic world over the effects of financial retrenchment. But there are signs of even greater and more important unease over the type of education that colleges now provide. A friend at the State University of New York at Buffalo writes "I find it puzzling that U.S. colleges give the strong appearance of trying to get students to think for themselves, and yet in any area that I have had to judge students the result seems to be the opposite (viz., indoctrination in vague and shallow views, alienation, authority-worship, an almost studied inability to agonize over a problem)." Professor Bernice Braid of Long Island University tells of a recruiter for IBM who complained that IBM "finds itself hiring well-educated, or at least wellcertified, personnel at relatively high salaries, only to have to invest a year or more in training them to think." At the same time, she finds a dangerous decline in morale and confusion about purpose among college teachers:

> We, as a group of teachers, seem less sure that spending time in the classroom produces anything.... This is merely another way of observing, then, that the professor of 1960 was both likely to be interested in his own field and certain that the pursuit of knowledge in some larger context was useful and/or significant. The professor of 1980, on the other hand, having lost faith in the enterprise of teaching itself, and perhaps having drifted, however imperceptibly, away from the values implicit in scholarly pursuit, finds it difficult to generate prophetic fervor, or just plain energetic curiosity (Forum for Honors, XII:3, Spring 1982, p. 6).

I believe that these two phenomena, failure of colleges to do their job properly and decline in faculty morale are related to one another. Colleges advertise that they produce critical and independent thinkers. But the way in which colleges proceed on a daily basis--namely each professor teaching the specific content of his or her narrow specialty--has, in my opinion, clearly failed to achieve this goal. No wonder, then, that college faculties are confused and demoralized about teaching. This basic problem may now be hidden by the financial crisis which education faces, but it will remain and be even more serious long after we have coped with the financial crisis. It is even possible that if colleges did their job better, a grateful public and a grateful business community would provide colleges with sufficient funds.

We need to teach students to think critically and independently. We need to provide them, not with more knowledge, but instead with greater understanding--understanding of the nature and limits of inquiry and of the knowledge which inquiry produces, and understanding of the fundamental features of the modern mind (such as those listed by William Daniels: positivism, reductionism, relativism, and determinism). This is our aim in **University Course 101.**

But college education should go even beyond this. One of the topics about which we can and should think critically is the way we live. Socrates is generally acknowledged to be the greatest teacher in Western civilization. Socrates inquired, but he did not inquire after knowledge for its own sake. His purpose was to

find out how a human being ought to live and, secondarily, how society should be arranged so as to make the best life possible. He inquired into the patterns and principles of Athenian behavior so searchingly, and he suggested alternative ways of living that were so at odds with Athenian habits, that the Athenian citizens felt challenged by him in the most fundamental way. This was Socrates' purpose as an educator. Today we live in a certain way. For example, many of us are extreme individualists, with the result that we have a fragmented society peopled by social atoms. Many of us evaluate everything in terms of our own self-interest, our own desires. Strikingly, this is particularly evident in today's colleges where students evaluate everything by asking the question "What will it do for me?" (Usually they wonder whether this or that will help them get a job or into medical school or law school).

One important point to be made about critical thinking is that it can easily be justified to students by precisely their own evaluative standards. We can show them exactly what the ability to think, read, and write will do for them. We can show them in concrete detail how this ability can help them get jobs and do well in those jobs or in professional schools. (Remember Prof. Braid's IBM recruiter.) This is yet another reason why college education should emphasize intellectual skills and methodology--it is easy to motivate students to learn these things. Learning these things makes excellent sense to them.

But once they learn these skills, colleges should encourage students to use those same skills to examine their own values and those of society, just as Socrates did with the youths of Athens. It is by no means clear that self-interest should be a person's only, or highest, value. It is by no means clear that our society should be as atomistic as it now is. Perhaps the teaching of critical thinking and a critical examination of world views and values would lead to an increase in the number of college graduates who are able to create meaningful and significant lives for themselves.