

Knowledge, Freedom and the Purposes of Learning

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Thank you for inviting me to speak to you today. What a wonderful opportunity these seminars give for thinking together about the future of teaching and research and our various roles in advancing higher education to make a better world. I am particularly honored to speak to you in memory of Clair Maple, whose spirit of community continues to infuse Educause and the Seminars in Academic Computing. From what I have learned about Clair, he would be at the center of many of our current conversations as we consider why we do what we do and look to the future.

Last week I read through the Sunday New York Times Magazine to discover this endpaper announcement, which I expect many of you saw as well: “College as America used to understand it is coming to an end” (a quote from Rick Perlstein’s What’s the Matter with College) – and the Times Magazine adds: “(Please discuss).” In talking with you today I feel a bit like an overage entry into this essay competition for college students.

Because thanks in large part to you and your colleagues, we are at a crucial

moment in higher education, in which America's relation to the world is no longer abstract and distant but concrete and immediate, fueled not only by economics and politics but by the ubiquity of our webs of international communication. The newly interdependent world our students face has challenged us to re-think the purposes of higher education and even the content of what we teach. If we review college and university mission statements as they have evolved over the past ten years or so, we see not only the usual effort to focus priorities and claim a niche, but ubiquitous references to global vision and a diverse world. Just sampling from among the institutions from which I happen to have degrees or have taught, I find that my undergraduate alma mater, UCLA brags that "Few universities in the world offer the extraordinary range and diversity of academic programs that students enjoy at UCLA." My graduate alma mater, Columbia University, proclaims with similar self-puffery that it "is one of the world's most important centers of research" and that "it seeks to attract a diverse and international faculty and student body, to support research and teaching on global issues, and to create academic relationships with many countries and regions."

Ventura College in California, where I taught for a post-MA year, asserts itself as "a comprehensive community college with a long-standing tradition of active outreach and service to local and global communities." I cannot imagine that when I taught there in the mid-sixties it would have included "global" in its self-description, but it certainly does now. The University of Hawai'i, Manoa, my first tenure-track job, "celebrates its diversity and uniqueness as a Hawaiian place of learning, [building] on . . . strengths including [a] tradition of outstanding Asia-Pacific scholarship." Brown University,

where I spent the bulk of my career, refers back to the language of its original eighteenth-century charter: “The University’s mission is to serve the community, the nation, and the world by educating and preparing students to ‘discharge the offices of life with usefulness and reputation.’” The entire mission statement for Wheaton College, from which I retired, is succinct: “Wheaton College provides a transformative liberal arts education for intellectually curious students in a collaborative, academically vibrant residential community that values a diverse world.”

If you were to review mission statements thirty, twenty, or even ten years ago I doubt if you would see anything like the universal emphasis on global awareness that you see today. The purposes of education are shifting and expanding, and information professionals – librarians and information technologists – have essential roles not only in implementing what presidents and provosts see for their institutions, but in vision and planning. To put those statements into a more concrete perspective, today I want to share with you a recent report from the AAC&U’s project LEAP (“Liberal Education & America’s Promise”) titled College Learning for the New Global Century, which recommends what undergraduate institutions, whatever the specifics and idiosyncracies of their various missions, need to teach and why. I want to set that report into a broader picture of educational purpose, and conclude by suggesting ways in which information professionals have uniquely important roles.

The LEAP report was put together by groups of educators and business and professional leaders based on considerable research on what students are and are not learning, and what actually matters to graduates when they go to graduate or professional

schools and when they get into the world. What AAC&U research discovered is not surprising; traditional academic outcomes for our college graduates are much weaker than we should accept, and the challenges in the new global century much greater for personal and professional success. According to a 2003-2004 survey of American colleges, only eight percent of college seniors are proficient at level 3 math, only eleven percent are proficient at level 3 writing, only six percent of seniors were proficient in critical thinking while 77% were “not proficient,” less than 13 percent achieved basic competence in a language other than English, and only a third of American college students earn credit for an international studies class. (CLNGC, 8). The report makes five main points that direct its recommendations for what students should learn: “knowledge is the key to the future”; every industry in the economy “is challenged to innovate or be displaced,”; our democracy “is diverse, globally engaged, and dependent on citizen responsibility”; the world we face is of “daunting complexity”; and we are in a period of “relentless change” (CLNGC 13).

Given this environment, the report cites four “essential learning outcomes” for success in the twenty-first century. I’ll resort to a brief grappling with power point to highlight these, and a few other points the report makes that I think are important to how we should think about the future of higher education. The four are “knowledge of Human Cultures and the Physical and Natural World,” “Intellectual and Practical Skills,” “Personal and Social Responsibility,” and “Integrative learning.”

- The first, “knowledge of human cultures and the physical and natural world, through study in the sciences and humanities, social sciences humanities, histories, languages, and the arts,” sounds like, and is, the traditional American liberal arts

education, but the report adds that this study should be “focused by engagement with big questions, both contemporary and enduring.”

- The second, “Intellectual and practical skills,” includes “inquiry and analysis, critical and creative thinking, written and oral communication, quantitative literacy, information literacy, teamwork and problem solving.” Rather than limit acquisition of these skills to introductory courses, the report urges that they be “practiced extensively, across the curriculum, in the context of progressively more challenging problems, projects, and standards for performance.”

- The third, “personal and social responsibility,” includes “civic knowledge and engagement—local and global, intercultural knowledge and competence, ethical reasoning and action, foundations and skills for lifelong learning.” Recognizing the increasing importance of experiential learning in these areas, the report sees these skills “anchored through active involvement with diverse communities and real-world challenges.”

- The fourth and final essential learning outcome, “integrative learning” includes “synthesis and advanced accomplishment across general and specialized studies,” this to be “demonstrated through the application of knowledge, skills, and responsibilities to new settings and complex problems.” (CLNGC 12)

These learning outcomes are driven by a belief that “America’s future will depend on an unprecedented determination to develop human talent as broadly and fully as possible” (CLNGC 13). Research confirms what we know from our own experience: to serve themselves and their communities, our students need knowledge, the ability to innovate, to act with civic responsibility, to solve complex problems, and to be able to sift

the important from the trivial. A principal difference between this summation and American liberal education as it emerged one hundred to two hundred years ago is its insistence on the universal necessity of these four main learning outcomes, no matter who the student or what the post-secondary institution. The report summarizes the difference in a simple chart that shows elitest learning in liberal arts colleges and universities moving to a comprehensive use of these standards and learning outcomes across all modes of higher education, including community and vocational colleges.

The report also calls on educational institutions at all levels to enact what they call the seven “principles of excellence.” I won’t go over these in detail, but their gist is to challenge students to learn much, think big, and apply what they know with personal and social responsibility, and it enjoins educators to make ongoing assessment part of the learning process. Assessment, as I think we all understand, is not only necessary for assuring our many stakeholders that we are accomplishing our goals, but a useful tool for understanding and adjusting our pedagogies. The purposes of learning according to the LEAP report, if I can risk a summary, are to empower individuals and serve an increasingly diverse and interdependent society.

The report offers many examples of colleges and universities with programs that embody aspects this new content, but let me briefly illustrate with the model I know best, the Wheaton curriculum. This curriculum, along with many others from places as diverse as Southern Illinois University, the Miami-Dade Community College System, The Wisconsin university system, Pace University, and Bard College, helped feed into the LEAP project as it was developing and illustrates most of the principles offered in the

report, including increasingly sophisticated attention to writing and quantitative skills, critical thinking, and experiential learning. Perhaps the most visionary aspects of the Wheaton curriculum, however, are its “connections” program and its determination to offer multicultural awareness throughout the curriculum.

Wheaton students are expected to take courses in the traditional disciplinary categories that comprise a liberal arts education—in the sciences, humanities, and social sciences—but they take the bulk of these requirements through disciplinary courses connected across disciplinary lines. They can choose from more than a hundred of these connections made deliberately by the relevant faculty, or they can propose their own, which in turn need to be approved by the relevant faculty and the Educational Policy Committee. So, for example, introductory biology is connected with Victorian literature and culture around the topic of Darwin and race, and all students in the literature course, whether taking the course as part of a connection or not, participate in a lab that illustrates the theory of evolution, and all biology students participate in one or two lecture-discussions about Darwin and the culture of his times in Victorian England. Among other examples, economics and chemistry connect over the topic of the biopharma industry, while political science and mathematics connect over voting theory and political outcomes. Mathematics also connects with art history around issues of proportion and the idea of the golden mean, while medieval art and architecture connects with cell biology around the concept of structural units. Environmental science courses connect with a sociology course on society and technology and with a religious studies course on religion and ecology. And my own renaissance poetry course connected with a computer science course that was studying humanities applications. What is original

about the program is that these are not interdisciplinary courses, which tend to generalize their respective disciplines, but rather separate, rigorous courses that actively engage students in recognizing contexts larger than the particular disciplines they are studying.

The second feature of the Wheaton curriculum that has brought the college some attention is that bar on the left, “infusion of race, ethnicity, gender” – that is, issues of difference appropriate to both local and global awareness – across the curriculum. The faculty took it on themselves to include these issues, to the extent logical and possible, in almost every course they teach. This is easiest, of course, for the humanities and social sciences, but even the scientists have made a point to include in their courses, as reasonable, such questions as the putative biology of race or the gendered language of science or the internationalization of scientific inquiry. These efforts recognize how profoundly important it will be for our students to engage comfortably and respectfully with a world full of people different from themselves.

Although the LEAP report focuses on undergraduate education, and the Wheaton curriculum illustrates one example in practice, the trends they see and the education they promote are clear in graduate education as well, where some of the most interesting programs cross traditional disciplinary boundaries and create new areas of study. Think, for example, of bioinformatics and the multiple disciplines necessary to decode a genome, or earthquake science which combines planetary geology with social science, or even my own field, English literature, which has been one of the pioneers in text encoding and digital archives as well as challenging some of the traditional boundaries between literature and history, anthropology, philosophy, and psychology.

So: if the new purpose of education is to create global citizens who can innovate and integrate in the face of complex new demands, who are satisfied and productive individuals and competent and responsible members of their local and global communities, how does that relate to the vision of society and humanity that we may see as our cultural heritage, and what role do information professionals, in particular, have in affecting and fulfilling that vision?

The LEAP report concludes with what I, personally, think is the most interesting and challenging purpose of American education: to sustain our democracy and perpetuate freedom. “Democracy is a framework for a special kind of society in which citizens must take mutual responsibility for the quality of their own lives. Democracies are founded on a distinctive web of values: human dignity, equality, justice, responsibility, and freedom.” “*Liber*” is the Latin word for a free person, and, as the report phrases it, “in American society, liberal education has evolved as the kind of education necessary to a free peopleBut liberal education has never lived up to the full promise of democracy because this society has never before attempted to provide a liberating education for all Americans” (CLNGC 50).

American higher education was founded in the seventeenth century, at a time when its English parent was struggling over ideas of political and religious freedom through civil wars surrounded by parliamentary debate and polemical pamphleteering. One of the active participants in these mid-century English events was John Milton, the principal focus of my literary research on the poetics of freedom. In 1644, a decade after Harvard’s founding but two decades before his magnum opus, Paradise Lost, Milton

published two pamphlets that have become his most frequently re-printed prose works. The first was a short treatise Of Education, in the form of a letter to a friend, and the second was what one civil rights law professor has called the “foundational essay on liberty of the press,” Areopagitica, designed as a printed “speech” to Parliament.

In “Of Education” Milton asserted two purposes for learning. The first job of education as Milton saw it was to try to overcome the disadvantages of original sin, which had separated mankind from God and from all the harmony and virtue of God’s universe.: “The end...of learning is to repair the ruins of our first parents by regaining to know God aright, and out of that knowledge to love him, to imitate him, to be like him, as we may the nearest by possessing our souls of true vertue.” But even Milton believed that this could not happen simply by wishing it or seeking to contemplate the divine directly. He adds to this first purpose of education a caveat: “But because our understanding cannot in this body found it selfe but on sensible [that is, physical] things, nor arrive so cleerly to the knowledge of God and things invisible, as by orderly conning over the visible and inferior creature, the same method is necessarily to be follow’d in all discreet teaching.” (CPW II.366-69). We can only begin to know the divine by the human, the abstract by the concrete. For Milton the late renaissance humanist, this means starting with classical languages, which give access “to those people who have at any time been most industrious after wisdom,” but it also includes things unusual for education in his time, such as architecture, agriculture, engineering, science, and medicine. All these studies serve the second purpose which Milton defined for higher education. “I call . . . a compleate and generous education,” he writes, “that which fits a man to perform justly, skillfully and magnanimously all the offices both private and publike of peace and war.”

To achieve both of these purposes Milton's curriculum insisted on an unusually broad range of knowledge for his time, along with rigorous training in classical and modern languages and classical texts.

Milton's second declaration of the purpose of education has not changed all that much in English-speaking culture in almost four hundred years, particularly as it has evolved in the United States. His attention to science and the practical arts anticipated the famous challenge to the exclusive supremacy of the classics at Yale in the 1820's and even suggests the codification of academic departments and liberal arts education about a hundred years ago, along with the development of graduate schools and professional programs. The LEAP report, in seeking a more cross-disciplinary and integrated approach to education, remains committed to the breadth of both theoretical and practical knowledge for which Milton was one of the early champions.

But Milton's first declaration of purpose seems to me even more important today, although its theology may not be ours. What Milton is advocating is an education that will "repair" or renew our freedom. Milton was one of a relatively few reformation protestants who came to believe that the fall of humanity did not render us so totally enslaved to sin that we had no free will. In Areopagitica, his other pamphlet from 1644, he argues for a free press, without government licensing or other prior censorship, because freedom depends on knowledge and knowledge depends on the flourishing of ideas. "When God gave Adam reason," Milton says, "he gave him freedom to choose, for reason is but choosing" (CPW II. 527). Freedom, therefore, is knowledgeable choice. This, I think, remains a very useful definition, one at the core of any democracy. Citizens

able to make knowledgeable choices, whether on a ballot or in the larger contexts of civic responsibility, are essential to a robust democracy. At the same time, confidence in one's ability to make knowledgeable choices, even in the face of risk and of what we can't know, confers an authentic sense of personal liberty. We learn to enjoy what we enjoy, as well as to do what we do.

Freedom, then, is both a practical and personally fulfilling purpose of education, however much the term itself is degraded and manipulated. The LEAP report provides a good and often visionary example of where we need to go and what we need to do in order to advance the opportunity for all of our students to make knowledgeable choices. Learning widely in the liberal arts tradition about multiple ways of approaching problems and about a wide range of cultures leads to knowledge. Learning intellectual skills at increasing levels of sophistication, often applied to a particular study in depth, develops analysis and judgment, the ability to see and make intelligent choices based on that knowledge. Applying those skills, making choices in the context of a scholarly community and in the real world through such things as internships and international study, offers practice for a lifetime of civic responsibility and personal satisfaction. This is the ideal. We need to work together as educators to bring it as close to reality as we can, and to be willing and able to measure our progress and make changes along the way.

At the same time, we need to give our students room to make their own choices and to become their own authorities, something for which new digital delivery systems have perhaps too effectively if not always too wisely prepared them. If knowledge is simply handed to a student, and remains a set of facts taken merely on authority, it cannot

lead to the informed choices that are a key purpose of education. As Milton put it in his theological language, a person can be “a heretic in the truth,” and if you believe something only because some authority tells you, “without knowing other reason, though [the] belief be true, yet the very truth [you hold] becomes [a] heresie” (CPW II.543). Empowering students to discover is a much more difficult and in many ways riskier pedagogy than telling them what they should know, and faculty and academic leaders throughout the country are worrying over how to do it effectively.

And we need your help. Information professionals are educators who have a crucial role in clarifying and accomplishing goals such as those set out by the LEAP Report and in helping faculty and academic administrators further define and effect the purposes of higher education. Among the particular educational strengths information professionals bring to this dialogue are organization skills, long practice in looking at the horizon for new educational needs and new solutions, and particular experience in balancing the demands of individuals with those of the larger community.

As a former faculty member at several institutions and a former provost at two, I cannot stress enough how essential are the organizational skills of librarians and information technologists in helping us confront the information swamp that our students – and we – daily encounter. You are particularly vital to us right now, as we continue in a transitional phase between pre-and post-digital age faculty. Our students know how to navigate the internet with far greater skill than most faculty, and this situation is likely to become more acute before my generation and the one behind me completely fade from view and those who grew up in the 1990’s and after begin to take our places. Meanwhile,

we endure comments such as the one from Nevada student Sarah Mihelic, reported from the Chronicle of Higher Education's Technology Forum: "My dad is still into the whole book thing. He has not realized that the Internet kind of took the place of that."

Although our students are more comfortable with this new digital universe than most faculty, we faculty know more than they do and our ability to judge information and its value is part of what they desperately need to learn. The LEAP report calls them "intellectual and practical skills," including inquiry and analysis, critical and creative thinking, and information literacy. Our students need to know how to reason and how to make distinctions between what is applicable and good and what is irrelevant and stupid. Your knowledge and experience are crucial in helping us teach them. We need to know not only what information resources are available and which are most likely to be useful for productive teaching and research, but we often need your direct help in teaching undergraduates some of the important distinctions among data, facts, information, opinion, and knowledge, not to tell them what to choose, but to teach them how to choose. You are expert in the hierarchies of information, and should not be passive in your interactions with students or with us.

Second, we need your vision. You are experienced innovators, and you are the educators best able to help us weigh the value of new technologies. Even more, you are the ones who can help us see a potential range of applications of new information resources. I think, for example, all the way back to the 1980's at Brown when Allen Renear, now at the University of Illinois School of Information Science, taught me what text encoding could do for teaching and research on early modern texts, and helped to

found the Brown Women Writers Project. More recently I think of GIS, and the enormous range of applications for both teaching and research in the sciences, social sciences, and even the humanities. Diana Sinton of the National Institute of Technology in Liberal Education (NITLE) and Jennifer Lund of Wheaton have just come out with a book on GIS and mapping across the curriculum, called Understanding Place. In it are examples of applications from quantitative reasoning, biology, political science, history, musicology, environmental science, urban studies, and archaeology. Certainly for undergraduate programs these applications are rich for the kind of analytical, multi-disciplinary, multi-cultural, and hands-on education the LEAP report advocates, just as they provide sophisticated tools for integrative graduate and post-doctoral research.

These are examples where information specialists helped faculty who were not the usual early-adopters transform their teaching and research. We faculty are expert in our disciplines, and we can be protective and even defensive about what and how we teach. We're a little like actors, whose instrument is themselves; with us, our instrument is what we know. Like actors, it makes our work somehow personal, and we can be prickly. But you are educators too, and we need you. In recent years I have found most faculty far more open to seeing information professionals as essential colleagues for developing both classroom content and teaching methodologies, so I hope you will be bold with your suggestions.

Finally, information professionals, particularly those of you with administrative responsibilities, are uniquely placed to help faculty and administrators find the balance between individual and community needs. That balance ought to be part of basic

management skills anywhere, but students are not widgets and the academic enterprise brings some special challenges. Each student is unique, and each student's education is a unique process. Each graduate and faculty research project is (or ought to be) unique, and each will have very particular time and money constraints associated with it. At the same time, much of modern education and almost all research depends on teamwork and community skills, and all education depends on the community infrastructure.

Information professionals balance the demands of time and treasure on a daily basis, not just at budget time. As a dean at Brown and then a provost at Wheaton, two of the colleagues I learned the most from were Brian Hawkins and Terry Metz, both of them brilliant at cutting through the fog to ask the right questions and present the trade-offs. So perhaps I am a little biased in favor of information professionals. But from my collegial work with other librarians and IT professionals, I think it comes with your territory to help faculty and academic administrators see the costs and benefits of giving one person a particular piece of equipment or your or your staff's time as it sets against the larger picture and the demands of the infrastructure. More generally, you are educators here, too, in helping us think about how individuals are part of a larger academic community. You do it even in something as simple as letting students or faculty know of colleagues who are working on similar projects or whenever you create a network that will serve a team project.

But, you may well ask, how often can you find the time or the resources to be the benevolent vision of balance I have just suggested for you? You are racing at an increasing digital clip, often in the face of level budgets or even cutbacks, with everyone wanting what they want when they want it which is usually right now. Faculty snap

about an application they need or an email that's too slow, students whine about wi-fi, and administrators look bewildered when you try to explain things, but they still want you to create a faster, more robust network and buy all the right books and periodicals (but fewer of them) on less money. And the registrar probably wants to take that last room you are able to use for staff conferences and turn it into an 8 am to 10 pm classroom. I wish I could give each of you a bigger budget and staff to help, but that, alas, is not the world we live in.

What I do want to encourage you to do, however, may sound counter-intuitive in the face of the increasing pressures and demands on your time and resources: that is, give yourselves time to think. Take advantage of your own education and the maturity and judgment it has brought you. The purposes of education do not stop at the graduation platform. As educated professionals, you have been given at least some version of what Milton called the ability "to perform justly, skillfully and magnanimously all the offices both private and public of peace and war," and in your daily dealings at your institutions I expect you face versions of both. If I make no other point today, I hope you will take seriously my call to incorporate time for yourselves during the workweek, to set your own priorities, to make clear in your own mind what the institutional trade-offs are, to be clear about who you are and what you have to offer, and to make your choices about how to work and how to present the issues you see to those you work with. When you bring a dean or provost your thoughtful understanding of various trade-offs, not just what the pressures of the moment tell you we either should do or cannot do, you become part of

the larger process that seeks to make knowledgeable choices for the betterment of our whole mutual enterprise.

To conclude, let me summarize where I hope I have come: mission statements, curricular research (including the study of outcomes), and increasing numbers of curriculum and research projects emphasize the need for global citizenship and connectivity across diverse disciplines and cultures as we face an explosion of information and new global challenges. This is new, and would not have been possible without the exponential advance of information technology and the digital revolution. Information professionals have a crucial role to play in higher education in this context, as experts on the arrangement, content, and delivery of information, as visionaries with an eye on the future, and as partners in balancing the demands of individuals with those of the community. All of this is to enable knowledge to serve meaningful freedom, both personal and civic. That includes serving your own freedom by making choices that invigorate and renew you. These Seminars in Academic Computing provide just the right start, to share in community in the tradition of Clair Maple, to learn from each other, to think about your own opportunities and choices. May it be a productive and freeing experience for you all.