

# Liberal Arts Education and Information Technology: Time for Another Renewal

*Liberal arts colleges must accommodate the powerful changes that are taking place in the way people communicate and learn*

by **Todd D. Kelley**

Three significant societal trends will most certainly have a broad impact on information services and higher education for some time to come:

- the increasing use of information technology (IT) for worldwide communications and information creation, storage, and retrieval;
- the continuing rapid change in the development, maturity, and uses of information technology itself; and
- the growing need in society for skilled workers who can understand and take advantage of the new methods of communication and information management.

These trends have more serious implications for liberal arts education than other segments of higher education, but because of their unique mission, liberal arts colleges are more likely to ignore these trends and thus run a greater risk of becoming irrelevant, obsolete, and financially unstable. Thus I believe that it is the responsibility of chief information officers at liberal arts colleges to work with their leadership to understand three fundamental tenets related to information technology:

(1) The futures of their colleges are tied directly to the strategic use of IT

and that institutional planning and decision making must reflect the realities of rapidly changing information technology. Boards of trustees and senior management must not delay in examining how these changes in society will impact their institutions, both negatively and positively, and in embracing the idea that IT is integral to fulfilling their liberal arts missions in the future.

(2) To plan and support technological change effectively, their colleges must have sufficient high-quality information services staff and must take a flexible and creative approach to recruiting and retaining such staff. The growing societal need for skilled workers who can understand and take advantage of the new methods of communication and information management has put pressure on all organizations to attract and retain skilled information services employees as well as to help all employees understand the vital role of information.

(3) Information technology must become an integral part of the academic programs and the life of liberal arts colleges to ensure information-literate communities. Graduates must be able to assume appropriate roles in the information society.

Five principal reasons why the future success of liberal arts colleges is tied to their effective use of information technology are:

- Liberal arts colleges have an obligation to prepare their students for life-long learning and for the leadership roles they will assume when they graduate.
- Liberal arts colleges must demonstrate the use of the most significant approaches to problem solving and communications to have emerged since the invention of the printing press and movable type.
- Information technology can help liberal arts colleges meet their unique mission to help students connect ideas and disciplines broadly, think critically, act responsibly, and communicate effectively.
- Twenty-first-century workers must be well prepared and confident in managing technology and its role in all segments of the economy.
- Prospective students and their parents need to understand the importance of information technology and expect it to be integrated into the curriculum.

For these reasons, the role of information technology at liberal arts colleges

must undergo a dramatic transformation if the colleges are to remain a vital asset to the nation and the world. While IT must become integrated into virtually every part of institutional operations, it must also become a critical component of the educational mission.

What are the challenges to achieving transformational change in this area?

### **The Challenge of Cultivating New Perspectives**

A number of challenges exist in applying information technology to the educational mission. Two in particular must be addressed for IT to become part of the overall fabric of the institution: (1) information technology must be viewed as an essential component of the teaching and learning process, and (2) networking (both institutional and technical) must become an integral part of the institutional infrastructure and culture.

### **IT IS MORE THAN AN OPTIONAL TOOL**

A major barrier to the integration of information technology in the teaching and learning process is that many faculty members of liberal arts colleges still view IT as a tool to use or reject in their teaching. In many disciplines, with the notable exception of sciences such as biology, chemistry, and physics, information technology is not viewed as being essential to teaching, learning, research, or expression within the discipline. Hardware, software, and the data network are often viewed as a part of the campus infrastructure—they are there if you need them, but there is no imperative to use them. But a well-designed network and server system that is connected to the Internet is much more than infrastructure. It can store, retrieve, and classify vital information and function as a synchronous or asynchronous communications mechanism for transmitting text, visual, and audio information. Fur-

thermore, using information technology can help faculty, staff, and students organize their thoughts and even improve their thinking.

The more progressive liberal arts colleges include computer hardware and software in their regular operating budget so that faculty, students, and staff have access to current IT without having to work at procuring these items themselves. My institution, St. Mary's College of Maryland, has implemented a three-year replacement program for hardware and has purchased blanket licenses for most software applications. Knowing that the college has committed significant

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resources to IT provides a stable technology environment and allows faculty and staff to feel confident about using information technology in their work.

But the key to the successful use of IT goes beyond software and hardware. Scholarly success is based upon the perspective and the knowledge base of the person using it. How can faculty be helped to understand that the computer can be used for teaching, learning, and communicating in a variety of ways that rival or even surpass more traditional methods?

One method for increasing understanding at my institution was the creation of instructional technologist positions within each academic division. The role of these positions is to help inte-

grate technology appropriately into teaching and learning. This effort has made some noticeable differences already. Providing a combination of technology and support for integrating technology into the teaching and learning process is an essential component of success.

The interpersonal and face-to-face nature of the teaching and learning enterprise is a basic value of liberal arts colleges. Unfortunately, using information technology in teaching and learning is often viewed as undermining this basic tenet, perhaps a key reason that faculty at liberal arts colleges have not universally embraced IT as essential to the educational process. At present we do not have accurate data to gauge how the faculties at liberal arts colleges perceive information technology and how they use it. At my institution we are beginning a systematic process of collecting data about the use of technology in order to better understand the implications.

### **NETWORKING IS KEY**

Technological advances, especially the rapid growth of the Internet, have contributed to a growing digital communications environment throughout our entire society. Barriers of time and place are breaking down due to the use of digital technology for communications of all types. Connectivity, whether through wires, wireless, or satellite, is rapidly becoming the most critical infrastructure component of all types of enterprises, including government, business, and education.

How the campus network is constructed, accessed, understood, and used is especially key to the success of liberal arts colleges. In this context a network is much more than infrastructure because at each moment it must reflect a diverse and ever-expanding range of technology choices, information access methods, user needs and knowledge, and the

perspective of the liberal arts approach to knowledge and learning. The technology per se does not matter at all if people don't understand the importance of the network for the future good of society and its use in furthering the mission and approach of a liberal arts education.

The communities of interest within and among liberal arts colleges that could and should be formed through using network services are not emerging nearly as quickly as they should because college faculty and leaders are not sufficiently knowledgeable about or involved with the many services that could be offered via networks. One major leap that could be made is for liberal arts colleges to evaluate and adopt the use of common asynchronous instructional software for use on their own campuses as well as among peer institutions. St. Mary's College of Maryland has evaluated what is currently available and has selected and procured the platform that it will use. We would like other liberal arts colleges to work with us so that faculty can collaborate together in teaching across institutions with similar missions and programs.

### **Information Services Staffing Challenges**

One reflection of how liberal arts colleges view information technology is their view of information services staff members. Such staff members are often considered service personnel who may have specialized expertise that will make things work (or not!). In the future, however, they must be viewed as partners and colleagues with problem-solving abilities, who can make significant contributions to both institutional operations and strategies.

Information services staff at liberal arts colleges too frequently are bolted on like a sidecar attached to a cycle, but the unity of purpose that is needed precludes the bolted-on approach. This view can

be modified, and information services leaders such as librarians and IT staff can help lead the way. The individuals charged with providing their college communities with all the infrastructure support, information resources, and services necessary for teaching, learning, and communication can join forces in a collaborative way to address the challenges of liberal arts education together.

My institution has made notable gains in this regard, but there is still much to be done. One improvement involved the organizational unification of all information services (including library,

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media, telecommunications, and administrative support) and the shift of information technology from the administrative vice president to the chief academic officer. This shift places information technology and all information services in the unit most critical to the college mission.

None of the strategic objectives discussed thus far is sustainable if we fail to address the issue of attracting and retaining outstanding information services employees. At St. Mary's College of Maryland, which is located in the Washington, D.C. corridor, the challenge of finding and retaining such staff is especially great as the competition for technology-savvy employees is keen and the coffers of private business are deep, largely due to the significant num-

ber of federal contract businesses surrounding the city.

Traditional methods of attracting and retaining information services staff at nonprofit institutions are insufficient in the current context. Job security, health insurance, and liberal vacation benefits are no longer enough to satisfy today's information services staff. These staff members are looking at the bottom line, but they also are looking at much more. They want to belong to an organization that respects what they do, treats them as valued team members, and gives them an opportunity to make a difference in the life of the organization. They want a sense of belonging that is founded on shared goals and interests and a belief that information is everyone's business, not just that of the information specialist.

What can nonprofit institutions do as they are expected to offer more and increasingly sophisticated information services while simultaneously attracting and retaining high-quality staff? Based on my experience in this area, I believe today's information services professionals are looking for the following:

- symbolic recognition of their contributions to the institution;
- meaningful incentives and rewards for extraordinary performance;
- a team-based environment where team members can cross institutional boundaries of all types and make meaningful contributions;
- flexible work arrangements, including compressed work schedules;
- open acceptance of personal lifestyle choices;
- a healthy and pleasant physical environment;
- opportunities to telecommute and a family-friendly support policy;
- opportunities to be information entrepreneurs within the institution and beyond;
- support to take courses, work on

degrees, and take training classes to update their skills;

- support to participate in conferences and make presentations;
- access to the best resources and tools to accomplish their work; and
- an institutional commitment to employ information-literate individuals.

If information services staff members are offered these working conditions, they are less inclined to make decisions about where to work based solely on salary comparisons. At my institution, a number of these working conditions have been supported although there is much more to be done. Early indicators suggest that we are on the right track since the information services organization has one of the best retention rates of any unit.

One of the challenges we still face is the broader issue of institutional commitment to employ information-literate individuals and give them support to maintain their technology skills. This is a challenge because the organization is not yet sure what standards of information literacy it should be looking for and what premium it will have to pay for these skills. Also, existing employees do not often know what it is they do not know and thus are not sure what it is they need to learn, even when training is available. Another problem is that of existing employees who believe that most or all information services issues can be best addressed by specialists. The goal for all employees should be to build up an adequate sense of confidence and ownership in information services so that employees make good judgments about when to consult with information services staff and when to take action on their own.

### **Information Literacy: An Institutional Challenge**

Liberal arts colleges must stay competitive and must prepare their students for a world where every individual will need to manage his or her information envi-

ronment successfully. Students will learn these skills by active engagement in managing their information environment while at college. Ideally, faculty will model this behavior and college administrators will make faculty involvement a high priority. This challenge is not as daunting as it sounds because integrating information technology into the liberal arts approach can strengthen and invigorate the core skills of liberal arts education: problem solving, connecting ideas and disciplines broadly, thinking critically, acting responsibly, and communicating effectively.

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Students now attending liberal arts colleges will graduate into a world of challenges and complex problems that will require them to use information technology proficiently and make important decisions using information resources. Information technology is already critical to collecting and analyzing all types of information, performing many kinds of work, and communicating ideas in almost every field of endeavor. The value to society is not just utilitarian, however. Information-literate citizens are essential to maintaining a free and open society.

While information literacy has always had a role in a liberal arts education, it is much more important now because of the sea change brought on by information technology. With so much informa-

tion power at one's fingertips, it is essential that care and thoughtful deliberation be employed in understanding and using it. It is important to note that the goal is not to target professional or job opportunities for graduates through training in specific technology. Instead, the goal is to educate students in the use of many emerging information technologies through providing contextual experience that will build their confidence in discovering solutions to issues through the use of information technology.

Many prospective students and their parents are well aware of the importance of information technology, and many of them expect conveniences such as online registration, Internet access in the residence halls, and an e-mail account. Unfortunately, simply adding these technological features to college life will not provide the technological foundation required for 21st-century students. This is the equivalent of building a library while not requiring students to read beyond a required text. It is a superficial approach at best and window dressing at worst.

What will truly engage students and prospective students and their parents is a liberal arts college community that is engaged in exploring and using information technology within every dimension of the academic and extracurricular programs. If this is a priority in the institution, then marketing the college to the expectations of tomorrow's students and their parents will be relatively easy. The marketing effort would have a broad appeal because it would fuse the best traditions of liberal arts education with the use of technology. Weaving information technology into the entire fabric of the liberal arts college and reflecting this creation back to society could capture the attention of many—and even shock those who believe that technology is found only at larger, more highly specialized institutions.

Information-literate citizens know that

access, accuracy, and the pursuit of comprehensiveness are the basis for intelligent decision making. To respond effectively to an ever-changing, complex environment, people need techniques for exploring, making connections, and making practical use of information. They must know how to use information to their best advantage at work and in everyday life even as methods of information creation and access continue to evolve. They appreciate the value and limitations of information, understanding that it is not knowledge until it has been analyzed, questioned, and integrated.

The information-literate are not only able to find, analyze, and use information effectively, but they must be able to create information to communicate effectively. They are equipped to be lifelong learners because they know how to learn. In this context a liberal arts education is the perfect place for nurturing and developing the citizens of democratic societies. Liberal arts colleges have traditionally been a testing ground for ideas and a proving ground for skills that are broadly applicable and beneficial to all aspects of society.

Our future leaders need a perspective and learning experience that enables them to use information and its technology effectively, and to adapt to changes as they happen. Clearly, defining information literacy broadly so as to constitute both a liberal as well as a technical art and turning that definition into a curriculum are major challenges both intellectually and practically, and deserve extended discussion and collaboration among both educators and information-systems professionals, humanists, and computer and information scientists.<sup>1</sup>

## Conclusion

Liberal arts colleges have made significant strides toward integrating information technology in recent years. Faculty are incorporating information technol-

ogy into their curricula. Administrators, faculty, staff, students, and members of liberal arts college communities are beginning to own the information technology issue. However, enterprisewide coordination is needed for liberal arts colleges to truly harness the potential of their investments in information technology. Decisions about commonly available and relatively mature technologies can no longer be made by each individual within the organization because of interoperability, support, and cost-to-value issues. Decisions about the procurement, deployment, and use of these

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types of technology must be enterprisewide decisions based upon the needs of the organization, the direction of and choices in the marketplace, and the direct and indirect costs involved.

The information that is required to make wise decisions about these choices is considerable and requires an intimate knowledge of both the marketplace, the needs of the organization, and the support that is needed to make the technology work. This perspective will help information technology develop into a more mature element of liberal arts colleges, many of which have a long history of remaking themselves to meet the needs of society while keeping their core values.

Alan Kay, a pioneer in information technology, once said that the best way to predict the future is to invent it.<sup>2</sup> Lib-

eral arts colleges must invent their future or it will be invented for them. The liberal arts college is a uniquely American phenomenon and it has had the resiliency over its long history to recreate itself and to incorporate the needs of society into its agenda without rushing to respond to fads.<sup>3</sup> One reason for this successful approach has to be the marriage of reflection and preparation. Liberal arts colleges help undergraduates reflect on the breadth and interrelated nature of all knowledge while simultaneously preparing them to contribute to the improvement of society through developing their thinking, leadership, and communications skills. Colleges that are able to continue this tradition using information technology will continue making a positive impact on the future well into the 22nd century.

Liberal arts colleges must fuse their traditional strengths with foresight to look ahead for 20, 30, and even 50 years, a short period relative to their long history. They must be knowledgeable about, and take advantage of, the large-scale trends in the ways that people communicate and learn. They need to use all the resources at their disposal to address this issue and act decisively. Their core mission has always been valuable to society. It will be even more valuable if they can seize the initiative and remake themselves for a society that is rapidly transforming itself faster than was predicted even as little as 10 years ago. *e*

## Endnotes:

1. J. J. Shapiro and S. K. Hughes, "Information Literacy as a Liberal Art: Enlightenment Proposals for a New Curriculum," *Educom Review*, March/April 1996, pp. 31-35.
2. See <http://www.smalltalk.org/alankay.html>.
3. F. Rudolph, *The American College and University: A History* (New York: Vintage Books, 1962).

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