

Strategic Directions for Information Technology at Hamilton

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Overview:

Hamilton College has developed an institutional strategic plan that has a curricular focus. Central objectives in the plan include developing students with excellent communication skills, emphasizing student responsibility and engagement in their academic and co-curricular activities, enhancing opportunities for students to collaborate with each other and with faculty mentors, and preparing students for leadership positions after graduation. Achieving these objectives will attract excellent students and faculty to Hamilton.

The strategic plan also emphasizes enhancing and maintaining an excellent infrastructure to support teaching and learning, securing and effectively managing financial resources, providing necessary support for college personnel, promoting distinctive academic programs, and assessing student learning.

This document sets strategic directions for information technology. It is organized as follows:

Strategic directions for information technology
Strategies that will be followed to support the directions
Rationale/context for the strategic directions

Strategic Directions for Information Technology (IT)

The following are strategic directions for the use of IT at Hamilton in support of the institutional strategic plan.

1) (Provide Excellent Support of Teaching and Learning) Provide exceptional IT infrastructure and services that support teaching and learning.

- *Achieve national recognition among liberal arts colleges for the use of IT to support: collaboration between faculty and students, development of students' excellent communication and information literacy skills, and active engagement of students in the creation of knowledge.*

2) (Extend the Hamilton Experience) Utilize the Internet to enhance interactions with external constituents and promote Hamilton's distinctive programs.

- *Enhance our interactions with accepted and prospective students, parents, and alumni to keep them engaged with Hamilton, extend the global reach of our students and faculty and their achievements.*

3) (Improve Access and Services) Utilize IT to increase the availability of timely and accurate information, improve the efficiency of college operations, and enhance services provided to Hamilton's constituents.

- *Maximize information resources provided through the web and make it possible for faculty, staff, students, parents, alumni, and others to conduct business with the college at any time, from any location, in a secure and easy fashion.*

Strategies

The following are strategies that will be used to support the strategic IT directions.

1) Provide Excellent Support of Teaching and Learning

- a) Assure that our network environment is pervasive, reliable, fast, secure and contains information servers that are accessible twenty-four hours a day.
- b) Assure we have sufficient technology-enhanced classroom environments and support staff to enable all faculty to enhance the teaching and learning process.
- c) Provide public and departmental computer labs and staff in sufficient number to support specialized hardware, software, and services for faculty and students (e.g., multimedia creation and distribution).
- d) Assure there are sufficient support services to: assure that every student develops appropriate *information literacy* skills before they graduate and that faculty can easily use technology in connection with their teaching.
- e) Increase collaborative activities between ITS, and other academic support services organizations, particularly the Library, to deliver integrated, cost-effective support services to faculty and students.
- f) Provide sufficient facilities and staff to enable faculty and students to experiment with technologies that show a promise of enhancing the academic program (e.g., geographical information systems).
- g) Assure there is convenient access for members of the Hamilton community to comprehensive electronic information resources that support the academic program.
- h) Pursue collaborations with other colleges and organizations to further Hamilton's institutional goals and conserve college resources.
- i) Aggressively pursue grants to support promising curricular initiatives.

2) Extend the Hamilton Experience

- a) Expand interactions with accepted students prior to their arriving on campus to simplify their transition to Hamilton and extend their Hamilton experience.
- b) Develop appropriate technology-assisted activities to maintain alumni connections with Hamilton and enhance fund-raising activities.
- c) Expand personalized interaction with prospective students, and their parents, to attract the best students to Hamilton.
- d) Use technologies, such as videoconferencing, to eliminate barriers of distance in bringing our students and faculty in contact with global audiences.

3) Improve access and services

- a) Re-design college operations to maximize information made available electronically, provide customized assistance to users of that information, and empower members of the college community to quickly and securely transact business with the college.
- b) Utilize IT to enhance support provided to the academic advising process.
- c) Assure that all members of the college community have convenient access to electronic resources and that information is regularly shared.
- d) Assure training is available to all members of the college community to enable them to effectively use technological tools to fulfill their responsibilities.

Rationale/Context

Our strategic directions for IT are informed by three major societal trends: the experience of our students and faculty prior to coming to Hamilton, the impact of technology and electronic information on our lives, and the opportunities for technology to enhance the teaching and learning process.

The Technology Profile of New Students and Faculty

Students will increasingly come to Hamilton with improved technological skills. National efforts to infuse computing and networking into the public schools will result in most schools and libraries being connected to the Internet and regular use of electronic resources in connection with classes. New students at Hamilton have had access to desktop computers and the Internet for most of their lives – for many in their homes. A national study, released in September, 2001, indicates that in the pre-college age group 75% of the students use the Internet and of those 94% say they use the Internet for school research. An overwhelming percentage of their parents believe that this use is important to student learning.

Our ability to attract and ultimately enroll the best students at Hamilton will, in part, be based upon their parents' perception of Hamilton's ability to prepare them for a world in which technology will play an increasingly important role in their personal and professional lives. The competition for excellent students will be intense - "students are becoming increasingly sophisticated educational consumers. They expect heavy use of technology, but not for its own sake."¹ It is essential that Hamilton students have access to excellent technology that supports their education.

Over ninety percent of our entering students already bring computers to campus. As the price of a computer continues to decrease it is reasonable to assume that all students will own their own computer. Students will need to use electronic resources, and the Internet as a routine part of their education. But they must go beyond mere facility with technological tools to access information.

New faculty members increasingly expect access to excellent technologies at their desktop, in their classrooms, and in support of their scholarly activities. To attract the best

¹ "Finding the Will and the Way", Ellen Earle Chaffee, in *Preparing Your Campus for a Networked Future*. Luker, M., Educause Leadership Strategies, Volume 1, January , 2000

faculty we will need to assure the availability of these technologies and sufficient technical support personnel to support instructional applications of technology.

For both students and faculty we need to assure that they reach a high level of comfort and skill with technology so they can effectively utilize electronic resources.

The Information Society

The world our graduates enter is a diverse, complex, and global society in which electronic communication and access to information via computer networks is commonplace. **Knowledge** has become a critical resource, in ways similar to other *natural* resources. Leaders in this world will know how to collaborate with others, to access, evaluate, synthesize, and analyze information, make decisions based upon that analysis and communicate those decisions in a way that will move others to action. This package of skills can be thought of as those of a “knowledge navigator.”

Knowledge is not the same as information and more information is not necessarily better. Knowledge is the result of the process of access, evaluation, synthesis, and analysis of information. It informs decision-making and communication. The ability to turn information into knowledge is the basis of an *information literate* citizen.

At a residential liberal arts college electronic communications facilitate collaborations and enhance what are commonly called “communities of practice”.² Increasingly, collaborative skills, the ability to contribute to a team-based organization, are essential for successful contributions in the world of work. A Hamilton education must provide students with significant opportunities to engage in collaborative activities with each other and with faculty mentors.

The information society is also one in which life-long learning will be expected and facilitated by technology. The pace of change will be relentless and the need to keep up with, and anticipate change will be expected. Learning how to learn to use new technologies will be more important than the specific hardware and software of the moment.

The Web makes anytime, anywhere access to information a reality. Using the Web to attract excellent students, increase financial support from alumni and other external groups,

² Brown, John Seely, and Paul Duguid, The Social Life of Information, Harvard Business School Press, Boston, MA, 2000, p. 142.

improve institutional efficiency, and improve the visibility of the work of our faculty and students are all of strategic importance to improving Hamilton's national recognition.

Electronic commerce is a reality. Convenience, particularly the ability to conduct business at any hour of the day, is a driving force in this move to on-line purchasing, trading, and communication. The best systems also provide assistance (decision-support) to help customers choose among alternatives based upon their interests. In a world where e-business goes on every hour of every day, students, parents, alums and others expect to do business with the college in the same manner. "Over the next two to three years, the emergence of pervasive electronic commerce applications will transform the manner in which colleges and universities conduct their most basic business functions.... The results will include reduced operating expense, enhanced service delivery, the outsourcing (or co-sourcing) of non-core business operations, and a return to focus on education and research."³ The ability of colleges to conduct their business with constituents utilizing these technologies will not be a novelty, but a requirement to be considered among the best-run institutions.

Teaching and Learning with Technology

Used effectively, information technologies energize student learning. Electronic discussion groups, web-based materials, and in-class presentations using network-based materials engage students in the learning process and extend discussions beyond the classroom. Simulations, multimedia software, and statistical packages engage students in solving substantive problems. Videoconferencing allows students to interact with content experts beyond the confines of the campus. These technologies enhance collaboration among students, between faculty and students, and make students an active participant in creating knowledge. These uses of technology are known to enhance successful undergraduate teaching⁴.

Increasingly, our faculty and students will be part of consortia with access to resources found only at large universities and specialized research centers. This will be particularly true in the sciences. Our commitment to creating new science facilities will attract high-ability students to major in science. These students will expect access to state-of-the-art technological resources, whether these resources are located at Hamilton or elsewhere.

Student learning will increasingly involve access to electronic information resources. In

³ E-Business in Education, Norris, D. and Olson, M., NACUBO, 1999.

⁴ Chickering and Gamson, "Seven Principles of Good Practice in Undergraduate Education"

planning their courses faculty will need the coordinated assistance of technologists and librarians. Forward-thinking colleges are responding to these trends by creating integrated library/IT learning centers, where previously there were separate facilities. These facilities become centers for collaborative work among students, and with faculty, to locate, analyze, and synthesize information. Organizationally librarians and technologists will work closely with faculty in team-based environments.

Distinctive academic programs have special technological needs, require substantial expenditures and will likely need initial support from grants. Our East Asian Languages program, for example, was among the first to use multimedia software (for personalized instruction in the Chinese language). Much of the early funding for the development of this software was provided through a grant from the Andrew W. Mellon Foundation. We have the opportunity to become an international center for the development and use of multimedia in connection with instruction in East Asian Languages. Technological support for the Levitt Center will likely involve expansion of our campus-wide videoconferencing capabilities and the acquisition of new hardware and software for doing data analysis. Collaborative work in the sciences will require continuing investments in advanced technology. Recent grant awards in Chemistry (to create a national supercomputer consortium for liberal arts colleges) and Geology (to create a networked microscope laboratory) confirm the importance of the use of technology in the Sciences to enhance collaboration between faculty and students. Aggressive pursuit of grant funding, followed by continuing increases in college technology resources, will be necessary if these programs are to remain distinctive.