

***"What is your view of the role of technology in today's library and in what ways do you see technology as an agent of change in higher education" ?***

Good morning everyone and thank you for your interest in my candidacy for the position of Associate University Librarian for Digital Programs and Systems here at Syracuse University. Today I will be presenting my thoughts and ideas on the role of technology in today's library and its impact as an agent of change on higher education. When I was informed about the topic I would be presenting on, I couldn't help but get excited about the prospect of researching and gathering my thoughts on the subject.

During the past seven years while working in the private corporate sector, I have been a part of numerous technical projects, both as a developer and manager that have brought data and information to users in new and innovative ways. It was incredibly rewarding to see the impacts that our applications and systems had on the working lives of people. For example, we developed an enterprise data intelligence solution for a major automobile manufacturing corporation. On a daily, weekly and monthly basis, mid-level district managers were required to prepare and present reports on sales data for their districts. The problem was that the managers were spending an inordinate amount of their time compiling this data and generating reports, rather than focusing on their core responsibility – helping their staffs be successful sales people. In addition,

the data being compiled was coming from various paper-based sources and systems that counted sales differently, so the data being presented was often inconsistent and suspect as unreliable. The application we built automatically compiled and presented district sales data in various graphical and tabular views via a user-friendly web-based interface. At any time, managers could quickly produce daily, weekly, and monthly reports from any location with internet access in a matter of minutes rather than in hours or in some cases days. This system offered a consistent source for the data and provided meta-data about the data, outlining its source and how it was compiled. In addition, we built tools in the application, allowing managers to work together on reports, share reports and consult with one another how to better conduct their business.

In thinking about the experience that I just shared, I couldn't help but draw comparisons in the similar objectives of this project developed in the private corporate sector to the possibilities that technology brings to students, faculty and staff on college campuses as well as the communities beyond its formal borders.

Before I consider the role of technology in today's library and its impact on change in higher education, I'd like to consider a few known or aspirational concepts at Syracuse University that are important as I begin this presentation. The campus experience has been presented by Chancellor Nancy Cantor as Scholarship in Action. The concepts of Scholarly and Faculty Excellence;

Access and Support for Enterprising Students; and Engagement with the World provides the umbrella for which this campus aspires to serve its clients.

The Syracuse University Library System, as I have come to study and learn about you is critical to the delivery of Scholarship in Action. Your visibility and importance to the campus has been heightened, as evidenced by Dean Suzanne Thorin being appointed to the Chancellor's Cabinet. This is a significant step to enhance and expand the reach and outreach of the Syracuse University Library System as a teaching and learning lab on campus.

The role of technology in today's library and the changing face of higher education is pivotal in extending the tenets of Scholarship in Action by:

- Expanding Access to Information
- Enhancing Assistance and Support in Using Information
- Providing Tools for Collaboration in the pursuit of Academic Excellence and Engaging the World

### **Expanding Access to Information --**

Expanding access to information has been the pivotal objective of the library since the first one was founded in 530 BC by the greeks. With the founding of the Boston Public Library in 1852, the library was the first to allow its citizens to borrow books and materials, a truly revolutionary concept at the time

(<http://www.bpl.org/guides/firsts.htm> - Last Updated January, 2002 • © 2003

Boston Public Library).

Today and in the future, technology will only enhance and expand this notion, by providing access to countless populations without limitations to space and time. Within higher education, access to library collections was typically limited to its internal constituency – students, faculty and staff. With the increasing affordability of computers and broad-band access technologies, typically marginalized groups now have access to knowledge and scholarship normally reserved for the wealthy and highly educated.

Rare and typically inaccessible collections of documents and artifacts are increasingly being digitized so that they are more accessible to the general population. In November of 2005, the [washingtonpost.com](http://www.washingtonpost.com) (<http://www.washingtonpost.com/wp-dyn/content/article/2005/11/21/AR2005112101428.html>) ran an article on the Library of Congress' efforts to bridge the gap between differing cultures by creating a World Digital Library consisting of an online collection of rare books, manuscripts, maps, posters, stamps and other materials from its holdings and those of other national libraries to be freely accessible for viewing by anyone, anywhere with Internet access. University libraries will increasingly be called upon to share their rare collections in a similar manner, making them more accessible to global population.

Of special note, on the Library of Congress' Digital Preservation Web Page <http://www.digitalpreservation.gov/index.html>) it asserts that now that the Internet makes it possible for almost anyone to become a "publisher", society will need to preserve this information to make it available to future generations. The library will play a critical role in how to classify this information so that their patrons can find it with the same ease that they can locate a book on a shelf. University libraries will need to be on the forefront of collaborating with the Library of Congress in developing standards of how information can be accessed – such as the Dewey decimal system used in accessing print materials; how the data should consistently be described – through the use of meta-data; and how information can be universally shared – such as through the use of web services and eXtensible Markup Language or XML.

As the lines are continually blurred between the campus and the greater world, technical applications that give access to information to various communities will need to become increasingly intelligent and user-oriented. Applications will need to intrinsically be aware of who is accessing the data and the language and format in which it should be presented. This type of intelligence built into applications will enhance access, focusing solely on the experience of the user and their needs. The popularity of user-driven content sites such as mySpace and FaceBook exemplify the consumer focus by allowing users to upload their own images, text, video, and even JavaScript to create their

own dynamic profile pages. In addition, instead of requiring users to come to the information, technologies such as RSS feeds will need to be offered to bring timely and up to date information to users.

As library applications continue to be developed with the user's experience at the forefront, requirements analysis efforts will need to include input from potential users from various populations both inside and outside of the campus environment.

Finally, in its goal of improving access, the prioritization of future digitalization and technical efforts by the university library can be influenced through the use of data collected on how current digitized information and technical resources are being accessed and used by current users. Statistics about what types of information and resources are being utilized by patrons most frequently, can be used to help drive decisions on future library time and monetary efforts.

### **Enhancing Assistance and Support in Using Information**

Technology greatly enhances the opportunities for assisting and supporting library patrons on using and accessing library materials. Library services that can be delivered without bounds to time and space help to ensure access to information. Tools that provide online card catalog searching, journal article access, and subject area reference searching are all helpful in providing

access to materials in research and scholarship efforts. Instructional Services departments now utilize various technologies to deliver information on how to best utilize and access those tools. Email, Instant Messaging, and Chat Technologies provide real-time and asynchronous access to reference librarian services which help to increase access to these services to those located around the world as well as those who are local but whose schedules do not permit trips to the library during business hours. Instructional videos and online tutorials on the access of resources have also been created and placed online for users to view at will. In fact, via Syracuse Library's Website, earlier this week I had a chance to experience an interactive tutorial series orienting patrons to the library in general, its website, and its research tools. This is a great way to provide library information to those who don't feel comfortable asking for help and those who are unable to attend an orientation in person.

Given the expansive amount of information on the internet, information literacy must be a major goal of today's library. The use of internet sites for information such as wikipedia, online forums, and blogs makes information literacy more important than ever. Library's need to instruct users on how to assess the validity of this type of material as well as information found on the internet in general. Instructional technologies such as Blackboard and WebCT are being used to deliver courses specifically geared toward the information literacy effort. Library patrons can access these courses online any time and from any location. Many universities are providing these types of courses for

credit and in some cases are requiring students to take these courses as part of their core/general curriculum.

### **Providing Tools for Collaboration in the pursuit of Academic Excellence and Engaging the World --**

In the effort to enhance collaboration in the pursuit of Academic Excellence and Engaging the World, universities are now attempting to bridge the division between its population and not only its immediate surrounding community, but the world at large. In her March 2006<sup>th</sup> speech titled “Universities and Their Connected Communities: Creating Capital for the Future” given at Rensselaer Polytechnic Institute as part of the Presidential Lecture Series, Syracuse University Chancellor Nancy Cantor eloquently outlined the importance of collaboration between various communities. She puts forth the notion that the individual university community needs to extend its boundaries to include its immediate neighboring community in addition to other public and private university communities and their surrounding cities and communities in which they are a part of. The extension of the university outside itself, and its unique position of the pursuit of scholarship without limitations can only enhance knowledge. The university library will play a pivotal role in this mission through its dynamic and innovative use of technology. Just as the student center is designed to bring various campus groups together to share in social activities, the library through its use of technology, brings together various communities in

the pursuit of academic, social, and cultural activities. Interdisciplinary collaboration among various communities through the use of specific content focused wiki's, blogs, threaded scholarly discussions, and real-time chat environments can open the doors and deepen the way knowledge is generated, from a singular to more pluralistic point of view. Higher education, through the use of technology, can help to set and frame the ground work for the creation of this interconnected network of communities in its efforts to forge the "pathway for ideas and innovation" as suggested by Chancellor Cantor.

### **Roadblocks, limitations to technology --**

The university library's efforts to increase the use of technology is by no means an easy task. First, for some library staff, there may be latent anxiety and fears that technology could potentially eliminate their jobs. This anxiety can potentially stunt the fostering of collaborative ideas on how to best use technology in the future to best meet the mission of the library. It is important to assure staff that technology can only enhance their objectives in assisting patrons. Some of these concerns can be alleviated by allowing staff to be involved in the process in deciding how and what technology will be used. In essence, the more one feels playing a part in deciding what changes are to be made the more accepting one is of the change.

In our ever complicated world of information and its limitless sources, librarians and library staff will always be needed for teaching individuals on where to access, how to access, how to evaluate and how to make sense of all of the information that is now available.

Second, copyright issues can put a damper on the storage and retrieval of information and how it can be used in the advancement of scholarship and knowledge. In a very recent article (December 8, 2006) located in the Chronicle of Higher Education dated December 8, 2006, titled "Scholars Win Exemptions to Digital-Copyright Act" (<http://chronicle.com/weekly/v53/i16/16a03101.htm>), Scott Carlson reports that "The U.S. Copyright Office has issued a handful of exemptions to the Digital Millennium Copyright Act that may benefit media professors, archivists, and other academics. Under certain circumstances, they will now be allowed to circumvent access-control technologies on various electronic media." Although this sounds promising in terms of increasing access, there is already discussion on how to interpret the new guidelines for access. The article points out questions emerging about how to define a "film and media studies professor," and that the exemption may not apply to professors in other disciplines who simply use film clips for teaching. Given the never-ending debate on fair use, the library will continually need to stay on top of current copy-right guidelines and their interpretations.

Third, technology and its un-ending advancement can worry even the most visionary leaders into inaction for fear of choosing and investing in a technical solution that once implemented might be “out of date”. What’s important here is the acceptance that technical advancement is inevitable, just as time advances from one minute to the next. Staying on top of current and future trends in technology through professional associations, online technology resources, and consortia of library organizations both locally and globally will help university library management in make decisions on the best technology solutions to implement at the time given time and given monetary constraints.

Fourth, with the increasing call for extending access to library resources and information, Library Information Technology staffs will continue to be taxed with staying up on the latest technologies for providing and supporting such efforts. The internal library IT department will need to continually collaborate with the overall university IT department to stay on top of technical trends and garner support for the enhancement to current technical infrastructure and security measures necessary to support advancement within the library. When developing strategic plans IT staffs from across campus will need to make a joint effort in planning for the future, keeping in mind the overall university mission rather the mission of their individual units. This joint effort will hopefully help to contain costs, provide consistency, and more easily enable additional technical infrastructure enhancements in the future.

Fifth, with the continual emergence of new technologies, library staff will be challenged to stay on top of the use of new technical tools. Librarian preparation programs cannot just teach students how to use the current software being used in libraries for providing access to information. Courses must be created to teach individuals how to stay on top of new technologies and how to teach oneself how to use up-and-coming tools not yet in existence. In addition, university library management must provide opportunities for and incentives to its staff for taking part in training activities designed give staff the skills necessary to use emerging technology.

Sixth, an additional complexity for libraries in the efforts to advance technology, is the competition for increasingly scarce funding sources. In support for future digitalization and technological efforts, Library Management staff will increasingly need to play more of the role of entrepreneur and fundraiser to secure new monetary resources via fund-raising, grant solicitation, and the sale of products. Who better to show their excitement to potential donors about the possibilities that technology can bring to higher education than the individuals who live and breathe the work for which the funding will potential go to. In addition, libraries will need to be increasingly creative in utilizing funding such as initiating more joint projects between other departments, universities, and the outside community so dollars can be shared and solutions can be more far reaching than ever before.

## **Closing Remarks and Comments –**

In this presentation I have attempted to place into context and describe my views on the role technology in the library and in the changing face of higher education. In particular, the Syracuse University Library System is in a unique place to support the tenets of Scholarship in Action as put forth by Chancellor Cantor. The vision of Scholarly and Faculty Excellence; Access and Support for Enterprising Students; and Engagement with the World lays the foundation for changing the face of higher education. Technology extends the reach of higher education by expanding its borders and engaging the world to include outside practitioners and the public in the collaboration with faculty, students and staff in the development of new knowledge in various fields. Internal to the campus, technology is providing the tools necessary for faculty, students, and staff from various fields to take an interdisciplinary approach to scholarship in the pursuit of academic excellence.

Thank you for your time and attention today. I am honored to have the opportunity to be a part of today's discussion.

Questions or comments, please?