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TECHNOLOGY PARTNERSHIPS

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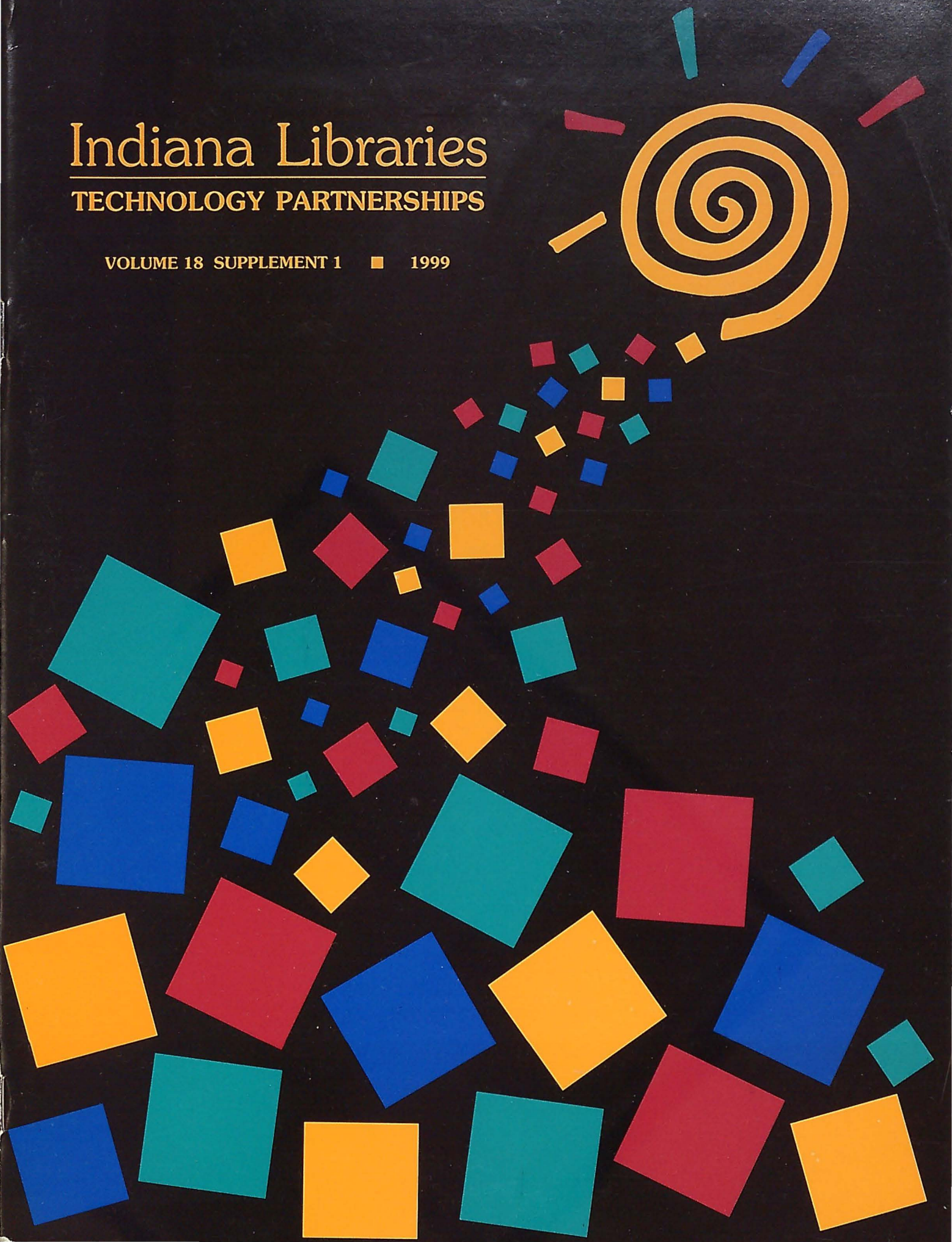

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INTRODUCTION

TECHNOLOGY PARTNERSHIPS: MARRIAGE OF CONVENIENCE OR FULL-FLEDGED COLLABORATION?

by Sara Laughlin, Sara Laughlin & Associates

As I embarked on identifying Indiana technology partnerships for this special issue of Indiana Libraries, I found myself pondering several questions:

1. What is a partnership anyway? Is a partnership the same as a collaboration?

In *Collaboration: What Makes It Work* (St. Paul, MN: Amherst H. Wilder Foundation, 1992), Paul W. Mattessich and Barbara R. Monsey review the research literature to identify factors influencing successful collaborations. Their working definition of collaboration seemed to match my idea of partnerships:

"Collaboration is a mutually beneficial and well-defined relationship entered into by two or more organizations to achieve common goals. The relationship includes a commitment to: a definition of mutual relationships and goals; a jointly developed structure and shared responsibility; mutual authority and accountability for success; and sharing of resources and rewards."

Using their definition, a partnership could be a short-term or an open-ended arrangement, depending on the goals and mutual relationships. Many of the Indiana technology partnerships described in this issue meet Mattessich and Monsey's definition of collaboration. The relationships are mutually beneficial and well-defined; based on common goals, jointly developed structure and shared responsibility, authority, and accountability; and shared resources and rewards.

2. What does it take to have a successful partnership?

My search for answers took me in some interesting directions. Michael Schrage's article, "Rules of Collaboration," is reprinted below. Schrage, a fellow at the MIT Media Lab, is a leading thinker and writer about collaborating using technology, but many of his rules do not require technology. He describes artistic collaborations which took place between Picasso and Braque, using artist's materials and conversation in the rich intellectual ferment of Paris. He points to the written correspondence between Octave Chanute and the Wright brothers and between Thomas Wolfe and his editor. Schrage has really uncovered the underlying principles of any kind of collaboration. He notes: "...though the characters, personalities, eras and fields are all different, certain aspects and themes of collaboration constantly recur," and he urges designers of groupware products to "keep these in mind." For Schrage, technology opens new avenues and new speeds of collaboration, but it doesn't change the basic requirements and limitations.

Beginning at a completely different point, Mattessich and Monsey arrive at similar conclusions about the necessary ingredients in collaboration. In Collaboration: What Makes It Work, they identified 19 factors influencing successful collaboration. As I pondered each of the factors, I recognized many of the ingredients present in (or missing from) collaborations in which I've participated. The factors are grouped into categories:

Environment

- History of collaboration or cooperation in the community
- Collaborative group seen as a leader in the community
- Political/social climate favorable

Membership Characteristics

- Mutual respect, understanding and trust
- Appropriate cross-section of members
- Members see collaboration as in their self-interest
- Ability to compromise

Process/Structure

- Members share a stake in both process and outcome
- Multiple layers of decision-making
- Flexibility
- Development of clear roles and policy guidelines
- Adaptability

Communication

- Open and frequent communication
- Established informal and formal communications links

Purpose

Concrete, attainable goals and objectives

Shared vision

Unique purpose

Resources

Sufficient funds

Skilled convener

3. Do the Indiana technology partnerships described in this issue meet the standards of collaboration?

By the standards above, response to this issue leads me to conclude that Indiana technology partnerships are flourishing:

- Many of the articles are co-authored. Where there is a single author, there's almost always credit given to other participants.
- Many of the partnerships were initiated to solve a pressing technology problem but have continued over several years, through changes in technology.
- Some of the partnerships have expanded, adding members or taking on new challenges.
- Partnerships are large and small, statewide and local, newly-formed and long-lived.
- Partners are as varied as the organizational land scape in Indiana. They include business and not-for-profit organizations, public libraries, state agencies, and schools, colleges and universities.

I leave it to the reader to compare Schrage's list with Mattessich and Monsey's list, to think about whether the Indiana technology partnerships in this issue can be called "collaborations," and to benchmark their own partnership against these well-crafted models. Or to simply open to any article, read it and enjoy a success story.

Sara Laughlin, Guest Editor
May, 1999

THE RULES OF COLLABORATION

by Michael Schrage

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Picasso and Braque collaborated quite differently from the way Apple Computer cofounders Jobs and Wozniak collaborated on their computer. The Wright brothers approached heavier-than-air machine flight in ways quite alien to Gilbert and Sullivan's approach to comic opera.

And yet, though the characters, personalities, eras and fields are all different, certain aspects and themes of collaboration constantly recur. Designers and users of groupware products will do well to keep these in mind.

1. COMPETENCE

A collaboration of incompetents, no matter how diligent or well-meaning, cannot be successful. History confirms this. The Wright brothers may have run a bicycle shop, but they were superb model builders burning with ambition and had the intelligence to understand aerodynamic phenomena. Individual collaborators don't have to be brilliant, but, at the very least, they must be competent to deal with the problem they face. A collaboration can compensate for an individual technical or conceptual gap, but it can't paper over a fundamental deficiency.

2. A SHARED, UNDERSTOOD GOAL

The Impressionists were all intrigued by the ways light could be represented. The quantum physicists pushed to explain the paradoxes of subatomic symmetries. Pound and Eliot wanted to create great poetry. A collaboration is not described in terms of the relationship, but in terms of the objective to be achieved.

3. MUTUAL RESPECT, TOLERANCE AND TRUST

Lennon and McCartney did not get along; Watson and Crick took their time deciding how they really felt about each other. (The first line of Watson's *Double Helix* is, "I have never seen Francis Crick in a modest mood.") Successful collaborations don't require friendship or even that the collaborators like one another very much. Like competence, however, there must be a minimum threshold of mutual respect, tolerance and trust for a collaboration to succeed. Successful collaborators tend to ignore the more irritating quirks and idiosyncrasies of their colleagues. They focus on managing one another's strengths rather than one another's lesser qualities.

4. CREATION AND MANIPULATION OF SHARED SPACES

Collaborations rely on a shared space. It may be a blackboard, a napkin, a piano keyboard, a rehearsal room, a prototype or a model. These shared spaces usually permit real-time access by all the collaborators. They serve as both a model and a map for what the collaborators are trying to accomplish. A blackboard with equations; a rehearsal room where actors, director and crew gather; and a rough prototype of an invention all serve as shared spaces for collaborative interaction. Shared space serves as a touchstone for the act of collaboration. Shared space is essential as a technique to manage conversational ambiguity. In effect, these shared spaces are the collaborative tools that people wield to make sure that the whole of the relationship is greater than the sum of the individual's expertise.

5. MULTIPLE FORMS OF REPRESENTATION

The quantum physicists spent an extraordinary amount of time devising both a verbal and a visual language to describe quantum phenomena to go along with the mathematical language. Frequently, if there is confusion over language, collaborators look to other representations to triangulate their perceptions and impressions. Each level of representation—mathematical, linguistic, structural, conversational, visual—represents a different lens through which to view the collaborative task. Some views put others in context; some are deceptive and create illusions; still others reveal precisely what needs to be seen. However, it is the availability of these multiple representations that enables the multiple collaborators to collectively grasp the key elements of risk.

6. PLAY WITH THE REPRESENTATIONS

The Impressionists enjoyed playing with light; the Cubists enjoyed playing with geometry and multiple media. Watson and Crick enjoyed tinkering with their metal models of the DNA molecule. Successful collaborators take play seriously. Even doctors struggling to diagnose a troublesome set of symptoms "play" with the diagnostic possibilities by picturing what the ailment might be if a certain fluid level were higher or how a patient might respond if a new drug were introduced into the treatment program. The playground perspective puts them in a position to make a commitment when they feel ready.

7. CONTINUOUS, BUT NOT CONTINUAL, COMMUNICATIONS

Unless it is mandated by circumstance—an emergency in an airline cockpit or a hospital operating theater—collaborators do not maintain constant communication. Instead, they focus on trying to create a rhythm, a tempo and a flow of communication that prevents them from interfering with one another while assuring that events are proceeding apace. Particularly in the arts and sciences, there are no formal reporting schedules in a collaboration. In an organization of a project with a deadline, meetings are usually held less for the purpose of collaborating than for disseminating relevant information about where the collaborators stand vis-à-vis their deadline. The urge to meet comes from the collaborators themselves, not from any externally imposed arbiter. This maximizes both flexibility and spontaneity—two qualities of communication that successful collaborators stress are essential.

8. FORMAL AND IINFORMAL ENVIRONMENTS

The staff of Nobel laureate Walter Gilbert's molecular biology lab at Harvard was famous for repairing to the local pub to continue research debates that began back at the lab benches. Watson and Crick didn't limit their discussions of DNA to their offices in Cambridge's Cavendish Lab. The quantum physicists traveled all over Europe together and were particularly fond of boat rides, mountain climbing and long walks in the country. One could make the case that because these people are all working intently on the same problems, it's inevitable that they work together in different settings. However, a more powerful argument could be made that it is precisely because people collaborate in both formal and informal environments that they expand their ability to solve problems.

9. CLEAR LINES OF RESPONSIBILITY, BUT NO RESTRICTIVE BOUNDARIES

There is no division of labor in successful collaborations comparable to the way most organizations define the phrase. Individuals are explicitly responsible for certain tasks, but are also free to consult, assist and solicit ideas from their collaborators. In other words, the individual has both a defined functional role and a charter to go where the task takes him. Collaborators are expected to ask one another the tough questions.

10. DECISIONS DO NOT HAVE TO BE MADE BY CONSENSUS

One of the most persistent myths about collaboration is that is requires consensus. This is emphatically not so. Collaborators constantly bicker and argue. For the most part, these arguments are depersonalized and focus on genuine areas of disagreement. Braque and Picasso had their serious disagreements, as did Watson and Crick. That didn't preclude them from pushing ahead. But if collaborators consistently diverge, the collaboration ultimately dissolves. To that extent, collaborators enjoy a tacit consensus about where they're going—or they're not collaborators.

11. PHYSICAL PRESENCE IS NOT NECESSARY

Even before computer networks and fax machines redefined presence, there have been successful long-distance collaborations. Thomas Wolfe and his editor Maxwell Perkins enjoyed a tremendously productive correspondence by both letter and manuscript. One molecular biologist at MIT's prestigious Whitehead Institute says that researchers all over the world fax one another sketches of protein and enzyme structures all the time—and the recipients turn around and fax them right back with comments, criticisms and alternate perspectives. Today, they use the Internet instead of faxes. "We do things in an afternoon that used to take a week of Federal Express and phone calls," he says.

12. SELECTIVE USE OF OUTSIDERS

In 1900, Octave Chanute, a past president of the American Society of Civil Engineers and author *of Progress in Flying Machines*, entered into what would become a decade-long correspondence with the Wright brothers. Chanute's worldliness, experience and patronage were fundamental to the brothers' pioneering flight at Kitty Hawk in 1903. Successful collaborators solicit this outside assistance. It is not imposed upon them. Successful collaborators are constantly on the lookout for people and information that will help them achieve their mission.

13. COLLABORATIONS END

Successful collaborations are more like trysts than great romances. That's one of the reasons why Watson and Crick ended their splendid collaboration. After discovering the double helix, what do you do as an encore?

ABOUT THE AUTHOR:

Michael Schrage is a Merrill Lynch Forum Innovation Fellow and research associate at the MIT Media Lab. He is the author of numerous articles and two books on collaborating using technology, *No More Teams* (Doubleday, 1995) and *Shared Minds* (Random House, 1990).

AGAINST ALL ODDS – THE VISION ATHENA PROGRAM: AMERITECH INDIANA'S MERGER WITH EDUCATION

by Ruth E. Blankenbaker

THE CHALLENGES OF INNOVATION AND CHANGE

It is not an easy task for the education culture to accept or even welcome change. The same is true for other cultures. Ask Ameritech Indiana.

When Ameritech, an Indiana telecommunications provider, needed to change its way of doing business to remain competitive in a rapidly changing world, it introduced its Opportunity Indiana plan to the public utility commission that regulates its telephone operations. This plan, a request for alternative regulations for certain aspects of Ameritech Indiana's telephone business, drew the attention of groups representing various sectors of the state's public. The push and pull of competing interests ensued.

Pushing and pulling is a scientific phenomenon that frequently creates tension and friction. It does in humans, too. In the culture of utility regulations, Ameritech's request to change seemed to create an overabundance of confusion, misinformation, misunderstanding, and a colorful spectrum of other emotions—in the general citizenry, certainly, but especially so within education, a group that frequently does not concern itself with matters of telephone company regulations.

In a concluding agreement between Ameritech Indiana and the interested parties, Ameritech committed to funding a non-profit organization with $5M dollars per year for each year 1994 through 1999 so that schools in its service area could take advantage of broadband and digital technology. Ameritech also agreed to deploy fiber-based connections to schools, government centers, and hospitals within its service territory that wished to take advantage of broadband technologies. A telecommunications application requiring this type of technology is full motion, two-way interactive video. In business this service is called video conferencing; in education we call it distance learning.

Ameritech's commitment clearly targeted the education culture as its partner, for which it planned the provision of a telecommunications service that could change the way Indiana's classrooms benefited students. However, there's a high probability that Ameritech's corporate handbook did not have written in it: "Educators tend to seek stability and resist change, especially change as dramatic and pervasive as a new direction."

A partnership with education often renders other unique challenges—especially so for the business world. For example, in my experience, many educators assume the business has ulterior motives in that the partnership will bring greater benefit to the business bottom line than it will to the minds of students in their classrooms.

What made Ameritech Indiana's partnership an even greater challenge is that educators were being asked to make financial commitments to the partnership, as the school needed to sign a contract for distance learning service prior to being able to use it. Financial commitment to a partnership is not a frequent occurrence in a culture that is more conditioned to receiving handouts than it is to providing handshakes. Ameritech's out-of-culture expectation made educators' early assumptions about a potential "hidden agenda" all the more rampant.

Ameritech's initiative revealed other discoveries in the education culture as well.

If you were to scatter throughout the landscape of the education community a vast amount of confusion, a high degree of suspicion, skepticism and mistrust of motive in Ameritech's Opportunity Indiana plan; and then if you were to intersperse these emotions with an absence of vision for the use of distance learning technology—then you would have adequately captured the scenery Ameritech faced when the Corporation for Educational Communications (CEC) was formed in July of 1994 as a part of its agreement for receiving certain alternative regulatory freedoms.

As though these adverse conditions weren't enough, Ameritech Indiana had to address other cultural realities as well. Business, political, social and quasi-legal pressures from worlds outside education surrounded Ameritech to create a potentially explosive mix that—with the slightest imbalance—could abort a newly emerging paradigm in education.

Given the turbulence created by Ameritech's request to change aspects of its business and its vision to change education, one might question the odds of its partnership with education ever surviving the tumultuous, early years.

However, through the artistry of corporate leadership, Ameritech engineered an effective bridge to span the private and public cultures. And, against all odds, five years following its launch, Ameritech Indiana's vision of providing a telecommunications service to benefit education survives.

In fact, many say Ameritech's vision thrives to the extent that CEC's Vision Athena distance learning program, in many ways, is taking on a life of its own—sustained by the vision of paradigm pioneers and valued by the many teachers, students, and administrators who experience the marvels of bringing the world into their classrooms through interactive video.

Unlike the goddess for which it is named, the Vision Athena program did not emerge fully formed. Development of the project has taken time. Even after five years of rapid growth it is still a young project advancing an ever-evolving technology. From its start, Vision Athena has eluded simple definitions. It began, in 1994, as an effort to help schools and community, cultural, higher education, and government organizations take advantage of the state's emerging telecommunications network. It quickly became an effort not just to pull fiber and flip switches but to create an affordable, equitable delivery system with content well-suited to the technology and to the teachers and students using it.

Depending on the perspective, Vision Athena has now, in its fifth year, come to look like several very complex projects in one. From one vantage, Vision Athena is about combining public and private resources to build a telecommunications infrastructure; from another, it is about building the support system—the human infrastructure critical to the successful integration of this technology into schools. Looked at yet another way, it is a project about creating learning communities that extend schools beyond their walls to community and cultural institutions, wherever they might be. Ultimately, Vision Athena is a project about innovation and change.

Over the past five years Vision Athena has made significant strides on all fronts, and somewhat truer to Athena herself, the patron not only of the arts and wisdom but also of war, the project has also taken on formidable challenges along the way.

BUILDING THE PROGRAM

If Ameritech Indiana's partnership with education *is* a successful merger, then how did this business achieve such an uncommon accomplishment within the culture of education?

It is a mercurial task to define the organic growth and development of new systems, new worlds, or different paradigms. These phenomena rarely occur without a complex, intricate interplay of strategic designs—and paradigm pioneers, social entrepreneurs and change agents to implement them. The implementation of Ameritech's vision for bringing distance learning to schools within its service territory is no less multi-faceted.

By strategic design, the blueprint of Ameritech's architectural plan for building its bridge to education included the creation of a non-profit corporation. This non-profit, CEC, became the clear-span bridge that joined the public-private sector worlds. In effect, it was CEC's task to devise a mechanism by which a potentially large and unwieldy program could be organized and broken down into manageable parts.

STAKEHOLDERS AND STRATEGIC ALLIANCES

In the creation of CEC, the importance of stakeholders was not overlooked. CEC's board of directors is comprised of legislators, school administrators, educators, and constituents from the business world—a bedrock of stakeholders who could shield the organization from the tumultuous winds of change.

Strategic alliances were important, too. Once the board of directors was formed, CEC turned its attention to finding people willing to take the risks involved in bringing new ideas to individuals, groups, and institutions. And, if new approaches to teaching and learning were to mesh effectively with current understandings, then alliances had to be made with those who could work within the current thinking of the education culture.

STRATEGIC PLANNING

In the earliest stages of the Vision Athena Project, no one really knew just how big it might be, whether it might interest 60 schools or 600 schools. What the CEC staff and Ameritech did know was that there had to be some mechanism to organize the efforts, some way to take this potentially large project and break it down into manageable parts. Initially, there were essentially three sets of issues:

First were the technical issues and the consideration of network architecture. Ameritech was forbidden by regulations to have one switching center for the state, so the CEC staff, working with Ameritech, had to establish some hierarchy in the switching system and geographically tandem locations for switching within the LATAs (Local Access and Transport Areas). Besides not knowing how many schools might eventually be

online, Ameritech did not really know how to price the system; what all those involved in the early discussions did know was that there had to be free calling areas, so that the schools could communicate without incurring toll charges.

Second, and related to this, were the challenges created by the different time zones in the northwestern and southeastern areas of the state, time zones which themselves changed with the presence or absence of daylight savings time.

The third set of issues, and in many ways the most complex, involved getting school corporations to work cooperatively. Even with advanced communications technologies, superintendents, service centers directors, technology coordinators, and teachers had to sit down at the table before they could put their students in touch with one another. This is not necessarily something school corporations have historically, or cheerfully, done. They may have met on the football field, but as rivals; they may have vied for the same funds, but as competitors. School systems are often microcosms of local politics. Needs vary, resources vary. CEC felt, however, that new partnerships had to be forged in order to create manageable units and, eventually, achieve Vision Athena's goal of breaking down the walls that isolate schools and students and perpetuate inequities.

CEC leaders looked to other states like Iowa and Wisconsin, but existing models did not fit Indiana's goal of a statewide network, one that was community-driven, eventually self-sustaining, and, to the degree that it was possible, free from enervating bureaucracies.

REGIONAL SUPPORT

Moving the organization toward a statewide vision of using distance learning technologies also required the development of roadways that connected CEC to hubs throughout the state. CEC therefore established clusters of school corporations based on the administrative boundaries of Indiana's regional Educational Service Centers and the Ameritech service areas. Clusters made sense administratively; schools could collaborate to provide the benefits of resource- and cost-sharing, coordinate planning of curriculum and services, and schedule courses and events.

As with any technology-based change—especially one launched in a tumultuous milieu, and complicated by the traditional conservatism of school systems, and the involvement of institutions traditionally not involved in secondary education—new relationships needed to be established and given time to coalesce. The "cluster" concept was one way of addressing the social and educational change issues in an emerging collaborative, which relied on building communities of interest.

THE HUMAN INFRASTRUCTURE

With funding from CEC, distance learning coordinators (DLCs) were hired for each of the twelve clusters eventually developed throughout the state. It is they who are, in essence, the change agents.

In the course of their day-to-day work, coordinators wear a number of different hats. In those areas where the school corporations are still considering participation, coordinators explain the network's costs and benefits, and the types of grants available to them through CEC. For those schools that are a part of the Vision Athena program, they seek out content providers and help schools adapt the distance learning opportunities to their needs.

In addition to their development work, coordinators also handle the daily planning and scheduling of network activities—a full-time job in itself—and one that grows more demanding as network participants and events increase. Supporting a new technology is time consuming for DLCs. And, the challenges of providing support make it abundantly clear that technical reliability, having a primary contact person in each school, and training—on the equipment itself as well as on the best practices in interactive classrooms—are essential to the project's success.

Vision Athena DLCs also work to make distance learning an institutionalized part of schooling in the face of other daunting challenges: school budgets, many of which are shrinking; class bells, few of which are in sync; local policies and politics, all different and all complex; the culture of schools, universes unto themselves; the governance of a technology innovation for which there is little research on record; and the use of a video-based learning environment for which there is even less legal precedent concerning issues of rights and responsibilities of teachers and students.

Rather than seeing such challenges as roadblocks, however, the coordinators recognize them as hurdles to maneuver around as they move schools toward the use of a powerful, transforming technology. Daily, and in myriad ways, coordinators help schools articulate their visions for implementing distance learning, help educators define the details of distance learning plans, and organize their individual cluster to accept ownership of the project.

Regional coordinators also meet regularly to share information and activities among clusters in order to achieve an integrated approach of common methods and procedures. In addition to reassuring coordinators themselves they are part of an overall system, these meetings also serve to help in the development and refinement of operational methods to help schools from repeatedly reinventing the wheel. And, the meetings provide CEC the opportunity to give leader-

ship and management oversight to the Vision Athena program.

Collectively, these coordinators engender the development of content, define the project locally and regionally, and build, piece by piece, the support system needed to make this project a routine part of schooling and not just another add-on technology.

ADDRESSING TECHNOLOGY CHALLENGES

CEC was not created with the express purpose of being in an intermediary role to resolve technical and service problem issues; however, by necessity it took on this responsibility. Because of the organization's educational goals, it found itself with a unique leverage in negotiations with the private sector to solve nagging technical challenges that accompany the growth of any new technology.

Early on, CEC established a technology coordination panel with representatives from Ameritech, CEC's vendor for hardware packages, and distance learning coordinators to ensure a quality, smooth, end-to-end technology implementation program as well as to establish a means to assess maintenance quality issues. The creation of this panel initiated a communications flow between CEC management, vendor representatives, and distance learning coordinators—a strategically important process for integrated planning in the resolution of distance learning service issues. These types of quality control are crucial to all customers of telecommunications services, but especially so to an education customer base that depends on immediate and reliable service for programming.

It is not enough, though, to simply surface quality issues. Ameritech Indiana knew technical and network issues must be resolved—professionally and with speed—if educators who encountered the challenges were not to lose their vision. Month by month, the distance learning coordinators surfaced and presented challenges for Ameritech's resolution. Day-by-day, Ameritech addressed the problems until they were resolved. For example, when it was determined that audio problems were caused by Ameritech's installed network bricks, Ameritech solved the problems by placing filters on the bricks. When educators expressed dissatisfaction with the poor quality of the quad split feature of the video service, Ameritech upgraded its network to resolve the problem.

Throughout the years of the development of the Vision Athena program, CEC staff worked aggressively to meet perhaps even greater challenges. Building equity into the network architecture, improving interLATA connections, and reaching those in the less populous parts of the state and those outside of Ameritech service areas were critical issues CEC brought to Ameritech's attention. Some of these issues Ameritech *could* address; others required CEC to bring other educators and other telephone companies into the dialogue to explore opening the state's telecommunications industry to competition, growth, and cooperation in distance learning efforts. Equity of access to distance learning technologies among all schools within the state is a looming challenge that has yet to be resolved.

DEVELOPING CONTENT

Embodied in the strategic plan of the Vision Athena program was the recognition that schools could have fiber to their door, distance learning equipment in their rooms, and coordinators to guide and train teachers in effective use of the technology. However, without the addition of content to access, there was little incentive to draw educators to distance learning rooms.

Certainly one thing that sells the potential of Vision Athena to school administrators and corporation boards is the promise of instructional content that goes beyond courses currently available. More important to some schools than courses are the rich array of cultural and community resources they have access to and the intellectual opportunities afforded them through interaction with Vision Athena content providers.

CEC staff members coordinate activities between providers and schools, help match content offerings to school needs, develop uniform procedures, and work to assure alignment of content with Indiana's state proficiencies.

Through an investment of nearly three million dollars from CEC, these institutions offer students and teachers access to museum collections; behind-the-scenes looks at sharks, industries, and Broadway shows; and conversations with writers, scientists, health professionals, and storytellers. The Chicago Field Museum, the Smithsonian, and many other distant resources now regularly add their vast array of resources to the project's offerings, which now appear in CEC's Distance Learning Content Catalog and on its website, www.cec.state.in.us under the link, "Vision Athena Events."

TEACHER AS LEADER

As inviting as access to community, health, university, and cultural institutions has been for teachers who are eager to enrich their classrooms by giving students "access to the world," the opportunity to develop content themselves has been an even more powerful agent of classroom change. Grants specifically targeted to teachers tap a valuable resource and give educators a chance to be in on content decisions. Most important, the granting of these awards acknowledges the importance of the educator in CEC's vision.

The grants also give teachers a chance to explore and employ the use of two-way, interactive video as a tool for other instructional ends. Increasing numbers of educators use the video network for discussions about timely issues like school violence, block scheduling and multicultural education. These kinds of dialogues are slowly changing the way schools and teachers view themselves, the process of education, and the range of resources available to students.

MARKS OF A MATURING PROGRAM

The unprecedented growth, development and penetration of the Vision Athena program within the short span of five years seems nearly incomprehensible.

- From the connection of four Indianapolis schools in the winter of '94 using 48 network hours—to the interaction of over 300 schools, content providers, and community-based organizations utilizing nearly 40,000 network hours in '98;
- From a single class of children learning about animals at the Indianapolis Zoo—to hundreds of Indiana students statewide experiencing an integrated curriculum provided through the collaboration of many content providers around the common theme of The Padshahnama, the 17th century art masterpieces featured in *King of the World, A Mughal Manuscript from the Royal Library, Windsor Castle*;
- From teachers of neighboring schools connecting their students for classroom projects—to a teacher teaching her class from the Alaskan wilderness;
- From students reading about Holocaust survivors in their history books—to classes of students from urban, suburban and rural schools collaborating in their discussions with a Holocaust survivor communicating with them from hundreds of miles away;
- From students shyly waving to each other on the television screen—to students in thoughtful dialog with others in schools from Ireland, England, Japan, Africa and many other cultures much different from their own;
- From students learning in isolation from textbooks in their classrooms—to students from ten collaborating schools connecting through distance learning technologies to a city's Metropolitan Planning Organization to solve dynamic, real world issues upon which they can have an impact;
- From a simple vision in 1994, which imagined the potential of distance learning technology, the Vision Athena program has organically grown to such complexity and impact that it nearly defies an ability to define.

AT THE CLOSE OF YEAR FIVE

It has not been an easy task for education to accept or even welcome distance learning technologies into their culture. It has not been an easy challenge for Ameritech Indiana to roll out a new and untried technology for the education market. But through it all, and against so many odds, those involved with the Vision Athena distance learning program have learned at least one thing: they have the ability to change and the courage to alter their future.

Educators have experienced the frustration yet the empowerment that comes from taking risks, trying new technologies, and bringing new ideas in new ways to students within their classrooms through two-way, interactive video distance learning.

The two worlds—one public, the other private—have learned so much about and so much from each other. Ameritech Indiana has modeled for educators its belief that conflict should be seen as a challenge for creative thinking—for it is through the chaos of conflict and change that new worlds are born, new cultures are created, and new technologies are deployed and refined. Educators have proven to Ameritech that they are up to the challenges inherent to innovation and change—and that they *can* disprove so many common assumptions about education.

Together, those involved in this public-private partnership have learned that failures are the stepping stones to success. And, they have come to a common understanding: the Vision Athena program is, ultimately, a public-private initiative forever changing the future of education in Indiana's classrooms.

ABOUT THE AUTHOR:

Ruth E. Blankenbaker was the director of technology at Park Tudor School, a private K-12 school in Indianapolis, for eleven years prior to assuming the executive directorship of CEC. She has served in various capacities on the boards of the International Society for Technology Educators and the Indiana Computer Educators. She was hired by CEC two weeks after it was incorporated and has been with the Vision Athena project since that time.

NORTHERN INDIANA COMPUTER CONSORTIUM FOR LIBRARIES (NICCL)

by Linda Yoder

In July 1998, ten libraries in northern Indiana joined together with a common vision: to hire one computer support provider to address the needs of libraries of different sizes. Each library was looking for affordable computer support to help guide in the implementation of technology. While the levels of technology and the specific needs varied from one library to the next, there were common issues.

Many were paying $75 to $125 per hour for computer support. Most of the libraries were working with a computer support company or individual whose only connection with libraries was that particular library. With grant funding available for technology, many of the libraries were researching solutions to the same or similar needs or directions.

Armed with a mission to "cultivate a technology consultant as an expert in services specific to libraries in a manner that is affordable and available to each library regardless of size or budget," the following plan emerged and was set into place with the initial contract based on estimated needs for a six-month period.

ORGANIZATION

Two agreements provided the structure for this group project. An Interlocal Agreement between the participating libraries defined how the group of libraries would interact. At the onset of the contract period, each library provided an estimate of the average number of hours per week needed for computer support. The individual hours were added together to determine the Total Group Hours. The contract officially expired when Total Group Hours were used. One library was designated as the Accounts Payable Library. The Accounts Payable Library was responsible for providing a report at the end of each month listing the number of hours used per library and the Total Group Hours used to date. Each library was invoiced at the beginning of the contract period for the number of hours estimated. If an individual library used more hours than estimated before the Total Group Hours were depleted, that library received an invoice at the end the month. At the end of the contract period, those libraries that did not use the hours estimated were issued refunds or credits to apply to the next contract.

The Computer Support Agreement outlined the interaction of the Group with the Service Provider. Under the terms of the agreement, the services offered by the Provider included software installation and upgrades, programming, troubleshooting hardware and software conflicts or problems, peripheral installation, software and hardware specification and configuration, consultation, network design and configuration, and training. Each library could choose "scheduled" or "as needed" service calls. If the library chose a regular schedule of service time, no travel time was charged to the library. If the library chose "as needed" service, support time was arranged at least one week in advance and per hour one-way travel time was charged to the library account. For emergency calls, a technician arrived within 24 hours of the call. Recognizing that some libraries would possibly need evening and weekend technical support hours for upgrades or special projects, the Computer Support Agreement included regular rates for special arrangements that were made at least one week in advance. Emergency weekend and evening rates would be billed at double time. Phone support was billed at the hourly rate divided to the minute. To provide accountability and assurance of performance, the Provider was paid in monthly installments by the Accounts Payable Library with a percentage of the contract withheld until the end of the contract period pending settlement of any disputes between the libraries and the Service Provider.

GROUP BENEFITS

Benefits of the group agreement became clear early in the process, as the interviews with three potential Service Providers began. Each offered similar terms using the "blocks of service time" as the basis for the agreements. The rates were similar as well, at or near $35 per hour. Three words summarize the benefits as a whole:

Affordable

- Computer support rates can equal $75-$125 per hour; Group Agreement rates are significantly discounted ($35 or less...read on!)
- Each library pays only for actual hours used. (Individual accounts are reconciled at the end of the contract period with refunds or credits and invoices issued accordingly.)
- Employee benefits and payroll taxes associated with adding a staff position are eliminated.

- Libraries can budget for service time.
- Group purchasing is available with competitive discounts and input and flexibility on specifications.

Flexible

- Hours are used on "as needed" basis or can be on prearranged "scheduled" visits (for example weekly, biweekly, monthly).
- Service time is "flexible function," in that hours can be used for repairs, support, consultation, networking, programming, etc. to meet the needs of each individual library regardless of size, level of technology or expertise.

Experience

- Provider has experienced, well trained group of technicians.
- Provider devotes 40+ hours per week to libraries.
- Knowledge gained from individual projects benefits the group.
- Libraries have common issues: Ikiosk, INSPIRE, grants, etc.
- Standardization, though not required, increases productivity through familiarity.
- Customized training is offered in a classroom setting at the provider's site or individual or group training at the library.

FIRST CONTRACT - JULY 1, 1998 THROUGH MARCH 26, 1999

The Group selected Xcel Computer Systems, Inc. (Osceola, IN) as the Service Provider for the first contract period. Determining factors included the size of the company and number of experienced technicians, the number of years the company had been in existence, references, and the business philosophies and vision for growth exhibited by the president of the company, Kevin McCarthy. McCarthy quickly recognized the similarities and the potential benefits in providing services to libraries and schools of all sizes. As a Service Provider, the benefits of this arrangement are a steady income and a regular schedule. In addition, the presence of many common issues equates to an efficient use of support time.

From the original nine libraries who joined together to formulate the plan, the group had grown to ten member libraries by July 1, 1998, at the onset of the first contract. In support of this venture, these ten libraries received a $10,000 grant ($1,000 per library) from the Indiana State Library to extend the first contract period. The first $500 was reimbursed on a 100% match while the second $500 was reimbursed at a 50% match. A short time into the contract, three more libraries joined.

The first item on the agenda for each library was a visit by the Service Provider to conduct a complete inventory including all hardware and software and peripherals.

GROUP PROJECTS

During the first contract period, the Service Provider became familiar with many library affiliations including the Indiana State Library, the Indiana Cooperative Library Services Authority (INCOLSA), the Indiana Higher Education Telecommunications System (IHETS), and various vendors of library application software including Ameritech Library Services, EOS International, and SIRSI.

During the first contract period, FY1999 Technology Grant applications were due to the Indiana State Library. Xcel Computer Systems, Inc. worked with each library to plan upgrades to systems to correct Y2K problems, installations or upgrades of local area networks, purchase of software or equipment to make the on-line catalog accessible on the Internet, and/or digitization of unique local print resources. The total approved for NICCL Y2K funding was $119,110, for LAN funding $45,762 with another ($37,356) approved pending funding, for a total of $202,228 for group members this year. The $164,872 already funded represents 22% of the total $750,000 LSTA funds awarded; the NICCL group represents 6% of public libraries eligible to apply:

	Y2K	LAN	Internet
Argos	4,920	8,402	Dial-up
Bell	9,840	10,160	Dial-up
Bourbon	4,450	13,590	56k
Bremen	14,150	5,850	
Bristol	6,560	7,760	56k
Fulton Co			T1
Middlebury	6,710	(9,775)	56k
Milford	8,200	(3,684)	56k
Nappanee	15,600	(4,400)	T1
New Carlisle	7,550	(5,528)	56k
Syracuse	20,000		56k
Wakarusa	8,530	(7,219)	T1
Warsaw	12,600	(6,750)	T1

Upon receipt of funding approval, group members were able to take advantage of group purchase discounts, saving $200-350 for each computer purchased. Xcel applied for a Service Provider Identification Number from the School Library Division of the Universal Service Administrative Company. In addition group members saw a demo of Wordperfect 8 and participated in training with Windows 95, Wordperfect 8, and Basic Computer Repair and Maintenance classes.

INDIVIDUAL LIBRARY PROJECTS

Individually, Xcel performed the following services at the member libraries:

- consulted on Universal Service Fund applications,
- upgraded fileservers,
- installed library application software,
- reviewed & consulted on network configurations,
- reviewed and improved security on networks from Fortres to firewalls,
- investigated digitalization, and
- repaired equipment from printers to fax machines (and even typewriters!)

SECOND CONTRACT - APRIL 1, 1999

A new contract period began April 1, 1999. Each library estimated needs for twelve months. Of the thirteen libraries participating in the first contract, four were invoiced for hours above estimates, eight were credited hours or time toward the second contract period. A minimum participation level was set at one hour per week or 52 hours for the contract period at an initial cost of $1,820. Quantity discounts are offered as follows:

- For signing up for 200 hours of support, the rate decreased to $31.50 per hour.
- For signing up for 500 hours of support, the rate decreased to $28 per hour.
- For signing up for 1,000 hours of support the rate decreased to $24.50 per hour.

The Group now has nineteen members and continues to grow. Both the Interlocal Agreement (between libraries) and the Computer Support Agreement (between the Group and the Service Provider) have been reviewed by a library attorney and the State Board of Accounts. Each agreement has been designed to incorporate new libraries at any time by amendment. The Total Group hours increase and potentially extend the length of time covered. Currently Xcel employs three technicians whose primary responsibility is servicing library accounts. Xcel also plans to hire a customer service representative to work exclusively with libraries and schools.

With the growth, communication guidelines have been established. The NICCL member libraries will meet a minimum of four times per year. An advisory group meets monthly with Xcel President Kevin McCarthy. This seven-member group sets the agenda for member meetings. Agenda items cover discussing training needs and demonstrations of new software from word processing to security to anti-viral to desktop management. The advisory group also explores interests common to the group and arranges presentations as appropriate. In May 1999 Indiana State Library Director Ray Ewick and Associate Director Martha Roblee gave a presentation on the definition of low-mid-high-future tech libraries, the State Library vision for libraries, and technology and distance learning.

SUMMARY

As the Group continues to grow, so does the list of benefits realized by having a common Service Provider. Regardless of size or number of computers or types of needs, each library has better opportunity to put into place efficient and effective means for connecting with local schools and other educational institutions and libraries in the state, in the nation, and around the world to provide the best possible learning environment for all, both as information providers (allowing access to on-line catalogs and local collections and resources) and information seekers.

NICCL MEMBERS AS OF MAY 1, 1999, AND POPULATION SERVED

Akron Public Library	2,615
Argos Public Library	3,630
Bell Memorial Public Library	3,590
Bourbon Public Library	4,164
Bremen Public Library	8,427
Bristol-Washington Township Public Library	5,136
Fulton County Public Library	14,870
Jasper County Public Library	23,023
Middlebury Community Public Library	13,321
Milford Public Library	4,260
Nappanee Public Library	5,510
New Carlisle Public Library	3,573
North Judson-Wayne Township Public Library	4,653
Plymouth Public Library	16,087
Pulaski County Public Library	9,838
Syracuse-Turkey Creek Twp. Public Library	7,695
Tipton County Public Library	16,119
Wakarusa Public Library	5,588
Warsaw Community Public Library	22,465

ACKNOWLEDGMENTS

The nine libraries who met many months ago to begin this venture are Argos Public Library, Bell Memorial Public Library (Mentone), Bourbon Public Library, Bristol Public Library, Middlebury Community Public Library, Milford Public Library, Nappanee Public Library, Syracuse Public Library and Wakarusa Public Library. The Computer Support Agreement is modeled after one used by the Nappanee Public Library for five years. Many thanks to Debbie Long at INCOLSA Mishawaka and Martha Roblee at the Indiana State Library for their support and encouragement.

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EDISON HIGH SCHOOL'S S.O.A.R. PROJECT CONNECTS WITH LAKE STATION HISTORY

by Marcia Dow and Caye Girgenti

In the spring of 1998, Edison Junior-Senior High School submitted a proposal for a federal grant. In our proposal we wrote, "Our school motto reads 'Where the Knowledge of Tomorrow is Taught Today' and our mascot is a soaring eagle...Within our walls, the Eagles do not soar and our knowledge is of a day gone by." Because of budget restraints and past graduation expectations in our community, we wanted the grant to connect us with the rest of the world on that "information superhighway." As we competed for this grant, we focused on our students' efforts at getting jobs for which other students from the surrounding area were better prepared. Students in our bedroom community would be better trained in skills necessary which would also improve their economic conditions if we added much needed technology. In the fall of 1998, we received the grant funding.

S.O.A.R. is unique because it establishes a cooperative project with community stakeholders including the Lake Station Chamber of Commerce and the Lake Station Historical Society

The core of our grant project, Systematic Organization of Academic Resources (S.O.A.R.), is the opportunity for our students and community to interact more with society through technology. The ultimate goal is to enrich our students, faculty, and community thus enabling them to build confidence and pride. We also want to compete in today's ever-changing technological world and ultimately be lifelong learners. A computer in every classroom is necessary for the development of an interdisciplinary curriculum, the creation and maintenance of a web page, and the establishment of a community resource center.

S.O.A.R. is unique because it establishes a cooperative project with community stakeholders including the Lake Station Chamber of Commerce and the Lake Station Historical Society. Schools often do not make local community history part of their curricular studies. With the collaboration of both the Lake Station Community Schools and community groups like the Historical Society, we are now developing a cross-curricular course of studies and a district-wide school web page with a link to community organizations. We promote civic interest and pride by presenting facts, current events, and useful information pertaining to Lake Station. Through Lawrence Vallem and Kathleen Sonntag, our Historical Society contacts, we are doing genealogy searches, web page development, and local research projects. By this summer we will have teasers on our web page—short questions with multiple choice answers followed by a video clip of our students interviewing a historical society member who has researched the answer—all questions pertaining to interesting facts about Lake Station. Our goal is to link each department in the school, during the two-year planning stage, with one or more members of the Historical Society. The history department, for example, is researching the evolution of the city; many students were unaware that Lake Station was Lake County's first county government seat. The science classes, in conjunction with the Indiana Department of Natural Resources' Hoosier Riverwatch program, will study the geological and ecological changes of Deep River which passes through the city; many students were unaware of the silica sand from our sand dunes in Lake Station. This sand is the best material to use in molding metals. The English classes study local folklore; many students are curious about the legend of the water tower in Riverside Park and its curse by the Indians. Other projects evolving include the math department's gathering of statistical data from census surveys during various time periods. The home eco-

nomics department is uncovering recipes that reflect Lake Station's multicultural influence. Additionally, a project comparing wedding plans today to that of the Depression and World War II eras is planned. The industrial technology department plans to research information on the evolution of transportation in Northwest Indiana and study our community's few existing Sears houses. The business department will investigate the downsizing and automation of the steel mill industry and its effect on our community's declining population. Each department has its own plan to tie into the technology grant.

As a grand opening in the 2001-2002 school year, the web page will focus on the celebration of Lake Station's sesquicentennial and the twenty-fifth anniversary of the renaming of the city.

Historical Society members are eager to participate; they are anxious to transfer their print materials into digital format. One of the surprising findings in this project is the number of resources that the aging Historical Society has collected. Presently it doesn't have a permanent home; much of its collection is in basements of its members. They are now hoping to remodel a vacated grocery store as a community-wide civic center which would house and display their materials. They invited Lake Station high school students to solicit the community, seeking financial contributions and general support. Edison High School students did participate. The Historical Society also found this was a good time to boost their membership.

Our S.O.A.R. community resource center will allow our school and community to progress. We now watch a grateful staff and excited student body fight for lab time to experience what has been denied them because of financial shortcomings. Through these partnerships, students will experience the background of the city and strengthen their knowledge of its founders. Through the revised curricula, teachers have experienced the change from straight lecture to more hands-on projects involving computers.

It's a simple situation where everyone (students, teachers, and community groups) wins. As you drive into Lake Station, there is a sign that reads: Welcome to Lake Station, City of Prudent Pride. We are happy to say that we are attempting to secure that pride with the help of technology.

ABOUT THE AUTHORS:

Marcia Dow is Librarian and Caye Girgenti is Director of Technology at Edison Junior-Senior High School in Lake Station, Indiana.

PARTNERING WITHIN:

TECHNOLOGY DEVELOPMENT IN THE IVY TECH STATE COLLEGE LIBRARY SYSTEM

by Susan Mannan and Allen McKiel

INTRODUCTION

Ivy Tech State College comes from a tradition of separate campus libraries that in the past operated independently and had little contact with each other. In recent years, developments have led to a college-wide system of campus libraries that, while retaining their unique nature, have built an effective partnership that has made the whole greater than the sum of the parts. Rapidly evolving library information technologies have been a primary impetus for cooperation.

The librarians in the 13 regions of Ivy Tech State College have coordinated efforts to take advantage of the changing information and communication technologies by creating a virtual library. The core functions of these academic libraries are taking on new shapes and forms in the context of the new media. One of the most interesting aspects of the change integral to Ivy Tech's implementation of library information technology is the development of a consensus style of decision-making. The complexity of the implementation process along with the need to share expertise, purchasing, processing, and infrastructure requirements has promoted the creation of a cooperative decision-making environment.

The core functions of these academic libraries are taking on new shapes and forms in the context of the new media. One of the most interesting aspects of the change integral to Ivy Tech's implementation of library information technology is the development of a consensus style of decision-making.

The Ivy Tech State College library system provides a unique example of the transition from the traditional to the virtual library. The librarians chose to develop a virtual library in the belief that it would provide the optimal library services for the funds available. Many of the current Ivy Tech libraries rely more heavily on the virtual aspects of their resources than their counterparts in more traditional higher education settings where the hard copy collections are still the dominant collection. The increasing reliance on electronic media in the Ivy Tech library system provides a more thorough integration of the new information and communication technologies into the daily operation of the libraries. For this reason, Ivy Tech libraries provide a unique environment in which the changing nature of the core functions of academic libraries can be viewed. Integral to the change has been the increased participation of a larger and more diverse group of individuals in the decision-making processes essential to every aspect of library functioning.

PARTNERSHIP BEGINNINGS IN LIBRARY AUTOMATION

In the late 1980's the separateness of the Ivy Tech libraries was leading to a proliferation of independent micro-based catalog systems at several of the campuses. Recognizing the problems that such separate systems would present for future cooperation and communication, the librarian at the Indianapolis campus successfully sought a federal Title II grant award in 1991 to create a shared statewide automation system using NOTIS software. The project director for the grant traveled the state delivering computers and initial training and spent time developing a relationship with the technical staff in the central Computing Services Department who would be supporting the project. It was these personal connections that laid the foundation for the unique decision making group that would form around the implementation of library information technology.

In 1992 the librarians began to meet regularly and develop a sense of shared purpose. Initially the focus of effort was on the implementation of the automation system and a supporting interlibrary loan system. Interlibrary loan became important as each campus could now see what the other libraries in the system had in their collections.

Statewide cooperation was needed to implement an integrated library automation system. The unique capabilities of technology enabled the partnership and

made many things possible. A side benefit of the implementation of the library system was e-mail. The librarians had been introduced and connected. Thus technology not only, in part, created the needs; it provided the means to fulfill them. From the beginning, the approach of the leadership and the group was one of openness and sharing to make more things possible together.

SELF-STUDY EXPANDS THE PARTNERSHIP

Shortly after the automation project took shape, the College launched its first statewide self-study as it sought to be re-accredited as one statewide college rather than campus by campus. The Automation Committee became the Library Self-Study Committee and its purpose broadened as it looked at all aspects of the libraries in the system. Out of this effort came a long-range plan that touched on all aspects of the libraries from mission to staffing to collections and services. The importance of this was more than just the existence of a plan. The plan represented shared experience and commitment to the future and to some common goals. Through the process, the librarians had formed an identity as a group of peers and initiated a consensus style decision making process.

The North Central Accreditation team enthusiastically acknowledged the work of the committee and noted the areas of library need in its report, thus giving support to the need for further cooperative work. The college recognized the success of the committee's collective work and gave it "life after NCA." The committee lived on. Its accomplishments became of such interest that minutes of the Library Committee meetings were widely read by campus administrators around the state. The committee now had a broader mandate than just the library automation system. With the development of information technologies relevant to the core functions of the library, more of the activity of the group focused on the creative use of technology to respond to the library needs outlined in the self-study.

In addition to a general Five-year Plan associated with the self-study, the Library Committee wrote a statewide Library Automation Plan setting goals for a common central system and standards for local campus development. While the plan was initially co-written by two members of the committee, it was reviewed and adjusted until it met the requirements and expectations of all thirteen librarians. It was an important process that developed in these negotiations—one of consensus and consideration of each for the other's needs and the good of the whole. Everyone realized that together they could accomplish what none could do alone. And this realization plus the camaraderie that developed during the monthly meetings went a long way towards establishing a cooperative climate that would lead to more cooperative projects and accomplishments.

Although the official chair role of the committee has remained with the Indianapolis campus, efforts have always been made to share the load and seek out talent in the group and put it to use. Each librarian has played a part in the statewide development of the Ivy Tech libraries and most have had a project to lead at some time or other.

The statewide plans were the fulcrum holding the statewide library system together. They were approved by higher level administrative groups both statewide and at local campuses and drove the funding and development at both levels. The plans also gave the large system commonality and initiated the development of a level playing field at the diverse local libraries. Some of the twenty-three libraries in the system had been in existence for many years and were well developed. Others were brand new. They varied in size, in collections, and in staffing. What they now had in common was a coming together around technology issues to build a system that would strengthen the statewide college as well as the local campuses. The technology associated with the plan at that time revolved around CD-ROM information resources, particularly the full-text periodical offerings of EBSCO and IAC.

FUNDING AND COOPERATION

The college affirmed the importance of developing its libraries through a special fund raising campaign. In 1994 the Ivy Tech Foundation began a "Virtual Library" campaign to raise money for development of technology, collections, and databases. Over a period of two years monies raised in the Foundation campaign were used to establish a common base and to begin acquiring the computer workstations that would be needed to develop the "virtual library". The Library Committee worked to develop lists of core collections in reference and curricular subject areas that should be common at all libraries. These special funds could have been used independently by each library but the partnership process brought agreement about establishing a consistent resource base before unique needs were met. It was a form of quality control by consensus. A statewide collection development policy was part of the effort. Neither this document nor the earlier core collection lists were quickly or easily agreed to; but this and other early projects allowed the group to develop a consensus-based model of getting things done where everyone's voice was heard and everyone's talents were drawn upon.

Efforts were made to keep all the work and discussions of the committee focused, positive, and productive. This kept everyone enthusiastic about driving to Indianapolis for what had become regular all-day

monthly meetings. The librarians soon began to feel that they could not afford to miss one of these meetings because too many important things happened. The synergy created in the Library Committee became central to establishing first-rate services for Ivy Tech students.

VIRTUAL PARTNERS

During the early 1990s as the librarians built their common core collections, they also began to realize the need for expanding their electronic collections, especially in the journal index/full text area. They set about the exploration of options and agreed to use a substantial amount of Foundation funding to purchase some of the Ebsco web-based databases. This was a giant leap forward for some of the smaller libraries in the system that had never had access to a sizable journal collection before. It created a level playing field statewide and built enthusiasm for adding more. Most of the libraries could not have afforded the array of databases that the group could purchase collectively. As the Foundation monies were expended, regions readily agreed to contribute local funds to joint statewide purchases on an ongoing basis. Because the statewide Library Committee had built a solid reputation for success, local administrators felt more confident committing funds to projects the statewide committee was undertaking. As the state of Indiana channeled funding into INCOLSA for databases and Inspire was initiated, Ivy Tech was able to redirect the funds formerly used for databases now included in Inspire. The committee used the freed-up funds to broaden electronic offerings.

The purchasing partnership continued, but as the core needs were satisfied, it became harder to agree on things every library wanted. Individual regions opted not to join in the purchase of a particular database. However, there was still leverage in smaller groups that worked with vendors on price breaks for multiple library sites. And in the usual partner-sharing tradition, various librarians have taken on individual vendor negotiation roles.

While the databases were being added, the Web was developing, the Web-based catalog was on its way, and libraries everywhere were trying to integrate all these tools and make sense of them for patrons. Ivy Tech was no exception. Individual effort supported by the consensus of the group provided for the development of the Ivy Tech Virtual Library, the college Web interface. The challenge of this development was to allow a one-college approach, while providing for the unique needs of the thirteen regions and twenty-two campuses. Efforts have resulted in the ongoing provision of a central statewide entry page and individual regional pages. The Ivy Tech Virtual Library has a common look and access but allows for local links and databases not always available at all campuses.

The Library Committee has had many discussions to help shape the product and countless hours on the part of one individual were spent creating it. One of the librarians has assumed the task of Web master. A shared piece exists in the program links section where there are appropriate links to sites for the degree programs at the college. Each program has been adopted by one of the regional librarians, who was responsible for its development and ongoing updates by forwarding information to the Web master. The entire group also contributes to the subject links area and to local links for their own campus page.

PARTNERSHIP IN CATALOGING

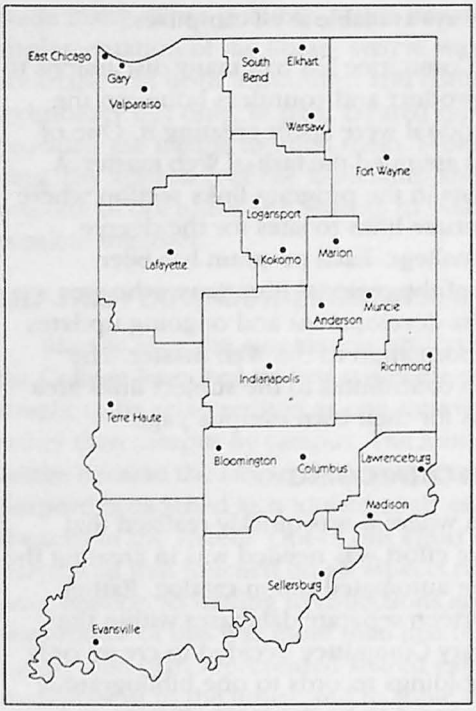
Another area where it was quickly realized that some cooperative effort was needed was in creating the cataloging for the automated union catalog. Rather than creating thirteen separate databases within the catalog, the Library Committee decided to create only one, attaching holdings records to one bibliographic record. This appeared to be the most efficient and economical approach to a system-wide collection. A system of shared and distributed work was developed. Region 8 in Indianapolis, the largest library in the system with the largest staff, offered the services of the Library Technical Services Assistant to import new records from OCLC and do the copy cataloging work. A librarian at the Lafayette campus took on the original cataloging tasks. The two have developed a "distance" partnership over the years via e-mail and phone, assisting each other and working out problems in the cataloging arena. This assignment eliminated the need for librarians in all thirteen regions to take on full-blown cataloging duties; although each library agreed to be responsible for adding its own holdings.

VOYAGER IMPLEMENTATION

As the system of cataloging refined itself, the second generation integrated library system was due. The College purchased and implemented Endeavor's Voyager in 1997/98. The virtual library required a client/server system that permitted Web access to the catalog. In usual partnership fashion, an implementation team was created drawing on the talents of librarians from around the state. Each member of the team assumed a special role and also took on responsibility for training and implementation coordination for the various regional libraries.

FUNDING PARTNERSHIPS

Cooperative purchase of databases has already been mentioned; however, there were other funding arrangements worked out that were unique in the college. There were costs for importing the OCLC records and personnel costs associated with the



Ivy Tech State College Sites in Statewide System

cataloging work. The Library Committee readily agreed to share these costs via transferring funds electronically from the budgets of the various libraries into one statewide account. Care has always been taken to respect the needs of the local librarians and campuses by reaching advanced consensus and providing advanced information on exact costs and follow-up paper work similar to that generated locally to make a purchase. This strategy has been used several times since to fund other cooperative projects such as sending individuals to the Voyager Users Group annual meeting. Divided by thirteen, the cost was minimal and made the experience possible to the benefit of the group.

The Library Committee also began to see a need for teaching about the growing electronic library resources. The librarians again turned to their cost-sharing model to finance a statewide online information literacy project that will be making its debut in the coming months.

PARTNERS IN COMMUNICATION

Over the years the librarians developed a close as well as a cooperative relationship; but after each monthly day-long meeting, they all returned to their separate corners of the state. A way was needed to continue dialogue and communication between meetings. The listserv technology met this need. The librarians were the first group at the College to set up a listserv and have undoubtedly been among the most active users of this approach to communicating. The listserv has been used to conduct interim business and make decisions, to group edit papers, to collect data for reports, to get help on unique campus needs, and to provide instruction on how to perform a variety of tasks such as updating OPAC clients. It has even been used by the group to edit a paper on academic freedom and censorship.

FINAL OBSERVATIONS

This article has used a historical approach to demonstrate how a group of librarians within a statewide system, separated by organizational structure, tradition, and miles, came together and accomplished things they could not have done separately. The group has used a model for partnership that is driven by a consensus approach that stays focused on common goals and common benefits. Frequent meetings, ongoing listserv communication, respect for individual effort, shared responsibilities for project leadership, institutionally sanctioned authority for group decisions, and written plans have all helped the group stay on task and optimize their separate limited resources in the ever-changing environment of library information technology.

ABOUT THE AUTHORS:

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Allen McKiel (co-author) is Librarian at Ivy Tech State College South Bend, where he manages the library. Allen has been a leader in the library automation efforts for Ivy Tech. He is currently working on a Ph.D. in Higher Education Administration at Indiana State University.

Ivy Tech State CollegeStatewide Library Committee Members

Region 1:	**Gary, East Chicago, Valparaiso**	**Barbara Burns**
Region 2:	**South Bend, Warsaw Elkhart**	**Allen McKiel John Fribley**
Region 3:	**Fort Wayne**	**Sharon Hultquist**
Region 4:	**Lafayette**	**Dennis Lawson, Evelyn Samad**
Region 5:	**Kokomo, Logansport**	**Kris Junik**
Region 6:	**Muncie, Marion, Anderson**	**Susan Clark**
Region 7:	**Terre Haute**	**David Barton**
Region 8:	**Indianapolis**	**Susan Mannan, Donna Funk, Sue Gulesian**
Region 9:	**Richmond**	**Jamie Davidson**
Region 10:	**Bloomington Columbus**	**Susan Catt Karen Nissen**
Region11:	**Madison, Lawrenceburg**	**Margaret Seifert**
Region 12:	**Evansville**	**Saundra Voegel**
Region 13:	**Sellersburg**	**Alexa Bartel**

A UNIQUE PARTNERSHIP: PUBLIC SCHOOL & PUBLIC LIBRARY IN ANDERSON

by Frank W. Lucas

In April 1996, the Anderson Public Library and the Anderson Community School Corporation[1] entered into a unique partnership in the area of technology. Since then, Anderson Community Schools has placed twenty computers in the Anderson Public Library, has acted as our Internet Service Provider, and has hosted our Web pages. We also have FTP access to the server for updating our pages...all without cost to the library!

The Anderson Public Library now has sixty-eight public access Internet terminals located throughout the building. Twenty-two Pentium computers are located in the Community Technology Center. All are connected to the Internet using ISDN lines.

However, in the early 1990's we were struggling like many other libraries. This is not really news. Libraries face constant struggles. This newest struggle was not only to catch up but to keep up with the technology wave. Customers were expecting and sometimes demanding more access to electronic resources. More and more reference sources were migrating from print to CD and then rapidly to Internet versions. The Internet, and all it offers, was fully engulfing the library profession.

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The technology movement is not necessarily all bad, but it does present a few new obstacles. Obtaining necessary funding for this electronic revolution is of course the main consideration. Once equipment was purchased and installed, another obstacle arose to take it's place: training! Training the staff, and teaching our customers to use these new resources was quite challenging. In a few cases there was some concern convincing staff members and customers to fully embrace the Internet and other electronic resources. And, let's not forget the much debated issue among libraries: 'filtered' or 'non-filtered' access?

The Anderson Public Library suffered from all of these issues and more, in varying degrees. As with many other libraries we were limited by budgetary restrictions and were also burdened with our share of the "technically challenged." Knowing our limitations, we began to prepare by utilizing focus groups to help us develop a logical plan for the electronic future. Our planning committee was comprised of 13 people and included community leaders, "movers and shakers," and those with technical expertise. Among them was a representative from the Anderson Community School Corporation.

This committee was charged with developing a long-range technology plan that included a computer lab, along with a timetable for completion of project phases. The result was a comprehensive plan outlining the technological needs of the community and of the library. However, technology, like time, "waits for no man." Rapid advances in the computer industry had complete disregard for our carefully planned timetable!

As we progressed (and occasionally digressed) through the planning stages, Anderson Community Schools was making significant advances in their efforts to make the Internet available in all school buildings. They expanded and improved their network by adding new equipment and updating old. Almost simultaneously Anderson Community School Corporation was successful in their bid for a Buddy grant, part of the Federal "Buddy System Project"[2] which places computers in the classrooms and homes of Indiana students to extend learning beyond the classroom.

Because of the great strides they had made, the School Corporation was in a position to offer their services as our Internet Service Provider (ISP) and host our Web site, without charge. Now this was an offer we couldn't refuse! It provided the Anderson Public Library with immediate, high-speed Internet access and could not have come at a better time. Other options were costly and would have significantly delayed our entry into the computer age.

Anderson Community Schools then offered to place computers in the library through the A.C.T. Now! Grant. The generosity of an Indiana State Library Technology Grant allowed us to purchase infrastructure items, including a hub, router and cabling that provided an opportunity to offer a modest Community Technology Center for use by our customers.

Overnight we went from zero to ten computers. The night before the scheduled opening of the Technology Center, staff from the School Corporation and the Library worked frantically to install hardware, software and furniture. The next morning found them still making cable connections and configuring the computers to the network, just hours from the dedication. During National Library Week, on April 17, 1996, the newly created Community Technology Center (CTC) held a "grand opening," and we went headlong into the computer world.

As a partner in this project, Anderson Public Library agreed to provide space for a "community lab" where students involved in the project could come with their parents and participate in formal and informal training on Buddy System computers in the lab. Buddy family participants and other customers would benefit by being able to learn how to access local and worldwide information on the Internet terminals at the library as well as on their Buddy System computers at home. All of the library's information sources—electronic, media and print—would be available and staff members would assist participants. The Anderson Public Library would begin to fill a real need, that of bringing Anderson families up to date with new technologies, helping them learn to use these technologies, and empowering them in the use of local and worldwide information vital to them.

Under guidelines set by the Buddy System and the Anderson Community Schools, parents are required to attend two training sessions before being issued a take-home computer. The Anderson Public Library supplements this training to parents before and after they have computers in their home. Another part of the library contribution to this partnership includes staffing a Telephone Help Desk to assist parents, teachers, and children with minor troubleshooting when problems arise on their systems.

Anderson Public Library has conducted regular training sessions (see Figure 1) covering computer related applications for customers since September 1994. Before the opening of the Technology Center, we lacked the necessary equipment and therefore all of the earlier sessions were 'lecture' type presentations. Through feedback received from program evaluation sheets, customers continually asked for computers to use in training sessions. Since the Community Technology Center has been in existence, our customers have had the benefit of "hands-on" training in the use of basic computer systems and Windows environments—beginning with Windows 3.1, Windows 95, and now Windows 98.

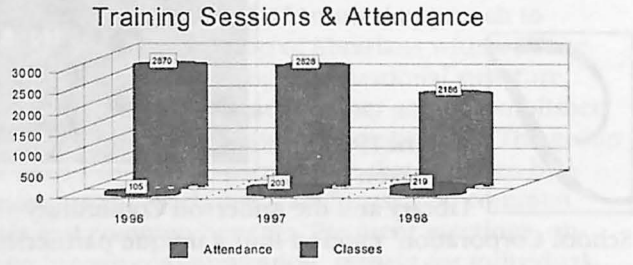

Figure 1

Between 1996 and 1998 the Community Technology Center offered 527 classes, with 7,884 in attendance. (See Figure 1.)

Classes for our youngest customers are offered monthly and teach children and parents how to access the Internet safely. Word processing, Internet and Windows classes are popular with area retirees.

Thanks to a grant from the Urban Enterprise Association, the library was able to hire one 15-hour per week employee to support the Telephone Software Help Desk for Buddy Project recipients and other customers. The Urban Enterprise Association renewed the grant each year for three years to provide funding for this part-time employee. An additional 15-hour per week employee was hired by the Library to supplement the technology team. With two part-time employees and one full-time, the Library was able to staff the Technology Center and the telephone help-line seven days a week.

Telephone assistance and in-person technical assistance have increased dramatically. In-person assistance has more than doubled each year from 1,979 in 1996 to more than 4,000 in 1997 and more than 10,000 in 1998. (See Figure 2.)

Computer usage has increased 400% compared to 1998. Indications are this upward trend will continue.

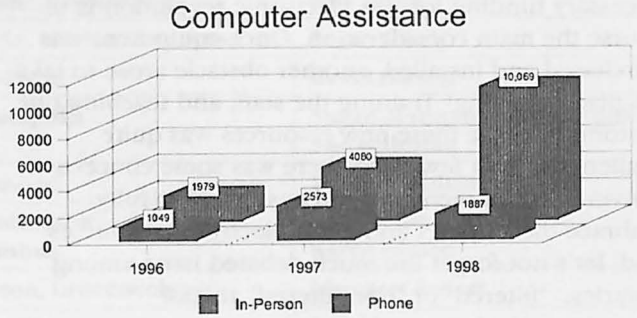

Figure 2

In the fall of 1996, a separate Indiana State Library Technology Grant provided Anderson Public Library with funds to add five computers in the Technology Center. In 1998, Anderson Community Schools placed an additional ten computers in the library: four in the CTC and six in the Children's Room.

Along with the Internet gateway, each station includes access to MS Works, a software program that includes a word processor, spreadsheet, database, and communications software. For customer convenience, we offer a choice of either Netscape or Microsoft Internet Explorer to browse the Internet. Also included is a typing tutor, and Telnet access to remote computers.

The library uses E-Menu from CARL Corporation[3] as a secure menu system, and Fortres 101 for added file protection. High quality printing is offered to our customers using networked HP LaserJet printers. The cost is low—ten cents a copy for printing—and utilizes a VendaCard (debit card) that can be used with the printers, copiers, and public fax machine.

Our sincere thanks is extended to the Anderson Community Schools Corporation in general. Special thanks to Terri Austin, then Director of A.C.T. Now! and Project Partnerships, who graciously accepted invitations to speak at the Annual Conference of the Indiana Library Federation and also at an ILF District meeting. This partnership was also outlined at a Talk Table during a subsequent ILF Annual Conference. Terri is now Executive Director of Corporate Development for the Anderson School system.

In a recent evaluation, Nancy Carol Schwartz of Rockman et al[4] said of the partnership: "In just three years, the Anderson Public Library's Community Technology Center has become an integral part of both the library and of the community, helping the library realize its mission of linking citizens to its own considerable resources and to the vast resources available online. As a partner in the A.C.T. Now! Project, the Anderson Community Library has produced a highly successful Computer Technology Center."

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DATA PRESERVATION AT THE OWEN COUNTY PUBLIC LIBRARY: A "SCHOOLS THAT WORK" PROJECT AT OWEN VALLEY HIGH SCHOOL

by Ellen Dibble

Many librarians worry about the longevity of data stored by computers, especially at the rate which programs change and machines evolve. A fortuitous partnership of community, school and library, featuring a talented high school student, was able to salvage data from an outdated computer system. This partnership allowed the student to work on a real-world service project for his community.

Josh Nichols, a senior at Owen Valley High School, has attended a vocational program in computer technology. He has also been a technical assistant for Carolyn Livingston, the high school technology teacher. As a technical assistant, he was scheduled for a class that allowed him to work on school and community technology projects. This class was part of an extensive "Schools That Work" program implemented with block scheduling at Owen Valley High School. The project that he was recruited to solve was to transfer data from an old computer system to a new one and make it usable again.

More than a decade ago, the Owen County Historical and Genealogical Society purchased an Apple II computer for use at the Owen County Public Library. They supported the creation of a database of cemetery and obituary information as a genealogical research tool. The Library maintained the database in their genealogy department and it served as a popular resource. Over the years the Apple II needed minor service and the Spencer Owen Community Schools, who were heavily invested in Apples, supplied advice and even exchanged what were becoming outdated parts to keep the system running. Everyone involved knew that conversion to a more modern database should take place, but unexpected technical difficulties were involved.

Many older Apple databases converted easily to DOS and Macintosh because they were stored in the universal code for alphanumeric characters. Text files in ASCII translate to any platform because the basic code that represents the text in the files is the same. In the days of the first Apples, however, some programming languages such as Prolog were used to store more information in less space. This was a kind of precursor to the Y2K bug for those involved in this project. The Apple II files were stored in an untranslatable format. The only obvious way to extract the database information as text was to print it!

Several efforts were made over the years either to capture the print files from the Apple or to find a computer expert who could solve the conversion problems, but each effort proved unsuccessful. The Historical Society was almost resigned to converting the old-fashioned way by retyping thousands of records from a print copy. Upkeep of the database was suspended since it was uncertain whether it could be converted.

When Livingston explained this community project to Josh, he was told that others had failed to find a workable technical solution. Woody Barton, the Historical Society representative, was consulted about his quest to learn all he could about the program to find a technical solution. As a retired engineer, he was sure that something technical could be done to solve the problem. In the end, it was a combination of old and new technologies that worked, with a healthy dose of youthful ingenuity and can-do attitude.

Ellen Dibble, the media specialist at Spencer Elementary School, was contacted because of her experience with the Apple II platform and she agreed to mentor Josh's quest for a solution. Spencer Elementary uses an extensive Apple II network of over 70 computers. Although it is an outdated system, it still provides some useful educational software and it refuses to stop working. Macintosh, Windows, and DOS platforms are also implemented at the school and expertise was available in database creation and cross-platform file transfers. Josh tried several configurations of hardware and software that were good practice, but his early efforts also failed. Josh was not discouraged however, and a transfer solution was finally set up between a Macintosh with an Apple II emulation card and a 386 laptop. This older school equipment was loaned and temporarily installed at the public library. The genealogy files were run on the Apple II emulation card and sent to the "printer" but captured by a null modem connection with communications software on the DOS laptop. The conversion was on its way.

Once Josh successfully determined the conversion process, he began to develop the database for the current genealogy computer, a Pentium running Windows 95 and Microsoft Office. Josh created his first Access database application. It is able to import the text data from Word files of the original data. The application allows patrons to view and print individual records and cemetery lists. New records can be easily added so the continued maintenance and update of the database by library and historical society personnel is possible.

Josh transferred the application from Spencer Elementary to the library using his own Zip drive. He demonstrated the program to Vickie Freeland, the Owen County Library Director. The Historical Society and the Library are using the conversion process that Josh set up to extract the rest of the data and the Owen County Public Library will again enter this data for the use of library patrons studying genealogy. The information has been successfully transferred to a form that is more accessible today.

Technically talented students can participate in bridging the gap between old and new technologies. They can continue to develop their skills by adopting community projects. The genealogy department of Owen County Public Library is richer due to this cooperative venture between community and school, and Josh Nichols has developed important skills both as a future employee and as a community member.

ABOUT THE AUTHOR:

Ellen Dibble was a media specialist and technology coordinator for 10 years at Spencer Elementary. She holds a BS in English from ISU, an MS in Instructional Technology from IU, and is enrolled in the Masters in Information Science (MIS) program at the IU School of Library and Information Science. She recently took a leave of absence and joined her husband in Phoenix for a year.

INDIANA UNIVERSITY DIGITAL LIBRARY PROGRAM

by Kristine R. Brancolini

Digital library programs often involve partnerships, because they require resources and expertise that do not exist in one administrative unit alone. The recently-created Indiana University Digital Library Program is no exception. The individual digital library initiatives that preceded the formation of the Digital Library Program relied upon strategic partnerships and offered models for expanding our digital library activities.

INITIAL DIGITAL PROJECTS

The Indiana University Libraries have been developing digital collections and services since the early 1990's, and all have involved partnerships. The Library's first digital initiative was the Library Electronic Text Resource Service (LETRS) established in 1992[1]. LETRS provides access to electronic editions of scholarly texts and assistance in creating and using such texts. Although established by the Library's Reference Department, LETRS became a partnership soon after. In May 1993 LETRS, with additional assistance from the Office of Information Technologies and Research, and the University Graduate School, the Libraries and the University Computing Services joined together in a partnership to extend and expand support for scholarly electronic texts by drawing on the complementary resources and expertise available in each organization. Currently, LETRS is jointly funded and staffed by University Information Technology Services (UITS) and the Libraries. The Libraries' second major digital initiative, the VARIATIONS Project, involved a partnership between Indiana University and IBM, with IBM providing funding for software and hardware and the university providing staff, space, and the collections[2]. Since 1996 VARIATIONS has provided online access to CD-quality sound recordings from the William and Gayle Cook Music Library.

FORMALIZING PARTNERSHIPS

In 1996, the Libraries wanted to formalize their support for digital initiatives throughout the Indiana University system, recognizing that not all important collections are located on the Bloomington campus and not all important collections are even housed in libraries. Suzanne Thorin, Ruth Lilly University Dean of University Libraries, decided to formalize the partnership with UITS and add another partner, the School of Library and Information Science (SLIS) to create the Indiana University Digital Library Program. The purpose would be to provide ongoing financial and management support for existing digital initiatives and to develop new digital projects and services[3]. The Digital Library Program is dedicated to the selection, production, and maintenance of a wide range of high-quality networked resources for scholars and students at Indiana University and elsewhere. Our work spans all eight campuses of the university and all units on each campus, providing support for projects and start-up assistance throughout the university. Digital Library Program staff offer a variety of services: exploring grant opportunities, preparing grant proposals, managing digital projects, funding graduate assistantships and internships for SLIS students, and generally advising on project development and management.

Our emphasis to date has been on surveying collections that may be candidates for digitization, exploring grant opportunities to support projects, and creating a new production service, the Digital Media and Image Center, to support internally- and externally-funded projects with audio, video, and image digitizing expertise[4]. The Digital Library Program Team began developing a service model to support the work of the VARIATIONS staff; *The Victorian Women Writers Project*, a collection of SGML-encoded texts edited by Perry Willett, Librarian for English[5]; and *Dido*, a database of digital images created and maintained by the Department of the History of Art in the Hope School of Fine Arts[6]. We wanted it to be clear that the Digital Library Program is here to provide support to the service or project manager, not take control. Simultaneously, we began meeting with collection managers in Bloomington and on other campuses to discuss potential projects to digitize resources and make them available on the web.

EXPANDING DIGITAL PROJECTS AND PARTNERS

Our first digital collection project is the *Frank M. Hohenberger Photograph Collection*, which went online September 1, 1998[7]. The Hohenberger collection, dating from 1917-1960 and housed in the Lilly Library, consists primarily of photographs by Frank Michael Hohenberger, 1876-1963, Brown County photographer and newspaperman. The photograph collection totals

8,300 prints and 9,400 negatives. This collection is notable for its copyright status. Although the photographs are primarily still under copyright protection, the Lilly Library holds the copyright, allowing the Digital Library Program to make them accessible on the web. The project illustrates two important aspects of a successful partnership: Both the Lilly Library and the Digital Library Program made significant contributions to the project and both received benefits. The Lilly Library wanted to make its most popular collection more accessible to the public, while protecting the physical condition of the photographs. The Digital Library Program wanted to gain experience creating a digital collection of photographs, with supplemental information and learning activities for students and teachers. We wanted to establish our credibility as a program that could create this collection and provide reliable access to it via the web.

Our second major project involved three partnerships: inside the Libraries with Lilly Library and the University Archives; outside the Libraries but still within the University with the Archives of Traditional Music; and outside the University with the Monroe County Public Library. We have received two grants, a National Leadership Grant from the Institute of Museum and Library Services and a Library Services and Technology Act grant from the Indiana State Library, to digitize and preserve the Hoagy Carmichael Collections at Indiana University[8]. These collections are housed in the Archives of Traditional Music, the Lilly Library, and the University Archives. The collections include letters, original music manuscripts, published sheet music, original lyric sheets, commercial and field recordings, recorded interviews, commercial and homemade films, photographs, scrapbooks, newspaper clippings, early drafts of his biography, oil paintings (by Carmichael himself), a piano and many other artifacts totaling more than 3,000 items. A portion of the digital collections and a complete index will be offered on the web. The entire digital collection will be available at Indiana University Bloomington, via our campus network.

In the Hoagy Carmichael partnership, as in the others above, all partners will contribute to the project and gain from the project. The project will meet the needs of each participant in some way. The partnership with the public library will allow us to conduct usability testing with the general public, one of our target audiences for the digital exhibition section of the web site. It will also provide the public library with some multimedia computer equipment for their Indiana Room. The Libraries receive preservation treatment of their materials; publicity for their work and collections through the web; and, in the case of the Archives of Traditional Music, digitizing equipment and funding for cataloging their Carmichael Collections. The Digital Library Project receives digitizing equipment and gains valuable experience solving the many challenges in creating a complex, multiple-format digital collection for the web and the campus network. And the big winners are our users around the world who will have access to a wealth of wonderful and valuable resources by and about master Hoosier songwriter Hoagy Carmichael.

As the members of the Digital Library Program Team develop new products and services, we continue to focus on meeting the needs of all partners. We cannot create a digital library alone. We need access to the collections owned and managed by many administrative units of Indiana University, including libraries, archives, and museums. But we have expertise and experience that will allow those units to meet their own goals of preservation and improved access to their collections, creating virtual collections from throughout the university. We look forward to many new successful digital library partnerships.

ABOUT THE AUTHOR:

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PROJECT HI-NET AND SHARED TECHNOLOGY: A SCHOOL/PUBLIC LIBRARY PARTNERSHIP

by Linda Hayward and Laura Bramble

A grant for the benefit of Marion County libraries has led to new levels of multi-type library cooperation in central Indiana. School, public and academic libraries have forged new partnerships and are making better use of shared technology than ever before. The focus of this article is the school/public library partnership that emerged from this grant, particularly the creation of a shared catalog and automated system.

BACKGROUND

In 1989, an anonymous donor made a generous gift to the Indianapolis Foundation for the use of designated public, school and academic libraries in Marion County. Thirty-six eligible libraries were identified in 1989 and the number has now grown to 38 libraries. These libraries include the Indianapolis-Marion County Public Library, six university libraries, and 29 (now 31) high school libraries. The Library Fund currently has assets of over $26,000,000 and has funded over $7,000,000 in library projects since 1989. Examples of funded grants include the purchase of online databases, computer workstations and CD-ROM products, as well as new books and other materials.

The eligible libraries began meeting informally to discuss proposals and use of the Fund. After getting organized and becoming more familiar with other types of libraries, the sub-group of 29 high school libraries met to gather their thoughts and dreams for high school library service in the future.

An early study on resource sharing included a recommendation for a union database in one location on a shared automated system. The recommended system would have been expensive and the group anticipated problems that they could not resolve. Which school would take on the expense of housing, maintaining and troubleshooting a large system? Would the schools' governing bodies pay for a joint staff? Would the schools be willing or able to continue in the program after the initial funding? As a group, it was agreed not to continue with the study's recommendation. Two more attempts to find a solution were unsuccessful.

In 1994 under the leadership of Barbara Markuson, staff from the Indiana Cooperative Library Services Authority (INCOLSA) visited all the school libraries with an extensive questionnaire. The final report to the group recognized that the school libraries were understaffed and existing staffs were overworked. Another critical finding of the report was that the schools were not at the same level of technological development—making cooperative technology efforts difficult.

The group accepted the INCOLSA report and then proceeded to make some big decisions. In an extraordinary display of solidarity, the group of "haves" stated that they were willing to take little or nothing in grant money so the "have-nots" could advance to an acceptable level of technology more rapidly. This generous spirit has been evident throughout the entire group of eligible libraries, not just among the high schools. At the same time, the group created a base level that all Marion County high school libraries should reach as soon as possible: all libraries would have a direct telephone line; a fax machine; an automated library system, and Internet access for the librarian.

The Hi-Net group created a steering committee with representatives from local public and state high schools and parochial schools. Feeling that they lacked the grant writing expertise that was needed, the group accepted Markuson's offer of INCOLSA services in writing the grant. While it was decided that the bulk of the funding should go toward the automation goal, the group wanted to be certain that all schools were able to continue to develop their library and that they were not left out of the grant entirely. Hence goals were included that were appropriate for all high schools not just those targeted for technological upgrading. Still undecided about how to cope with the joint automation aspect of the proposal, the group proceeded with proposal development confident that a solution would come.

At about the same time, Edward Szynaka became director of the Indianapolis-Marion County Public Library (I-MCPL), and, under his guidance, I-MCPL staff created a proposal called "A Collaborative Effort between I-MCPL and High School Libraries in Marion County". I-MCPL offered to place, at no charge to the

school, one PC in each of the 29 high school library media centers with a connection to the I-MCPL catalog. In return, each school would be expected to maintain a community information database of its activities. I-MCPL also offered to serve as the automation system provider on a cost-recovery basis for as many of the Marion County high schools as chose to join and to aid in converting their respective collections to electronic format where necessary.

This offer solved the problem of where to locate the automated system and system maintenance and troubleshooting issues that the individual schools had been reluctant to take on. It also gave the project a higher visibility in the community and a clearer vision of how a combined catalog could improve access to library materials for community residents and students. Unaware of any similar projects with a large public library, the group hoped that this project would serve as a model for other urban areas.

HI-NET PROJECT BEGINS

In 1995, the Indianapolis Foundation Board of Directors approved Project Hi-Net and authorized funding for the ten areas outlined in the proposal:

1. Creation of machine-readable catalog records for 11 high schools: Bishop Chatard, Brebeuf Jesuit Preparatory, Cardinal Ritter, Cathedral, Decatur Central, Eliza Hendricks, Indiana School for the Deaf, Indiana School for the Blind, Lutheran, Roncalli, and Scecina High Schools.
2. Provision of automated systems for these 11 schools.
3. Completion of the Indianapolis Public Schools automation project.
4. Outsourced cataloging and processing of new materials for the high schools.
5. Student access to electronic information for all participating schools.
6. High school media center network connections.
7. Technical and project management assistance.
8. Student and faculty involvement.
9. Innovation in information access and delivery.
10. Information and partnership initiatives.

Overall project management was provided through INCOLSA by Dennis Tucker who served as the coordinator of the project. Colleen Obergfell and the technology staff at I-MCPL provided technical assistance and coordination. I-MCPL, in its effort to show a commitment to this project, designated a cooperative projects leader – first, Charity Mitchell, later, Joe Hafner – to make sure that the project went as smoothly as possible.

Baseline goals were accomplished in all areas of the grant, though some more successfully than others. All school libraries received phone lines and fax machines if they did not have them. The Indianapolis Public Schools automation project was completed. Each school that was not part of the major automation project was given a small fund for use in improving student access to information – CD-ROM workstations, databases or upgrading CD-ROM towers. The student and faculty involvement projects did not develop as planned.

Hi-Net II continued the work started with the original Project Hi-Net. With this grant, Shared System members were upgraded to T1 connectivity. Each school was given $12,500 each year for two years for the improvement of equipment, databases and services in accordance with their technology plan. Librarians could take advantage of continuing education opportunities offered by the state library cooperative network. More schools were able to join OCLC and convert their holdings to MARC format.

Probably the most complicated and certainly the most time-consuming task for Part I was the creation of a Shared System – the catalogs of the 11 high schools and the I-MCPL on a Geac Libs100+ system. The grant provided several PC's per school and telecommunications lines from the schools to I-MCPL. The schools were responsible for internal wiring. I-MCPL also offered Internet access to the media centers through their Internet connection.

The I-MCPL technical services staff bar-coded and converted catalog records to MARC format and added them to the database. In addition to I-MCPL's holdings of approximately 1.7 million items, 141,298 school items representing 125,788 titles were added to the database. Each school was able to set its own loan periods, fines and statistical categories.

Each school signed a contract with the I-MCPL for automation services and the cataloging and processing of new materials. This prevented the need for the members to create a separate, legal entity to operate the system. Since the membership is a blend of state, local and private organizations, this arrangement was the easiest and least expensive. The schools pay an annual maintenance fee for the system and all cataloging and processing costs are billed on a cost recovery basis. I-MCPL also offers acquisitions services to Hi-Net libraries and several member libraries of the Shared System select materials which I-MCPL staff then order, receive, catalog and process for them.

Each member library provides a representative to the Shared System Advisory Council which meets quarterly. This is strictly an advisory group but it is a useful forum for sharing concerns and discussing

decisions and issues concerned with the operation of the system. An Intranet site for school and Public Library staff has aided communication and provides important policy and procedure information for all staff. System reports are transmitted to the schools via this site as are technical instructions.

Lending between libraries was limited at first until delivery issues were resolved. Now Public Library patrons are able to place holds on school items and pick them up at a Public Library location and students and faculty are able to request books from the Public Library and pick them up at their school. While the expectation was that the Public Library would be the major lender, participants have been surprised by the number of school items that are requested by the Public Library patrons. The school always has the right to refuse the request so that has prevented the possible problem of multiple requests on popular topics. Circulation on the Shared System for 1998 was 9.5 million for I-MCPL and just over 30,000 for the schools. Not all schools were circulating on the system for all of 1998 so 1999 will be the first full year for the group as a whole.

"Don't think that all decisions were made smoothly or without spirited debate, for they were not. After all, our group is composed of many intelligent and strong-willed people. However, we know that we have accomplished more as a group than we ever could have hoped to accomplish on our own."

All students and faculty have a regular borrower's card from the Public Library that can be used both at the Public Library and at school. The group has agreed not to collect fines for each other's libraries so students with Public Library delinquencies have to settle up with the Public Library not at the school and vice versa.

Two additional high schools have joined the eligible libraries group and elected to join the Shared System as well – Covenant Christian and Heritage Christian High Schools. Heritage Christian Schools decided to add their elementary school to the system as well. In addition, other community libraries may be joining the Shared System in the near future.

RESULTS

Project Hi-Net comes to its official end in June, 1999. Training, financial actions and evaluations are wrapping up. A formal evaluation of the project is currently underway. The news is expected to be good because it is obvious how much progress has been made. Five participants in the project went to the Computers in Libraries 99 conference in Alexandria, Virginia to present a program on Hi-Net and to encourage others in similar efforts. They came away with the feeling that Hi-Net has enjoyed a much smoother development process than some other groups are experiencing.

Obviously, a project of this magnitude could not have been undertaken without the generous benefactor who provided the funds. Just over $2.1 million was spent on Project Hi-Net over a five-year period. However, we have identified these additional factors which we feel have been just as instrumental to the success of the Hi-Net Project:

- An active and devoted Hi-Net Steering Committee that has always kept the good of the entire high school community in mind when making decisions about the grants. The same has been true for the entire group of eligible libraries who have supported this project as well.
- Commitment of school and public library leaders to the vision of a shared catalog and resource sharing and their willingness to commit re sources to such a joint venture. The importance of this commitment cannot be overemphasized.
- Project support from the Indianapolis Foundation's Ken Gladish, Judy Ellyn and Tony Macklin who continually urge the eligible libraries to more visionary service and partnerships.
- The hard work of staff members from the schools, the I-MCPL and INCOLSA; their ability to put aside differences of opinion for the common good; and their willingness to trust each other. As one librarian commented, "Don't think that all decisions were made smoothly or without spirited debate, for they were not. After all, our group is composed of many intelligent and strong-willed people. However, we know that we have accomplished more as a group than we ever could have hoped to accomplish on our own."

What are the perceived benefits of this project? First and foremost, we have achieved a certain level of technological equity among the member libraries. While the standard is always rising, this parity will make it possible for the eligible libraries to consider more advanced future partnerships and resource sharing.

The high school libraries on the Shared System have the benefits of an automated catalog and circulation system without the sometimes-onerous burden of maintaining it. Some librarians have reported that the

connection to the Public Library and other schools has raised the visibility of their library within their own organization. Library staff has more time to devote to student service rather than spending time on catalog maintenance and materials processing and can take advantage of I-MCPL's economies of scale for these functions.

The Public Library has a closer working relationship with community schools with more opportunities for cooperative ventures. Public Library users have access to more material than previously. I-MCPL is able to make its services more convenient for the schools' students and faculty who are also Public Library users.

CHALLENGES

In retrospect, what were some of the problems and difficulties that needed or still need to be overcome? The automated system needs to be flexible enough to allow participating libraries to set their own parameters for circulation, reports, etc. The system needs to be able to handle limiting searches by location and separate displays of individual library fines and delinquencies. Ideally, libraries should be able to generate their own system reports.

School libraries are by nature more isolated than public or university libraries and have a greater need for technical support than larger libraries with technology staffs. INCOLSA and I-MCPL, while they did their best, did not have the resources to give the schools all the technical support they frequently needed.

How to identify sources of ongoing funding for services and how to serve as advocates for the services provided by the grant to administrators are other challenges. Automation is more expensive than no automation. How do you quantify the benefits of additional services to students and faculty and taxpayers?

Finally, the Hi-Net grant proposal itself was probably a bit too ambitious and over-arching to be totally effective. Some projects would probably have been better handled through smaller, individual grants.

What does the future hold for Hi-Net and the other libraries eligible for grant funds? The group has already used grant funds to create a Marion County database which nicely supplements the statewide Inspire project. (See "Marion County Internet Project" by Ann F. Bevilacqua, Lynn Hobbs, and David W. Lewis, in this issue of *Indiana Libraries*.) Grant support for this project will extend through 1999 and beyond.

The Hi-Net libraries continue to use the Library Fund at the Indianapolis Foundation for collection development grants for their libraries. These grants have required a component of matching funds from the schools and have resulted in a significant improvement in the schools' book collections.

The next challenge facing the libraries eligible for the Library Fund grants is already under consideration. What benchmarks exist for library service in a community? How do citizens know when service is adequate or not? What level of service should we expect from our school, public and university libraries? Taxpayers and grantors are asking these questions in increasing numbers and few libraries are immune. How does the Library Fund make the best use of its funds to provide library service to Marion County residents? That is the next big question for Marion County libraries.

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MARION COUNTY INTERNET LIBRARY

by Ann F. Bevilacqua, Lynn Hobbs, and David W. Lewis

INTRODUCTION

The Marion County Internet Library provides the residents of Marion County with access to a variety of web–based information resources which augment and expand upon Indiana's state–wide Project Inspire. The two-year project, which began in July 1998, is funded by $985,000 from The Indianapolis Foundation Library Fund. The Marion County Internet Library provides access to commercial databases as well as creating resources of local interest which are not commercially available. Awareness, training, and an evaluation study are also included in the project. The project is managed by the Indianapolis-Marion County Public Library and is governed by a steering committee made up of school, public, and academic librarians.

BACKGROUND

Marion County has a unique resource in the Library Fund of The Indianapolis Foundation. This fund, which was the result of an anonymous gift to The Foundation over a decade ago, produces nearly a million and a half dollars a year to support library services in Marion County.

At the time that Project Inspire was developing at the state level a number of librarians in Marion County began discussing using money from The Indianapolis Foundation Library Fund to create a common resource that would supplement what was being offered by Inspire. With the implementation of Inspire in early 1998, a proposal was prepared for The Indianapolis Foundation to create resources that would supplement the Inspire offerings. The proposal was approved by The Indianapolis Foundation Board and funding began in July 1998.

PROJECT GOALS

The Marion County Internet Library builds on the Inspire project to make additional electronic resources available to the residents of Marion County from the county's libraries, schools, and academic campuses, and from homes and businesses in the county. The project was designed to further the first three goals established in the Library Fund's Strategic Plan. First, the project will create high quality collections that will be available to all of the county's residents and in all of the county's libraries. All public libraries in the county, as well as all schools, and all colleges and universities are included in the project. Second, the project is a cooperative one which was supported by all of the libraries in the county. The process used to develop this project was broad based. Third, the resources created by this project enhance cooperation between the libraries and a variety of other organizations in central Indiana. To this end, conversations with the Indianapolis Chamber of Commerce, the United Way of Central Indiana, Indianapolis Online, and a number of other community organizations were held as part of the planning for the project. These conversations have lead to revisions in the proposal and, more importantly, to the realization that there are a variety of opportunities to use this project to develop partnerships that will take information that is available within the community and make it easily available to the community as a whole. Finally, this resource will be unique and should provide a competitive advantage to the county and its citizens. The project should enhance social, cultural, and economic development in Marion County.

PROJECT STRUCTURE

The project proposal established a Steering Committee made up of three librarians from each of the following groups: high school, academic, and public libraries. The Steering Committee evaluates, selects and administers the commercial and local content databases for the project. The Indianapolis–Marion County Public Library is the formal recipient of the grant, manages the contract negotiations, and is the fiscal agent for the project. The Steering Committee hired a consultant to manage the everyday aspects of the project including vendor relations, training, and support.

COMMERCIAL DATABASES

Once funding was approved, the Steering Committee looked at a number of databases and had representatives come in to demonstrate their products. The products chosen were: Electric Library, SIRS Discoverer, SIRS Researcher, and Gale's DISCovering Science, DISCovering U.S. History, DISCovering World History, and the Dictionary of Literary Biography. Business and health resources were also reviewed but rejected because of either a prohibitive cost or because they were too narrow in scope. As would be expected the

project had a strong interest in providing access to the *Indianapolis Star/News*, the major daily newspaper for central Indiana. The two vendors with rights to the *Star/News* were approached for proposals. While pricing was high it was within the reach of the project; however neither vendor could provide access to the product except within library buildings. Since access to resources from homes and businesses was a priority of the project, this was unacceptable. Discussions were held with the management of the *Star/News* and it became clear that they viewed the library market as limited to library buildings. What we viewed as remote access for library users the *Star/News* viewed as the "consumer" market and they were unwilling to license access to it as they had plans to sell directly to this market on a per-article basis.

ACCESS TO RESOURCES

Access to the databases is provided two ways: IP filtering and user authentication. All schools and libraries which have their own servers are eligible for IP filtering. This method of access is transparent for the end users who need only click on an icon or select a database from a bookmarked list. Over one hundred IP ranges are maintained for schools, universities, colleges and libraries for the entire county. Remote access for patrons is set up with a referring URL that is managed by the Indianapolis–Marion County Public Library. Patrons connect to the referring URL and are authenticated by entering their library card number and password. Once the user has been authenticated, access is provided for all databases that are licensed for remote usage.

The remote access through Indianapolis–Marion County Public Library worked technically, but it was hard to explain, especially to the general public. The URL for the library is not easy to remember and explaining what to do once you got to the site was not simple. In order to solve these problems Indianapolis–Marion County Public Library, at the suggestion of the project, found a good domain name which can be used to promote the service. A new gateway site with the simple address of www.iLibrary.org will be put in place shortly. This site will have access to the project's resources, the Inspire databases, and the databases to which the Indianapolis–Marion County Public Library subscribed. Our hope is that the new site will make promoting the site easier.

Technical issues can become problematic when dealing with different types of access such as a referring URL and IP filtering. Our experience was that sales representatives may not be knowledgeable about the types of access that their companies can provide. We found that it is important for library technical staff to communicate with the vendor's technical staff to make sure that access problems will be minimized or alleviated before signing a contract.

The referring URL was problematic for some vendors either because they did not have the technology or they did not allow access in this way. For this project, the referring URL was necessary so that users would not have too many access hoops to jump through. Users need only remember one password—the public library ID card. Part of the project's philosophy was that access to the databases must be as easy as possible.

ISSUES IN NEGOTIATIONS

Negotiating county–wide contracts can be tricky. The project was fortunate to have the experience and resources of the Indianapolis-Marion County Public Library during this stage. The first issue in negotiations is pricing. Each vendor seemed to have a different system for determining a price quote for a county–wide population of about 800,000. Some vendors would price strictly by the number of people who would have access. Others went with a building count for each site that would be IP filtered and added a flat rate for remote access. One vendor took almost two months to give us a quote because they had to determine their *potential* customers in the county. Based on that figure they calculated a loss of revenue and provided pricing for the county.

It is possible to lock in pricing for future database selections. For example, for one new product whose interface was not fully developed, the vendor gave a good price because it was new, and adding it to this project would be a huge boost for the vendor. When a contract was negotiated with that vendor for another product, a clause locking in the price for the next six months for the new product was added.

In all cases additional clauses in the contracts were added to make sure that any problems that might arise, no matter how improbable, were covered. An institution's right to terminate its subscription is rarely written into a contract. Conceivably a vendor could get rid of 85 percent of its content, and the institution would not be able to terminate the agreement. Instead the institution is locked into the agreement and would then be paying for a product that is essentially useless. A termination clause can guarantee that you will not pay for products that are not as they were when you purchased them. Upon termination, we reserved the right to receive a prorated refund for any time remaining on the contract.

Performance clauses are also written into the contracts. Databases cannot be going down on a weekly basis while vendors perform upkeep. Naturally, some upkeep is necessary if they want to continue to provide the best possible product. But even two hours a week is too much. An acceptable downtime was determined and written into the contract. If the downtime ex-

ceeded that amount, we reserved the right to terminate the agreement and receive a prorated refund. Y2K is also a performance issue, and all contracts are written to promise that the products are Y2K compliant.

CONTRACTS

Despite how carefully the contracts are written, problems may still arise. Perhaps the most significant contractual problem we've had with vendors is the lack of accurate statistics. The contract was written to make sure that we received accurate statistics for the databases. We want the statistics to be broken down by IP address so that we will be able to accurately evaluate the usage of the databases. We also want the statistics so that we can report back to The Indianapolis Foundation on how their money is benefiting the citizens of Marion County. It is also in the interest of the vendor to provide us with accurate statistics, not only because they are legally bound to do so, but also because renewals will be based on those figures. All three of the vendors had trouble providing us with statistics at some time. It can be difficult to determine the cause of these problems, and our Training and Awareness Consultant spends a lot of time trying to figure out where the problems lie. So far we have been able to gain free additional months of the products from the vendors who have consistently not satisfied their part of the contract.

Issues such as these will affect our continuing relationships with the vendors. Renewals of the products are based on a number of factors similar to what we looked at when we purchased the products initially. Usage statistics must reflect usage that warrants spending the money for an additional year. Patrons must like the products, or at least find them easy to use and valuable. And of course, we must be satisfied with what the vendors provide for us technologically, but also what they provide for us in the area of support. We will evaluate issues such as how many problems we've had with a vendor, how quickly those problems were remedied, how often we were juggled around from one person to another and how knowledgeable their staff is. We will also look at factors such as how much initiative a vendor has in keeping their products as up to date as possible. This includes not only how frequently they update their content, but also how often they revisit their interface to make changes that add value to the product. Once interface changes are made, it is expected that vendors provide lots of support when rolling that change out to its customers. All of these factors keep the companies competitive and will help committees make sound decisions on whether to renew or cancel a product.

STATISTICS

Having selected and connected everyone to the databases, an important next step was to monitor their use to determine the appropriateness of the databases to the user population. Our contract stipulated that monthly statistics broken down by IP range would be compiled and sent. Because of several technical problems, there was spotty reporting during the first six months of the contract. The seventh month was the first time all three vendors were able to fulfill this requirement and it was at that point that we could begin to make corrections. For example, XYZ University did not have any statistics; was it because they weren't using the databases? Or are their numbers being reported under some other institution because their IP range was mixed up? Or have they had an unreported change in IP range? There are many possible permutations on this problem! Even though the vendors have been very cooperative, it has taken several months to get "clean and reliable" statistics.

Once there were reliable numbers, there was the process of understanding what the numbers meant. Each vendor uses different terminology and we needed to be certain we were comparing apples to apples. For example, what is the difference between total accesses and total searches? We also had to make the comparisons between the different vendors make sense; one vendor has broken down searches into 8 different categories, so we were required to massage the data into manageable chunks before reformatting them for publication to users. To keep the statistics simple, we looked only at total number of searches and total number of articles* viewed. [*For our purposes, we include images, charts, and maps under articles.] We used a monthly cost for the databases to determine the cost per search and cost per article for each database. For example, in March 1999, the least expensive database search cost $.70 per search and $.63 per article, while the most expensive database was $5.60 per search and $14.58 per article.

LOCALLY DEVELOPED CONTENT

The project funded the development of content of local interest that was not available from commercial vendors. To date, the projects completed under this part of the grant have been relatively small and monographic in nature. The first projects were two publications of the Indiana University Press: *The Birds of Indiana* and *The Wildflowers of Indiana*. The third project was *Fifty Common Trees of Indiana*, a publication of the Purdue University Department of Forestry and Natural Resources. Projects currently under investigation are focused on local history. There is a particular interest in another Indiana University Press title, *The Encyclopedia of Indianapolis*.

These local resources were created for the Marion County Internet Library by the Digital Libraries Team of the IUPUI University Library. The product was not particularly difficult, although a variety of technical and organizational issues needed to be addressed. The more difficult issues turned out to involve negotiations for the use of published works. The first two Indiana University Press titles contain a large number of paintings that illustrate the flowers and birds. The artists, understandably, did not want their work freely available on the Internet, and so access was restricted to Marion County residents using IP filtering and the Indianapolis-Marion County Public Library gateway. *Fifty Common Trees of Indiana*, which is a short 50-page pamphlet, turned out to be a good source of income for the Purdue Department of Forestry, and they required similar restrictions. The Steering Committee had established a principle that funding would be provided to create or convert content, but that as a general rule we would not pay for content. As it turned out, Purdue was paid for rights to *Fifty Common Trees of Indiana* because of the strong desire to have a product in place for the fall leaf season. Later Purdue was given an opportunity to extend access through Inspire. They declined this offer, and Inspire arranged to acquire comparable content from OhioLink. Our experience with creating local content is not extensive, but some issues are clear. Negotiations for content are time consuming and sometimes difficult. This is in large part true because many content owners do not understand the nature of the products.

AWARENESS AND TRAINING

The stated goal of our project is to provide web-based information resources which expand on Project Inspire's databases to *all* residents of Marion County. The diversity of this user population required that we use a variety of instruments to promote the project. A Training and Awareness Consultant was hired to coordinate this aspect of the project. The first step was to identify the different user groups and begin to target training for them. The first training sessions were directed to the librarians in Marion County. Meetings were set up with adult and children's librarians from the three public libraries, and the fall meeting of the Eligible Libraries Group was dedicated to educating high school and academic librarians about the databases. Throughout the fall and spring, the consultant has conducted numerous sessions at elementary, middle, and high schools (both public and private) for parents and teachers alike. Given that the project officially began in August of 1998, it was difficult to schedule training because many of the school districts had already committed all of their in-service days.

The second step was to develop paper documentation descriptive of our databases and logon procedures including a one-page information sheet, web documentation for librarians, a bookmark, and a brochure. In addition, the consultant has gathered and maintained vendor supplied training/promotional materials for use in training sessions.

Training users on the databases is fairly easy; the hard part is getting users to know of the existence of these databases. We sent out the usual press release to local media and have contacted print media about articles, but we are also interested in finding non-traditional avenues of advertising the project. Part of our awareness program is designed to promote the databases through television, movie spots, and supermarket advertisements.

SUPPORT ISSUES

Support issues have two facets: local support for the librarians and support by the vendors to the project. Among the Marion County libraries, there are different levels of knowledge and available support. Some libraries may only need to be told the URL and it is added to their web page; others will need to have a web page created for them; still others need to be walked through the process of accessing the databases. In many ways, this project cuts across library and computer technology lines in some organizations. A change in an IP address might not have been reported to the librarian before, but it must be now in order to maintain access to the databases.

Constantly changing vendor support staff has been a particular problem especially when dealing with technical issues. What seems a simple request from one end requires multiple contacts. You might discover, in your conversations with the technical services department that a school's usage was not being reported because of a mistyped IP address; to change an IP address, you may have to go to Customer Service and that sometimes means being bumped back to a sales representative...it's a dizzying circle. Many e-mails and phone calls are necessary to implement changes.

CONCLUSIONS/LESSONS LEARNED

Because of the history of libraries working together in Marion County which has been built through nearly a decade of Library Fund projects, collaboration on this project was easy.

There seems to be a narrow core of databases that everyone agrees upon. Outside of this core databases were easily classified as specialized or as supporting only a narrow constituency. This seems to be a variation of the classic 80/20 rule. For us this meant that the initial selection was easy, but reaching consensus was more difficult on later projects.

Managing the relationship with the vendors, maintaining IP addresses, administering the project is not trivial. We quickly exhausted the capacity of volunteers to get things done. Hiring a consultant was vital to the success of our project.

Our inability to reach an agreement with the *Indianapolis Star/News* is a concern. We understand that this is not a unique situation. In many cases newspapers are hesitant to sell rights to the so-called "consumer" market in their core market area. If this trend holds it will mean that the local digital libraries, provided by public libraries and projects like this one, will not include one of the most significant and asked-for sources of local information. In fact, it may be that in some cases the local newspaper, as it develops a web presence, will consider library initiatives as competitors. This relationship is clearly different from the generally positive relationships that have existed in the past and might impede the successful distribution of information about a community to that community.

Promotion needs lots of energy. It seems to be very difficult to get people to notice and use the resources we have made available. We cannot help but wonder why it is so hard to get people to use electronic resources like those purchased and created by our project. While the use of the projects resources has been reasonable in the first year, we are clearly not competing with Yahoo. For some reason *library* type information on the Internet seems to sit outside what people expect and they seem to have trouble understanding its uses and value. We are not certain what this means, though our evaluation study next year should provide some answers. One thing though is clear to us: if you buy it, they won't necessarily use it.

ABOUT THE AUTHORS:

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THE INTERNET CO-PILOT PROJECT

by Lynn Jurewicz

Mooresville Public Library (MPL) and Mooresville Consolidated High School collaborate on Internet Co-pilot, a project to introduce senior citizens to the Internet. MPL enlisted the high school Key Club members in early 1998 as co-hosts of on-ramp assistance sessions for seniors who were "new to the Net."

Library Director Lynn Jurewicz and Children's Librarian Sarah Wilson "pitched" the project at an early morning meeting of the high school Key Club, which immediately adopted it. Key Club members are on hand every Wednesday after school during the spring to give personal assistance and answer questions. As part of the program's first hour-long sessions Key Club advisor Don Adams presented a program describing how to get started surfing the Web. A Key Club member is paired with a senior for the one-on-one buddy sessions, which have been held alternately at the public library and the high school library. Seniors are typically asked what their hobbies or interests are, and the students use those interest terms to guide the seniors through a demonstration of browsers, search engines and, of course, the Inspire database.

Seniors' responses to the individualized assistance have ranged from, "It's not so hard after all!" and "I had no idea I could find that recipe on the Internet," to "Can I sign up for another session?" and "Can I bring my neighbor?" While the project was publicized in the local newspaper, on the radio and in the library newsletter, word-of-mouth has proved to be the greatest invitation of all. Most new participants who call the public library to register, have heard of the program's low-key approach from a past participant. Fliers and visits by library staff to the local senior center and Internet Co-pilot buttons worn by library staff round out the publicity strategies.

While all registration is done through the public library, the project is jointly governed by both the library director and the Key Club advisor. There has been plenty of unplanned planning and communication through the kids who are involved though: an added benefit has been increased voluntary use of the public library by the high school kids! These are kids whom we did not see before, and they are bringing their friends with them. Key Club participants are enthusiastic in their roles as instructors and have been relaxed and patient with the seniors.

Don Adams feels that as a Key Club service project, the program provides for a win-win situation. "Being able to co-op with the local public library has the added benefit of bringing the school and community into closer contact. Additionally, it seems to provide more exposure for the program." Along the way, both Mooresville's high school and middle school have opened their computer labs to the public in the weekday after-school hours on a continuing basis.

Internet Co-pilot is our success story for both the state technology grants and school-public library cooperation. The program started at the public library with a single dial-up Internet connection, funded by the first of the state technology grants. The new 56K connection has increased the viability of the project, and today the project utilizes both the state-funded 56K connection and a T1 connection at the high school. Thanks to the state funding, the partnership is now a larger one, involving the state, the public library and the local school corporation.

ABOUT THE AUTHOR:

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STATE TECHNOLOGY CONSULTING PILOT PROJECT

by Martha Roblee and Kathy Robinson

The Indiana State Library began making technology grants to public libraries in 1996 after the General Assembly approved technology funding of $2 million per year for public libraries. Indiana's public libraries were thrilled to have a chance to receive a grant to help meet the challenge of incorporating technology into the library. All stages of technological development were represented by the requests.

After the first year of grants, it became apparent to State Library staff that libraries also needed help in planning for technology. Many of the grant requests included funding for individual consultants. Some requests also showed a lack of understanding of state goals and information infrastructure which led many libraries to pursue implementation of technology on their own. A common strategy seemed to be to move forward with what they felt was the best solution at the time and within their budgets. As a result, some libraries had not fully utilized the benefits of the State initiatives and implemented strategies which did not always work well with the next steps a year or two down the road.

State Library staff did not have the background to advise libraries in detailed technology planning. INCOLSA staff, while having a better background to provide help, were so thinly spread that they could not visit each library and provide the level of on-site help needed. Obviously, one approach could have been to allow funds within each grant for consulting, but that did not seem like a cost-effective way to use state dollars. After wrestling with various possible solutions, the State Library decided to advertise for bids for a small project to be a pilot for future projects. The bidders were asked to work with a group of eighteen libraries, of all sizes and levels of automation, to survey the libraries' technology needs and propose a plan for automation for each. The library could then choose to implement the plan or not. The successful vendor was also required to become familiar with the state's current telecommunications Backbone infrastructure and to make sure all solutions proposed to libraries would fully utilize that network.

All Internet connections purchased by the State Library for public libraries are through the State Backbone, which is managed by the Indiana Higher Education Telecommunication System (IHETS). It is a high-speed transport system capable of simultaneously handling data and video. This system is interconnecting colleges and universities, K-12 schools, public libraries, state government offices, and other public sector clients. One goal is to facilitate information generation and distribution within the state of Indiana. The Access Indiana Backbone Network builds upon the foundation of Indiana's original Internet Backbone for higher education, INDnet.

Another goal of the project is to use the small initial group to gain experience on the needs of libraries and develop a model that could be used by other libraries. It is hoped that the results of the pilot will help the State Library with state level planning for future grants and provide directions to take.

One of the exciting aspects of the project is the preparation of a plan that libraries will be able to use in preparing for two-way interactive video, very similar to what INCOLSA has been using for distance education and meetings. However, instead of needing a separate line for the video, libraries with a T-1 Internet connection through the State Backbone will be able to use the same line for both Internet and video. The video capabilities would allow staff to attend meetings at another site, participate in training programs, and talk to other librarians face to face, all without leaving the library. This capability is already available on the Access Indiana Backbone.

The company selected to provide consulting assistance, DataServ, Inc., specializes in designing, implementing and supporting next-generation digital technology solutions for the education community. Headquartered in Farmington Hills, Michigan, with regional offices in Indianapolis, Columbus and Cleveland, Ohio, DataServ has assisted libraries and educational communities with more than 8,500 individual technology initiatives and projects in the past 12 years.

The project kicked off with a meeting at the New Castle Public Library on March 4, 1999. All eighteen libraries in the counties of Delaware, Fayette, Hancock, Henry, Jay, Rush, Shelby, Union, and Wayne were in attendance. Martha Roblee of the State Library and

DataServ staff Adam Weber, Marvin Sauer, and Dave Lloyd presented an overview of the project. DataServ made appointments with all the participating libraries to visit during March and April. The schedule calls for the project to be completed in summer, 1999.

PROJECT OUTCOMES INCLUDE:

1. Providing valuable information for the State Library to incorporate into a model for moving libraries to the State Backbone.
2. Assisting the State Library in developing grant applications and initiatives, as they continue to plan for incorporating video and multimedia into libraries.
3. Increasing awareness and opportunities for all libraries regardless of size and location throughout all of Indiana.

EARLY ASSESSMENT FINDINGS

DataServ's Systems Engineer Dave Lloyd conducted onsite visitations and surveys at each of the 18 libraries from late March through mid-April. He discovered that each of the libraries, whether large, medium or small, urban or rural, is challenged with the same primary concerns: funding and space. Libraries already challenged to house volumes of printed material are now pressed to also provide room for technology in the form of workstations and video conferencing systems.

Insuring library directors and their staffs that they have access to expertise to implement this technology along with the necessary ancillary equipment and resources to adapt it to their individual environments is no small task either. Understanding the technology terminology, such as workstation, server, NT, Novell, Category 5, ATM, IP, LAN, and WAN are vitally important in the technology decision making process. Staff, library directors, and their boards are all challenged in this regard. Electrical power, security, and staff development are additional concerns that must be addressed as technology is integrated into the library setting.

A PLACE TO BEGIN

Each library will receive a documented evaluation that will include DataServ's findings, analysis, and recommendations, along with a detailed budgeting spreadsheet that will outline all technology-related costs associated with the implementation of data, voice and video.

These libraries that have been through the gauntlet of technology implementation on a broader scale will serve as models with a wealth of information and experience to share with those who are about to make the run.

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TECHNOLOGY PARTNERSHIPS: THE PALNI SUCCESS STORY

by Larry Frye, Vince Lucas, and Lewis Miller

HISTORICAL CONTEXT

When one digs deep into library history, a desire to cooperate is found to be one of the basic and early values. Over 100 years ago, American library leaders were extolling the benefits of library cooperation. This desire was part of the impetus for some of the early bibliographic tools and development of union lists which could be shared among libraries. Many of our younger colleagues in librarianship have never seen or heard of the *National Union Catalog, Pre 1956 Imprints*. Yet at one time not so long ago, this was an indispensable tool in library cooperation. In today's fast paced library world, it is sometimes difficult to realize how important these early efforts were to the dreams of library visionaries.

Libraries have often been early adopters of new technologies. But, until the 1960s and the beginnings of the computer age, these technologies and bibliographic tools were limited in their ability to effect wide-scale resource sharing. With development of the MARC standard concurrent with the growth in computing power, libraries entered a new age of resource sharing. These two factors created an environment primed for new approaches to library cooperation. While OCLC is today's success story, it is worth noting that there were numerous cooperative efforts attempted during this period. OCLC was particularly successful for a variety of reasons and true to the library vision of cooperation many of these other efforts were and continue to be merged into the OCLC vision. It also should be noted that without the technology, OCLC would not have been possible.

EARLY DEVELOPMENTS

It was within this context of resource sharing and technology advances that the Private Academic Library Network of Indiana (PALNI) was conceived by the Indiana private academic library community. In the mid-1980s, these libraries faced the labor- intensive and costly task of automating their catalogs and the acquisitions, cataloging, circulation and serial functions. Although, thanks to grants from the Kellogg Foundation, these schools had joined OCLC and since 1977 had been adding their current holdings to the OCLC union catalog, there were many older records not in their databases. It was in this context that Wabash College Library Director Larry Frye suggested to his colleagues that they consider approaching the Lilly Endowment for a joint grant to add their older records to the OCLC union catalog. Frye and Richard Snyder (Anderson University), Evan Farber (Earlham College), Walt Morrill (Hanover College), and Grady Morein (University of Evansville) volunteered to form a steering committee. All 29 libraries were asked to donate $50 to employ a grant writer. One library with a very limited operating budget raised the money from bakesales! INCOLSA Executive Director Barbara Markuson agreed to serve as the technical advisor.

In 1984, the INCOLSA Executive Committee approved submitting a grant request to the Lilly Endowment to test different retrospective conversion methods at the libraries of five INCOLSA members: four private colleges and one seminary. Conversion options were: (1) online OCLC inputting using clerical staff for data entry (Earlham and Taylor University); (2) online OCLC inputting using student workers (Concordia Theological Seminary); (3) OCLC microcon program with clerical staff (University of Evansville) and (4) OCLC microcon inputting with student workers (DePauw University).

Based on the success of the retrospective conversion test project, 29 private academic library directors persuaded their presidents and deans to allow them to participate in an INCOLSA grant proposal to the Lilly Endowment to add all their pre-1977 bibliographic records (1,731,023) to the OCLC union catalog. The library directors at Indiana University and the University of Notre Dame provided support letters for the grant application.

At about this same time, Indiana library directors in public universities, plus Notre Dame, requested grant funding from the Lilly Endowment for planning a resource sharing network. On behalf of the private college colleagues, Larry Frye wrote a letter of support for their grant application. This proposal was funded and resulted in SULAN (State Universities Library Automation Network).

Up until that time, no consideration had been given to establishing a consortium such as SULAN. Each library director was primarily concerned with completing bibliographic record conversion in order to be ready to automate their own library. But in the

summer of 1989 Dr. Hank Hector, Deputy Commissioner of the Indiana Commission for Higher Education, proposed to Dr. William Bonifield, Vice President for Education at Lilly Endowment, that the Endowment consider funding private college libraries joining the SULAN automation network to improve resource sharing. Throughout 1990, Dr. Bonifield hosted a series of meetings of Indiana private college presidents, deans and library directors to discuss the proposal. Some schools who were already involved in joint projects with nearby SULAN schools (Bethel College, Holy Cross College and Saint Mary's College with the University of Notre Dame; Saint Mary-of-the-Woods College and Rose-Hulman Institute of Technology with Indiana State University), the Indiana Institute of Technology, and the University of Evansville accepted the Endowment's invitation to submit grant proposals to join SULAN.

However, the administrations of the majority of the private colleges and seminaries were reluctant to have their institutions join SULAN. The library directors shared those concerns. The principal issue was governance. What power would each college have in decision making in a state university-dominated system? At the end of the last meeting at the Endowment, Goshen Library Director Devon Yoder proposed that the library directors explore forming their own independent college library resource-sharing network. He asked colleagues to suggest to him who should direct that effort. They chose Larry Frye from Wabash, David Dickey of Taylor, and Yoder of Goshen. Barbara Markuson, INCOLSA, agreed to continue to serve as an advisor.

Library directors asked their presidents to approve their school's participation in another INCOLSA proposal to the Endowment for a planning grant to explore establishing such a resource sharing network, with links to SULAN. A vendor selection process would be conducted so that accurate start-up and annual operational costs could be determined. Directors stressed that the study would also include proposing governance models and would address equitable funding among the schools of such a consortium. Each president submitted a letter of support for that grant application. Dr. Ron Leach, then Director of Indiana State University Libraries and the SULAN chairperson, submitted a letter supporting this grant application. The Lilly Endowment funded the request.

In January 1991, Rob McGee (RMG Consultants, Inc. of Chicago) was hired as project consultant. Dr. Robert Hodge, Director of Information Services at Taylor University, known for his expertise in computing and telecommunications, joined the steering committee. All the library directors approved the committee's proposed plan to create one union catalog, contract with INCOLSA to manage the system, and use the emerging Internet as the communications link. Indeed, in conversations with the Indiana Higher Education Telecommunications Network (IHETS), the private academic library directors agreed to contribute approximately $400,000 dollars toward the deployment of their statewide Internet communications infrastructure if grant funding was received.

With McGee's assistance, Requests for Proposals were sent to automation vendors. Every library director reviewed the vendor responses and helped draft questions of further clarification for the three vendors selected as finalists. Front line librarians then joined the directors on module evaluation teams (opac, cataloging, circulation, acquisitions and serials) to interview the vendors and use their product live online. Bill Doemel, Director of Computing Services at Wabash College, organized a team of computer center directors to interview each vendor's computer/ telecommunications experts. More than 50 library and computer center staff members were involved in the selection process. Based on the recommendations of the evaluators, the library directors awarded the contract to Data Research Associates (DRA) contingent upon grant funding.

In January 1992, twenty-five presidents and their library directors met at Christian Theological Seminary to discuss the outcomes of the network feasibility study and the vendor selection process. After a presentation by Rob McGee and lengthy discussion, Larry Frye asked the presidents if they would: a) approve the proposed bylaws establishing a non-profit corporation to govern the network; b) within two weeks appoint a member of each president's college library staff to that corporation's board of directors; and c) allow the library directors to request that the Lilly Endowment fund all the initial equipment and a three-year declining Endowment share of the annual costs (year one 100%, year two 50%, year three 25%), with the schools assuming full annual funding of the network in the fourth year of operations.

The president of one of the smaller-enrollment and less-financially-endowed colleges stated that this joint venture was the only way her institution could implement such technology and keep her students from becoming information have-nots. She urged her more financially secure colleagues to please support the proposal. One of those presidents replied, "I believe my dear colleague just moved that we approve the three recommendations offered by our librarians. I second her motion." To everyone's amazement, the motion passed unanimously.

In April 1992, the Endowment approved a $4.8 million dollar grant to PALNI contingent upon its gaining non-profit corporation status from the IRS. Dr.

Bonifield asked the Endowment's attorney to assist the group in obtaining that IRS 501-C3 status. The IRS granted that status six weeks later!

At that time, Larry Frye suggested to his library director colleagues that they would be remembered in library history if their soon-to-be-operational network was named PANIC (Private Academic Network of Indiana Colleges). They were not amused. However, PALNI (The Private Academic Library Network of Indiana) was then indeed unique in American library history. Library directors from private independent colleges and universities who often compete for the same students, seek funding from the same foundations, and have some really intense rivalries (especially in athletics), worked together on a series of grants to the Lilly Endowment to plan and implement that network. Furthermore, their college presidents agreed to create a not-for-profit corporation to govern the consortium. In addition, the consortium included three graduate theological schools in the state not affiliated with any of these colleges: Associated Mennonite Biblical Seminaries, Christian Theological Seminary, and Concordia Theological Seminary. PALNI was the culmination of a decade of collaborative work among the state's private college library directors in acquiring the latest technology to improve services for their students and faculty.

IMPLEMENTATION

From its inception, PALNI has employed a variety of computer and telecommunications technologies to encourage and facilitate cooperation among PALNI libraries. At the same time, PALNI's success in deploying and using these technologies can be attributed directly to the cooperative efforts of all of the PALNI campuses, including both the library staff and the computer center staff on each campus. In a real sense, the PALNI system and network are themselves a model of how many independent organizations can cooperate effectively in pursuit of a set of common goals.

The Indianapolis office of the Indiana Cooperative Library Services Authority (INCOLSA), itself a cooperative library membership organization, serves as the "home base" for the PALNI Project. PALNI as an organization contracts with INCOLSA to manage the project and operate the system, and PALNI Project staff maintain their offices at INCOLSA. The first two PALNI Project staff members were hired by INCOLSA in late 1992 to oversee initial implementation of the system. As the project moved steadily from implementation to full production, project staff levels were gradually increased to six full-time employees.

Current INCOLSA staff assigned to the PALNI Project includes a Project Director, a Database Administrator, a Library Systems Analyst, two Computer Systems Analysts, and a Unix Systems Administrator. Fortunately, the PALNI Project has been able to recruit and retain a highly qualified staff with a strong mix of specialized computer and library skills. Project staff have a combined total of more than 60 years of experience working for or in libraries, with most of that experience focused specifically on developing and implementing library technologies. The ability to share staff is a clear and important benefit of the PALNI Project. It simply would not have been possible for each individual PALNI library to retain the kind of specialized mix of library and computer skills represented collectively by the PALNI Project staff.

The PALNI central computer system, which supports the PALNI online union catalog and runs the DRA library automation software, is located in a computer room at INCOLSA. The principal system is a Digital Equipment Corporation (DEC) Alpha AXP 7610 computer system with 512 Mbytes of memory, 100 Gbytes of online disk storage, three high capacity tape drives, and a high-speed line printer. Though now almost six years old, the DEC Alpha system continues to deliver excellent performance to member libraries, and frequently experiences peak loads of as many as 250 concurrent online users.

Twenty-one of PALNI's twenty-six libraries use the online cataloging component to maintain their electronic library catalogs. Students, faculty, and staff of PALNI institutions can search the database of any one of the PALNI libraries and also can search the combined union catalog of all PALNI libraries when they prefer. Similarly, all of the twenty-one full PALNI member libraries share use of the PALNI authority control, circulation control, acquisitions, and serials control subsystems.

The five "resource-sharing" members of PALNI maintain their own local automated library systems. Each of these resource-sharing libraries has full search-access to the PALNI online catalog, using either standard telnet or Z39.50 client/server protocols. At the same time, each PALNI resource-sharing library runs its own Z39.50 server software, and offers other PALNI libraries full keyword search access to its online catalog. In the near future, PALNI expects to implement new Z39.50 client software that will be able to transparently broadcast a user's search to each of the PALNI resource-sharing Z39.50 servers, as well as to PALNI's own central Z39.50 server. Search results from each of the servers will be merged and returned to the user as a single hit list, in effect creating a single "virtual" union catalog which includes the databases of all 26 PALNI libraries.

In addition to the central DRA system, PALNI uses the OCLC SiteSearch World Wide Web-to-Z39.50 gateway software to provide integrated Web access to a wide range of Z39.50 servers and databases on the

Internet. Specifically, PALNI uses its SiteSearch gateway to give faculty, students, and staff access to 30+ full-text and journal citation indexes either made available through the State of Indiana's Inspire Project or purchased cooperatively by PALNI from OCLC and other database vendors.

Since the initial database load of about 100,000 University of Indianapolis records in early 1994, the PALNI database has grown to include almost 1.5 million unique MARC bibliographic records of 21 libraries. It also contains 570,000 authority records and 3 million MARC Format for Holdings (MFHL) records. PALNI was among the first sites to use DRA's MARC Format for Holdings standard. MFHL has proven to be very valuable to a cooperative catalog like PALNI's in that it has allowed each PALNI library to retain local notes and other library-specific information in the shared union catalog, and it also groups multi-copy and multi-volume items together to ease patron access.

PALNI is now in the process of implementing on-going authority control for the PALNI database, and will use Library Technology, Inc.'s Authority Express Program to provide automated, up-to-date authority control on all new material that is added to the database.

One of the innovative design features of the PALNI system has been its use of the Internet as its primary, statewide, telecommunications infrastructure. Specifically, in 1993, with initial funding provided by PALNI, the Indiana Higher Education Telecommunications System (IHETS) implemented the statewide INDNet Internet network. Using TCP/IP networking protocols, INDNet interconnects the PALNI central site and the various PALNI campuses throughout the state, and also gives each of the campuses full access to the Internet.

PALNI and INCOLSA jointly maintain two 1.5Mbps connections to the statewide INDNet backbone, while each PALNI campus is responsible for providing its own connection to the same backbone. Early on, PALNI's use of the Internet as its primary network infrastructure raised some unique issues and concerns about potential network reliability problems. On a daily basis, the PALNI library staff depend on having reliable access to the PALNI system to perform their jobs. Even a brief network problem can have a disruptive impact on an affected library, and there were concerns about whether the Internet could deliver the level of reliability required. Fortunately, very few reliability problems have materialized. Overall, the INDNet backbone network has proved to be quite reliable. For example, a review of network downtime statistics shows that, over the six month time period from July 1 through December 31, 1998, most campus connections to PALNI were working at least 99.6% of the time, and most network outages were less than 10 minutes in duration.

A more serious issue for most PALNI libraries concerns response time problems that arise when their campus connection to INDNet becomes saturated. Most libraries have found that the PALNI library applications themselves function well over a single 56 kbps connection to INDNet. However, because PALNI institutions also use their INDNet connections for campus-wide Internet access, most campuses have had to upgrade their INDNet connections to full T1 speeds just to maintain adequate response time and performance for the library.

Just as the PALNI system depends on the network infrastructure provided by the INDNet statewide Internet backbone, it also depends on the Local Area Network infrastructure in each library and on each campus. The computer centers on each campus are responsible for operating and maintaining a suitable campus TCP/IP network that gives the library full access to the INDNet backbone and PALNI.

The DRA Classic system is primarily a terminal-based system, and most of the library applications used by PALNI expect that users will be connecting to PALNI from DEC VT terminals. When the PALNI system and network was first deployed in 1994, PALNI installed more than two hundred DEC VT 420 and 510 terminals across all of the PALNI libraries. VT terminals in each library are connected to each campus TCP/IP network using terminal servers, and access the PALNI system via telnet.

While this system represented the state of the art when it was first implemented more than 5 years ago, it has begun to show its age. Most PALNI campuses have gradually been replacing their VT terminals with networked PCs equipped with telnet software and VT terminal emulation software. In many cases, PALNI libraries have installed public-access PCs which provide access to local library information resources, as well as Web browser access to various journal indexes and full-text databases (e.g., via PALNI SiteSearch), and telnet access to the PALNI Online Catalog. Using campus networks and standard telnet protocols to connect libraries to the PALNI system has had an important side-benefit in that full access to the system is automatically available to any desktop computer on any PALNI campus.

CURRENT ACTIVITIES/FUTURE PLANS

The initial goals of PALNI were to (1) automate certain functions within member libraries such as the catalog, circulation, acquisitions and serials; and (2) to implement agreements among members to facilitate resource sharing. The accomplishment of these two goals in the last seven years has been the major work of PALNI central site staff and member libraries. As these functions have successfully come on-line in the librar-

ies, the membership has discovered that its experiences in cooperation have provided it with a powerful instrument with which to negotiate its way through this new information age.

The PALNI board has begun planning for implementation of a new, next-generation system over the next few years. At this stage, many of the details of the new system are still being developed. However, it seems likely that the next PALNI system will be standards-based, will employ a client-server system architecture, will offer graphical interfaces to all components of the system, and will offer users a much tighter level of integration among all subsystems.

When the shared circulation agreement was adopted in 1995, it was designed to allow individual faculty and students of any PALNI institution to go to another institution's library and check out materials directly. Currently, a committee of PALNI librarians and staff are working with central site staff to test a module which will allow students and faculty to place direct requests for materials from another PALNI library without using an intermediary such as the interlibrary loan staff. Materials requested in this way will be delivered through WHEELS to their home library. The spirit of cooperation and the availability of appropriate technology makes this possible.

Because of PALNI's success in 1996 in negotiating a shared license agreement with Encyclopedia Britannica, a group of PALNI directors began further exploration of consortia purchase of information databases. In another example of library cooperation, this PALNI initiative was placed on hold in early 1997 so as to not compete with the joint INCOLSA and Indian State Library effort to negotiate the development of a suite of databases to be made available statewide. Three members of the PALNI board served in this project (Larry Frye, Steering Committee; Tom Kirk, Database Committee; and Lewis Miller, Technical Specifications Committee).

With the successful launch of Inspire in January 1998, PALNI moved quickly to capitalize on the rapidly changing climate of on-line database developments and pricing. Inspire met the member needs for general use information databases, thus freeing up funds which the libraries had previously used for these purchases. The membership was polled to ascertain how much of their savings they would be willing to commit to joint purchase of new databases. Particularly attractive to all members was the fact that the PALNI database committee would now be able to focus on the specialized needs of PALNI members. In response to these needs, PALNI acquired the First Search base package, plus ATLA Religion, CINAHL, General Science Abstracts, Humanities Abstracts, MLA, PsycINFO, and Social Science Abstracts. Thus in less than six months, PALNI libraries were able to leverage their funds to obtain a quality and quantity of information resources not even dreamed of seven years ago when the organization was first incorporated.

Currently, a PALNI user group of reference librarians is meeting semi-annually to explore new avenues of cooperation and to provide opportunities for continuing education. Several other workgroups have formed on an ad hoc basis to solve particular issues. These include the cost sharing work group which worked out an equitable funding formula which all members supported in 1996, and the PALNI interface design group which worked with PALNI staff to develop the current PALNI Web interface. Another committee is currently exploring the feasibility of a union list of serials for PALNI libraries and options for joint off-site storage of little used materials. Behind the scenes there continues to be a large group of PALNI volunteers who work on technical issues in cataloging, authority control, serials, and acquisitions. The work of all of these groups is vital to the continued vitality and success of PALNI.

The world of higher education has witnessed dramatic changes since the beginning of this decade. Since 1992, the PALNI libraries have often been on the leading edge of this change. The PALNI board is very aware of the need to remain faithful to the missions of their institutions. There is a need at this time for PALNI to take a step back from its past successes and take a strategic look at its future. Planning is underway for a series of PALNI retreats which will accomplish this task. It is anticipated that at appropriate times these retreats will include invitations to the college and seminary presidents, chief academic officers, and computer center directors to join the planning effort. The support of all of these individuals was critical for the launch of PALNI in 1992 and continues to be important for the future of library cooperation.

Since coming online for the first few PALNI libraries in 1994, the PALNI system has become an important information resource for PALNI libraries. PALNI's cooperative acquisition and use of computer technologies reduced the initial cost of providing basic automation services on most PALNI campuses. At the same time, by contributing to a union catalog, by agreeing to reciprocal interlibrary lending agreements, and by jointly purchasing third party databases, PALNI libraries have all benefited directly from expanded resource sharing opportunities.

Cooperation has allowed the PALNI libraries to harness the power of technology for the benefit of all its members. Cooperation will continue to be a key ingredient to the future growth and success of this organization as it works to achieve information equity for its members and their users.

ABOUT THE AUTHOR:

Larry Frye, Library Director at Wabash College, was the first chair of PALNI. Vince Lucas is the Project Manager of PALNI. Lewis Miller, Library Director at Butler University, is the current chair of PALNI.

PARTNERSHIP OR ALLIANCE? AN INTERVIEW WITH MILLARD JOHNSON AND C. RAY EWICK YIELDS TWO PERSPECTIVES

INDIANA LIBRARIES:

How do you define partnership?

EWICK:

I think of a partnership as an effective and strategic alliance between agencies to pursue a commonly held goal.

JOHNSON:

It used to be enough for a company to offer you the best quality product for the least possible price. Lately however more and more companies want to enter into partnerships with us. Database vendors, software giants, computer makers, even the telephone company, all want to partner with us to provide better library service. Partnership/partner! It is not bad enough that they turn a perfectly good noun into a verb, but they would have us believe that, in our special case, they are more a philanthropy than a commercial enterprise. It is little wonder that so many businesses want us to be their "partners" because a true partnership requires a level of trust, commitment and mutual interest that is impossible in a commercial transaction. It also requires that each party to the partnership have complete confidence that the other "partner" is not trying to gain profit from the other. Unfortunately, profiting from an exchange is exactly what a commercial transaction is. So, no thank you, we will buy telephone service from the company that provides the service that meets our needs with the greatest reliability, at the least possible cost. We will bargain for our greatest advantage, we will read the fine print, and we will trust the forces in the competitive marketplace to generate the products and services we need.

Another reason business likes the word "partnership" is because they recognize that true partnerships, such as the relationship between the Indiana State Library and INCOLSA, produce remarkably successful results from fixed resources. The *American Heritage Dictionary of the English Language*, third edition, defines partnership as: "A relationship between individuals or groups that is characterized by mutual cooperation and responsibility, as for the achievement of a specified goal: Neighborhood groups formed a partnership to fight crime."

INDIANA LIBRARIES:

For what reasons do your institutions seek partnerships?

JOHNSON:

There are good reasons for people and institutions to enter into partnerships and there are good reasons to avoid partnerships. Likewise, there are bad reasons to form partnerships and bad reasons to avoid them.

Over time, it has become increasingly obvious that individual libraries are becoming less able to provide comprehensive service or even be self-sufficient. The number of items published is growing, as are their costs. Technology becomes more essential and more expensive. New media emerges, requiring new expertise. The expectation of library patrons grows. Fortunately, as the world has grown more complex for libraries, the technology that created the complexity has allowed libraries to pool their expertise to solve their problems. To help libraries solve their problems they formed cooperatives. The first round of partnerships was formed by libraries of similar type and size where common interests were clear.

EWICK:

The Indiana State Library and INCOLSA are fundamentally different institutions. INCOLSA is a membership organization striving to serve the member libraries. The Indiana State Library is a government agency charged with studying the societal needs for library (and information) services, assessing the capability of the libraries to meet those needs and developing and participating in plans that would close the gaps. Therefore the State Library has primarily a planning and development function and INCOLSA more of an operational one. INCOLSA will suggest how technology can assist its members and implement the programs of most interest to the largest number of its members. And it must find the funding to carry on its programs. The State Library on the other hand needs to provide leadership in the adoption of promising technologies even before they become popular or in demand. Some of those technologies that need development can only be seen in the larger mosaic of the State as a whole.

INDIANA LIBRARIES:

Describe some of the partnerships in which the State Library and INCOLSA have participated or participate today.

JOHNSON:

It was not that long ago that INCOLSA was primarily a network providing service (especially OCLC services) to large public and academic libraries. There were always smaller public, school and special library members but the real strength of the organization was its support of larger institutions with major technical service operations. Providing network services to smaller libraries—particularly smaller public and school libraries—was the province of Indiana's other regional library networks. The Indiana State Library was the focus for networking of most of Indiana's public libraries. These early arrangements were beneficial to their members but the costs were large. As time passed, the cost of everything as well as the problems that spawned the networks grew faster than the income from state and other sources. Each network found itself spending a disproportional amount of its funding on overhead.

The consolidation of the networks was a traumatic experience not only for the staff of the networks but for their members and for anyone involved in multi-library initiatives in Indiana. The change which has occurred in Indiana networking with the merger of the ALSAs and INCOLSA was not so much the result of a power struggle as it was a thoughtful response to inevitable changes which were occurring in technology and financial support. Many dedicated people put the needs of the libraries statewide ahead of themselves.

One of the little known but still functioning entities created by the consolidation was the Network Coordinating Committee (NCC) which consists of the directors and three staff members of both the State Library and INCOLSA. For the first year, NCC meetings were held under the guidance of a professional facilitator. One of the committee's first tasks was to inventory services provided by both agencies. The object was to build on strengths and to eliminate duplications. As a result of the inventory both organizations stopped doing some things that the other was doing better. Both organizations learned a new respect for the abilities of the other. Finally, we learned some things that were not being done well by either. Perhaps the greatest benefit of the NCC meetings is that there is no longer a convenient scapegoat. It is impossible to dismiss problems when they are us.

It has been said that INCOLSA is the technology arm of the Indiana State Library. This is not exactly correct. The Indiana State Library has its own technology capability and links to other agencies with technological expertise. While technology is a focus of INCOLSA, and INCOLSA works in close cooperation with the State Library, it has its own priorities and programs not related to State Library initiatives.

Among the programs where the partnership between INCOLSA and the Indiana State Library has been most productive for Indiana libraries are continuing education, technology deployment to Indiana libraries, and Inspire.

EWICK:

The partnership or alliance with INCOLSA is built upon commonly-identified goals which are discussed through the Network Coordinating Council. The Council identifies the strengths of each agency, agrees upon a course of action that is not in conflict with other initiatives, and communicates an action plan. Communication, basic belief in one another, trust and mutual support are the essential ties which make the alliance or partnership work. One of the outstanding successes has been the development of Inspire. The idea for Inspire came from INCOLSA. The funding request was developed with the Indiana Library Federation and the Indiana State Library and secured from the Indiana General Assembly. The voluntary steering committee became a formal Advisory Committee to the State Library on the implementation of the contract which was made with INCOLSA.

The technological changes which affect INCOLSA and State Library also require alliances with other related but non-library organizations. These changes are affecting higher education, K-12 education, state and local government, and non-profit agencies such as museums, historical societies, etc. Each of these sectors wants to assure quality of service, affordable costs, and appropriate training in order to serve our common clients, the public. Therefore attending meetings and voluntarily serving on committees has led to achieving some common infrastructure that will be able to serve us all. One example is the Access Indiana State Backbone, the ATM high speed telecommunications backbone which links higher education, libraries, schools and eventually government in a managed network. Working with Intelenet, the quasi-state agency created by the Indiana General Assembly to broker telecommunications services for government agencies, has led to the State Librarian being statutorily appointed to the Intelenet Commission.

Because of libraries' knowledge of how people use information the State Librarian was subsequently appointed to chair the Enhanced Data Access Review Committee, which is responsible for overseeing the Access Indiana electronic gateway to State Government information. Open access to government information, protection of privacy, design of useful web sites, and

managing minimum commercial fee services which provide the funding for the free services are all areas in which the State Library provides some expertise.

Participation in Access Indiana also has brought libraries closer to the Indiana Higher Education Telecommunications System. IHETS obviously had demonstrated the technical capability to manage a high quality of network service. When simple leasing arrangements with telecommunications companies were unable to deliver services to our satisfaction, IHETS contracted to manage the State Backbone acquired through an RFP process. With schools, libraries and higher education using the single Backbone, some economies of scale are achieved as well as putting in place the infrastructure for tomorrow's telecommunication needs. As a result of this activity the IHETS Board voted to modify its mission and plans to include K-12 schools and public libraries. The Board has asked the State Librarian to serve on the expanded Board along with the Superintendent of Public Instruction.

In the new partnership as we talk of it, the partners are committed to their common goals, not just loyal to each other. When the common goal is no longer shared, perhaps the need for the alliance will also end and each might be best served by moving on to other partners with which there is a new common goal.

INDIANA LIBRARIES:

What kinds of partnerships do you see in the future?

JOHNSON:

There is a new book by Spencer Johnson (co-author of *The One Minute Manager*) called *Who Moved My Cheese?* that is making the rounds of businesses. It tells a story of four characters (including "Hem" and "Haw") that describe how we handle (or don't handle) change. We are still dealing with the changes going on especially in the area of technology. Experience demonstrates that the rate of change and its impact on our institutions will continue to increase at an ever-faster pace. We will be challenged to find appropriate mechanisms to keep each of our institutions engaged in serving our patrons and we must be open to changing relationships to be effective. Partnership has some specific legal meaning which is not the meaning that most of us have in mind when we say that we need to partner with someone to achieve our goals. Perhaps a better word would be alliance. When we ally ourselves with someone else, the alliance is not a merger where we lose our separate identity, but more a specified agreement to combine our strengths and differences to more easily achieve a common goal.

EWICK:

These new alliances or partnerships are not permanent relationships as much as they are a recognition of current need to work together to achieve common goals. The future may change or alter them as the needs change. Probably the current alliances will serve us well as video conferencing and distance education become the hot topics. The libraries will be well positioned to offer a range of services not readily available before. The use of video caching to store and deliver short learning videos on demand for just-in-time learning can further enhance the value of the library to the community. We will need to be ever alert to changing needs and the opportunities we should pursue. Unquestionably, more work with local government, museums and non-profit educational institutions will be required. As we describe some of our partnership opportunities, many of you also are engaged in similar opportunities within your communities. In the new partnership as we talk of it, the partners are committed to their common goals, not just loyal to each other. When the common goal is no longer shared, perhaps the need for the alliance will also end and each might be best served by moving on to other partners with which there is a new common goal.

ABOUT THE AUTHORS

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