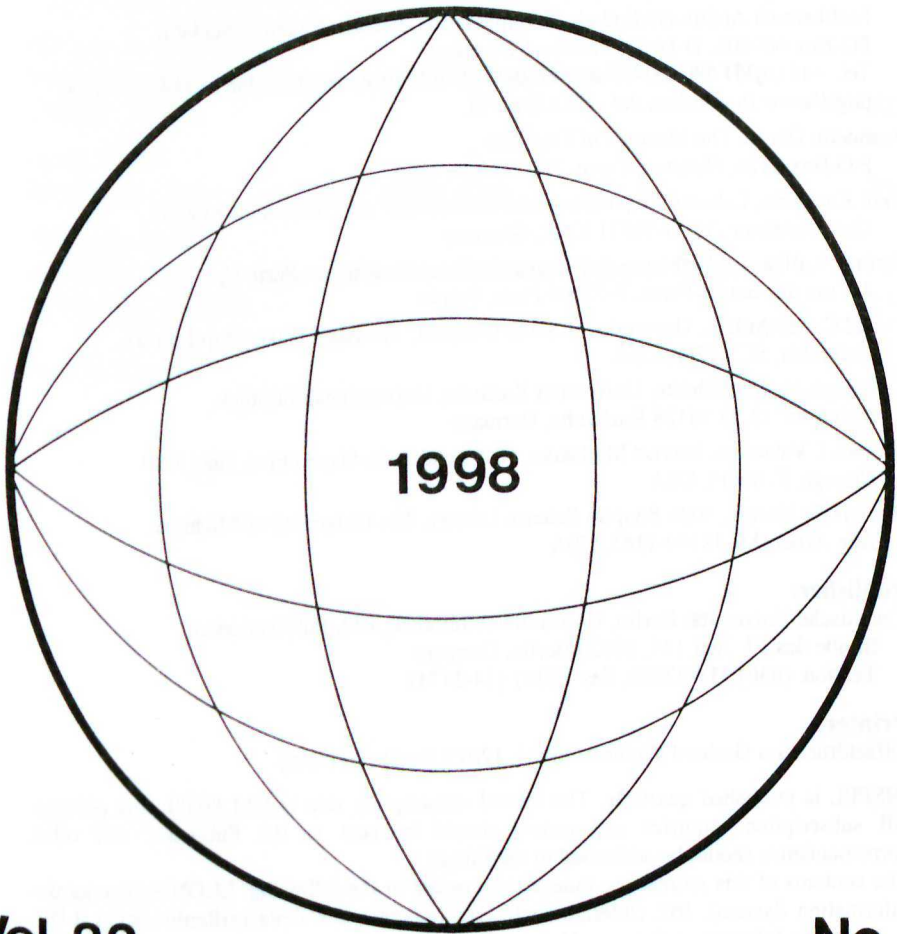


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WHAT'S SPECIAL ABOUT SPECIAL LIBRARIES? - SLA AND THE CONTINUOUS EDUCATION CHALLENGE*

By David Bender

This is a challenging time for librarians. There are many changes taking place in the field. These changes include accelerated growth of new knowledge, new technology, and shifts in the provision of library and information services. All of these changes happening at the same time make continuous education one of this field's top priorities.

The Special Libraries Association (SLA) is dedicated to serving information professionals in their specialized information-dependent environments. And part of our job is to help increase and strengthen our membership's professional competencies.

Within the information profession, special librarians face some unique challenges. They say time is money, and in the corporate marketplace, this cliché holds true. These professionals must respond to the time-critical information needs of their clients and employers. This increases the scope of traditional library services and requires these special librarians to perform a variety of tasks like:

- analysis, interpretation, packaging and dissemination of information;
- design, development and delivery of new services and information products;
- database and index construction; and
- selection, configuration and evaluation of individual systems.

All of these tasks serve to meet the ultimate needs of the client.

Given the rapid changes in technology, our members look to us for continuous education programs to keep them abreast of the latest developments. We are finding that competency in systems analysis, design, and advanced computer applications is critical. Today's special librarian must be able to plan and implement technical solutions that effectively solve the information problems of his or her organization.

In results from SLA's 1996 Super Survey of members and nonmembers, when

* Paper presented for a panel discussion of the Division of Special Libraries at the 64th IFLA General Conference in Amsterdam, August 17, 1998

asked about continuous education and the most relevant and important topics to be covered in the future, respondents rated courses on "new technologies" and "advanced technology for planning and development" as the ones they would most likely attend. Potential continuous education topics on intermediate and advanced applications of library technology received the highest "most important" ratings.

SLA has found that special librarians are also looking for continuous education in the area of management. Information professionals are often placed in management positions early in their careers. When this happens, not only are they needing to master their recently learned information management skills, but they require a firm foundation in business management skills.

This compels special librarians to acquire knowledge in areas such as communications, human resources, budgeting and finance, marketing, cost-effective performance, productivity, profitability, organizational behavior and politics, and leadership. Though some of these topics are touched upon in library schools, these information professionals are looking for a more in-depth study of these important areas.

Since the special library or information resource center is user-driven, constant assessment of client needs is vital. Being able to do this effectively requires the use of non-traditional information sources and then packaging or re-packaging that information based upon a client's needs. Once seen as „value-added services“ such as information product analysis and evaluation are now considered basic tools. Special librarians are looking for ways to improve upon these services.

SLA's Information Resources Center provides an additional services with a host of topic-segmented electronic information packets. These EIPs are available on SLA's Web site at www.sla.org. These EIPs are tools that can be used by special librarians to find out more about the cutting-edge trends and shifts in the information industry. With this knowledge, information professionals are empowered to more carefully monitor the course of their professional development.

SLA has produced a document entitled: „Competencies for Special Librarians of the 21st Century.“ This document has merged and built upon earlier efforts by the Special Libraries Association to describe the specific knowledge, understanding, skills and attitudes needed by special librarians. It was developed by the Special Committee on Competencies for Special Librarians in 1996 and it focuses on the need for continuous competence in the library and information science profession.

This competencies document highlights the changes within the profession and our information-dependent society. These changes include:

- global competition;
- new computing and communicating technologies; and
- the perceived need to measure the productivity of knowledge and service workers.

These changes are causing three paradigm shifts:

- the transition from paper to electronic media as the dominant form of information storage and retrieval;
- the increasing demand for accountability including a focus on customers, performance measurement, benchmarking and continuous improvement; and
- new forms of work organization.

These shifts are happening at a time when the workforce is aging, thus making the need for continuous education even more vital. This document also details the personal competencies needed to be an effective special librarian.

The audience for the competencies document includes various groups who are stakeholders in the library and information science profession. One of the primary audiences is library and information science educators.

Upon its completion, SLA sent this document to all library school deans throughout the world. It is our hope that these library schools will base their information science curricula on these competencies to better prepare information professionals for the needs and demands of the real world of information work. We believe prospective students will find use of the piece as a guide to the content and approaches that they should look for in a library and information science curriculum. We also hope that prospective students will use the document as a guide to the content and approaches that they should look for in a good library and information science curriculum.

In the information age, special librarians are essential -- they provide the information edge for the knowledge-based organization by responding with a sense of urgency to critical information needs. In order to fulfill this key role, special librarians require two main types of competencies: professional and personal.

Professional competencies relate to the special librarian's knowledge in the areas of information resources, information access, technology, management and research and the ability to use these areas of knowledge as a basis for providing library and information services.

Personal competencies represent a set of skills, attitudes and values that enable librarians to work efficiently; be good communicators; focus on continuing

learning throughout their careers; demonstrate the value added nature of their contributions; and survive in the new world of work.

The document is assisting the information professional in meeting the strategic information needs of the individual or group being served. The more established special librarian has found this document to be a critical component in the field to help them define their professional development needs and goals. SLA uses this document as the basis for all of our continuous education programming.

At last year's Annual Conference in Seattle, Washington, the Association adopted a new Strategic Plan. SLA's mission is stated: to advance the leadership role of SLA members putting knowledge to work for the benefit of decision-makers in corporations, government, the profession and society as well as to shape the destiny of our information and knowledge-based society. This is a big job!

This document further outlines our Association's priorities which are:

- competency;
- value of the profession; and
- access to the Association.

Of these three, the one that seems to be a natural fit for today's discussion is our focus on Competency.

SLA's Professional Development Program shines as it works to ensure that our members have opportunities to develop the professional and personal competencies and skills of the special librarian. The program provides many activities designed to empower members to stay up-to-date with changes in the field. Our job is to provide them the tools to position themselves as key players in their organizations. In conjunction with another SLA priority -- access to the Association -- more of our Professional Development programs are being made available to the members virtually. These include online programs and satellite video conferences at locations throughout the world.

Our Professional Development staff works closely with a volunteer committee of Association members to plan the topics and details of the program. The committee:

- analyzes and recommends policies for the program;
- advises and assists the department in their planning of educational programs and career services; and
- reviews the programs developed by staff.

The SLA Board of Directors recently approved a committee-developed vision statement which currently serves as a working model for career advisory services

and continuous education. The committee is busy working with staff to develop tools that will assist members in evaluating their core competencies as well as designing an Association-wide mentorship program.

The Professional Development Program widely covers two areas: continuous education and career and employment services. Through various activities and programs, SLA takes pride in offering specialized information for information specialists. I would like to touch on several of these activities, the first of which is our Annual Conference -- now just a few short weeks away.

SLA's „main event“ is the Annual Conference which is held each June. Upwards to about 6500 information professionals gather together to take advantage of myriad educational programs and networking events. With more than 30 different continuous education courses at varying levels, Annual Conference guarantees a program to meet everyone's needs. Annual Conference is also the perfect venue for professional networking. Whether it's joining a local chapter member for a leading thinker presentation, or participating in round table discussions with division peers, the SLA Annual Conference expands professional circles to increase learning, collaboration and innovation in the work place. Our next SLA Annual Conference starts three weeks from Saturday -- June 6-11, in Indianapolis, Indiana.

Another offering is our Middle Management Institute, which was designed to bridge the gap between library school and the challenges of a mid-level position in library and information management. Consisting of five individual units that are offered at various times throughout the year, the institute provides practical training in the fundamentals of management and assists in the development of skills associated with effective administration.

In today's environment, information professionals move rapidly into demanding positions, often without the benefit of management education. Topics include:

- analytical tools of the trade;
- human resources issues;
- marketing and public relations planning;
- mastering technology and applications; and
- basic management skills.

One of our newest annual continuing education offerings is the Knowledge Executive Institute. Developed to serve the interests of our more seasoned information professionals, the Knowledge Executive Institute is specially crafted to teach more senior moving information professionals how to build the visioning,

leadership, and communication skills that are critical to success in any senior level position. The institute is held prior to SLA's Annual Conference.

SLA offers the latest in distance learning programs to keep special librarians aware of new developments in the field, while earning continuing education credits, without having to travel to special conference locations.

In this same vein, SLA offers two satellite video conferences each year -- one in the spring, and one in the fall. Available to any information professional in the USA, Canada, Europe, and Asia, these continuous education programs focus on the latest issues affecting the international library community. Topics have ranged from electronic copyright, to knowledge management and Intranets.

Likewise, our multimedia courses, offered in conjunction with the Pace University School of Computer and Information Systems, will make you a Web-site wizard in only five weeks. Consisting of online, textbook, and video-based instruction, these highly interactive courses are offered each spring and fall. This feature's course list currently includes:

- The Seven Keys to Highly Effective Web Site;
- Creating Your Own Homepage: HTML Essentials;
- Advanced HTML; and
- Writing Java Applets.

Currently, SLA has a variety of self-study programs available in workbook format. This program is being „virtualized“ into an online interactive format beginning July 1. This program, The Self-Paced Distance Learning Program, will allow members to brush-up on professional skills in a flexible, affordable, and convenient format. These Internet-based courses make it easy for information professionals to take advantage of continuing education programs without having to spend precious time and money. As the name states, it is at your own pace -- whenever and wherever it's convenient for you. A few of our titles are:

- The Complete Intranet Source for Information Professionals;
- Analyzing Library Costs for Decision-Making and Cost Recovery;
- Winning Marketing Techniques: An Introduction to Marketing for Information Professionals; and
- Legal Research for Non-Lawyers.

Coming soon to a desktop near you, SLA's newest distance learning program -- Real-Time Desktop Courses -- combines the interactive qualities of audio-conferencing, with the hands-on learning experience of the Internet. Each 90

minute course is led by an industry leader and explores current issues affecting the information community.

Offered each November, the SLA State-of-the-Art Institute is the premier forum for information professionals concerned with keeping on the cutting-edge of information management and business trends. Leading thinkers from around the world join together in Washington, DC to explore crucial industry issues such as the virtual workplace, the information age in Southeast Asia, and the idea of knowledge management as a new competitive asset.

In a focused attempt to reach our non-North American members, SLA is hosting a worldwide conference on special librarianship -- Global 2000 -- to be held October 16-19, 2000 in Brighton, England. This conference will focus on the Information age and its challenges and opportunities for the international information professional. Beginning in 2000, this global conference will replace the aforementioned State-of-the-Art Institute.

Designed specifically for SLA's chapter, division, and board leadership, SLA's annual Winter Meeting provides the perfect forum for leadership training, networking, and the opportunity to learn more about what is in store for the coming Association year. Planned to begin at the conclusion of the Winter Meeting, SLA's three-day Winter Education Conference includes a variety of half-day and full-day courses, an exhibit hall devoted to the latest information technology products, and the opportunity to network with other information professionals interested in staying on top of the information technology industry.

In addition to these excellent continuing educational opportunities, SLA has many career and employment services. SLA Online Job Search is an employment service designed to assist information professionals seeking new positions. Members can visit the SLA On-Line Job Search on our Web site to find timely job openings on-line.

The Employment Clearinghouse is a yearly networking opportunity offered at the SLA Annual Conference. The clearinghouse provides job seekers and employers with an opportunity to exchange information and meet face to face. For those unable to attend conference, a compilation of job openings is sold at the close of the event. Employment Clearinghouse application forms are available to all attendees in the preliminary conference program mailed to members each March.

The Career Advisory Service is also offered in conjunction with the Annual Conference. This service provides attendees an opportunity to discuss career goals with an experienced information professional.

We are all faced with challenge and change in our professional lives. This transition to a more information dependent world doesn't have to be an uphill battle. Through development, use and constant revisiting of our continuous education programs, SLA is dedicated to easing the journey and helping to increase and strengthen our membership's continuing education opportunities and professional competencies

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WHAT'S SPECIAL ABOUT SPECIAL LIBRARIES? - THE PRACTICE ENVIRONMENT OF THE HEALTH SCIENCES LIBRARIAN*

By Carla J. Funk

Introduction

The Medical Library Association recently celebrated its 100th birthday, making it one of the oldest library associations in the United States. MLA invited representatives from many other library associations to participate in our Centennial meeting. One of the comments voiced several times by visitors was that they did not realize how medically focused our members and meetings were. We were not only discussing the accessibility and delivery of health care information, but also the socioeconomic impacts of the health care environment on information delivery, aspects of telemedicine, the human genome project, medical terminology, the patient medical record and many other health issues that impact both the way in which we provide health information and the information that we provide. We were not only using the vocabulary specific to librarianship in our presentations to describe our research findings and programs, but also terms used by the medical profession. This shared vocabulary between professions is essential to efficient and accurate communication and is one factor that makes special librarians special.

Also, MLA's *Bulletin of the Medical Library Association (BMLA)* is influenced by journals of the health care professions. Whereas other library association journals have changed format or focus, the *Bulletin* is still a peer-reviewed research-oriented journal whose front covers are similar to that of the *Journal of the American Medical Association (JAMA)*. Our members publish research articles on the management of information in medical journals such as *JAMA*, *Academic Medicine*, or *Annals of Internal Medicine*. Likewise, members of the health care professions publish articles in the *BMLA*.

Health sciences librarians often work together in teams with groups of physicians, nurses, and others to provide information from the clinical literature to help in

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- Paper presented for a panel discussion of the Division of Special Libraries at the 64th IFLA General Conference in Amsterdam, August 17, 1998

patient diagnosis and treatment. Librarians may also accompany medical staff on patient visits to identify special information needs of both the patient and physician in treating a disease.

The term “special” implies other differences that give “special” librarianship its distinctive quality, character, or identity. I believe that the distinctive identity of health sciences librarianship is derived from the special bond that health sciences librarians share with the health care professionals they serve. The practice of health sciences librarianship is strongly influenced by the health care profession’s mission to save lives and maintain the patient’s quality of life. The information needs of the health care professional determines how health sciences librarians practice their profession on a daily basis and creates a very challenging practice environment for the librarian. Our members’ practice needs have encouraged them to be leaders in the development of on-line databases such as MEDLINE and continuing education and certification programs for librarians. These practice needs also drive the programs and services of the Medical Library Association.

Database Development

The challenging practice environment in which the physician and health sciences librarian work promoted the development and distribution in the 1960’s of one of the first on-line databases, the MEDLARS database. The U.S. National Library of Medicine (NLM) and its librarians along with others created the MEDLARS system which eventually evolved into a number of specialized databases such as MEDLINE and TOXLINE to serve the medical community. This focus on a subject specialization, in this case medicine, enabled the growth and development of extraordinary information resources in the medical area. In 1997, NLM opened up access to medical information to a wider audience when NLM and MLA jointly announced that NLM’s databases would be made available free-of-charge over the Internet via Internet PUBMED and GRATEFUL MED. Health sciences librarians continue to promote open and free access to health care information for the medical professionals and patient population in a variety of ways. Most recently, MLA members successfully kept the journal of the National Cancer Institute a part of our federal depository program, enabling libraries to keep the journal available in their collections.

Continuing Education

The research-intensive medical profession has always emphasized the need for continuing education, requiring physicians to be recertified in their medical specialties on a regular basis. This lifelong learning is critical to the medical field

as new therapies and drugs are discovered and new technologies are introduced. Similarly, health sciences librarians recognized the need for more intensive subject specific training for their specialty than was offered by the graduate library schools. They also needed to keep their knowledge current in the same way as the physicians they served. To meet this need, MLA began to offer continuing education (CE) courses in the 1950's at the association's annual meetings. In 1990, MLA published *Platform for Change* (1), our educational policy statement. *Platform* detailed the roles and responsibilities that MLA, NLM, the library schools, employers, and most importantly, the individual play in professional lifelong learning. Today, CE courses are offered at both the national annual meeting and at the chapter meetings. In 1997, MLA had almost 6,000 participants take part in MLA-sponsored educational programs. In 1998, over 1,000 people took CE courses at the association's annual meeting.

Over the past few years, MLA has been producing satellite teleconferences to bring continuing education programs to the local area. In September we will carry this a step further by piloting our teleconference on evidence-based medicine over the Internet via realvideo as well as via satellite to bring courses directly to a librarian's desktop.

Certification

The health sciences librarian, as a member of the health care community of professionals, also had a need to be formally recognized for continuing education beyond the MLS. This need parallels the requirement of the physician and other health care professionals to be recertified on a periodic basis. MLA developed its certification program in 1948 to help health sciences librarians document their continuing education and other professional activities like the certification programs of associations who serve members of the health care community. MLA's certification program for health sciences librarians changed in the 1970's. To be certified, a librarian had to pass a competency examination. In the late 1980's, this program evolved into the Academy of Health Information Professionals or AHIP. All members of the Academy carry the designation "AHIP" after their names. Although an examination is no longer given, the certification program now documents the continuing education efforts of our members through coursework, publications, teaching, and involvement in other professional activities. Promoting their membership in the Academy helps health sciences librarians gain recognition among health care professionals who are very familiar with the necessity of certification and licensure programs in their own professions.

Impacts on the Profession

Health care is being driven by two strong forces in the U. S. today. The continually changing technologies impact both the practice of medicine and the practice of librarianship. The changes in the delivery of healthcare in the U.S. have also had a major impact on the way that medicine is practiced. This environmental volatility has led to less job security for health sciences librarians.

Other factors affecting health sciences librarians today besides new technologies and changes in the delivery of health care are the increasing availability of health information to the public, institutional accreditation issues, and ethical concerns.

The increasing availability of health information over the Internet has put more information, both good and bad, in the hands of consumers and patients. This has encouraged people to play a greater role in making decisions about their healthcare treatment options. Historically, health sciences librarians have served only health care professionals. However, as the U.S. health care environment has changed with its emphasis on consumer and patient health education and the accessibility of health information over the Internet, health sciences librarians are becoming more involved in providing consumer health information, either through the hospital or university medical library, special consumer health centers, or by working cooperatively with public librarians or community service agencies in their local areas. Over the last ten years, health sciences librarians have had to develop expertise in searching the Internet to locate and provide quality health information to the health care professions and, increasingly, to the public. This is not surprising since the Internet is a factor in all librarians' lives today. However, since it is estimated that two-thirds of the people who have used the Internet have sought health information there, the health sciences librarian has been on the leading edge of this technology. In recognition of this expansion of our members roles and responsibilities, MLA adopted a policy statement on the librarian's role in the provision of consumer health information and patient education (2). We have also published a consumer health brochure "Deciphering Medspeak", which defines some common medical terms, translates abbreviations often found on prescriptions, and provides information on recognizing authoritative health websites. These brochures are being distributed by hospital libraries, academic health centers, consumer and patient health libraries, and in physicians' offices.

Sometimes we work for organizations that may not view libraries as central to the success of the organization's strategic plan. This lack of perceived value of the health sciences librarianship has resulted in loss of jobs for librarians, particularly in hospital libraries. It has also meant that librarians are competing with other

professions such as information systems managers or those who specialize in medical informatics for information positions in their institutions. Health sciences librarians have had to gain additional knowledge in adapting and using new technologies to provide information services to a client base that is expanding beyond physicians, students, academic researchers to include patients and consumers. MLA and the National Library of Medicine continue to provide a range of continuing education opportunities in these areas. Those health sciences librarians who are keeping up with the changes and have a flexible vision of their roles and responsibilities within the organization have been given greater responsibility, greater recognition, and increased salaries. Also, health sciences librarians who have obtained additional knowledge and skills are able to move into other information-related professions within the institution such as chief information officer or establish their own information firms providing health information on a contractual basis to health care facilities or to the public on a fee-for-service basis. Two years ago, MLA inaugurated National Medical Librarians Month to help members of the profession promote the value-added they contribute to quality patient care.

The institutions in which health sciences librarians work are often accredited by outside agencies such as the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) or the National Committee for Quality Assurance (NCQA). The emphasis in the accreditation report on knowledge-based or the clinical information that the librarians provides is sometimes minimal, but accreditation requirements can be crucial to the survival of the librarian within the hospital or academic health center. MLA works with these outside agencies to be sure that the information management function is recognized as essential to the operation of the institution and that the professional librarian is perceived by the institution as being integral to the information management function. Over the past five years, the JCAHO has become an international organization, working with countries in Europe, the former Soviet Union, and Africa to develop accreditation standards for each country. As time goes on it will be interesting to see what influence these standards have on the practice of health sciences librarianship in these countries.

An area of expertise for health science librarians that has grown in importance is the ability to instruct or teach. This qualification is found in an increasing number of ads for professional positions, no matter what other responsibilities that that position entails. Instructing the health care professional in the use of databases to find medical information has been a part of the health sciences librarian's job for a number of years. Now the health sciences librarian may be responsible for state-of-the-art instructional labs used by medical students and faculty. According to

Asta(3) in the author's article about today's medical libraries in the *Annals of Internal Medicine*, "Medical librarians have also used their expertise in information services and audiovisual technology to launch telemedicine services and assist curriculum development at many medical schools." The increasing need for the health care professional to effectively use the Internet has required that librarians spend more time in instruction of all types and has demanded that they develop instructional web courses and other technologically advanced educational techniques to serve their constituencies.

Recognizing that the professionals we serve drive our profession, MLA adopted a code of ethics for health sciences librarians(4) describing goals and principles for ethical conduct in serving society, clients, our institutions, our profession, and ourselves. The Code recognizes that health sciences librarians have an obligation to the institution that they serve, but also an obligation to the patient to provide the best information they can to assist them in making informed decisions about their treatment options. Rothstein(5) stated in her article on ethics and the role of the medical librarian, "the librarian should provide the highest level of service, ensuring access to information, protecting confidentiality, and avoiding conflicts of interest." Sometimes there is a conflict between institutional goals and the impartial provision of information. In the U.S., some health science librarians have successfully lobbied their state legislatures to adopt "patients' bills of rights" to minimize these conflicts. Hospitals and medical centers have adopted interdisciplinary approaches to modern medical ethics and health care to address these issues in a broader way than before.

One final example demonstrates what is special about health sciences librarians. Over a holiday a couple of years ago, one of our members was listening to the radio. She heard a news bulletin about a terrible accident in which a child had been critically injured. She left her own family, went to the hospital library, and began a literature search on the child's condition. She provided the needed information about the injury to the emergency room staff and to the parents within a very short space of time. Her quick action resulted in a favorable patient outcome and better informed parents. This dedication or passion for the profession that health sciences librarians share with other health care professionals is what drives the people who chose to go into health sciences librarianship and makes them special librarians.

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WHAT'S SPECIAL ABOUT SPECIAL LIBRARIES? - LAW LIBRARIES*

By Roger H. Parent

Introduction

The American Association of Law Libraries (AALL) is a national association of 5000 law librarians who work in law firms, corporations, law schools, and governmental libraries such as court, state, and county law libraries. Approximately 1/3 of AALL members work in private law firms serving more than 50 attorneys. In some respects they represent the most „powerful“ constituents in the Association, at least in terms of the economics of legal information in the U.S., because of their clout in the marketplace as consumers of legal information. They alone represent over \$593 million dollars of annual purchasing power in the legal information field. Their membership in AALL gives the Association clout with legal publishers because they represent such a significant portion of the legal marketplace.

However, other groups play equally significant roles. Those who work in law schools play a pivotal role in supporting faculty research and teaching in law schools with an average of 500 or more students. Those who work in the courts and governmental libraries support the judiciary, the practicing bar, and increasingly the lay public, many of whom need access to legal information but lack the resources to hire expensive legal counsel.

On average, AALL members have worked as law librarians for 13.7 years. The majority (74%) is in mid-career age range – 36-55 years. 86% have an MLS degree and nearly a third have a J.D. degree. 23% of law librarians have both an MLS and a J.D. Although the J.D. is not a requirement for all law librarians, it is in fact quite common and prevalent among leaders, particularly academic library directors. In an independent study student Laurie Langland reported in *AALL Spectrum*, (July 1998) that „those who discussed the merits of the J.D. versus the MLS generally agreed that the library degree was more essential than the J.D. but that both were required of academic law librarians so that they could hold faculty

* Paper presented for a panel discussion of the Division of Special Libraries at the 64th IFLA General Conference in Amsterdam, August 17, 1998

status. . . The JD/MLS combination was the overwhelming requirement for academic law library directors . . . The MLS was the main degree requirement for directors of corporate law libraries . . . from the librarian's perspective, possession of a law degree, in addition to the MLS, would put him or her on equal footing with the law firm's attorneys and the corporation's attorneys. . .“

Today, I'm pleased to address the question „What's special about special libraries, and in particular, law libraries and law librarians?“ Our panel was asked to inform our audience about our unique approaches to information and service, and to share some insight into the important roles of law libraries in our modern global information economy.

I plan to respond by providing two examples of law libraries that provide specialized yet quite different services to their clients, first law firm libraries and second public access law libraries. I will also describe two major areas of concern among all law librarians and areas where they have made noteworthy contributions. These concerns - first, merger mania within the legal publishing industry, and second, access to legal information in all formats - have wide-ranging implications throughout the legal community in the U.S.

I am especially grateful for the *Report, Recommendations, and Materials of the AALL Special Committee on the Renaissance of Law Librarianship in the Information Age* published by AALL in 1997. Their committee's work addressed many aspects of the question posed by our moderator, Edward Valauskas, at this IFLA program. They did so far more eloquently and more fully than I would have found possible without consulting their work extensively.

Characteristics of Law Librarian Education and Law Library Mission

In the Renaissance report, one prominent and long-standing AALL leader, Roy Mersky (Professor of Law and Director of Research, University of Texas, Tarlton Law Library) says:

- „Basically, law librarianship is an example of an area within librarianship where many individuals are successful because of the training they received in a subject specialty: law. Every librarian, to an extent, relies on training in a subject specialty (fine arts, humanities, science, music, etc.) acquired before moving through a graduate library program.“

His view is upheld by other members of the Special Committee who add in the Introduction to the work:

- „Law librarians do not always need to be lawyers, but they should be knowledgeable about the legal system and the legal profession. One cannot serve the profession or the public, if one doesn't understand legal institutions and their modes of operation“.

Further evidence of the consensus that law librarians don't need to be lawyers themselves is supported by the AALL members who completed a recent 1998 credentialling survey that inquired about the competencies of law librarians. They identified 31 Core Competencies („What Law Librarians Do“ published in AALL Spectrum, April 1998). Only a few core competencies apply directly to experience or training in law librarianship, such as:

- Assist in the use of electronic legal resources
- Provide customized reference services on law-related topics
- Evaluate the authenticity and accuracy of legal sources
- Be well-versed in the legal profession
- Understand the social, political, and economic context in which the legal system(s) exists
- Monitor trends in specific legal fields
- Assist non-lawyers in accessing the law

All other core competencies, identified in the credentialling survey, apply more generally to the field of librarianship and special librarianship, for example:

- Evaluate print and electronic resources
- Be an articulate spokesperson, promoting the library and advocating its needs
- Provide training to users
- Understand planning, budgeting, and control in the library setting
- Provide leadership within the parent organization
- Capable of selecting, supervising, and developing library personnel
- Knowledgeable about commercial, governmental, and non-profit information - providers
- Provide physical facilities that guarantee a high level of service
- Implement an appropriate level of cataloging
- Implement an automated processing system
- Create guides and aides
- Apply appropriate preservation techniques

Just as in all areas of the profession, highly sophisticated information technology is totally transforming the nature of law librarianship. However, these core competencies seem to remain constant.

The Special Committee on the Renaissance of Law Librarianship said:

- The ideal law librarian is in harmony with the values at the heart of the legal profession and librarianship, is completely knowledgeable about everything relevant to legal information, and has all the necessary character traits, attitudes, and skills to be a superbly effective legal information specialist.
- The foundation of our profession is its mission. In its broadest sense, that mission can perhaps be characterized simply as one of serving the information needs of the legal profession and the legal information needs of the public. All the functions of acquiring, collecting, organizing, retrieving, and disseminating legal and related information are only subsets of that basic mission.
- (Law librarians subscribe to) a set of essential values or principles, including genuine belief that the world is a better place when people and institutions have optimum access to information, faith that the world is also a better place when the rule of law prevails, conviction that serving the information needs of the legal profession is a noble calling, belief that democracy is the best political order, firm conviction that an effective democracy requires ready public access to the law, opposition to censorship, and commitment to fostering the equal participation of diverse peoples in library services and library employment.

What Is Special About Law Libraries?

Because of time and space limits on my response to the question, „What is special about law libraries?“, I'll focus my comments on just a few examples of the unique features and characteristics of law librarians in law firms and public access law libraries.

To conclude my paper, I will also review two overarching concerns of all law librarians. Those issues suggest the range of interests and thus the specialized nature of law librarians.

Law Librarians In The Law Firm Setting

In a recent salary survey, AALL gleaned from the data that the modern law firm is big business and that the law firm library needs to be managed accordingly. Law firm librarians face all the same and intense pressures placed on corporate executives: costs, accountability, quality, relevance, customer service.. summed up in the words, „ bottom line pressure“.

On average a law firm library spends \$645,000 on information each year. Of that amount, just over half is spent on electronic information. On average, firms employ 1.8 professional law librarians, who each serve 52.7 attorneys. Many firm librarians also supervise other functions related to managing information.

- 10% supervise client development research. They gather information about prospective clients and estimate research budgets on business proposals. Some

firm libraries are expanding their offerings from pure legal research to data gathering about current and prospective clients as part of the firm's marketing efforts.

- 37% bill directly to clients at an hourly rate for non-legal research by library personnel. Clients are demanding cost-effective, rapid, and efficient legal research and other services; librarians can and do serve as research consultants to clients in non-legal areas. In some firms 30-60% of the law librarian's time is billed to clients.
- Most train associates and other users to be efficient researchers on expensive online databases like Westlaw and LEXIS.
- 9% manage dockets
- 13% manage conflicts. They evaluate potential litigation exposure, review the current legal counsel used by potential clients, and check financial viability of potential clients.
- 18% manage all the firm's information records.
- 10% manage automated information systems.
- and 7% supervise paralegals.

In an electronic roundtable discussion in 1996 (published in *AALL Spectrum*, September 1996), participants characterized the law firm library in the following ways:

„From a manger's standpoint, I see five primary purposes for information resources and research: 1. To avoid mistakes; 2. To enhance advocacy; 3. To track the activities of clients, client industries, and emerging trends; 4. To identify new opportunities for growth; 5 and to improve methods and procedures, both in the delivery of legal services and in management of the organization.“ Law libraries must be „central to the collective intelligence of the institution“. Charles Stinnet, President, Association of Legal Administrators, and Administration Partner at Chapman & Cutler, Chicago.

„The traditional services of refining information for delivery to the lawyer will continue to be needed, as lawyers' time must be saved for its highest and best use: analyzing information and applying the knowledge gained to the issues of a particular client.“ Kay Todd, Legal Researcher, Paul Hastings Janofsky & Walker, Atlanta.

„I believe that libraries are meeting the needs of the firm as long as the librarian is keeping abreast of the changes in the legal marketplace and helping the legal staff to prepare for these changes. The myriad sources of information overwhelm most attorneys . . . my job is to teach my users how to fish, and I can only do that if I know everything I can possibly know about bait, tackle, currents, etc. Let's be honest though. There are also those partners in the firm who do not want to learn how to fish, but merely want to be handed a fish. This is also part of my job. . .“ Michael Saint Onge, Librarian, Coudert Brothers, San Francisco.

„I believe that it is critical that firm librarians continually look to the bottom line to show how the services provided help ensure the firm’s bottom line is maximized.“
Holley Thompson, Director, Strategic Customer Alliances, LEXIS NEXIS, Dayton.

These comments and many other similar ones emphasize the corporate pressures and the economic ones facing law firm librarians. On the other hand, other types of demands are placed on law librarians working in the public sector of the profession.

State, Court and County Law Libraries

„Court and public access law libraries play unique roles in the legal information world. We serve those who create the body of legal information – the courts, as well as participants in the legal process – the public, and increasing numbers of private practitioners and attorneys from corporations and other government entities.“ Ruth Fraley, Director, Records Management and Library Services, New York State Unified Court System.

The San Diego County Law Library in California is one example of a public access law library. 89% of its budget is derived from filing fees for the first initial filings in the superior and municipal courts in San Diego County. It is available to 9,500 attorneys. The Main Library holds 270,000 volumes and three branches hold 17,000 volumes each. One branch is 42 miles away from the Main Library. The library is staffed with 48 employees.

About 34% of the San Diego County Law Library users are pro se litigants. According to the Director, Charles Dyer, what used to be an exceptional situation is becoming the norm. More and more people are pro se litigants who cannot afford lawyers. In 72% of the divorce cases in San Diego County, both sides are pro se. Pro se litigants are also tackling cases like landlord-tenant disputes, adoption, immigration, and even some stock and antitrust cases. Studies show that pro se patrons actually seek information in nearly every subject area in the law library. In San Diego they consume 75% of reference staff time at the Main Library and 90% of reference staff time at the three branches.

Service to pro se litigants raises ethical issues for law librarians. Will political and economic forces make fee-based services the norm and free services to the public the exception? If so, the rich will still spend money more easily than the poor. Librarians will need to decide which basic services will be available to all. Given the enormous range of reference needs of even the poorest pro se litigant, librarians will make choices that may occasionally deprive someone of the justice he or she deserves.

However, Ruth Fraley, reports that not all pro se litigants are indigent. She says:

„Many are well prepared, intelligent . . . some have already used self-help resources before entering the library. Many are doing sophisticated legal research. A lot of them are angry about the system and angry with the law. They will not accept the word of an attorney and come to the library to check on the accuracy of the lawyers.“

Public access law libraries play a role in serving the public, welcoming nearly everyone - judges, attorneys, and pro se patrons - on an equal footing. They share many of the same concerns as public librarians about access for the poor to both highly specialized and local legal information. Access for the poor is limited by knowledge, skills, and financial resources. Often pro se litigants cannot afford online access.

Some court libraries and state law libraries are developing special services for the pro se patron. For example, creating automated kiosks with simple instructions for automatic filings and developing hand-out packets to be used in routine matters like divorce. The trend toward self help is expected to grow, acerbated by the lack of respect for lawyers and by the growth in the ranks of the urban poor.

In Montana, the State Law Library of Montana has launched the „Law Library Legal Advice Clinic“ to assist those interested in self-representation. They have done so in partnership with the governor’s office, justices of the supreme court, the attorney general, a district court judge, the state bar, the local district court clerk’s office, and the Montana Legal Services Association. Their goal is to help pro se litigants handle increasing numbers of questions on topics such as family law, bankruptcy, consumer law, employment law, and landlord tenant law. This library serves as a clinic, an advice-only clinic, where qualified pro bono attorneys can meet clients, but the attorneys do not appear in court or represent the client. Federal poverty guidelines determine whether one is eligible or not for assistance at the clinic. The law librarians serve as the point of contact for interviewing litigants on financial eligibility, on the nature of the inquiry, the current status of litigation, etc. They screen and schedule appointments with pro bono attorneys. The law librarians report satisfaction in being a part of a process involving representatives from the legal community working collaboratively to achieve a common goal.

Although some public access law libraries are not-for-profit entities with elected boards and dues - paying members, most depend on local governments for their offices, funding, utilities, and telecommunications. Public access law libraries are integral parts of local and county government, the judiciary, or part of a statewide system. Law librarians in these institutions need considerable political skills, not only to fully understand the governance structure under which they operate, but also marketing skills to propose and defend the library’s needs to decision-

makers. Many of these see the law library as „a financial drain . . . serving fringe citizens“ who are few in number and usually the most cantankerous.

Although these examples illustrate a few of the characteristics that distinguish two types of law libraries from each other and qualify them as „special libraries,“ all law librarians share some common concerns that have far - reaching impact on the legal community, legal information users, and ultimately the public. Two examples illustrate the point.

Concerns Shared By All Law Librarians: Publisher Relations

The legal publishing industry has been revolutionized in the past few years. Mergers and take-overs of legal publishers and information vendors have occurred on a monumental scale. Today a few major international corporations, whom one AALL member called the „Robber Barons of the Information Age,“ now own more than a dozen formerly independent publishers.

One law librarian in a recent AALL President’s Briefing on Publisher Relations expressed the view of many: „Between all the mergers and restructuring of (legal) publishers, I just don’t trust them anymore. I used to think we were partners in the cause of providing legal information to the public. But lately it seems money is their only priority.“

On the other side, publishers have said „. . . Our whole work environment is being reinvented and it’s not easy for us either. . . Technology has turned our industry upside down, increased demands on sales reps and made us reorganize. . Our company is just doing what we have to do to keep up with the changes in world.“

These are obvious indications of an industry and an environment in great flux. Law librarians have remained in the thick of the fray from the beginning.

It is estimated that the total U.S. legal publishing market for 1996 was \$3.9 billion. There are only three major legal publishers in the U.S. today. These are Thomson’s West Group, Reed Elsevier’s LEXIS NEXIS, and Wolters Kluwer’s CCH and Aspen. Each has a foreign-based parent, and together they control the majority of the U.S. legal publishing market – almost \$3 billion of the \$3.9 billion is U.S. sales. Remember that AALL member librarians are a significant portion of this market, spending almost \$900 million dollars in 1997.

In the words of Donna Tuke Heroy Editor of Legal Information Alert (*AALL Spectrum*, October 1996):

„Traditionally law librarians have had the ear of legal publishers. This is surprising, in one way, because there are so few (about 7000) of us compared to the total number of

other legal professionals in this country. Perhaps it is because librarians are so educated about the products and services that they purchase from these vendors. Then too, law librarians have been outspoken in criticizing legal vendor marketing and publishing practices“.

Law librarians have served as a watchdog on the impact, both potential and actual, of mergers and acquisitions. In a letter to the Department of Justice in 1996 on the question of the merger of Thomson and West, law librarians said: „. . . our goal has been to ensure the continuation of high quality legal information products at reasonable prices in a healthy competitive environment.“ In that same letter law librarians raised concerns about the increased consolidation in the industry and reduced competition in the availability of print materials for libraries and the potential to impact on the online environment as well. They are concerned about limitations on choices resulting from reduced competition:

- Mergers have increased concentration in the print legal publishing industry and reduced product competition through the elimination of overlapping products that, in the past, assured the quality of those products at competitive prices. In certain instances West Group now controls 100% of certain codes, court reports, and other basic legal materials.
- Increased concentration and reduced competition are likely to lead to increased prices.

These and other concerns remain at the forefront of the attention of the Association and law librarians in the U.S.

Concerns Shared By All Law Librarians: The Path To Citation Reform

By the spring of 1994, it was apparent to some librarians, attorneys, and judges that legal citation was „broke“ and needed „fixing.“ As more and more case law was published in electronic form, legal writers began to desire a simpler way to cite cases: one citation, from the beginning and good across both paper and electronic forms. Since the 1990’s West Publishing, the sole print publisher of the opinions of many jurisdictions, had claimed copyright to the actual citation form of cases it published. This claim has been and is once again the subject of litigation in the courts in the U.S.

Following months of study and debate, law librarians issued recommendations for a „medium-neutral form“ and began working with the bench and the bar toward the goal of better citation formats. Today, four years after AALL and law librarians initiated a study of citation reform, courts at all levels appear to be moving in the direction of a citation format that will indeed work equally well for electronic and print sources, and indeed challenges the longstanding West

Publishing copyright on citation format. This year, 11 states have adopted or allowed some form of vendor and medium neutral citation form based on the AALL model. This was done despite intense opposing pressure from West Group throughout the legal system.

In the words of the AALL committee,

- „It seemed only natural that law librarians assume a leadership role in framing a new set of citation standards for the American legal community“.

Summary

What is special about law libraries? My remarks have suggested that even though the basic education and the core competencies of law librarians are similar to those of other types of librarians, there are sufficient differences in mission and responsibility to separate them. Law librarians and law libraries play a unique and integral role in shaping the quality of the legal system in the U.S. at all levels. They are part of the process from the very start. They participate in law school education of attorneys and the training of associates in law firms, they support the practice of law from the bar to the judiciary, and they now play an increasing role in helping the public protect its legal rights. They are also part of the legal effort at the other end of the process, protecting the availability and quality of legal information at reasonable cost, and ensuring open and equal access to legal information for everyone

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FROM INTELLECTUAL CAPITAL TO KNOWLEDGE MANAGEMENT: WHAT ARE THEY TALKING ABOUT?*

By Michael E.D. Koenig

With the corporate intranet as a catalyst, Intellectual Capital has grown into Knowledge Management, the hottest new topic in the business community - up there on a par with IT, information technology, as competitive advantage; TQM, Total Quality Management; and Business Process Reengineering, and it may well surpass them all.

Where did this notion come from?

Intellectual Capital became popular in the early and mid 1990s. It is an instructive aside to point out that knowledge management has exploded so rapidly that we can already speak of its predecessor of only a few years ago in the past tense. „Intellectual Capital represents the awareness that information is a factor of production, as economists would phrase it, in a category with land, labor, capital and energy“.¹ In the early and mid 1990s there was an increasing awareness in the business community that knowledge was an important organizational resource that needed to be nurtured, sustained, and if possible accounted for. Peter Drucker, as he commonly does, put it perhaps most compellingly:

We now know that the source of wealth is something, specifically human knowledge. If we apply knowledge to tasks that we obviously know how to do, we call it productivity. If we apply knowledge to tasks that are new and different, we call it innovation. Only knowledge allows us to achieve those two goals.²

Even more important was that the Internet's explosion during the 1990s occurred concurrently with the Intellectual Capital movement. The business world realized that Internet technology and procedures could be used to link an organization together. Using the Internet and its conventions for data display and access, and limiting access to the members of an organization, results in an „Intranet“. Companies had used LANS, Local Area Networks, and WANS, Wide Area

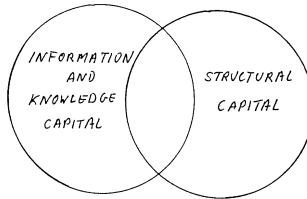
* Paper presented at a workshop of the section on Management and Marketing at the 64th IFLA General Conference in Amsterdam, August 18, 1998.

1 Eduardo Talero and Philip Gaudette, Harnessing Information for Development: World Bank Group Vision and Strategy, Draft Document, (Washington, DC.: The World Bank, July 1995).

2 Hibbard, 46

Networks, for some time but, Internet based Intranets were far easier to set up and administer, and the tools for employees to put information on the net and to access it were far superior.

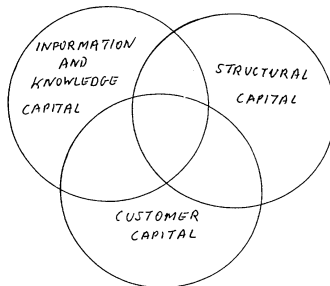
Intellectual Capital was first defined as having two major components, information and knowledge capital, and structural capital.



Information and knowledge capital was of course the organization's information and knowledge, but the informal and unstructured as well as the formal.

The structural capital was of course the mechanisms in place to take advantage of the information and knowledge capital, the mechanisms to capture, store, retrieve, and communicate that information and knowledge.

One immediate consequence of the appearance of Intranets was the awareness that they could be used to facilitate communications with one's customers, as well as within the organization itself. Of course, electronic communications with suppliers and customers had been increasing since the 1970s, EDI, electronic data interchange and JIT, just in time inventory, being examples, but the intranet very much accelerated that process. One consequence of this was an expanded definition of Intellectual Capital to include the customer's knowledge and input, customer capital.



The inclusion of customer capital was also unrelated to the popularity of TQM, Total Quality Management, in which responding to customer need and demand was a key element.

Concurrent with Intellectual Capital, and very much reinforcing it was the notion of the „Balanced Score card“.³ The idea here was that traditional financial reporting was too narrow in its outlook, and that in particular it focused only in the present and in the past, with no thought to the future. It was argued that there should be instead a „balanced score card“ that included the traditional financial measures, but that also measured other things such as comparative product quality, and customers satisfaction and turnover, things that were more indicative of current performance and better indicators of likely future performance. By traditional financial indicators, if the current balance sheet looks good, but customers have begun to defect to the competition, there is nothing to reveal that the situation is in fact not healthy. The idea of the balanced score card is intended to resolve that anomaly. Intellectual Capital is of course one of the obvious items that should be included in the balanced score card. One should be aware that the enthusiasm for the balanced score card arose partly as a consequence of the perception in the Anglo countries that their financial systems and the market's interest in short-term financial gain forced corporations in those countries to focus too much on the short term, with not enough thought for the long term, in contrast to the banking and financial reporting procedures in Japan and Germany and the East Asian tigers where corporations and their banks customarily enjoyed long term relationships which presumably fostered long-term thinking and strategy. The recent downturn in Japan and South East Asia, attributed in large part on too cozy relationships between companies and banks has made that thesis rather less compelling however.

Information however is an extraordinarily diffuse and nebulous thing to attempt to quantify, and measuring and accounting for it (in the sense of the accounting profession) continues to be a daunting task. Only very modest progress has been made in that quarter. Even so, the Intellectual Capital movement was successful in bringing the importance of information as a key „factor of production“ to the attention of management.

The dramatic consequence of the confluence of the Intellectual Capital movement and the appearance of the Internet/Intranet however was the fusion of these elements, and more besides, into knowledge management. In equestrian terms,

3 Kaplan, R.S. & Norton, D.P. „The Balanced Score Card - Measures that Drive Performance“, Harvard Business Review 70 (i): 71-19, Jan.-Feb. 1992.

Knowledge Management can be described as out of Intellectual Capital by Intranet.

Knowledge Management is now becoming the hottest topic to hit librarianship in the last quarter century. It may well surpass online searching, the previous record hot topic. There are various definitions for Knowledge Management - one good one is „the broad process of locating, organizing, and transferring, and using the information and expertise within an organization“⁴, another is „the process of capturing a company’s collective expertise“.⁵

It is tempting to see Knowledge Management as simply librarianship applied to the operations of an organization, whether a for-profit consulting firm, such as Andersen or a non-profit organization such as the World Bank. The reality is that Knowledge Management has become a much broader concept as it is now defined in the business community, and to deal successfully with Knowledge Management, to effectively take advantage of Knowledge Management, we need to understand how the term is used in the business community, and we need to use it in that fashion ourselves. It is too broad and too powerful a concept to try to put our own stamp on it, nor should we want to. Our customers and our management is most easily sold on the concept if they believe it has their stamp on it.

To return to the development of the concept of Knowledge Management, the first organizations to fully realize the potential of Intranets were typically the larger, worldwide consulting firms who had long realized that the commodity they dealt in was information and knowledge. These firms saw the intranet as an ideal tool with which to share and disseminate knowledge throughout their organization’s scattered offices. The phrase they chose to describe the Intranet based systems they were developing was „knowledge management“. How can a consultant in Valparaiso, Chile, working for a company headquartered in Chicago be made aware of work done by another consultant in Stockholm, work that the Santiago consultant could use to respond authoritatively and convincingly to a request for a proposal and be awarded the contract? The best current answer to that problem is Knowledge Management.

From there the concept of knowledge management continued to expand. Senge’s The Fifth Discipline, The Art and Practice of the Learning Organization appeared in 1990,⁶ and had established something of a cult following, but had not made a major impact, but with the intranet driven Knowledge Management it meshed

4 <http://www.apqc.org/b2/b2.htm>

5 Justin Hibbard, „Knowing What We Know“, Information Week (October 20, 1997): 46-64.

6 Senge, Peter M. The Fifth Discipline, the Art and Practice of the Learning Organization, New York, Doubleday, 1990.

perfectly. The Learning Organization is the thesis that what ultimately creates and distinguishes a successful organization is its success in creating and sharing information and knowledge, in short its success at learning. The obvious corollary is that to be successful, an organization must create a cultural that fosters learning. One can say, to summarize perhaps too briefly, that the concept of the Learning Organization focuses on the creation of knowledge, while Knowledge Management, as it was originally construed, focuses on the acquisition, structuring, retention, and dissemination of that knowledge.“ What has happened to Knowledge Management is that what is meant by that term now includes the concept of the learning organization.

A new term that has recently emerged is FLO, the Faster Learning Organization. This is the goal of knowledge management, to create an FLO that will thereby have a major competitive advantage over other organizations. In the words of Skip LeFauve, Senior Vice-President of General Motors Corporation, and President of General Motors University and previously Chairman of GM’s Saturn Division: „The only long term competitive advantage that a company has is how effectively it manages its company knowledge.“⁷

Another important perception that has accelerated the enthusiasm for Knowledge Management has been the richness versus reach thesis of Evans and Wurster. They pointed out in the Sept./Oct. 1997 issue of the Harvard Business Review⁸ that the nature of communications had drastically changed. Their observation is that until now, one had a choice of richness or reach in communication, but one could not achieve both simultaneously. A face-to-face convention for example was rich in content, nuance, and interactivity, but its reach was small, one or at most a few persons. A mass mailing or radio or TV broadcast had great reach, but was thin on content, nuance, and interactivity. Communication strategies were always an either-or choice.

How with the Internet, the argument runs, we can craft systems that simultaneously provide both richness and reach, and this transforms not only how we think about communications, but also how we think about organizations and how they do business. This thesis, which is in a sense an instantiation of Gibson and Jackson’s Domain III⁹, Transformation, and Koenig’s Stage III¹⁰, has been

7 Presentation of the Conference Board conference „The 1998 Conference on Knowledge Management and Organizational Learning“, Chicago, Illinois, 15 April 1998.

8 Evans, Phillip B. and Wurster, Thomas S. „Strategy and the New Economics of Information, 75(5): 70-82, Sept./Oct. 1997.

9 Gibson, Cyrus F. & Jackson, Barbara B. The Information Imperative: Managing the Impact of Information Technology on Business and People, Lexington, Mass. D.C. Henth, 1987.

incorporated into the canon of Knowledge Management as a very persuasive argument as to why the time is right for a thorough rethink of how information and knowledge is shared in the organization. Further it can be argued, the removal of the richness or reach dichotomy means that changes will not be gradual and incremental, but that they will be major and dramatic, and that the organization that does not keep up risks being left very far behind, and possibly out of business very quickly.

Those dramatic changes harken back to the vision of business process reengineering. But, there is a very real difference, Knowledge Management is perceived as a way of keeping the good of business process reengineering, but avoiding its excesses, the downsizing and rightsizing with the concomitant human suffering and insecurity so often associated with business process reengineering.

The word now being mentioned often in the same breath with knowledge management is „trust“.

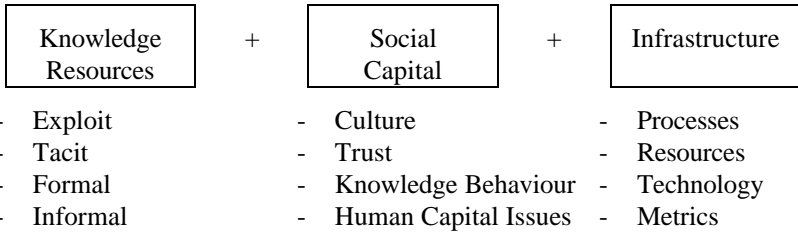
This is perhaps a trifle surprising, but it is also in fact quite logical. Good communication, and extensive knowledge sharing are not likely to happen unless there is an atmosphere of trust and some commitment to the employee. Knowledge management is in effect being presented as the antidote to the trust lost and to the knowledge lost in ill conceived and ill executed rightsizings when valuable employees were let go, with their knowledge going with them, and with a reservoir of mistrust and insecurity left behind. As Larry Prusak bluntly puts it „reengineering is the enemy of knowledge“.¹¹

Social Capital is another frequently mentioned facet of the same recognition. In this business context, social capital is operationally defined as those behavioral norms that lower transaction costs and enable cooperation. What norm better to enhance communications, transactions, and cooperation than trust? It is interesting to observe that at the same time there is an increasing recognition at the macro economic level of the importance of trust and consistency in international trade and for foreign direct investment.

In another sense, social capital is what has been added to intellectual capital to create knowledge management. Prusak of IBM employs the following graphic.¹¹

10 Koenig, Michael E.D. „The Convergence of Computers and Telecommunications Information Management Implications“ Information Management Review, 1 (3): 23-33, September 1986.

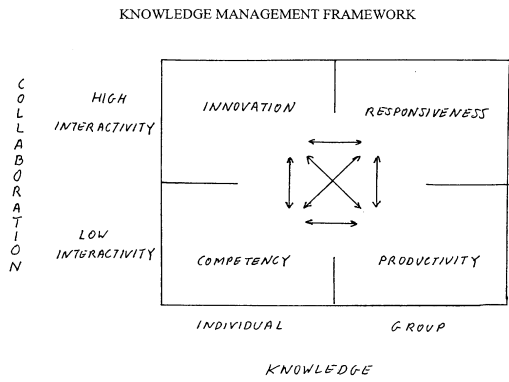
11 Larry Prusak, Managing Principal, IBM Global Services, Consulting Group, Presentation to the Conference Board conference, „The 1998 Conference on Knowledge Management and Organizational Learning“, Chicago, Illinois, 16 April 1998.



It is very similar to the later graphic for intellectual capital, with the „customer capital“ component replaced by „Social Capital“. It is now assumed that customer capital is included in all of the above, the infrastucture extended to include the customer, the knowledge resources including the customer, and the social capital embracing the relationships not just within the organization, but with the customer (and the supplier to whom one is a customer) as well.

In fact, it is not too strong to say that Knowledge Management has expanded to become a portmanteau term intended to include all of the positive aspects of the management fads of the last decade and a half, while avoiding the excesses.

One very useful graphic visualization of the expanded concept of knowledge management is:



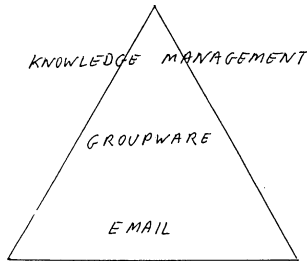
What this is intended to represent is - as Knowledge Management enhances knowledge sharing and collaboration, the results achieved are:

- | | | |
|-----------------|------------------|--------------------------------------|
| Innovation, | in areas of high | interaction and individual knowledge |
| Competency, | in areas of low | interaction and individual knowledge |
| Responsiveness, | in areas of high | interaction and group knowledge |
| Productivity, | in areas of low | interaction and group knowledge |

This graphic, promoted by IBM, conveys particularly well how broad the concept of management has become in the business community.

Another useful graphic aid to thinking about Knowledge Management is:

THE KNOWLEDGE MANAGEMENT PROGRESSION



The idea here is that typically the first extensive use of information technology to enhance knowledge sharing is the widespread use of E-mail. Then comes broad use of groupware, software designed to help teams work together in an electronic environment, and then the apex is true knowledge management, including a transformation in the culture of the organization to encourage and reward information creation and sharing.

In summary so far, Knowledge Management has grown into a far broader, more pervasive, more powerful notion either than it started out to be or than its name would suggest. In fact, there is beginning to be a reaction in business circles that the term knowledge management is not the ideal phrase. Some persons maintain that it is both too specific for a concept that is really much broader, and also that it is perhaps somewhat impolitic, that users, employees, and customers don't particularly relish the implication that their knowledge is being managed, rather they would prefer terminology that would imply that they are being supported in their undertakings. One of many phrases that has been suggested to replace Knowledge Management is „Knowledge-Sharing“, another is „Knowledge Networking“*

* One can see a parallel here of the terminological shift from MIS, Management Information System to DSS, Decision Support Systems. On the other hand, IBM's use of and support for the term knowledge management may standardize the term, just as it did for the term „word processing“.

Knowledge Management Themes

Now that we have tried to sketch the domain of Knowledge Management, what are some of the major themes running through what the business community understands knowledge management to be?

- Silos

This is the hot new buzzword, - how do you integrate the silo? The silo here is a metaphor for the too self contained unit into which stuff gets dumped and taken out, but which has no communication with the other silos (products, regions, divisions, units, etc.) that constitute the organization. The solution to the silo problem is to create communities and thereby further collaboration. This is part of the reaction against the excesses of business process reengineering. The silos are, if you will, what was left after business process reengineering removed much of middle management and flattened the organization. That middle management had provided much of the connective tissue of the organization. They provided the communication channels that kept the units from becoming silos. Knowledge management is now seen as the repair mechanism or the replacement process, presumably both more effective and less expensive than replacing those middle management and staff positions.

- Communities & Collaboration

Most of the concrete applications of Knowledge Management described to date consist of creating and supporting communities of shared interest and information need. These communities might be sales representatives in a pharmaceutical company or those persons at the World Bank and among their clients interested in road transport and logistics. In some cases, as in the former the community exists formally and hierarchically or as in the latter it exists informally and horizontally. At the World Bank for example there are now 70 some „knowledge areas“ grouped into 15 larger sections; at IBM there are 49 „competency networks“. The intended consequence of these communities is not only knowledge sharing, but also collaboration, and thereby of course enhanced productivity.

- Tacit Knowledge

Tacit Knowledge is now the term for the knowledge that is in people's heads or in their own files, as distinguished from explicit knowledge that exists in documents or databases. Current knowledge management thinking is almost entirely about establishing the structure and the climate to enable and encourage those who have knowledge to share it. There is close to no mention of capturing that knowledge, particularly in the new somewhat tarnished sense of artificial intelligence and the „knowledge engineer“ who would capture the expertise of the expert on diesel/electric locomotive repair trouble shooting before he retired.

What there is, is the encouragement and the establishment of systems to enable the employee to submit a „best practices“ description of how they accomplish something so that others can use it. The information may be screened and edited before it goes on the systems (particularly so for example for pharmaceutical companies who are subject to FDA (Food and Drug Administration) approval concerning what they may say about a therapeutic agent), but the knowledge is input by the user, not by a „knowledge engineer“ or „knowledge manager“.

This is an important point for librarians to recognize, that there has been substantial disillusionment in the business community with the very much overhyped „artificial intelligence“ and with the software packages and consulting firms that promised to set up AI systems for companies. There have been AI successes to be sure, but they have been at the tactical and near clerical level, monitoring credit card transactions for plausibility or likely misuse, for example. They have not been at the strategic level envisioned by the proponents of knowledge management nor have they been of the collaborative synergistic kind yielding competitive advantage. Librarians can make a contribution toward capturing tacit knowledge, but we must be careful to phrase our proposed contributions in terms of making tacit knowledge, accessible. Be very careful about suggesting that you are going to capture it and structure it. Yes, of course, an index or a thesaurus is a syndetic structure, but such phraseology will resonate poorly with management, and it will make you sound like a naive proponent of AI, someone who if listened to will cost money and yield little in the way of results.

- Incentives and Rewards

Effective knowledge sharing requires rewarding those who input information into the system and who contribute something useful. Otherwise, what motivation do employees have to contribute information that will, for example, improve the performance of other sales representatives relative to their own? Changing cooperation and incentive systems is not something that organizations do readily, it is an undertaking fraught with peril and with unintended and often unfortunate consequences. A frequent complaint among knowledge management system implementers is how slow and difficult it is to get top management to make such changes.

This of course does not impact librarians directly, after all, information sharing is what we were hired for. But as the importance of information creation and sharing is better recognized in the organization, then we can hope for some spillover effort to those who facilitate and make possible that information creation and sharing.

For that positive spillover to take effect however, we must have achieved recognition as key players in the knowledge management process.

- Customer Knowledge

A pervasive theme in business discussion of Knowledge Management is the importance of including the customer in the scope of knowledge management systems so as to include and leverage this expertise. This is considered key for a number of reasons:

- better and more timely design of new products and services
- early warning and competitive intelligence
- customer commitment and loyalty
- the synergy of collaboration.

The emphasis here is upon exchange of knowledge, ideas, and opinions for example, not just the transaction data currently exchanged with just-in-time inventory or supply chain management systems.

- Top Management Support & Change Agency

Another major theme is that Knowledge Management is about a whole new way of operating, indeed the transformation of the organization. As such, knowledge management requires knowledge management professionals to be change agents, and that in turn requires top management support, and better yet is the direct involvement of top management if the effort is to be successful.

The obvious corollary here is that knowledge management is going to be an exciting place to be, not something which we can allow ourselves to be left out of.

One obvious question is - is this enthusiasm for knowledge management a flash in the pan, or is it here to stay?

For those of us in the library and information profession perhaps the most compelling bellweather indicators of the business communities perception of the importance of Knowledge Management are these:

- in IBM's 1997 annual report, Lou Gerstner, the president of IBM said that his goal was „to turn IBM into the world's premier knowledge management company“, and
- the president of Donaldson, Lufkin, Jenette stated recently that not only do Knowledge Management systems add value to a company, but that DLJ analysts specifically look for the existence of knowledge management systems when analyzing a company's worth and its stock value.

These are anecdotal points to be sure, but they are certainly strong indications that knowledge management is here in a big way, and that it is likely to stay here.

Guidelines for the Librarian

Finally some guidelines for use in Seeking a Larger Role in Knowledge Management:

- You can make a contribution in regard to tacit knowledge (a hot topic), but describe your potential role as enhancing access to it. Be very careful about suggesting that you will capture it and organize it. Don't get tarred with the brush of artificial intelligence.
- Emphasize knowledge sharing and collaboration.
- Use the Knowledge Capital Components metaphor:



Librarians certainly have major contributions to make in both knowledge resources and in infrastructure. In social capital, the library is often perceived as a neutral and non threatening institution in which one may place one's trust.

- Knowledge Management will be an exiting process. It is not something we want to be left out of. For a librarian to be left out of the knowledge management may well result in being left out of the organization. That may sound dire, and it is, but it is the flip side of great opportunity.

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INTELLECTUAL CAPITAL: AUDITING THE PEOPLE ASSETS*

By Hazel Dakers

People in all kinds of society have realised for centuries that in times of uncertainty - war, revolution and other great change - learning can turn out to be their most valuable investment. Regardless of the collapse of political structures, for as long as one lives, the knowledge acquired through learning - and the intellectual capability that has accompanied that acquisition of knowledge - will stick. Countless groups of people have been forced to leave their homes, their belongings and accumulated wealth. They cannot be separated from their intellectual capital. This has been invested by many a refugee in a new life in a new country.

Globally we live in times of turbulence and change. Society is moving at a greater speed now at the close of the twentieth century - in part thanks to the rapid developments in information and communications technology (ICT) - than ever it did in Europe two hundred years ago in the first industrial revolution. Those under the age of about 35 who may be classified as Generation X have abandoned organisational loyalty and have identified the constant development of their own skills as their personal passports to survival in our changing times. No coincidence, then, that we are turning towards intellectual capital and knowledge management as the kernel of continuing value within our organisations. Whatever the next decade brings, the wise organisation is realising that it must develop, nurture and exploit its corporate knowledge because much else that we now recognise may be discarded.

Mine might be described as the worm's eye view. Skills development is an area in which I have specialised for some years. What this paper covers is by no means a solution to listing the human side of intellectual capital within information and library services organisations. It is more of a report on the small progress made by Easter 1998, an outline of developments by November 1998 and a mention of the many factors contingent to these.

At the end of 1997 I started to work at the British Library - the day after our

* Paper presented at a workshop of the section on Management and Marketing at the 64th IFLA General Conference in Amsterdam, August 18, 1998

newbuilding at St. Pancras was first opened to the public. This was an exciting moment to join. As the new Head, British Library Consultancy Services (a commercial unit providing strategic advice on information and library services planning and management), my remit was to develop and commercialise the ten year old service based at the Research and Innovation Centre. Additionally the British Library sees consultancy as an opportunity for staff development and for importing external experience and ideas. How could this be done without first knowing what are the skills amongst the 2,500 staff of the British Library? At the same time some of the BL senior management team were trying to grasp the nettle of making a cultural change within the organisation as a whole. Somehow or other the relaunch of consultancy services and the audit of potential consultancy skills of British Library staff must be placed within the mainstream of change that was about to envelop the whole being of the British Library.

I was invited, meanwhile, to join a group of relatively recent recruits amongst professional staff who were being drawn into the British Library Change Group to add their perspectives from the outside world. It was felt that our Directorate should become responsible for the British Library Research Register (a published listing to which staff may contribute their research activities) and continue its work on the Corporate Research List (an unpublished and incomplete listing of internal projects mainly in the IT field). It soon became apparent that if the two existing registers could be completed they, together with a comprehensive skills audit and contacts data base would constitute much of the living intellectual capital of the British Library. I have chosen to use the word “living” to distinguish between the intellectual capital produced by the British Library’s own staff and that much greater part of it which is contained within its stock.

I had first approached the problem of a skills audit by applying my background in functional analysis and competence. I had managed the original development of UK occupational standards in Information and Library Services which were used to create our competence based National Vocational Qualifications. Functional analysis, for this British Library project, was too simplistic. Identifying the skills present amongst staff running a library - even a very large one - is quite different from identifying those of their skills which other organisations might wish to consult for advice. The information and library services skills identified by functional analysis have largely been from a clerical level to a middle management level. Consultancy is usually a strategic level activity and might be influenced by the functional analysis of Management which has been carried out to this strategic level. However, even these competencies alone will not be enough because, in consultancy, personal skills such as good communication, a willingness to adapt experience to new contexts, evidence of one's own continuing

professional development and currency at the cutting edge of the profession, availability to suit the client, experience of working overseas and ability to work in other languages may all be equally important. As yet the skills needing identification have not been fully defined.

A brief reading into the work of other organisations in this field alerted me to the developing experience of the World Bank and Booz Allen & Hamilton amongst others. Thames Valley Enterprise offered a demonstration of their Consultants' data base and I was fortunate to visit the London offices of Booz Allen & Hamilton where I was shown examples of their management of corporate knowledge or intellectual capital. This provided several ideas. British Library Consultancy Services needed a bank of information on staff who wish to undertake consultancy and associate consultants with whom it works. Similarly after both research and consultancy projects two summaries need to be written. One will be an account of the project. The other will be an expression of "our current best thinking" on the particular topic. Both will include names and contact points for key personnel. In time these data banks should be augmented by parallel internal British Library project information. If this knowledge becomes shared by all British Library staff across all directorates the organisation stands to benefit from fully using its resources. By programming these data bases to be linked, one area of work should feed into another.

The original quest for a model for this particular type of skills audit has so far been unsuccessful. Booz Allen & Hamilton have delayed on this aspect as they recognise it will be difficult and time consuming. It was originally proposed that the information be stored on the new contacts database developed for the Research and Innovation Centre. This idea has been overtaken by events as the UK government has now decided to merge the British Library's research function (ie most of the Centre) with the Library and Information Commission. However, in reality the numbers involved from the consultancy angle will be small - possibly two hundred and fifty - and so the database itself need therefore not be too complicated.

At first it was hoped to distribute the questionnaire by intranet but too few staff currently have access or, if they do have, use it only infrequently. Consequently a dual approach was taken by sending it to all on e-mail as an attached file and to all staff in hard copy. Advance notice was given to Directors, who were asked to encourage staff to respond, and items appeared in a weekly bulletin and the monthly house magazine. The questionnaire asked sufficiently general questions to allow for free text response, intending that this should be edited for database entry - a thesaurus to be drawn up by the editor. The numbers responding were disappointing, particularly at a level of seniority which might be indicative of

consultancy capability. The reasons for this varied from the stressed situation in which British Library managers find themselves – with the familiar story of increased expectations but reduced resources – to the encouraging desire for greater fulfillment implied by the more junior respondents. However, the advantage of a voluntary staff skills survey over a mandatory skills audit is that it has brought to light the staff who want to be flexible and contribute their skills to the organisation in alternative ways.

This has led me to believe, now that we are in the first of the implementation phases of BL2001 (our range of cultural change programmes), that the greatest value of the consultancy questionnaire could be in using its results to develop internal consultancy within the British Library. In this way staff who have demonstrated their wish to be flexible by completing the questionnaire would be asked to apply particular skills for short periods in departments – other than their base departments – where there is a short term need. They would also be asked to pass on these skills to colleagues. At the same time as assisting the British Library towards adjusting to the changes required of it, this experience of internal consultancy could develop the generic skills required for commercial, external consultancy amongst a cohort of staff. Internal consultancy would stimulate movement within a fairly static staffing structure and opportunities for personal development using existing resources – rather than buying in resources. Of course, British Library Consultancy Services would also benefit from this approach.

I have proposed the tool of Knowledge Management to achieve this, suggesting that staff skills might be the first area of knowledge to be managed in this way. Natural contributors would also be marketing information, and studies carried out for individual departments of the British Library by external consultants. In a library of 2,500 staff it is difficult to ensure that all who need to know about a current activity in a particular area do, in fact, know. In this way not only would the British Library be the memory of the UK but it would also create its own corporate memory.

Now it is only possible to share with you the germ of an idea (and some of the above, I should add, is essentially my own thinking and not yet British Library policy). The ideas described here have now been formally proposed to the decision making fora within the British Library and its change programme, BL 2001. Like so many other historic institutions the British Library is having to change to survive. The British Library government grant this year was £8million sterling less than is needed to restore acquisitions and conservation to previous levels. If no action is taken the shortfall is expected to increase to approximately £20million sterling by 2003. Additionally the British Library is having to handle

the difficulties and stimuli created by the new building and changing expectations of the marketplace. These are often triggered by the fast moving developments in Information and Communications Technology (ICT) mentioned earlier. The identification of the skills of flexible members of British Library staff will enable the British Library to capitalise on its own existing resources, to provide more development opportunities for its staff and will enable British Library Consultancy Services to access those skills on behalf of its clients.

If the British Library decides to take this step, to create its own “digital nervous system” as Bill Gates has named this type of approach, it will, I believe, be taking a fairly unusual and radical approach to managing human resources within libraries.

This is just one small current of intellectual capital in a sea of change.

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tell us about your talents

why yet another survey?

.....2,500 staff with a great variety of skills linked to past and present jobs.....You are one of these! External and internal changes are creating opportunities to use these skills in different ways which could be your chance to broaden your own professional horizons *and* benefit the Library.

what does this survey cover?

Four activities.....

- a search for consultants for British Library Consultancy Services. Consultancy is defined here as either strategic level advice or assistance with application of skills in short supply eg cataloguing in Japanese. British Library Consultancy Services is run as a commercial activity. The department of staff who take part is reimbursed by at least the salary value of the time lost. Often teams are formed, involving external consultants.
- an update of your entry in the **British Library Research Register**.
- internal research information, previously collected for the Corporate Research Group, such as survey work or a project with (overseas) partners. We are particularly interested in EU funded work eg BIBLINK.
- any of your skills of which the British Library does not take full advantage. In the period of change to be brought about by BL2001 the need, for instance, for proven marketing skills has been identified. What are your secret skills?

what's in it for you?

A possible opportunity to match your skills to new challenges in a different environment; to enjoy project work, possibly in a team; and to extend your professional experience for your own benefit and to the benefit of the Library.

Responses by 30th September please!

Hazel Dakers

Head British Library Consultancy Services

T: 7152 F: 7251 e-mail: hazel.dakers@bl.uk

Note: *This form does not commit you to accepting projects nor does it commit us to offering them to you. We will check with your line management at an early stage. Each project is considered individually and the range of staff and associates is reviewed to make the most appropriate match. No information will be published outside the Library without your permission.*

1. contact details

name:

directorate:

department:

job title:

BL Location:

Tel:

Fax:

2. formal qualifications (further and higher education only)

| qualification | subject | awarding institution | Date |
|----------------------|----------------|-----------------------------|-------------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

3. career history (reverse order starting with current post)

| job title | employer/ dept | BL | BL grade | Dates From.....to |
|------------------|---------------------------|-----------|-----------------|------------------------------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

4. languages

In which foreign languages are you able to work?

5. professional referees

Whom we may contact if you register for contract research or consultancy work.

These may be line managers or not, as you prefer.

name: _____ **job title:** _____
organisation: _____
address: _____
tel: _____ **fax:** _____ **e-mail** _____

name: _____ **job title:** _____
organisation: _____
address: _____
tel: _____ **fax:** _____ **e-mail** _____

6. experience

Please be succinct - maximum of one A4 page covering issues such as those listed below, please type and attach.

This could include:

- any **previous** consultancy, research or scholarly work you have undertaken. (Please take this opportunity to update your entry in the British Library Research Register. If you wish we can provide a copy of your previous entry - e-mail RIC).
- **results** such as publications, conference papers, client reports or the formal advice you have given to external bodies such as HLF, NMHF, NMCT.
- details of any **other relevant experience** beyond your normal duties eg working parties, task forces, special projects, reviews, supervising library moves, selection boards or spare time professional or community responsibilities.
- a description of how you have kept **up to date** professionally eg reading, taking part in conferences, taking additional qualifications etc.

7. expertise

Please delete any of the following from which you wish to be excluded:

- consultancy
- externally funded contract research

- internal BL management research
- scholarly research
- skills to contribute towards BL2001

Please be succinct and type and attach up to one A4 page for each of the activities which interest you, including such information as:

- an annotated **list** of the areas in which you are sufficiently confident of your **specialist knowledge** to be willing to offer consultancy or carry out research.
- an indication of the **subsidiary areas** in which you would be able to provide guidance in a broad based project.
- the highlighting of any **special skill** which sets you apart from the rest of us.
- an indication of the strength of your **wider abilities** which are essential to consultancy and research. Comment on your capacity to deliver on time, to write reports, to give concise presentations, to interview individuals, to give advice, to work in sensitive situations.

A VIRTUAL NATIONAL LIBRARY OF EDUCATION? GERMAN LIBRARIES COOPERATE TO SUPPORT EDUCATION*

By Diann Rusch-Feja

I. Historical Overview

After the Second World War, the educational system and libraries as cultural bastions went through total de-nazification and many structural reforms. By the early sixties, these reforms were finally being enacted after first absolving the long reconstruction period. Consequently, libraries and educational institutions were increasingly aware of the lack of bibliographical instruments for German educational literature and materials, as well as the deficiencies of various collections. Educational research institutions which had been instrumental in designing the recommendations for the educational reform, such as the German Institute for International Educational Research, the Max Planck Institute for Educational Research, and the Friedrich Eckart Institute for Textbook Research had built up major research collections, while certain state school authorities and teacher training institutions were building up collections of curricula, lesson plans, state educational requirements, and teaching materials. Since the political policy leading to World War II in Germany had had such repercussions and left such scars in the educational, cultural, and library landscape, a policy of exclusively decentralized institutions serving educational institutions and facilities including libraries was established and has been maintained since then. Furthermore, opportunities for sharing the benefits of these key collections, due to the diversity and diverse policies of the libraries concerning their holdings, interlibrary loan was extremely limited and often one had no idea where to conduct a bibliographic search for a specific item, much less determine how or where to obtain the needed educational resources.

Documentation Ring for Educational Bibliography

To overcome this lack of bibliographic access, the documentation units and libraries of eight educational research institutions began a cooperative effort in 1964 to coordinate collection and publication of the bibliographic information on

* Extended version of a paper delivered at the 64th IFLA General Conference, 1998. Session 115, Social Sciences Libraries: „Libraries in Support of Education“, 18 August 1998

educational resources in Germany. These eight documentation units and libraries¹ chose the name "Dokumentationsring Pädagogik" (Documentation Ring for Pedagogics), best known as "DOPAED". Despite working with at least six different data formats and four different sets of cataloging rules, DOPAED produced the first volume of the *Bibliographie Pädagogik* ("Educational Bibliography")² in 1966. This volume listed all newly registered titles of books and journal articles in the German language area including Austria and Switzerland for the year 1964. The basis for indexing the books and articles (excluding lesson plans, textbooks, curricula listings, etc.), was first according to the individual indexing needs of the individual institutions. However, efforts were made to establish a common set of terms and thus the *Thesaurus Pädagogik*³ was developed in the early Seventies. The *Thesaurus Pädagogik* combines verbal descriptors with a classification scheme especially created for the *Bibliographie Pädagogik* and based on the reformed German educational system.

Development of Subject Information Systems and Special Information Services

In the early 1970's, within the overall plan for bibliographic information centers from the German Federal Ministry of Research and Technology, an Information Center for the Education ("Fachinformationszentrum Bildung") was one of 20 such information centers originally planned in the Federal Republic of Germany. Of the 20 information centers proposed in the "Programm der Bundesregierung zur Förderung der Information und Dokumentation (IuD-Programm) 1974-1977", published in 1976, sixteen were established, with the "Information Center for Education" being one of those which was not funded.

During the 1970's and 1980's - years which can be characterized in Germany as furthering subject-oriented databases and services - DOPAED attracted new members in the Federal Republic of Germany. Despite its voluntary nature with no outside funding, it grew to 27 members in the 1980's. Also during the 1970's

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- 1 Cybernetics Linguistics Research Center (Sprachkybernetisches Forschungszentrum Heidelberg, SFZ), German Institute for International Educational Research (Deutsches Institut für Internationale Pädagogische Forschung, DIPF), German Institute for Research on Youth (Deutsches Jugendinstitut, DJI) in Munich, International Central Institut for Youth and Educational Television (Internationales Zentralinstitut für das Jugend- und Bildungsfernsehen, IZI) in Munich, Max Planck Institute for Human Development and Education (Max-Planck-Institut für Bildungsforschung, MPIB) in Berlin, Pedagogical Center (Pädagogisches Zentrum, PZ) in West Berlin (since 1995 the Berlin Institute for Continuing Education for Teachers and School Development, BILS), Standing Conference of the State Ministries of Culture (Ständige Konferenz der Kultusminister der Länder, KMK) in Bonn, UNESCO Institute for Pedagogics (UNESCO Institut für Pädagogik, UNIP) in Hamburg,
 - 2 *Bibliographie Pädagogik - Educational Bibliography*. Ed. Dokumentationsring Pädagogik (DOPAED). Munich, New York, London, Paris: Saur, 1964 ff.
 - 3 Hans H. Strater: *Thesaurus Pädagogik*. Unter Mitarbeit von Doris Friedrich. Hrsg. v. Dokumentationsring Pädagogik (DOPAED), Pullach bei München: Verlag Dokumentation, 1973.

and 1980's, librarians responsible for education-related collections in university libraries and teacher training colleges formed a working group ("Subject Specialists in Education"). Individual attempts, such as that of Heiner Schmidt⁴ to document journal literature in the field of education were made and developed parallel to DOPAED. In the 1980's, teacher training colleges were integrated into the German university system. Their libraries were integrated into the interlibrary loan network, which, however, due to different bibliographic systems was predominantly limited to bibliographic access within a particular German state. Because of these rather voluntarily organized bibliographic access means within the field of education, dissatisfaction grew among researchers, instructors, students in teacher training, and librarians serving them.

Impacts of Reunification of Germany

Reunification in 1989 stimulated major structural changes which also had a positive impact on the coordination of bibliographic access and availability of educational resources in Germany. Major political decisions were made from December 1989 throughout 1990 to dissolve many of the former GDR institutions for educational research - especially "central" institutions such as the State Institute for Higher Education Research ("Zentralinstitut für Hochschulforschung"). Other major GDR educational libraries, such as the library and archives of the GDR Academy of the Pedagogical Sciences (APW), were integrated into existing, most often West German parallel institutions. Thus, the central library of the GDR APW, a sort of national education library for the former GDR, was annexed to the German Institute for International Educational Research in Frankfurt, although it kept its operating location in Berlin.

4 Some of his works include: Schmidt, H./Lützenkirchen, F. J. (Comp.): *Erziehungswissenschaftliche Dokumentation. Reihe A: Der Inhalt neuerer pädagogischer Zeitschriften und Serien im deutschen Sprachgebiet. Zeitschriften-Nachweis 1947-1967.* – [various editions] Vols. 1-12. – Weinheim: Beltz 1969-1970; Schmidt, H. (Comp.): *Erziehungswissenschaftliche Dokumentation. Reihe B: Monographien. Hochschulschriften, selbständige und unselbständige Bibliographien. Beiträge aus Sammelwerken, Fachlexiken und Handbüchern der neueren Pädagogik im deutschen Sprachgebiet.* – Vols. 1.1945-12.1971/72. – Weinheim: Beltz 1973-1975 Schmidt, H. (Comp.): *Pädagogischer Jahresbericht. Ständige Auswertung erziehungswissenschaftlicher und fachdidaktischer Zeitschriften des deutschen Sprachgebietes (1972ff.: ... Zeitschriften, Sammelwerken und Monographien des deutschen Sprachgebietes).* – Vols. 1.1968-15.1982. – Weinheim: Beltz 1968-1982; Schmidt, H. [et al.] (Eds.): *BIB-Report. Bibliographischer Index Bildungswissenschaft und Schulwirklichkeit.* – Monatsberichte. German education index. – Vols. 1-20. – Duisburg 1974-1993; Schmidt, H. [et al.] (Comp.): *ADIEU. Auswahldienst: Informationen für Erziehung und Unterricht: Zugleich Titelkompilation und Gesamtindex zum BIB-Report.* – 1976-1990. – Duisburg: Verl. f. päd. Dokumentation 1977-1991; Schmidt, H. (Comp.): *Zentralblatt für Erziehungswissenschaft und Schule (ZEUS). Nachfolgeorgan des "Pädagogischen Jahresberichts".* – Duisburg: Verl. f. päd. Dokumentation 1985-1994.

The increased awareness for improving access to educational materials is also evident in the creation of a university chair for Pedagogical Informatics at the Humboldt University in former East Berlin. Professor Dr. Peter Diepold was called to this chair in 1994 and has since built up the curriculum for an important degree program in the use of computers in education, as well as instigating other services to education as delineated below. Attempts to capture the effects of the transition from Communism to democracy in the schools were highlighted in some educational research institutions. But the actual transition within the schools was carried out - parallel to that of denazification after the Second World War - basically without an overall evaluation of the educational goals and structures in educational institutions in Germany. The West German educational system - as also in other areas of administrative government and cultural infrastructure⁵ - was incorporated in the new German states of the former GDR. At the same time, the difficulties of integrating former GDR libraries into their West German counterparts were becoming apparent. The former GDR bibliographic databases for educational resources, collected according to instructional level, were preliminarily set aside, since they were deemed too selective (having been selected under the Communist regime criteria) to be useful. Despite this aspect of politically-influenced acquisition policy, these libraries augmented the collections in existing corresponding educational research libraries in the former West Germany and could not be left out of consideration in an educational resources network.

Because of the integration of former GDR libraries into member institutions of DOPAED, considerations were made to integrate the databases of their holdings into the *Bibliographie Pädagogik*. By 1992, DOPAED was composed of the documentation units and libraries of 23 educational institutions (see geographical distribution of the DOPAED members in 1992). The additional institutions represent government and state educational support institutions, as well as other educational research institutions.

Transition and Dissolution of DOPAED

By 1991, production of the *Bibliographie Pädagogik* had accumulated a four-year publication delay. Because of the new members and because of integrating new library automated systems, title data for the production database had to now be converted from eight different data formats and almost as many cataloging formats. This slowed production immensely. The number of subscriptions to the

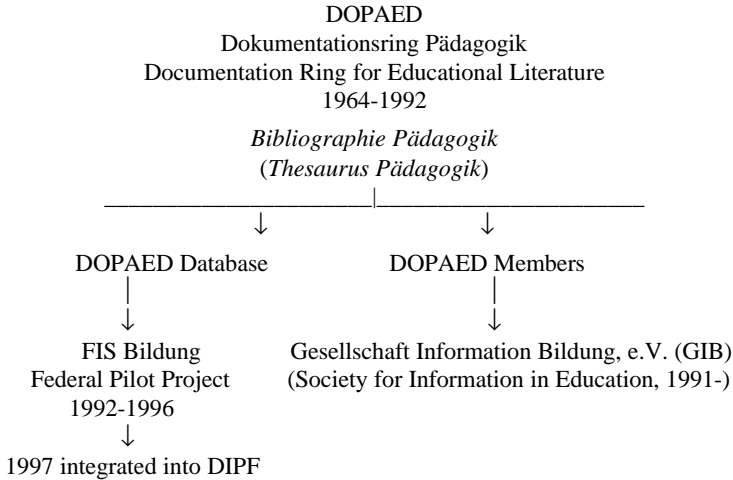
5 See Claudia Lux: Problems Creating a New Identity in East German Libraries. IFLA Management and Marketing Workshop. Meeting 157, 20 August 1998, Amsterdam. IFLA Paper Number 140-157-E (abbreviated version in German 140-157-G).

Bibliographie Pädagogik was not high enough that the publisher was interested in making additional investments in new technology or expanded editorial costs.

At the end of 1991, the Federal German government announced combined Federal and State (of Hesse) funding for a pilot project to establish a subject-oriented information center for educational literature. The pilot project was to be based on the voluntarily assembled data collection of the unofficial DOPAED group which up to this time had had no financial support other than the work capacity of the institutions involved. The voluntary data collection, then housed at the Library of the German Institute for International Educational Research (DIPF), was assumed by the government proposal as the basis for the new Coordinating Office for Educational Literature ("Fachinformationssystem Bildung" or "FIS-Bildung") without recognition of the rights of the voluntary institutions. At this time, the members of DOPAED had not been consulted or directly informed of this decision. As the announcement regarding funding and organization of a "FIS-Bildung" (similar to the subject-oriented information centers "FIZ" in the sixties) in 1991 filtered down to the contributing institutions of the DOPAED Ring, the *Bibliographie Pädagogik* for works published in 1987 was just being published. CHECK Without financial means, the fundamental problems for data conversion and means to speed up publication, desires for using a different format could not be solved. Furthermore, because of the voluntary nature of the DOPAED Ring with its high number of small specialized libraries and information centers, achieving standards for indexing, cataloging and terminological aspects had become impossible.

When the announcement of the pilot project "FIS-Bildung" was made known to the DOPAED institutions, a meeting was called in November 1991 with invited experts in the educational research field who were familiar with databases in educational literature. Because at first, the DOPAED members felt threatened by the new organizational structure and plans to subsume the DOPAED database, a non-profit society was founded to represent the interests of those institutions which had contributed to the DOPAED database and to advance better documentation of educational literature resources. This was the association "Gesellschaft Information Bildung (GIB) (Society for Information in Education) which included not only most of the former DOPAED institutions, but also several educational researchers, publishers of electronic media in the educational fields, as well as librarians and documentalists in educational libraries and documentation centers. Thus the development of the persons and institutions involved in DOPAED and the data input for the *Bibliographie Pädagogik* can be summarized as follows:

Fig. 1



After a transitional year (1992), DOPAED was dissolved with the members voting to commission the GIB with continued representation of their interests in the FIS-Bildung database and for the sales profits of the print volumes of the *Bibliographie Pädagogik*

Gesellschaft Information Bildung - Society for Information in Education

The German Society for Information in Education (Gesellschaft Information Bildung - GIB) was founded by eight of the former members of the DOPAED Ring together with several active educational researchers to improve the quality and dissemination of information on educational materials and research results, thereby also and thus improving access to them. The group had a special interest in furthering access to electronic information and in establishing quality electronic publications. The GIB supports the work of FIS-Bildung, as well as that of other educational research institutions and producers of databases and educational servers. The concept for the German Educational Resources Server originated in this group and it has given continued active support for this project. The GIB holds annual conferences, focussing on the improvement of quality indexing, thesaurus questions, and access to bibliographic and full-text materials relevant to educational research, educational policy, and various other aspects of education. (For proceedings and other information, see <http://www.educat.hu-berlin.de/gib/>)

II. The Subject Information System for Education: Fachinformationssystem Bildung "FIS-Bildung"

The "Fachinformationssystem Bildung" started as a federal pilot project for the duration of three years 1992-1995. In 1995, funding was renewed for an additional year. The pilot project was financed in equal parts by the Federal Ministry of Research and Technology (BMBF) and the State Ministry of Education of the State of Hesse.⁶ Thus, FIS-Bildung was conceived of as a coordinating unit for continuing the bibliographic indexing of educational materials started by DOPAED (*Bibliographie Pädagogik*). The fact that this was a subject-information system as opposed to a subject information center ("FIZ"), indicates its placement within the decentralized state-level authority for educational matters. Its foremost goal and function as a federal-state funded pilot project was to gather bibliographic data on educational materials to produce a comprehensive German language bibliography of educational materials and research results in a database to be produced on a CD-ROM which could be cumulated annually. Representatives of the state authorities for educational policy did not originally want to have FIS-Bildung host an online database, such as those which had developed out of the 1974 "Fachinformationsprogramm" in other subject areas. However, by the late nineties, this attitude has changed.

Originally, the FIS-Bildung pilot project was not to perform indexing tasks directly. The staff allowance was for a director, a documentalist and 1,5 positions for database construction and data conversion. This meant that from the very beginning, data input for FIS-Bildung was still dependent on the principle of voluntary submission maintained by the former DOPAED Ring. Hence, contractual agreements were offered to the former DOPAED members to submit their bibliographic data for the production of a CD-ROM with the remuneration of receiving the CD-ROM annually at no charge. Thus, FIS-Bildung began with 12 contributors. In 1994, a project group "Subject Information in Education" ("Projektgruppe Fachinformation Bildung") sponsored by the German Research Foundation began converting the former GDR database on higher education materials and joined the group of contributors. Upon completion, this database was integrated into the FIS-Bildung database in 1996. In 1995, the former GDR bibliographic database for primary and secondary school education was converted by the FIS-Bildung staff and integrated into the data collection. In the process of this cooperation with contributors of education databases of the former GDR, the

6 The location of both FIS-Bildung and DIPF is Frankfurt am Main. This is the capital city of Hesse. Frankfurt was also the site of the "Fachinformationszentrum FIZ" for Education proposed in the late sixties, but this "FIZ" was never established.

most relevant parts of historical bibliographic data could be implemented into the FIS-Bildung database. By the end of 1997, twenty-one institutions from both the "old" and the "new" German states ("new" in the sense of the former GDR) had joined the contributors' group to FIS-Bildung.

After FIS-Bildung started in 1992, contracts with the individual participating institutions including many former DOPAED institutions established continuity in the production of the *Bibliographie Pädagogik* and delivery of their title entries for the database were made to FIS-Bildung. Those agreeing to support FIS-Bildung in a manner similar to the previous support of DOPAED with submission of title entries were integrated as "Herausgeber" - thus being recognized collectively as partial owners and publishers of the *Bibliographie Pädagogik* and the FIS-Bildung database for the production of the future CD-ROM.

Originally seen as a by-product of compiling the CD-ROM database, production of the printed *Bibliographie Pädagogik* (as of the volume covering the publication year 1988 ff.) was to take place parallel to the CD-ROM production. Thus, the original database supplied by the voluntary contributing institutions would then serve not only as the basis for starting FIS-Bildung and also continuing the *Bibliographie Pädagogik*, but also for the production of an electronic, searchable version of the complete database of all German-language educational materials on CD-ROM ("CD-Bildung") from 1964 to the present which had previously been indexed only on an annual basis in the *Bibliographie Pädagogik*.

To produce the CD-ROM "CD-Bildung", the entire DOPAED database had to be converted to a database format which could be searched electronically. Conversion formats were developed for conversion of the 12 different formats of the contributor's data in various formats. In 1994-95, the database of the former GDR public grade school and secondary school educational literature database was converted and integrated into the FIS-Bildung database. From 1995-1996, the database of the former GDR higher educational bibliography was converted and integrated into the CD-Bildung database. Later in 1997, an extensive thesaurus maintenance module was integrated so as to distinguish local subject headings from those taken from the *Thesaurus Pädagogik* developed by DOPAED. Bibliographic and indexing guidelines were developed by a task force which has led to efforts to revise the *Thesaurus Pädagogik* and corresponding classification scheme. Refinement of the German Educational Thesaurus and Classification System (*Thesaurus Pädagogik*) is an ongoing, dynamic process which has been supported by several workshops sponsored by FIS-Bildung and the Society for Information in Education (GIB).

The first edition of the CD-Bildung came onto the market in 1994 and supplied bibliographic coverage for works published from 1980-1993. By the fourth edition in 1997, 341,928 title entries were indexed, of which 10 % were English (15 % were non-German including English) and 26.3 % had abstracts. By the 5th edition published in August 1998 with a total of 375,775 indexed titles, 13.4 % were English titles (with 18.4 % being non-German including English). The percentage of entries with abstracts rose to 28.7 %, and in general the quality of the abstracts rose as well. Figure 2 shows the development over the five editions produced by FIS-Bildung.

Fig. 2

CD BILDUNG⁷

| Number of Title Entries | 1st Ed. 1994 | 2nd Ed. 1995 | 3rd Ed. 1996 | 4th Ed. 1997 | 5th Ed 1998 |
|---------------------------|-----------------|-----------------|-----------------|-----------------|----------------|
| Total | 213.964 | 244.261 | 303.631 | 341.928 | 375.775 |
| English language | 24.521 | 30.482 | 38.889 | 46.305 | 50.467 |
| Non-German | 35.152 | 42.050 | 59.313 | 66.393 | 69.517 |
| With Abstracts | 26.495 | 38.680 | 74.244 | 89.895 | 107.732 |
| Percentage with Abstracts | 12,4% | 15,8% | 24,4% | 26,3% | 28,7% |

7 Data for both graphs in Fig. 2 and Fig. 3 were provided by Alexander Botte, FIS-Bildung, Frankfurt, Germany.

Figure 3 shows the distribution of educational level of materials, as well as major area of focus as it has developed over the last five years.

Fig. 3

CD BILDUNG - Analysis by Subject Area

| Subject Area | 1st Ed. 1994 | 2nd Ed. 1995 | 3rd Ed. 1995 | 4th Ed. 1997 | 5th Ed. 1998 |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|
| Educational Research | 6.641 | 7.905 | 9.475 | 9.745 | 11.518 |
| Higher Education, University Studies | 12.555 | 16.735 | 23.346 | 27.384 | 30.542 |
| Continuing Education*, Adult Education | 21.421 | 23.935 | 26.760 | 29.470 | 32.164 |
| School, Pupils, Teachers, Instruction | 51.816 | 73.542 | 103.037 | 116.907 | 129.979 |
| History of Education | 638 | 1.573 | 4.923 | 6.989 | 9.053 |
| Media | 2.433 | 3.154 | 4.417 | 4.940 | 8.930 |
| Youth Education, Working with Youth, Social Work | 4.835 | 5.107 | 5.588 | 7.160 | 10.001 |
| Vocational Training, Vocational School | 9.676 | 16.925 | 21.361 | 24.901 | 29.607 |

Holdings information include an abbreviation of the holding institution(s) and in the case of journals, the exact volume and year with a note about use restrictions of the individual institutions. This allows direct ordering on a bilateral level, or via the interlibrary loan network. In 1998, 21 institutions contributed bibliographic data to FIS-Bildung for the production of the CD-Bildung, including insitutions from Austria and Switzerland. Annual additions range from 30,000 to 60,000 title entries.

Distribution of the member institutions shows wide coverage with 3 libraries of educational research institutions, the special subject library for education, special educational documentation centers for specific aspects of subject institutions, the documentation centers of many of the state educational agencies, and various state and national educational agencies. This provides a good cross-section of secondary literature on education and educational research, curricula in the various German states, project reports and innovation, teaching materials and a wide coverage of educational journals. FIS-Bildung discontinued the former DOPAED tradition which only indexed German-language materials. Since the 1993 data, FIS-Bildung has encouraged submission of all new title entries in the

member institutions. 650 educational journals are evaluated systematically and indexed cover-to-cover. About 100 additional educational journals held in these libraries and documentation centers are evaluated and indexed selectively. Since early 1998, FIS-Bildung offers updates to the current edition of the CD-Bildung on a continuous basis at the DIPF website: <<http://www.dipf.de/lars/lars/html/start.htm>>.

The FIS-Bildung pilot project phase ended on December 31, 1996, and since January 1, 1997, FIS-Bildung has been fully integrated into the German Institute for International Educational Research (DIPF) as one of the Service Units. In addition to its bibliographic database, FIS-Bildung is building up an Internet database for providing information on international educational Systems (INES) (<<http://www.dipf.de/>>)

Special Subject Library for Education and other Special Libraries for Education

One of FIS-Bildung members submitting a large amount of bibliographic data is the special subject library for education at the University of Nuremberg-Erlangen. This library has been supported since the mid 70's by the German Research Foundation (DFG) to enable it to afford a quality range of foreign titles relevant to this subject areas. This funding program is part of the DFG Special Subject Libraries' Program ("Sondersammelgebietsprogramm") which provides special funds for foreign resaerch literature, especially journals, at ca. 24 German university libraries according to special subject areas represented by these libraries. Other contributing members are the German Institute for International Educational Research including all of its libraries and documentation center, the Max Planck Institute for Human Development, the Bavarian State Institute for Educational Research, the state educational agencies of the State of Hesse, the State of Northrhein-Wesphalia, etc. As of 1997, the database for vocational education coordinated by the Federal Institute for Vocational Education in Berlin has been integrated into the CD-Bildung. Thus, the FIS-Bildung database was developed into a well-structured comprehensive bibliographic database for educational works published in Germany, Austria, and Switzerland, and for selective other language resources on the basis of their usefulness in research institutions and libraries in Germany, Austria and Switzerland.

III. Building the German Educational Network

This development shows how libraries and documentation units of smaller educational research and coordinating institutions cooperated to fill the glaring lack of a national educational information center and a national library of education in Germany. These bibliographic services are supported by the interlibrary loan system within the country, and this system has also seen

substantial improvement over the last 2-3 years. Since 1994, the impact of networked collections of information sources has been recognized within the German educational field. Within new considerations of expanding the information infrastructure, the Federal Ministry of Education, Science, Technology and Research looked at the possibilities of integrating all networked information resources into the existing subject information programs. In this context, several new developments took place which contributed to creating a better information infrastructure for educational materials.

The German Educational Resources Server

In 1995 at the annual meeting of the German Society for Information in Education (Gesellschaft Information Bildung - GIB), a suggestion for a nationwide educational resources server with distributed input was made.⁸ This suggestion for an encompassing World Wide Web Server listing publications, teaching and learning materials, connecting them with directories of teachers, schools, educational researchers, university departments, etc., involved in education was then worked into a proposal by Professor Peter Diepold of the Department of Pedagogical Informatics of the Humboldt University of Berlin to the German Research Network Association (DFN - Deutsches Forschungsnetz - Verein). Less than six months of presentation of the idea in the GIB-Conference, the Server concept was granted three years of funding and Prof. Diepold chose the German language name "Deutscher Bildungs-Server (DBS)".⁹ On its English pages, the website is called the "German Educational Resources Server (GER)" (<<http://dbs.schule.de>>). The goals¹⁰ of this educational server are:

- To serve as a central entry point for communication and information in the field of educational within the rapidly developing German educational network,
- To put educational information into a transparent infrastructure,
- To use synergies, and
- To make this information accessible to educators and the general public.

8 Diann Rusch-Feja: German Educational Resources: Eine Sammelstelle für deutsche Erziehungswissenschaftliche und bildungsbezogene Quellen im Internet. In: *Information in Bildungswesen - Zugriff, Verfügbarkeit und Qualität. 3. GIB-Fachtagung, 22-23. November 1995 in Soest*. Eds. D. Rusch-Feja, P. Diepold, B. Christopher. Berlin: Gesellschaft Information Bildung, 1996, pp. 147-153.

9 Peter Diepold: Bildungswesen im Internet. Entwicklung des Deutschen Bildungs-Servers. In: A. Botte, D. Rusch-Feja, B. Christopher (Eds.): *Implikationen der Informationsgesellschaft für die Bildung. 4. GIB-Fachtagung, 10.-11. Oktober 1996 in Berlin*. Berlin: Gesellschaft Information Bildung, 1997, pp. 47-67.

10 See <<http://dbs.schule.de/dbse.html>>

Additional goals emphasize educating the users in ethical use of information and communicating with others, and to link the German educational network to educational resource management systems of other countries.

This Server (<<http://dbs.schule.de>>) indexes and links school materials, a database of teaching and learning materials, websites of the major German textbook publishers, the directory of the German Society of Educational Researchers (Deutsche Gesellschaft für Erziehungswissenschaft DGE),¹¹ the German School Web (<<http://www.schule.de>>), and many other informational sources relevant to educationalists, teachers, school administrators and students. It also lists links to various educational libraries which offer their OPACs in the network and is planning to integrate further publications and course offerings with links between persons, institutions, publications, teaching materials, courses offered, etc.

Perhaps the greatest achievement thus far in this server is the database for teaching and learning materials ("Unterrichtsmaterialien und Projekte") which currently includes approximately 4200 entries for electronic documents, software, multimedia and interactive learning programs, cd-roms, books, etc. Using Dublin Core Metadata and several additional categories of metadata necessary for the German Educational Resources database,¹² these items can be searched using a simple and an expert mode, and the metadata entries can also be used as filtering mechanisms. The actual items are in distributed systems all over Germany and also outside of Germany. The metadata is entered using a template designed for this purpose and stored in a database to be searched using a dedicated Harvest search engine. The same template is now used at 10 of the State Educational Authorities Servers (see below), so there is complete standardization concerning the use of metadata and the retrieval mode. This database will possibly be connected with other databases for educational materials, especially curricula, course offerings, publications, and higher education institutions and researchers, so as to facilitate active links between authors, schools, university departments of educational and teacher training institutes, course offerings and curricula,

11 DgE-Online: *Adreßbuch Erziehungswissenschaft* <<http://dbs.schule.de/dgfe/handbuch.html>>

12 See Diann Rusch-Feja: Aufbau von internationalen Bildungsservern im Internet. Die Rolle von Metadaten für Lehr- und Lernmaterialiensammlungen. *GIB-News* 1'98 (1998), pp. 2-8 (<<http://www.educat.hu-berlin.de/gib/index2news.html>>); Peter Diepold and Christian Richter: "Meta-Tags": Hilfe zum Auffinden von Web-Seiten, 1997 (<<http://dbs.schule.de/bonsai/metatags.html>>); Diann Rusch-Feja and Christian Richter: Strukturierung von Informationquellen durch Metadaten am Beispiel des Deutschen Bildungsservers. In: *Schritte zur Qualitätsverbesserung von Bildungsinformationssystemen: Pragmatische Ansätze zu Akzeptanzsteigerung von Online- und Offline-Diensten. 5. GIB-Fachtagung, 1. und 2. Oktober 1997 in Halle*. Eds. A. Botte, D. Rusch-Feja, R. Theers. Berlin: Gesellschaft Information Bildung, 1998, pp. 87-121.

publications, and members of the university departments, professional societies, etc., In October 1998, continued funding for the DBS / GER was confirmed for three additional years. Due to changes in the institutional structure of the German Institute for International Educational Research and its greater concentration on services to the educational community, the DBS may in part (higher education, educational research, etc.) be maintained by DIPF after the additional funding is depleted. The part of DBS regarding school programs and school level materials will be maintained by the Institute for Film and Television in Teaching (FWU), located in Munich as of the year 2000.

At the same time as the German Educational Resources Server was being developed, several other school-oriented server architectures were evolving in Germany. Teachers took the initiative and started the Open School Network (ODS). A Federal Project for encouraging schools to be connected to the Internet and develop increased competencies in the use of networked information, "Schools on the Network" (SAN e.V.) was financed by the Federal Minister. Under this program, schools were provided with funding to obtain hardware and reduced networking costs. This was also supported by the WIN-SHUTTLE program of the German Research Network which supported a special connection for schools with a reduced connection rate. By the end of 1997 over 10,000 schools in Germany had Internet connections. Since the cultural ministry in each individual German state has jurisdiction over the educational system in that state, some states encourage the development of computer classes and networking courses in schools more than in others. Baden-Württemberg and Bavaria have developed individual information infrastructure programs which have included programs for computer classes in primary and secondary schools. Other states have various programs and in some cases, individual innovative teachers or schools are initiating course work in using computers and the Internet as an information source. In addition, a Federal project for providing schools with assistance in building websites and motivating connectivity is the "School-Web" project, has also been financed by the Federal Ministry of Education, Culture, Research, and Technology.

The State Educational Authorities' Servers ("Landesserver")

By February of 1996, before the German Educational Resources Server proposal was submitted, the representatives from 12 state educational authorities,¹³ as well

13 These state educational authorities ("Landesinstitute" or "Landesbildstellen") are responsible for providing continuing education for teachers, support for state curriculum development, and in general have a large repository of educational materials and media which can be provided to instructional staff or used by school administrators. The exact responsibilities and nature of the individual institutes vary according to the tasks prescribed by the individual state cultural ministries.

as representatives from the Open School Network, several university departments of education, and representatives of the Federal Ministry for Education, Research, Culture and Technology met in Bonn for an exchange of ideas concerning setting up an educational network of information resources, as well as integrating electronic resources into all levels of education. At the same time, talks were being held in other offices of the same Ministry with the German Telecom and a series of educational publishers. The issue of free access to information for educational purposes became a focal point. At this point, however, certain technological aspects played a key role, and the race for funding began. Fortunately, cooperation among the university education departments, the state educational authorities and even among teachers who had independently entered the Internet landscape on their own joined together to deliberate the needs of the community.

When the Deutscher Bildungs-Server received funding as the major non-commercial educational server, Prof. Diepold immediately sought not only contact, but also cooperation with the state educational authorities. Content discussions, quality aspects and organizational aspects were discussed and the state educational authorities agreed to cooperate with the DBS. Only a few state educational authorities had set up Websites at that time, others were in the planning, still others had no plans or had Web sites which were the sole initiative of one or two persons in the authorities on their own. Since 1996, representatives of the state educational servers have met twice a year at the invitation of Prof. Diepold.¹⁴ Cooperation agreements have led to the state educational servers having direct access to the DBS database of teaching and learning materials, in some cases under their own web name. Fourteen of the 16 state educational servers are continuing their data to the DBS (see map „Educational Information Servers in Germany“ in the appendix). Metadata for documents or objects held in distributed servers can be entered using the template for the DBS (<<http://dbs.schule.de/db/inconue.html>>) and will be sent to the central server metadata repository, while retaining the metadata information within the file itself or in the state educational server for additional search capacity. A dedicated search engine can be used to specify searching within the entire metadata server of the German Educational Resources Server or only in regional state educational servers. In this way and with the further integration of university educational departments, key special libraries for education, etc., an integrated, distributed information system for education is being achieved.

14 "Bonsai": Gemeinsame Tagungen der deutschen Bildungs-Server (<<http://dbs.schule.de/bonsai>>) gives the agenda and summaries of these meetings, as well as various other information on this cooperation.

All types of instructional materials can be entered and searched by means of a defined resource category, by the instructional level and/or by the subject of instruction. These options are available during the metadata entry through pull-down windows with reference tables. The entered metadata is used not only to obtain more precise searching capacities, but also provide filtering mechanisms during retrieval. For instance, if a teacher with limited band width has found a particularly interesting instructional unit, but sees from the metadata display that executing it requires a plug-in he does not have or that the file is in a format he cannot process, he will be able to avoid wasting the downloading time as well as other possible calamities. The expert search mode allows searching in any one or more servers, in the entire metadata server or in the servers registered in the German School Web. In addition, the user can specify the fields to be searched by incorporating stringsearch techniques. Instructions for searching for German words with umlauts are given. Boolean operators can be employed. In addition, the user has the choice in the expert search to be able to execute a case-sensitive search in the chosen text fields.

The German Educational Resources Server is not only restricted to indexing electronic resources in the Internet¹⁵. Physical objects, such as CD-ROMs with encyclopaedias or textbooks, lp's, sound cassettes, music CD's, texts, handouts, physical lecture notes, science models, physical games, and much more can be described using the same metadata categories, yet referring to a location outside of the Internet, yet most likely with an Internet-accessible contact address. During the last months of 1998, plans are being put into action for integrating curriculum offerings, linking names in the DGfE Directory with publications, linking electronic publications and courses, and much more.¹⁶ In addition, new cooperation agreements with school media publishers are in negotiation or have been signed. The funding of the German Educational Resources Server has been assured through 2002, and cooperation agreements with several educational research and development institutions within Germany will expand the scope and quality of the German Educational Resources Server. The DBS / GER is also actively participating in the development and expansion of the European School

15 Peter Diepold: Auf dem Weg zum Internet-gestützten, integrierten Informations- und Kommunikationssystem Bildung. In: *Schritte zur Qualitätsverbesserung von Bildungsinformationssystemen: Pragmatische Ansätze zur Akzeptanzsteigerung von Online- und Offline-Diensten. 5. GIB-Fachtagung, 1.-2. Oktober 1997 in Halle*. Eds. A. Botte, D. Rusch-/Feja, R. Theers. Berlin: Gesellschaft Information Bildung, 1998, pp. 7-39; also in: *Erziehungswissenschaft* 8 (1997), 6, 24-52, <<http://educat.hu-berlin.de/dgfe/2000.html>>

16 Peter Diepold, Ordnung im Multimedia-Chaos: Bildungsserver und Meta-Daten. *Pädagogische Rundschau* 52 (1998) (im Druck)

Net (EUN) (<<http://www.eun.org>>) and internationally applicable metadata for education materials.

IV. Rounding out the Information Circle - Back to the Educational Libraries

Many of the most important educational libraries in Germany have their own websites and have been linked to through the German Educational Resources Server. Several have built up their own additional collections of annotated Websites to supplement their collection specialism. The Max Planck Institute for Human Development (MPIB)¹⁷ has its specialized OPAC with extensive indexing and additional listings of electronic resources in the Internet, as well as its "Clearinghouse for Project-Oriented Internet Information Resources", an annotated database of Internet resources structured into resource pages according to the needs of the research projects in the Institute (<<http://www.mpi-berlin.mpg.de/dok/ech.htm>>). The Library for Historical Educational Research (BBF) offers its library OPAC in the net, as do the Federal Institutes for vocational and adult education, State institutes for teachers' training materials, special education, etc. All these institutions are linked through their own sites, as well as to and from the German Educational Resources Server. In addition, the Resources and Information Service of the Educational Faculty of the Free University of Berlin (SE EWIFIS) offers a broad listing of materials including annotated sites for educational instructors and researchers.¹⁸ The loose "connection" between these varied, yet educationally relevant sites covering all aspects of education functions as a network literally creating a virtual German national library of education. Especially in a country where political systems repeatedly purged schools and libraries of various educationally relevant book collections, where bombings destroyed a considerable number of library collections, where educational reform after the second World War, "denazification", and most recently, "de-Socialization" of education in the new German states have presented new problems for archiving, collecting, indexing, and finding the broad spectrum of diverse educational philosophies, instructional materials, educational research results and methodologies, decrees, etc., the connection and "bringing together" of dispersed educational resources at the metadata level can be achieved. Thus the missing German national library of education is a virtual one, but certainly not any less comprehensive and diverse in its collections! And in this way, educational libraries are not only cooperating to support educational institutions, the

17 The English translation of this institutional name was formerly "Max Planck Institute for Human Development and Education".

18 Service-Einrichtung Erziehungswissenschaftlicher Fachinformationsservice (SE EWIFIS): Informationsmittel und (Internet-)Adressen zur Pädagogik/Erziehungswissenschaft <<http://www.fu-berlin.de/ewifis/informationsmittel.htm>>

educators and those being educated. They are expanding their collections and their plethora of information resources far beyond the library walls, attesting to the image of the learning institution, expanding with new focus, new methods, and new organizational structures.

As a central coordinating unit, FIS-Bildung has more or less taken over responsibility for national bibliographic services in the field of education. Document delivery has been achieved in part through the holdings records in the CD-Bildung (and will be expanded in the future to include true document delivery services), but also through the Special Subject Collection for Education in the University Library at Erlangen, as well as others. But FIS-Bildung cannot fulfill its national (supraregional) bibliographic functions without submission of title entry material, indexing and abstract from the individual libraries and documentation units with important educational collections, and it can only serve as an instrument for locating these materials as it only has direct access to certain materials within the DIPF service units. The individual libraries and information centers offer various reference and information services, the state educational authorities offer additional materials specifically for teachers and administrators. The DBS provides information on those materials not ordinarily found in German educational libraries as it falls beyond the scope of the traditional libraries, and at the metadata level brings together all types of resources not previously collected at any one site. Thus, these institutions, the "addition of their parts", their coordination, and a central metainformation server integrating and structuring their offerings for the users cooperate to form a "virtual national library of education" in the broadest sense. Additional collaboration and cooperation possibilities with other national educational servers such as the ERIC Gateway for Educational Materials (GEM), or Educom's Instructional Materials System (IMS), EdNA in Australia and the European SchoolNet are seen as the means of harmonizing metadata within the educational information field. In addition, more contact between the educational servers of the world with comfortable access and similar structures will enhance users' opportunities for finding precise and relevant information for teaching, curriculum development, educational and school re-search, literature, comparative study of educational systems, etc. Even in this field of education, rooted deeply in the particular social, legal and administrative structures of an individual country and often also in the linguistic parameters of the national language, the effects of the Internet and globalization are evident. The benefits of these developments are obvious, the tasks to further cooperation and development, however, are great, but not insurmountable. The audience interest in the IFLA session in which this paper was presented with three others depicting the national libraries of education or similar structures in the US,

Denmark, and the Baltic countries is a significant indication of the relevance of this task.

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