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LEARNING AND
PROFESSIONAL
DEVELOPMENT

information outlook

THE MAGAZINE OF THE SPECIAL LIBRARIES ASSOCIATION

Learning and Professional Development

Working in a profession dedicated to finding and managing information and making it accessible, librarians are both natural learners and naturals at helping others learn.

BY STUART HALES

There's never been a better time to learn. From massive open online courses (MOOCs) to online degree programs to adult enrichment classes to employer-based training and credentialing programs, the opportunities for people of all ages to learn new information and skills are almost endless.

There's also never been a better time to *want* to learn. To meet the demands of a global and increasingly digital economy, employers are beginning to place greater emphasis on hiring job seekers who demonstrate curiosity and an interest in expanding their knowledge base and skill set. Some employers are even investing in systems and programs that measure learnability—what Manpower, a U.S. staffing firm, defines as "the desire and ability to quickly grow and adapt one's skill set to remain employable throughout their working life."

"There's definitely a new imperative for lifelong learning in the workforce," Sean Gallagher, executive director of the Center for the Future of Higher Education & Talent Strategy at Northeastern University in Boston, told the *Charlotte (N.C.) Business Journal* earlier this year. "We are in an era where lifelong learning is tremendously valued and needed, and that's impor-tant to remember. You're no longer set with an associate's degree or terminal credential."

"In this [job] environment, learnability is the hot ticket to success for employers and individuals alike," says Mara Swan, an executive vice president at Manpower. A 2016 Manpower report, *Millennial Careers: 2020 Vision*, elaborates on that sentiment. "Employers need to recognize and reward learnability," it states. "They need to nurture it to avoid losing out or lacking critical skills in their workforce."

Librarians, who are curious about information by virtue of their training and whose work involves helping others find information, are more inclined than most to seek out opportunities to learn. That's one of the key messages Tina Budzise-Weaver, chair of SLA's Professional Development Advisory Council, shares in her article in this issue of *Information Outlook*.

"Even when we meet a patron and don't quite understand their research topic, we try to help them find the answers and teach them about discoverability and information literacy," she writes. "We're constantly educating our patrons and helping them solve problems. I like to think that makes us more flexible and adaptable, which makes us better able to learn."

Tina cites Jeff Cobb of Mission to Learn, who says learning is about asking questions and navigating ambiguity, about attitude and behavior as well as about knowledge and skills.

"As librarians, we gather information, analyze it, and apply it to new opportunities and challenges," she writes. "There are always new trends and developments in our field, and we don't have the luxury of staying stuck in one mindset. We have the privilege of constantly being in a learning environment when we're helping our patrons, and consequently, we're always taking in more information."

In addition to being adept at learning, librarians and information professionals are also skilled at helping others learn. One way they can do this is by working with training and human resources staff in their organizations to make learning opportunities more accessible to employees.

"Push training is a centralized, top-down model that occurs when management determines what workers need to know or do and 'pushes' training programs out to them from experts within the organization," writes Stephen Gill in his article. "Research clearly shows, however, that push training is an inefficient way of learning. Pull learning, on the other hand, is the model for the new knowledge economy. It is a decentralized, bottoms-up approach in which employees access the information they need, when and how it is needed.

"Imagine employees in your organization facing a new situation in which they require more instruction," he writes. "Now imagine them finding the relevant information immediately because they know how to access and apply that information."

Daureen Nesdill, the subject of this issue's SLA member interview, is a case study in how librarians can help others

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learn. After attending a session about electronic lab notebooks (ELNs) at the SLA 2008 Annual Conference, she began researching ELNs to introduce one on the University of Utah campus.

"I started a pilot project with seven or eight labs across the university, mainly because I didn't know what it was like to integrate an ELN across the campus and what problems on campus would affect having an ELN," she says. "So for a year or so, I watched these people use ELNs and figure out what was what, and then we went for a site license."

Daureen also has been working with a world-renowned whale researcher, Vicky Rowntree, to digitize thousands of images of right whales and make them available to researchers around the world.

"She's been going down to Argentina for 48 years, collecting data," Daureen says. "She has data on more than 3,000 whales. She told me that before she dies, she wants all of the data digitized and made available to researchers—not just the 84,000 slides, but also a roomful of file cabinets that are filled with hand-written data sheets.

"All of this has to be digitized and put on a platform for other researchers to use. And you have to understand, the Southern whale is found throughout the Southern hemisphere, so Australia, New Zealand, Argentina, Brazil, and South Africa also have researchers who are conducting the same research. So what we're trying to do is create one platform, one set of metadata, and one method for getting all of this data onto one platform so everyone can use the data."

How else can librarians help their clients learn? This issue marks the debut of a new column on knowledge management, "Info Knowledge," organized by SLA's Knowledge Management Division. In the inaugural column, Guy St. Clair, president of SMR International, a consultancy specializing in knowledge services and knowledge strategy, explains how SLA members can take leadership roles in ensuring that the knowledge within their organization is widely shared and used.

"We now have in place, with the lessons of 22 years to build on, the 'what we need to do' to adapt—indeed (in the minds of some of us), not just to adapt but to build and lead the knowledge culture," he writes. "We do this by becoming, for our organizations, institutions and businesses, the enterprise-wide knowledge strategist, the knowledge professional positioned to manage and lead the entire knowledge domain. In the process, we become, unmistakably, the 'go-to' manager and leader in all things knowledge-related."

Want some learning for yourself? Check out SLA's myriad online learning opportunities, including the "Best of SLA 2019" series and a new certificate program in licensing digital content. And if it's leadership skills you want to learn, be sure to attend SLA's 2020 Leadership Symposium, set for January 18-20 in the Washington, D.C., suburb of McLean, Virginia. **SLA**

LEADERSHIP SYMPOSIUM • IFLA AWARD • CAREER FAIR • IN MEMORIAM

2020 Leadership Symposium Set for Washington, D.C.

SLA will hold its 2020 Leadership Symposium January 18-20 in the Washington, D.C., suburb of McLean, Virginia, at the Hilton McLean Tysons Corner. The Saturday-Monday event will provide SLA members with relevant, quality educational leadership training, in conjunction with a unit leader training. The schedule is as follows:

- Saturday will include registration and a welcome reception.

- Sunday will feature a dynamic agenda of leadership-focused professional development training.

- Monday offers an engaging schedule of volunteer and unit leader training for SLA volunteers.

For more information, visit https://www.sla.org/attend/leadership-symposium/.

Scheeder Named Fellow of IFLA

Donna Scheeder, a longtime SLA member who served as president of the International Federation of Library Associations and Institutions (IFLA) in 2015-2017, was named an Honorary Fellow of IFLA at the organization's 2019 World Library and Information Congress in Athens, Greece.

IFLA President Glòria Pérez-Salmerón honored Scheeder during the event's closing session, citing her "achievements, dedication and service to IFLA, particularly in the areas of IFLA's organizational transformation and in advocacy for libraries within the U.N. Sustainable

Donna Scheeder

Development Goals."

As president of IFLA, Scheeder adopted "A Call to Action" as her theme and traveled the globe encouraging librarians to act, speak up, and ensure their voices were heard and their views considered. She also advocated for greater involvement by special libraries in IFLA.

Scheeder served as president of SLA in 2000-2001. She was named a Fellow of SLA in 1998, received the John Cotton Dana Award in 2004, and was inducted into SLA's Hall of Fame in 2009.

SLA to Hold Virtual Career Fair in October

SLA will hold a three-hour virtual career fair on October 15 that will allow librarians and information professionals to connect with employers in real time from the comfort of their home or office through a desktop or laptop computer, tablet, or smartphone.

The career fair, which will be completely online, will enable job seekers to—

- explore career opportunities available in all areas of the library and information management field;

- engage directly with employers using dynamic one-on-one web chats; and

- make new connections and broaden their network, without leaving their home or office.

Job seekers should upload their resumé before the event so that employers will have their career information readily available. On the day of the career fair, job seekers will choose the employers with which they wish to interact, then engage in one-on-one chats with representatives of those employers. Job seekers and employers can ask questions of each other and share information until the career fair ends.

In Memoriam: Agnes Mattis

Agnes Kelly Mattis, a member of SLA's Hall of Fame and a tireless volunteer with the association's New York Chapter, died July 15 after a brief illness.

Agnes began her career in the banking and finance sectors, working for Santander Investment Securities, Brown Brothers Harriman, and Donaldson Lufkin & Jenrette, before joining the law firm of Skadden, Arps, Slate, Meagher & Flom LLP in New York City in 1998.

LEADERSHIP SYMPOSIUM • IFLA AWARD • CAREER FAIR • IN MEMORIAM

Agnes Mattis

As head of the corporate library, she provided high-level research to attorneys throughout Skadden's U.S. and overseas offices and oversaw the firm's Conflict of Interest Department.

Within SLA, Agnes was a member of the Legal Division, the Leadership & Management Division, and the Museums, Arts, & Humanities Division. She was also a member of the Business and Finance Division and served as its chair in 1996-1997.

Agnes was especially active in the SLA New York Chapter, serving as treasurer, nominating chair, and governance chair, among other offices. She holds the record for being president of the chapter for four terms, from 1992-1994 and from 2002-2004. She received the Distinguished Service Award from the New York Chapter twice, in 1995 and again in 2003.

On the association level, Agnes served on the SLA Board of Directors from 2005-2007 as the division cabinet chair and was a candidate for 2011 president. She also served on the Finance Committee and the Awards and Honors Committee and chaired the Committee on Association Governance and the Information Outlook Advisory Council.

Agnes was named a Fellow of SLA in 2004 and was inducted into the SLA Hall of Fame in 2013. The Hall of Fame honors SLA members for a lifetime of achievement and exceptional service to the association and the information profession.

Agnes was preceded in death by her husband and fellow SLA member, Rick Mattis. They enjoyed traveling, especially to beach locations to escape the cold winters in the New York area. They also loved to cook—Agnes made it a point to collect cookbooks from every city she visited with SLA for the annual conference and the Leadership Summit. **SLA**

Take Advantage of Your Innate Learning Quality

THE CHAIR OF SLA'S PROFESSIONAL DEVELOPMENT ADVISORY COUNCIL SAYS LIBRARIANS AND INFORMATION PROFESSIONALS ARE 'TUNED INTO LEARNING CONSTANTLY' BY VIRTUE OF THEIR ROLE HELPING OTHERS FIND INFORMATION.

BY TINA BUDZISE-WEAVER, MLS

I've learned many lessons in the past six years as a librarian, none more important than that our field is always changing. For example, while I don't use blockchain in my position, several librarians and information professionals, especially some members of the Special Libraries Association, are very interested in learning about it and utilizing it. The technology landscape is also changing rapidly, with growing interest in artificial intelligence (AI) and how it can be incorporated into learning and access to information. AI will most likely be a more pressing topic in the future for libraries.

Keeping up with these changes is a key part of librarianship, and I feel very fortunate to have a position where I can keep learning about new trends and developments in the library and information profession. I'm able to attend free workshops and forums on campus as well as webinars, professional conferences, and annual meetings.

Recently, my dean, David Carlson, selected a small team to attend an Ithaka S+R workshop to learn about qualitative research methods. Our training was coupled with the Ithaka S+R Teaching with Primary Sources Project to investigate the use of primary sources in college courses. We will conduct our own study on the Texas A&M campus in the fall and spring to contribute to this research.

I was also asked to attend National Humanities Alliance Day in Washington, D.C., to help lobby for funding for the National Endowment for the Humanities and other funding that falls into the humanities realm. This rewarding experience allowed me to team up with colleagues from across the 50 states and meet with Texas Congressional representatives on Capitol Hill.

Fortunately, I have many opportunities to explore professional development. That's one of the benefits of working in an educational environment. Lifelong learning, which I'm a big believer in, is highly promoted on my campus.

Enhancing SLA Learning Opportunities

My interest in professional development led me to volunteer to serve on SLA's Professional Development Advisory Council (PDAC). I joined the council in January 2018, and I'm finishing my second year of a three-year term. I have chaired the council since I joined.

The council's charge is to recommend policies on professional development and provide feedback on curricula. As part of the PDAC's annual activities, it approves continuing educa-

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> We have the privilege of constantly being in a learning environment when we're helping our patrons, and consequently, we're always taking in more information.

tion (CE) courses for the SLA Annual Conference. The council receives the proposals for CE courses, then reviews and selects the courses that go forward as pre-conference workshops.

When I joined the council, SLA headquarters wanted to increase online webinar content after a successful run of the "Best of SLA" webinar series. The success of this series allowed the PDAC to start providing more webinar content throughout the year. Last year we presented several webinars that were fairly well attended, on topics such as trending technologies, copyright and fair use, and strategic planning in libraries. We're continuing to produce high-quality webinar content this year to provide more educational opportunities for SLA members. We are interested in offering shorter webinar sessions on a trial basis to attract busy professionals who cannot devote several hours to a webinar series.

The PDAC is also looking into developing more certificate courses. SLA already offers certificate courses in knowledge management and competitive intelligence, but I believe many librarians and information professionals are really squeezed on funding, which can prevent them from establishing long-term professional development goals. I'm interested in expanding our certificate courses to not only appeal to SLA members, but also appeal to their employers and entice them to fund this training for their employees. I believe employers want to see their employees receive value from their training and, therefore, see a return on their professional development investment.

Developing a robust selection of certificate courses will thus enhance the learning opportunities for SLA members by encouraging employer involvement.

We have an extensive member base, and I'm interested in developing more online content for SLA members. Eventually, I'd like SLA to have a landing page on its website where the PDAC and SLA communities can house their online webinars. This would make it easier to access SLA learning content, and it might also increase the membership of chapters, divisions, and caucuses based on online educational content they're providing. The PDAC has discussed this idea with the SLA Board of Directors, and there has been a very positive response.

Whatever we do, it has to look and feel professional. Librarians and information professionals have been using online education for a while now, and the quality of it has gotten much better over time. Online training opportunities reflect that. Instead of a few people signing up, you're seeing thousands, specifically with MOOCs and broad-reaching educational modules.

I recently took a course on copyright from Coursera, and it was very well done, with videos, testing, and an online collaborative community. The course I took was free, but you could opt in for a low cost to receive a certificate. The quality of online training is increasingly getting better, and that's creating a more robust and positive educational experience. You're not solely watching a video anymore—it's more interactive and engaging.

Tuned into Learning Constantly

Educating librarians and information professionals is challenging. We are not only pupils, but educators as well. We educate the public, students, and our patron base that interacts with us on a daily basis. Even when we meet a patron and don't quite understand their research topic, we try to help them find the answers and teach them about discoverability and information literacy. We're constantly educating our patrons and helping them solve problems. I like to think that makes us more flexible and adaptable, which makes us better able to learn.

I mentioned earlier that I'm a proponent of lifelong learning. I believe librarians have an innate learning quality to them. We're constantly learning. Sometimes we use words such as *learning* and *education* interchangeably, but they aren't the same thing. Jeff Cobb from Mission to Learn defines learning as "the lifelong process of transforming information and experience into knowledge, skills, behaviors, and attitudes." Education, on the other hand, is one structured option within this process.

Cobb says that when we equate learning with education, we're more likely to focus on generating answers—on providing structure and on optimizing for performance and achievement. Learning, on the other hand, is about questions, about navigating ambiguity, about attitude and behavior as well as about knowledge and skills.

I generally agree with these concepts. Learning is applying the skills and attitudes that Cobb defines and putting that knowledge into action. As librarians, we gather information, analyze it, and apply it to new opportunities and challenges. There are always new trends and developments in our field, and we don't have the luxury of staying stuck in one mindset. We have the privilege of constantly being in a learning environment when we're helping our patrons, and consequently, we're always taking in more information.

That's one of the nice things about

our profession—we're tuned into learning constantly. I go to SLA's Annual Conference every year because being in that environment stimulates learning. I'm a former chair of the SLA Social Sciences and Humanities Division and currently president-elect of the Texas Chapter in addition to being chair of the PDAC. Attending the conference gives me a chance to get together with fellow committee and council members for face-to-face collaboration. I've also been attending the Art Library Society of North America, which has allowed me to meet professionals in a subject-specific environment.

Service as a Learning Opportunity

Perhaps the biggest keys to learning that I've discovered during my career are not being afraid to fail and being willing to take risks. I've done quite a bit of both throughout my career as a librarian. Sometimes you do fail and things don't work out, but you usually learn from your failures. Taking risks is almost a necessity now, especially if you want to get further along in your career or have your sights set on a leadership position.

While I believe that taking risks and not being afraid of failing are important, I recognize that most of us don't want to do these things. Still, I believe taking risks without worrying about failing is necessary for that lifelong learning process. I've found these two lessons to be extremely valuable.

There's a book, *The Truth about Leadership*, by James M. Kouzes and Barry Z. Posner, that I consider a useful resource for adapting leadership skills into your career path. Even if you don't want to be a leader, the authors make good points about collaborating and constantly learning. They stress the value of being part of a group and not "doing it alone," essentially understanding that you have to work together with others to be a good leader.

Another valuable lesson is to look at service assignments, such as committee and task force work, as learning opportunities. Many people tell me I should say no and not take on more professional obligations. But every time I've said yes, it's resulted in more learning, more professional development, and more chances at opportunities that I wouldn't have come across. I know you can get overwhelmed with these kinds of things, but sometimes it's important to say yes, especially to move your career forward.

I'll admit I'm on too many committees, but they have all been surprisingly positive experiences. Committee work gives me the opportunity to meet new people and get involved in new fields. I'm glad I don't always say no to service opportunities. Think of it as part of putting yourself out there and saying yes to learning to help you achieve your goals as a librarian and information professional. **SLA**

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Helping Workers Be Self-Directed Learners

LIBRARIANS AND INFORMATION PROFESSIONALS CAN ACT AS CURATORS OF LEARNING IN THEIR ORGANIZATIONS TO HELP EMPLOYEES 'PULL' THE RESOURCES THEY NEED TO ADVANCE THEIR PERFORMANCE AND CAREERS.

BY STEPHEN J. GILL, PhD

L ibrarians have an essential role to play in the success of high-performance organizations, and that role will only grow during the 21st century. The coin of the realm today is information, and librarians are the bankers.

However, changes in the workplace due to technology, globalization, diversity, and heightened competition are presenting serious challenges to this role. Workers today need to be smarter, more agile, more innovative, and more inclusive of the experience and knowledge of others. The complexity of "knowledge economy" organizations demands this.

Training programs alone cannot keep up with all of these demands. Instead, employees need to learn how to "pull" information when, where, and how they need it. Only then they will be able to use their collective knowledge to make their companies successful.

As David Grebow and I explain in our new book, *Minds at Work: Managing for Success in the Knowledge Economy*, humans are less and less needed to make things, fix things, sell things, or even provide basic human services. Automation, robotics, and artificial intelligence are eliminating tasks that had been mundane, routine, monotonous, and dangerous—just look at how Amazon has automated its warehouses and how libraries have digitized their collections.

We call this the shift from "managing hands" to "managing minds." This kind of shift is affecting all sectors of the economy, from auto assembly lines to lawyers' and doctors' offices. McKinsey consultants predict that by 2030, as many as 375 million employees worldwide will have had their jobs eliminated due to technology.

Push Training vs. Pull Learning

Technology won't put people out of work if they prepare themselves for this new world of automation, but to do so they will need to be able to continually adapt to new tasks, new technologies, new tools, new methods, new organizational structures, and new workplace dynamics. If, however, people continue to prepare themselves for their current job, they will be left behind. They won't be able to adapt fast enough if their learning is limited to training that is "pushed" at them by their organization and their co-workers; rather, they must "pull" the information they need at the moment while, at the same time, stay-

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ing ready to learn new jobs.

Push training is a centralized, top-down model that occurs when management determines what workers need to know or do and "pushes" training programs out to them from experts within the organization. The push training approach served the old industrial economy, but it doesn't serve the needs of a knowledge economy. Long before the "Internet era," the process of producing products or delivering services changed slowly. The shelf life of both, compared to today, was almost glacial, and most workers did not need to learn volumes of information to perform their jobs.

Over time, the industrial economy evolved into a knowledge economy, but most organizations still try to develop their employees by pushing training out to them. Research clearly shows, however, that push training is an inefficient way of learning. Estimates of the learning transfer rates from push training programs to the workplace range between a miserly 10 and 20 percent. This is a huge waste—anywhere from 80 to 90 percent—of the investment in those programs.

Pull learning, on the other hand, is the model for the new knowledge economy. It is a decentralized, bottoms-up approach in which employees access the information they need, when and how it is needed. It is a culture in which employees are connected and collaborative and make the best use of the supporting technology. It is a culture that connects workers to one another and to the sources of information.

Imagine employees in your organization facing a new situation in which they require more instruction. Now imagine them finding the relevant information immediately because they know how to access and apply that information.

The accompanying chart compares push training to pull learning.

Figure 1: Push vs. Pull
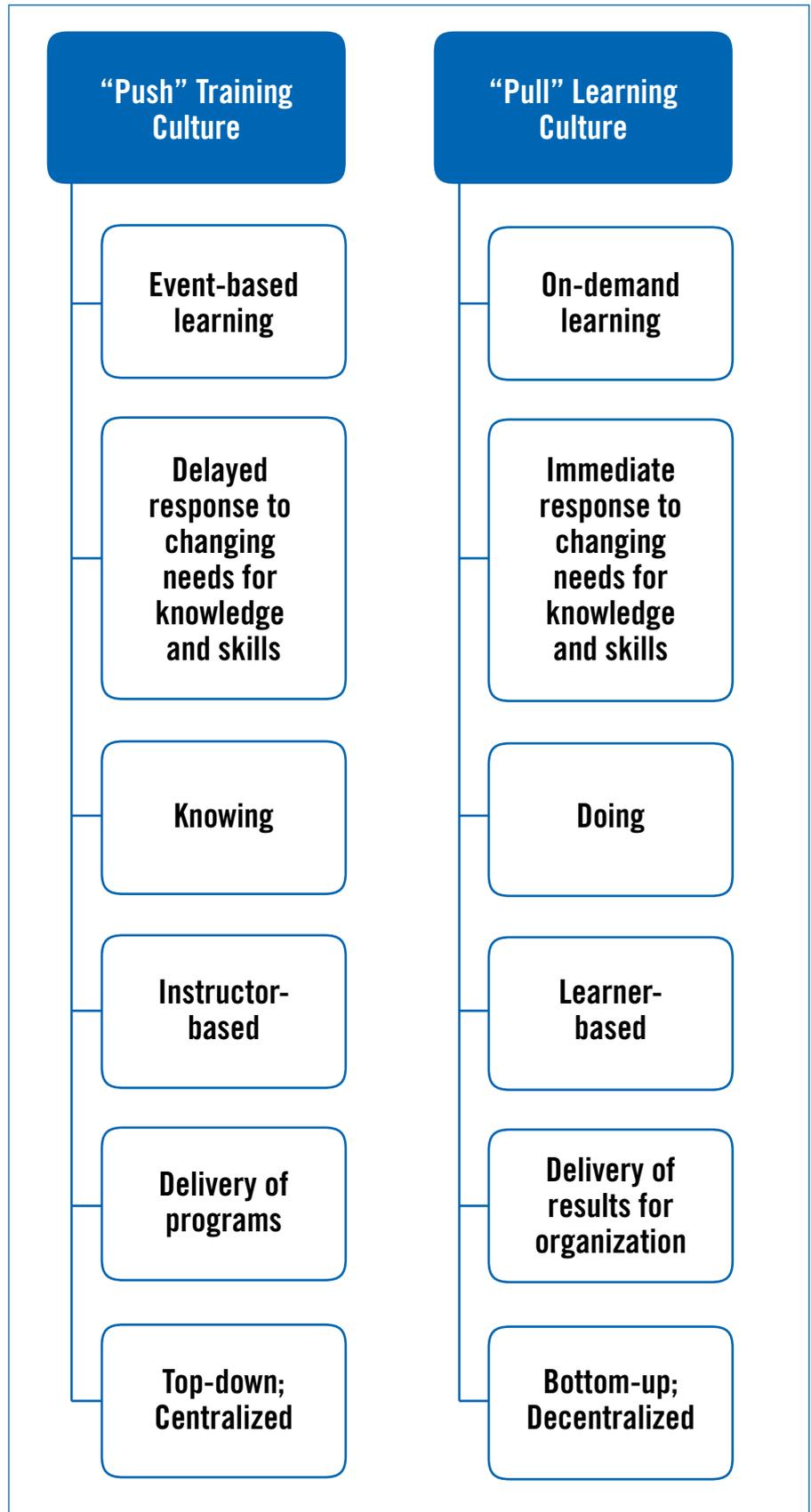
"Push" Training Culture	"Pull" Learning Culture
Event-based learning	On-demand learning
Delayed response to changing needs for knowledge and skills	Immediate response to changing needs for knowledge and skills
Knowing	Doing
Instructor-based	Learner-based
Delivery of programs	Delivery of results for organization
Top-down; Centralized	Bottom-up; Decentralized

> One way librarians can contribute to a learning culture is by helping people develop new knowledge in the course of their work when faced with a new task or a new challenge, such as operating a new tool or becoming an effective leader.

Self-Directed Learners

Clearly, 21st-century employees need to be self-directed to be successful. Self-directed learners seek out opportunities for learning, be they new experiences, new challenges, new co-workers, or new managers. Self-directed learners reflect on their experiences. Self-directed learners are continually learning how to learn—individually, in teams, and as a whole organization. Self-directed learners contribute to a *learning culture* that is supportive of the development of their co-workers throughout the organization.

To become self-directed learners, workers need to learn how to pull essential information and how to continually acquire useful information in a world that is rapidly changing and becoming more complex. What they don't need is a schedule of training courses the organization offers; instead, they need help from a curator of performance-related information—someone who can collect, organize, evaluate, and preserve such materials. In short, they need the help of a librarian.

One way librarians can contribute to a learning culture is by helping people develop new knowledge in the course of their work when faced with a new task or a new challenge, such as operating a new tool or becoming an effective leader. This is done by making information accessible and by making the tools to create knowledge from that information accessible as well. After all, we can teach people how to fish, but if they don't have a rod, reel, and hook to catch the fish and the techniques and technology to find the fish, knowing how to fish is useless.

If we are going to democratize learning in organizations, we need to teach everyone how to learn and how to use tools to discover useful information. We need to make learning tools accessible to all employees, when and where they need them. A learning organization also needs tools that people can use to discover information about themselves, about teams within the organization, about the organization as a whole, and about the wider community in which the organization exists. We need a culture that supports reflective conversations about information that is generated.

Storing, sorting, and retrieving information, the characteristics of any good knowledge management system, are not sufficient, contrary to what some software companies that sell KM products would have us believe. Of course, it's nice to be able to archive lessons learned and best practices, but without processes and tools for knowledge creation, knowledge management will have little impact on achieving organizational goals. Learning requires sharing knowledge with others, applying new knowledge to collective problem solving, and giving and receiving positive and negative feedback. This doesn't happen in the typical knowledge management system, but it could be facilitated by librarians.

A Culture of Diversity and Inclusion

The competitive advantage of any organization is its collective knowledge, and this will become all the more true as globalization increases and workplaces become more diverse. Employees today want a work experience that capitalizes on this diversity and supports collaborative learning and development. This won't happen unless the learning environment supports all kinds of people and perspectives.

Meaningful learning will not occur in a hostile workplace or one in which some people and ideas are marginalized. People want a work environment that supports their learning and development, treats them fairly, and respects them for their contributions. Attracting, engaging, and retaining high performing employees is dependent on a culture that is supportive of collective (i.e., everyone) learning.

To succeed in this kind of environment, employees will need interpersonal skills, creativity, reasoning, and empathy. This means showing respect for everyone and supporting everyone in learning. It also means learning how to pull information when and where it's needed. Librarians can help facilitate this process by curating that information and helping turn it into knowledge that results in positive outcomes for organizations. **SLA**

10 Questions: Daureen Nesdill

HER ROLE IS TO SERVE AS A 'CONCIERGE' ON HER CAMPUS, BUT DAUREEN NESDILL ALSO FINDS TIME TO OVERSEE THE IMPLEMENTATION OF ELECTRONIC LAB NOTEBOOKS AND DIGITIZE THOUSANDS OF IMAGES AND FILES RELATED TO GLOBAL RIGHT WHALE RESEARCH.

BY STUART HALES

Why did the squirrel bury an acorn? To give a zoologist food for thought about her future, which later took a sharp turn toward library school.

Daureen Nesdill studied the feeding behavior of gray squirrels while earning a master's degree in zoology. An assistantship in the university library helped put her through school, and when she had an epiphany about continuing her studies and earning a PhD—"I realized that it was going to cost a heck of a lot of money for me to stay and become a professor, because you are expected to serve a few years as a post-doc"—she decided to become a librarian instead.

That decision has led to a career investigating and implementing electronic lab notebooks, creating a repository of digital images of right whales, serving as a concierge (her dean's term) for researchers at the University of Utah, and presenting at conferences. And she has no plans to stop—although she expects to "retire" to Arizona in the near future, she wants to continue working on the right whale repository project until all of the images have been digitized.

Information Outlook interviewed Daureen after the SLA 2019 Annual Conference in Cleveland, where she delivered presentations on ELNs and on enhancing the sharing of federal research data.

Before you became a librarian, you earned a master's degree in zoology, which you received *12 years* after you had earned your undergraduate degree. What prompted you to go back to school to get a graduate degree in zoology?

(laughs) My undergraduate degree was in biology and laboratory animal science; it's similar to veterinary training for research. I worked at the Berson Research Lab at the Bronx VA [Veterans Affairs] Medical Center for five years as an animal technician, and eventually became allergic to my animals. Things are a little different these days—they test people for allergies and so forth—but I wasn't able to function, so I had to leave.

I changed my career goals and returned to school. I became interested in animal behavior, so I ended up at Auburn University studying chemical and behavioral ecology. For my research, I investigated the feeding behavior of gray squirrels. They bury their acorns, and nobody knows why. Well, we do know why—they bury them so they'll have them available to eat—but the forestry people aren't able to preserve acorns to grow oak trees, so how does burying acorns preserve them so they can be eaten later? I was investigating the squirrels' behavior and social structure and measuring tannins in the acorns.

Several more years passed, and you went back to school again to earn a

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degree in a totally different field: library science. Why did you decide to become a librarian?

The reason I went into research was that I like change. I guess I'm different from most people—change isn't a problem for me.

When I was earning my degree in chemical and behavioral ecology at Auburn, what put me through school was an assistantship in the university library. When I was approaching the end of my PhD studies, I realized that it was going to cost a heck of a lot of money for me to stay and become a professor, because you are expected to serve a few years as a post-doc. Here I was, 50 years old, so I said to myself, what the heck, I'm going to earn my library degree and become a librarian. Nothing changes faster than libraries.

Your title at the University of Utah is data management librarian. What does being a data management librarian entail?

We actually call it research data management librarian, but I'm trying to shorten it to data management librarian. *(laughs)*

In the beginning, I had to learn about data management—what the standards are, the resources on campus, and so forth. And there wasn't very much information out there. There was the ARL/DLF eScience Institute, which was great because it put you through some procedures to learn about data management and what's going on around your campus.

My dean told me that my basic job is to be a concierge, because I need to be able to tell people where to go to find the information and resources they need. The Utah campus is large—we have a medical school, a law school, engineering, dentistry, pharmacy, earth sciences, et cetera, et cetera. I need to know the resources available all over the campus to be able to tell researchers what would be good for their project and where to find it.

In addition, I help people write their data management plans. I don't work alone, obviously; I work with people in the Office of the Vice President for Research [VPR]. One of the associate vice presidents and I work very closely together, and she more or less has directed me depending on the needs of the campus.

The VPR publishes a newsletter, and everything in that newsletter rolls over into the university's newsletter. So if I submit something in the VPR newsletter, it will not only go out to the researchers, it will also go out to everybody on campus. It ends up being two ways to get the word out.

I have to write an article at least once a month on news items that come up in data management. When I started working with electronic lab notebooks, I was constantly writing about them.

So my job is data management plans, and it involves working with researchers if they get into trouble with the way they've organized their data. One of the biggest problems in any group of people working together is communication. Sometimes you'll have an interdisciplinary group, and another group is from another country or a different university, and everybody has to sit down and realize they need a common language to talk to each other. That's one of the things I teach.

We also have a bunch of grant writers on campus, about 100 of them. I present to them and teach them about data management and data management plans so that when they write grant proposals, they can help their researchers write the proposals so it isn't all on me.

The third major part of my job is that we're developing an institutional data repository called The Hive, and we're about to roll it out this fall. Initially it was just me and two IT people, but I'm now training two librarians from the Health Sciences Library and another librarian from the Marriott Library. There will now be four of us helping faculty get their data in the right shape, determine the metadata, and put together a README file, and then they can load it all into the repository.

You mentioned electronic lab notebooks, or ELNs. What are they, and why are you so keen on them?

An ELN is a research management tool. In research, we learn to write in a lab notebook, and there are rules about what you put into a lab notebook and how you cross things out, and so on. But that's in print.

As data became electronic, researchers were living in an electronic world and a print world, and it became more difficult to manage everything. Some researchers were downloading data, printing it, and pasting it into their notebook, or they would have a binder and store it in their binder. It was just awkward.

In the year 2000, electronic signatures and documents became legal, and ELNs started showing up—mainly in the corporate world, not in academia. It wasn't until cloud-based technology became available that we started seeing ELNs on campus.

I actually became familiar with ELNs in 2008 at the SLA Annual Conference, because the Chemistry Division had a session on them. They brought in two corporate ELN vendors and one academic ELN vendor. That was my introduction to them. Just after that, a faculty member here at Utah who had about 40 researchers under him needed to find a better way to manage them. He asked about ELNs and what was available, and that's what started me looking for an ELN on this campus.

Now, at that point, it was the wild west of ELNs. You didn't know what was good and what was bad. Every other faculty member and graduate student was developing an ELN and putting it online for everyone to use, and most of them were not worth the effort.

Obviously, when you talk about data, you have to think about federal and state laws, and you have to think about university policies. So most of the ELNs were not suitable for use.

It wasn't until Labarchives came knocking at my door that I found the first ELN that knew about business plans. They knew what would happen

Daureen (left) and another SLA 2019 attendee visit industry partners in the exhibit hall.

to the data if they went broke, and they knew about security. So I started a pilot project with seven or eight labs across the university, mainly because I didn't know what it was like to integrate an ELN across the campus and what problems on campus would affect having an ELN. That's basically why I did it.

The VPR Office was backing me, and the library gave me a grant to pay for it. So for a year or so, I watched these people use ELNs and figure out what was what, and then we went for a site license. Now we're in the second year of our site license, and more than likely we'll continue with Labarchives because it is secure.

In addition to ELNs, a major focus of your work is right whales—in fact, you gave a presentation on right whales at SLA 2018 in Baltimore. Utah is a landlocked state, so what explains your interest in whales?

This project has to do with data repositories, only this one is meant to be a separate data repository just for right whale research.

Do you remember the album "Songs of the Humpback Whale," from back in the 1970s? That was Roger Payne's

work—I think he's in his eighties now—and his student in the late 1960s and early 1970s was Vicky Rowntree, who's a professor here at Utah. He started her on a career of collecting data on the Southern right whale in Argentina. She's still going—she's been going down to Argentina for 48 years, collecting data.

When I collected data on the squirrels, they wore tie wraps around their necks, which had color-coded tape on them so I could tell one squirrel from another. Whales have callosities, which are white blotches on the back and head, and each whale has a different pattern of callosities. Vicky came to me with her 84,0000 slides of whale pictures, and she has a little software package that was developed in the 1970s that allows her to run a slide through the software and tell her whether it's a new whale or a whale she already knows.

She has data on more than 3,000 whales, and her research is being conducted in a location where the females give birth and take care of their calves. She told me that before she dies, she wants all of the data digitized and made available to researchers—not just the 84,000 slides, but also a roomful of file cabinets that are filled with handwritten data sheets.

So all of this has to be digitized and put on a platform for other researchers to use. And you have to understand, the Southern whale is found throughout the Southern hemisphere, so Australia, New Zealand, Argentina, Brazil, and South Africa also have researchers who are conducting the same research. Vicki has been collecting data the longest, but all of these groups have each been doing it their own way. So what we're trying to do is create one platform, one set of metadata, and one method for getting all of this data onto one platform so everyone can use the data. That's what my presentation at SLA 2018 was about.

Speaking of SLA, when and why did you join, and what do you get out of it?

I joined when I was a graduate student at the University of Alabama, and an SLA group was forming there, and that's when I joined. I was the treasurer during the first year or so I was there. And then I just naturally kept up my membership in SLA.

One of the reasons I kept my membership is that, after I started working at the University of Utah, I did a survey of librarians. I wanted to know why I should attend SLA and not ALA, and which one was best for me. I was a science librarian—chemistry, civil engineering, mining engineering, and metallurgy. The survey showed that it is good to go to some of those subject-level conferences, but SLA has more bang for the buck, because they cover all of the subjects.

What I like about SLA is that we have sessions on specific topics within the sciences. Sessions don't necessarily have to be related to library science. Since there is always something happening in the sciences, you need to be able to keep up with what's going on. So that's why I'm still a member.

One of the things I've gotten out of being a member is learning about leadership. I've also had practice working with people remotely, because I was chair of the Engineering Division in 2008. Back at that time the chair

was responsible for organizing conference sessions. So I had to learn how to organize topics, and since it was the fiftieth anniversary of the division, I had to learn how to put together a celebration—in a hotel, from a distance. I also had to put together a tour and work with the vendors, and I had to learn how to budget and how to approach funders for support for the sessions.

When I became past chair, SLA was nice enough to change its fiscal year from July through June to January through December. So the Engineering Division's best practices had to be totally updated, and I led that effort. And after that, I said, what the heck, I'll volunteer for the Bylaws Committee. So I've learned a little bit about bylaws and best practices and how to structure that type of thing.

In addition to your involvement with SLA, you present frequently at other conferences and meetings, and you write articles and book chapters as well. Are there any presentations or things you've written that are especially meaningful to you or stand out in some way?

The most recent presentation I gave, with Ariel Andrea at the University of Wisconsin, stands out—maybe because we're going to be writing a paper about it. It's more or less about how to integrate ELNs on campus. There's still a demand for information from librarians and from industry about the best ELNs and how to use them and integrate them. We're seeing the first generation of ELNs, so it's still a new subject.

When I started working with ELNs, I put together a library guide—this was in 2013—and it just happened to be the first freely accessible information about electronic laboratory notebooks. So in the first two years, I got 15,000 hits. And I thought, OK, this is a topic people are interested in! So I think it's going to be the ELN paper that I'm most proud of.

You recently won a travel award from JoVE, an organization that creates scientific videos so educators and stu-

dents can actually watch experiments and scientific research being conducted rather than simply read about them. How did you win the award, and how are you going to use it?

I had to write an essay on how I helped researchers on campus improve their work, so I wrote about implementing ELNs. I have to admit I was surprised I won the award, but I was glad I did.

When I gave the talk on whales, Ruth Gustafson from the University of California at Davis told me about the International Association of Aquatic and Marine Science Libraries and Information Centers and their conferences. Since it is an international group, I figured these people would know about anybody conducting whale research anywhere in the world. And Ruth said, yes, probably they will.

The next meeting is in Texas, in October. I am going to this conference to meet people who might know something about whale projects, so we'll have more people to contact to put together our platform for Southern right whale data.

You're on the board of a new group, the Research Data Access & Preservation Association, or RDAP. Given your involvement in SLA and other groups, such as TRAIL [Technical Report Archive & Image Library], and your full-time job at the University of Utah, do you ever worry that you may be spreading yourself a little thin?

You're right, I did spread myself a little thin when I joined RDAP's board, but I was asked to join it because of my experience with bylaws. Not only did I work on the Bylaws Committee at SLA and rewrite the Engineering Division best practices, I also helped write the bylaws for TRAIL. I seemed to have more experience in these areas than anybody on the RDAP board, so they invited me onto the board to be the bylaws person.

RDAP was a brand new association, and they needed to get up and running within a year, become a 501c (3) organization, establish a bank account, meet the other legal requirements, and develop bylaws. They needed everything fast, so for a year I was the bylaws person on the board.

Daureen with Vicky Rownteree, a collegue at the University of Utah and a prominent right whale researcher. Daureen is leading an effort to create a repository of global right whale research.

My board duty ended on June 30, but I'm still going to be working with them because they're such a new organization. They're going to be needing some updates to their bylaws, but other than that, I won't be so involved.

As for TRAIL, I've been a member since 2007, and it has been a very rewarding experience. This group developed a workflow that spans the United States to digitize and make freely available the U.S. federal technical reports. Initially, we concentrated on the reports published prior to 1975 created by agencies that may no longer exist. We have since expanded and now have over 80,000 reports available. At this point, we have more than 50 institutions and over 10 personal members working to locate, assemble, document, catalog and send off for digitization. I plan on staying involved once I retire.

So it sounds like you're going to stay busy in retirement, but surely you'll have a little free time now and then. When you want to relax or take time off, what do you do? What are your interests and hobbies?

I have a walking group, and every evening we go walking in the local historic cemetery. It allows me to unwind and visit with friends. This cemetery is very rural, even though I'm in Salt Lake City, and we can see deer, foxes, owls, vultures, and several species of hawks. And, of course, the squirrels have moved in!

I also swim three or four times a week. My supervisor is OK with me taking vacation time at 3:30 on Thursdays and Fridays to go swimming. Sometimes my friends and I get together on holidays and play board games or go to the movies.

When I go to SLA conferences, I like to take extra time off either before or afterward to explore the city. I always like to start at a museum about the city or region or state, and in Cleveland it was a little different—I went on a walking tour and learned about the city. It was interesting to learn that Cleveland was the first city to have electric lights and electric streetlights. The person

Daureen conducts a presentation on electronic lab notebooks at the SLA 2019 Annual Conference in Cleveland.

who invented the traffic light was Garrett Morgan, an African American who lived in Cleveland. Not only did he invent the traffic light, he also invented the gas mask. It was quite an interesting tour!

The other thing I'm doing, since I'm approaching retirement, is going to classes and lectures about retirement. The transition from working to retirement is the scariest life transition, in my opinion. My sisters, who have already retired, have told me, don't worry, Daureen, we all go through it.

I'm already past retirement age, but Vicky Rowntree told me she wanted everything digitized before she died, and I said, well, I want everything digitized before I retire. We are applying for a National Science Foundation grant, and as soon as we get the grant and get everything up and running, I figure I can retire. At that point, I can work on the grant from Phoenix, where I'm retiring. I don't have to be here in Utah to help with that. **SLA**

SLA Members as Knowledge Strategists

SLA members are ideal candidates to become enterprise-wide knowledge strategists and build their organization into a knowledge culture.

BY GUY ST. CLAIR, MS

SLA's members frequently engage in a leadership role in their employing organizations. When working in an organization in which our talents and professional skills are recognized (often following our own efforts to attract and ensure that recognition), we information professionals are charged with ensuring that our parent organizations are well served.

Our efforts (in best-scenario situations) position us for a larger role, that of managing the organization's intellectual capital. Many SLA members excel in managing information, knowledge, and strategic learning, the three elements of the management and service-delivery methodology that has come to be known as knowledge services. In doing so, we are positioning ourselves to achieve what some consider (as I do) our highest and most powerful contribution to the workplace and for enterprise stakeholders.

The opportunity before SLA members today is one that is found in many organizations (and has, in fact, been there for a long time). It is a way of working that is decidedly natural for us, and all it takes is a slight change in the way we think about ourselves. And the time is right, as it has been for more than 20 years, since the late Judith J. Field, in her inaugural address as SLA President in 1997, told us, "We are at the crest of a new renaissance, and we are seeing the rebirth of our profession and of our association."

That new renaissance and our profession's "promising future," as Field characterized what would happen, brought about a new way of doing things and created an opportunity I'm suggesting we can now take advantage of. Members of our association, even in 1997, were performing with entrepreneurial/intrapreneurial enthusiasm as internal consultants for our employing organizations. We were doing it so well that Field went on to admonish that "the time has come for us to start praising ourselves for our accomplishments."

"The information age has matured," Field said, challenging us to move forward with the logical next step. "It is time to focus on what we need to do to adapt to the knowledge culture."

We now have in place, with the lessons of 22 years to build on, the "what we need to do" to adapt—indeed (in the minds of some of us), not just to adapt but to build and lead the knowledge culture. We do this by becoming, for our organizations, institutions and businesses, the enterprise-wide knowledge strategist, the knowledge professional positioned to manage and lead the entire knowledge domain. In the process, we become, unmistakably, the "go-to" manager and leader in all things knowledge-related.

How do we achieve this almost-ideal position? A first step is to learn the basics of knowledge strategy. All of us working in knowledge services—the information management, knowledge management, and strategic learning triad mentioned above—understand that these knowledge-related components, when they converge in knowledge services, enable knowledge-sharing excellence throughout the organization. Some of us even characterize the success of this convergence in terms of another three-part formula: knowledge development, knowledge sharing, and knowledge utilization (often abbreviated KD/KS/KU).

But regardless of how we describe the effort, its purpose is to provide the foundation upon which knowledge strategy is formed. And that strategy—of whatever kind and however defined—provides the framework for ensuring that knowledge relating to an organization's success in achieving its mission is developed, shared, and utilized as well as it can be. And SLA members are perfectly qualified to lead this effort.

How so? The response is not difficult to ascertain. When we think about SLA

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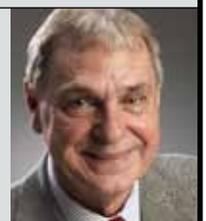
Relishing our role as knowledge strategists, we give our attention to future knowledge-related roles and activities. In doing so, our efforts not only affect organizational success—we are leading and building the organization as a knowledge culture.

members and the ease with which we perform our professional tasks and our understanding of the value of information, knowledge, and strategic learning, our role as knowledge strategists becomes clear. And when we choose to do so (and formulate a professional mindset that motivates our move forward in this direction), our successful efforts as knowledge strategists establish that we are, without doubt, the best candidates possible for leading the transition of the knowledge services function into a viable and workable knowledge strategy.
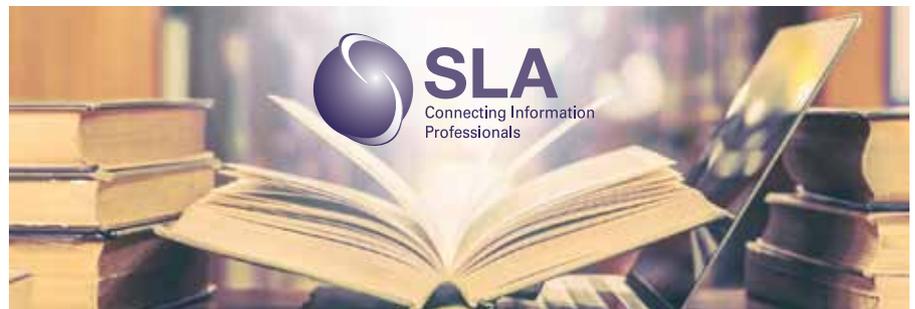
I openly state the job description for knowledge strategist:

The knowledge strategist will serve as a trusted advisor to organizational management by leading, developing, and overseeing collaboration and implementation solutions for information and knowledge sharing within various groups. The knowledge strategist combines technical skills, creativity, and customer focus to define and improve management processes and deliver technical solutions that ensure that colleagues have access to, and get the best use of, the company's collected knowledge.

To my way of thinking, the knowledge strategist has three duties: to (1) implement knowledge strategy, (2) re-conceptualize, transform, and support new ways of managing organizational intellectual capital as a corporate asset, and (3) lead enterprise-wide KD/KS/KU, enabling and sustaining the organization as a knowledge culture.

SLA members, working as knowledge strategists, can be expected to

design and plan knowledge-related activities and, most important, establish policy and work with enterprise-wide leadership in designing and framing knowledge policy for the organization. Relishing our role as knowledge strategists, we give our attention to future knowledge-related roles and activities. In doing so, our efforts not only affect organizational success—we are leading and building the organization as a knowledge culture. **SLA**