Using Data to Persuade

State Your Case and Prove It

Denise Troll Covey

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The Current State of Assessment at Academic Libraries

For years now, many library conferences, workshops, and journal articles have focused on assessment—either the rationale or methods for conducting assessments or the results of assessments conducted. Web sites on assessment practices and programs proliferate, many of them specific to libraries. A simple Google search for "library assessment" in September 2004 retrieved 3,900,000 hits.

Fiscal realities, administrative concerns, and, for academic libraries, accreditation standards converge to necessitate the shift to a "culture of assessment" or "culture of evidence." Caught between the needs and expectations of users and the needs and expectations of administrators, and threatened by budgets that don't keep pace with the rates of inflation and change, librarians can sometimes feel as if they're living Edgar Allan Poe's "The Pit and the Pendulum." Users pressure libraries for easy, speedy, convenient access to quality full-text electronic resources; courteous, dependable, and effective service; and comfortable, aesthetic workspace—replete with a coffee shop or cafe. Administrators pressure libraries for satisfied users who are lifelong learners, peer comparisons that look good, a diversified workforce, cost-effective management, and successful fund raising. Competition for philanthropic and research dollars presents another pressure, as do the needs and expectations of staff for competitive salaries, ergonomic workspaces, and state-of-the-art equipment and software. All of these pressures constitute moving walls that encroach on the peace and contentment of libraries and librarians.

Meanwhile the sharp blade of fiscal reality hovers over us, swinging back and forth and inevitably lowering to where we cannot help but constantly see it. Newspapers report cutbacks in funding for education and libraries,

Denise Troll Covey (troll@andrew.cmu.edu) is Principal Librarian for Special Projects, Carnegie Mellon University Libraries

and research indicates that the fiscal problems are long-term and structural. The Project on the Future of Higher Education (PFHE) conveys several dire messages. For the first time in thirty years, most college and university endowments are losing money. Private giving is steady or declining. And if higher education costs and revenues continue to grow at the rate they have in the past twenty years, higher education will face a shortfall of $38 billion by 2015. The PFHE urges deep change. Nothing short of aggressively transforming the administration and delivery of higher education to reduce the cost per student can save education as we know it.[1]

As if that's not enough pressure, according to Raymond Kurzweil, the pace of technological change is increasing and will reach an exponential rate by 2015.[2] Furthermore, he predicts:

> As exponential growth continues to accelerate into the first half of the twenty-first century, it will appear to explode into infinity, at least from the limited and linear perspective of contemporary humans. The progress will ultimately become so fast that it will rupture our ability to follow it. . . . The Singularity is technological change so rapid and so profound that it represents a rupture in the fabric of human history.[3]

Given all of these pressures, expectations, and forecasts, it is no surprise that the current buzz in education and libraries is about creating a "culture of assessment" or "culture of evidence." Yet seldom in the popular library conferences, workshops, and journal publications is this new "culture" defined, seldom is guidance provided to orchestrate or manage the cultural change, and seldom is the current culture assessed to determine whether it is indeed a culture of assessment. Instead we see an increase in data gathering and reporting, more user studies, and the development of new instruments and measures, as if this plethora of activity in and of itself signals continuous improvement and cultural change.

What Is a Culture of Assessment?

A culture is a set of beliefs, behaviors, and assumptions that provide the unconscious rationale for continuing these

beliefs and behaviors.[4] Presumably a culture of assessment is a set of beliefs, behaviors, and assumptions that drive an ongoing cycle of data gathering, analysis, interpretation, organization, presentation, and use to achieve planned objectives. For example, libraries aim to use data to demonstrate their contribution and accountability, to identify problems or potential solutions, to monitor or facilitate improvement, and to provide evidence of need. Studies conducted in 2000 and 2001, however, indicate that at that time libraries were far from exhibiting a culture of assessment. The author's study of academic libraries conducted for the Digital Library Federation (DLF) and Larry Nash White's dissertation study of public libraries revealed that libraries often gather data with either no clear purpose or no follow-through to apply the data to strategic goals. White termed what libraries were laboring to create "orphaned data and knowledge."[5] A stronger characterization of the phenomenon might be "negligence." Are not libraries negligent when they expend strained human and financial resources to gather data and knowledge that are of little or no use or value because internal processes and procedures delay or disallow their effective analysis, interpretation, organization, presentation, and use? Orphaned data and knowledge waste resources, reduce the benefits of the effort invested to acquire them, raise costs, veil challenges, obstruct opportunities, and hurt morale. Allowed to continue, the flurry of activity involved in conducting assessments that come to naught could generate more harm than good.

Borrowing verbiage from the management literature, one may say that libraries are allowing a gap to exist between their current culture and their objective of having a culture of assessment. Research shows that when such a gap is allowed to exist, the current culture always wins.[6] Furthermore, libraries are using short-term solutions to solve long-term problems, for example, robbing the book budget, canceling journal subscriptions, and folding under pressure to acquire journals from gouging publishers whose price increases far exceed the rate of inflation or the consumer price index. The Project on the Future of Higher Education (PFHE) calls this behavior "muddling through" and describes the devastation it will eventually, inevitably yield. Using short-term strategies to solve long-term problems will mean the end of higher education as we know it. Muddling through is not a viable plan for the long haul.[7]

The PFHE and the EDUCAUSE National Learning Infrastructure Initiative (NLII) claim that we need to stop muddling through and conscientiously transform higher education.[8] According to the NLII, the transformation begins with creating a vision focused on maintaining or enhancing the quality of student learning and faculty work life *at a reduced cost per student*. Implementing the vision requires gathering and *using data* to create deep change. Only data-driven innovations and collaborations can improve the effectiveness, efficiency, and value of higher education. Any progress on the path of maintaining or enhancing the quality of student learning and faculty work life at reduced costs will change the underlying beliefs, behaviors, and assumptions of the culture and thereby promote an operational culture of evidence. All change can be difficult. Deep change will be awesome. The unspoken assumption in the NLII vision is the well-wrought cliché "No pain, no gain."

The Art of Persuasion and Transformative Assessment

Assessment requires persuasion every step of the way. Transformative assessments will no doubt be even harder to sell to already burdened staff than the typical user satisfaction survey. People need to be persuaded that a problem or opportunity exists. They need to be persuaded that research must be conducted to gather clarifying information or suggest an appropriate course of action. They also need to be persuaded that a specific research method is most appropriate for a particular problem or opportunity. And they need to be persuaded that a particular group of people should be involved in conducting the study. After the data are gathered and analyzed, reaching agreement on how to interpret them requires persuasion. Similarly, reaching agreement on the recommendations to be derived from the interpreted data requires persuasion. And ultimately, getting support for the recommendations requires persuasion. One of the reasons why the research process often breaks down in libraries and why the process often yields "orphaned data and knowledge" might well be inadequate rhetorical skill.

Persuasion is an art, the art of rhetoric, the art of discovering how to use discourse to effect thought and action on any subject whatsoever. Persuading people is different from convincing them. To convince people means that you get them to agree that your argument or position is reasonable. To persuade them means that you motivate them to act based on their conviction. Any problem or opportunity that invites change or involves choices laden with values and preferences is a *rhetorical situation*, a situation requiring persuasion. According to Aristotle, the function of rhetoric is to deal with things about which we deliberate but for which we have no systematic rules.[9] The examples given above to illustrate when persuasion is needed in the context of assessment are all rhetorical situations. Given the stakes–the future of libraries, higher education, and lifelong learning–librarians need to expand their skill set to embrace some fundamental rhetorical concepts and strategies.

According to Lloyd Bitzer, a rhetorical situation has three components:[10]

■ The first component is the problem or opportunity, the urgent exigency that invites discourse to effect change, choice, or action.

- The second component is the rhetorical audience. The rhetorical audience is not just any audience, but the people who are capable of mediating the change or are empowered to make the choice—in short, those who can make a difference in the situation. Take the example of needing to reduce the time it takes to process a book from acquisition to circulation. In this case, the rhetorical audience would be the cataloging department because they are the people who must change what they're doing to correct course. In the case of needing to acquire additional funds to purchase electronic resources, the rhetorical audience would be the administrators or donors who have the potential to provide the funds. Talking to catalogers in this instance would be ineffectual because they cannot provide the funds.
- The third component of a rhetorical situation is the constraints that can be manipulated to effect the desired change, choice, or action. For example, the time, money, and people available to conduct research and the characteristics of the rhetorical audience who can approve the recommendations that result from the research, constrain any assessment to be conducted. How to identify and manipulate these constraints is addressed later in this article.

A Blueprint for Change

Effective assessments begin with a problem or opportunity that prompts the need to gather data and knowledge. Problems or opportunities in libraries are almost always rhetorical situations because they entail competing values, preferences, and priorities that persuasive discourse alone can navigate and guide to a successful outcome. The problem or opportunity in a rhetorical situation controls or identifies the audience to be addressed (the rhetorical audience) and the change or choice to be made, the action to be taken. The rhetorical audience, as noted above, is the people with the power to mediate the change, to make the choice you want, to approve the action you want to take. These are the people you must persuade, the people for whom you will gather data and knowledge in order to be persuasive. Together the rhetorical exigency (the problem or opportunity) and the rhetorical audience constitute the purpose of your proposed study or assessment.

When you have clearly articulated your purpose, then you can articulate your research questions. The research questions must be framed with the rhetorical audience in mind. What research questions must be answered for this audience to motivate them to solve the problem or take advantage of the opportunity? What questions would this group ask in your situation or about your situation? After articulating your research questions, only then do you decide what data to gather. It is imperative, indeed vital, that you gather data appropriate for your rhetorical audience. Ask yourself, What data do I need to gather to answer these research questions for this particular audience given my constraints?

Designating what kinds of data or research methods are best suited for different purposes is beyond the scope of this article. However, a brief comment and some observations might be helpful. First the comment: To use Nobel laureate Herbert Simon's term, you need to "satisfice," to select an available good alternative that has consequences you can live with, rather than focus on an unobtainable best choice.[11] In the current context this means learning to settle for good enough data for your purpose. Perfect data are impossible to obtain. Near-perfect data can take so long to obtain that the opportunity will pass you by or the problem will engulf you. Settle for good enough data to get the job done.

Now some observations: Libraries continue to gather traditional input and output data to show their potential to provide service and the actual service they provide. These are meaningful data, but the more purposeful, effective data these days are outcomes and performance measures that show what good libraries do and how well they perform given their human and financial resources. Measures of efficiency, effectiveness, quality, usability, and what difference the libraries make are much needed—and very persuasive—in an era pressured for accountability. If you can relate to the opening metaphor of this article (Poe's "The Pit and the Pendulum"), look to innovative outcome and performance measures. Consult the growing number of institutional portfolios and performance indicators being assembled on the Web to spark your thinking. See, for example, the fine work done by California State University at Sacramento, available at www.csus.edu/portfolio.

Constraints are elements of the rhetorical situation that can be manipulated to effect the change, choice, or action you want. They fall into several categories. The first group of constraints derives from the resources available to conduct and apply the results of the study. What personnel are available to develop the instrument, analyze the results, and implement the recommendations? What skills do they have? For example, can they design a quality survey? Can they effectively facilitate focus groups or monitor think-aloud protocols? How much time do you have to accomplish the work? How much money do you have to do the study? Can you hire someone to transcribe the results of interviews or focus groups? Can you purchase software to facilitate content analysis? Can you afford to do a mass mailing of a survey? Can you provide training if needed? Are the people who will implement the recommendations (if approved) on board? The time, money, people, and skills you have to devote to the study constrain your research and sampling methods. Similarly, the resources you have to implement the recommendations are critical to the success of the project. Your allocation of resources appropriate to the task signals to library employees how committed you are to the work. Their perception of your level of commit-

ment adds to or detracts from your credibility and provides or impedes incentive and motivation.

The second group of constraints that you can manipulate for your purposes derives from the rhetorical audience. What is their culture? What do they believe about the problem or opportunity at hand? How do they behave in regard to the topic or issue? What assumptions drive their beliefs and behaviors? What triggers their sense of urgency? What moves or motivates them? What are their priorities, values, and interests? What do they dislike or resist? What do they know or think they know that's relevant, influential, or applicable to the problem or opportunity you face? What do they need to know or care about to work effectively with you? Whom do they have to please and what are their priorities and concerns? Answers to these questions will help you decide both what data to gather and how ultimately to present your case and recommendations. The key to persuasion is making cogent connections between what you want and what your audience knows, values, and prefers. Analyzing your audience is critical to framing your research question appropriately, gathering the appropriate data, and getting support for your cause.

The remaining constraints pertain to the discourse that will be delivered to persuade your rhetorical audience. The rhetoric itself must be designed to engage and motivate your audience to mediate the change, make the choice, or take the action you want. The audience must perceive the person who delivers the discourse, the rhetor, as credible and authoritative. Similarly any presentation materials, including graphical presentations of the data, must be clear and engaging, credible and authoritative. Sufficient context must be provided to render the data meaningful. Last, but certainly not least, the time you have to deliver your discourse is a critical constraint. The higher up the food chain you go, the less time you seem to have with your audience. You can probably convene several meetings to persuade library employees or a particular library department to take some action, but chances are you will only have five to ten minutes to persuade the provost or board of trustees. Aristotle's bottom line was that you must state your case and prove it–succinctly, clearly, profoundly in the allotted time. Nothing hurts a presentation more than getting cut off part way through it, in which case you might have stated your case, but you ran out of time before you proved it. If you run out of time, your audience is unlikely to be persuaded to act on your proposal. Furthermore, running out of time can hurt your future credibility. Careful planning requires both that you know how much time you have with your audience, and that you allow time within that allotment to answer their questions.

Use Data to State Your Case and Prove It

After you've gathered the data required to answer your research questions, you need to analyze and interpret them. Analysis involves compiling and examining the data for patterns or tendencies. Interpreting is a matter of deciding what the data mean. Persuasion will probably be required to reach agreement on both the tendencies revealed by the data and what these tendencies mean. If and when you and your colleagues agree on what the data mean, persuasion will be required to reach agreement on a tentative plan for using the data and knowledge gained from the study. No doubt this plan will have to be presented to a larger body for approval–the ultimate rhetorical audience with the power to authorize implementation of the plan or to accept and act on the recommendations. Borrowing Jean-Luc Picard's expression from *Star Trek: The Next Generation*, the ultimate rhetorical audience is the group able to say, "Make it so."

Unfortunately, the DLF study on assessment practices in academic libraries and Nash's dissertation on public libraries revealed that the research process often breaks down. Data are sometimes gathered and then abandoned. If data are analyzed, disagreements over how to interpret or apply the results often stop the work. More frequently, the process comes to an abrupt halt because the data and knowledge are not organized and presented effectively to the ultimate rhetorical audience who could act or approve action that would make a difference. The remainder of this article focuses on this semi-final step in the research process, the discourse to persuade and garner what you want, be it approval for your plans and course of action, additional funds, intervention, and so on. The final step in the research process, implementing the approved recommendations, is beyond the scope of this article. Suffice it to say that research indicates that often the assessment process breaks down at this critical juncture too because of incomplete plans or inadequate project management.

Tell the Right Story the Right Way to the Right People

To state your case and prove it, you need to tell the right story the right way to the right people. Data are only part of the story. The rest is rhetorical argument. It's important to realize that the strength of your case is determined by your audience, not the rhetor and not the data. A good story, a sound rhetorical argument, has a beginning, middle, and end. In the beginning, you state your premises. These must be accepted by your audience. If you begin with premises that your audience doesn't buy, all is lost; there can be no recovery. The middle of the story is where you unfold the plot, where you state and prove your case in a crescendo of evidence-based arguments that convey the urgency of the situation, address objections you foresee the audience will have, and build a case that fits or alters their worldview. Use all available evidence to develop and strengthen your story, including internal assessments and visitor reports; standards, guidelines, and best practices;

comparative data with peers; environmental scans; and other relevant research conducted within your organization or published in the literature. The end of your story is where you state your proposed plan or recommendations and make your "ask." By the time you reach your ask, the audience must be persuaded.

Your audience will only accept your conclusions—your ask—if they accept the premises with which you begin and share the view of reality with which you end your rhetorical argument. Rhetoricians Chaim Perelman and Lucie Olbrechts-Tyteca claim that there are only two kinds of rhetorical arguments: those based on the structure of reality and those that establish the structure of reality.[12] If your audience does not share your reality, you must get them to see and vicariously experience your reality. They must feel your pain. If they have inaccurate or incomplete knowledge or faulty beliefs or assumptions, your discourse must expose, challenge, and correct this. You must convey the urgency of the situation within a framework that your audience will recognize as urgent. Here's where knowing their priorities, interests, and concerns pays off. Your premises and the plot of your story should leverage what you know about what moves or motivates, frightens or alarms your audience. Use everything imaginable (yet ethical) to make the urgency of your situation and the action you propose irrefutable in light of your audience's knowledge, values, and concerns. To be successful, your discourse must culminate in an ask that is couched in the overlap between your strategic plan and priorities and your audience's priorities and preferences.

Unlike geometry, where there is only one type of proof, in rhetoric there are three types of proofs at your disposal:

- *Ethos* or emotional appeals aim to put your audience in a particular frame of mind.
- *Pathos* or ethical appeals derive from the character of the rhetor, for example, his or her wisdom, virtue, or goodwill.
- *Logos* or (quasi) logical, demonstrative appeals depend upon the discourse itself to prove or disprove something using real or apparent truths. Logical appeals can be inductive, based on real or hypothetical examples, or deductive, based on probabilities, necessities, or fallibilities.[13]

According to Aristotle, some proofs simply exist and we make use of them, for example, facts, contracts, laws, policies, and data. Other proofs are invented or furnished by us, such as metaphors, analogies, models, and hypotheses.[14] The proofs you choose, how you weave them together, and the sequence in which you deliver them can make or break your case.

Two fundamental rhetorical strategies are essential to traversing the terrain and closing the gap between your position and that of your audience. These strategies are associa-

tion and dissociation.[15] Association enables you to connect your data and knowledge with what your audience knows and cares about. To be persuasive, your data and claims must be consonant with your audience's knowledge *at the time*. You need to associate your situation with your audience's priorities and preferences. If their reality is different from yours, use metaphors, analogies, or models that will connect with their world and move them to yours. In contrast, dissociation enables you to disconnect your data and knowledge from what your audience mistakenly believes or assumes. Predict and address their resistance and objections. Resolve incompatibilities between their perception and yours by clarifying what you are and are not talking about. Hark to their values and priorities. Amplify important points that connect with their culture or perspective and respectfully and carefully deprecate what doesn't fit your story. Lead your audience to see that the course of action you propose enables them to address their concerns and contributes to their achieving their mission and strategic goals.

The Example of Carnegie Mellon University Libraries

What follows is an example indicative of Carnegie Mellon University Libraries' experience. The problem, rhetorical audiences, and outcomes are real. The rhetorical argument has developed over time for use with different audiences. All of the data presented in the current rendition of the argument were not available in presentations to the earlier audiences, but are provided here to show how all available evidence gets woven into the plot of the story. Note that most of the data presented in the argument are from research conducted by other organizations. Carnegie Mellon University Libraries conducted research that reinforced much of what was discovered in these studies. Therefore, with confidence we extrapolated and used results from these studies that we had not replicated, but that we had anecdotal evidence to suggest applied to our situation as well.

Problem/Opportunity

Carnegie Mellon faculty are concerned about the quality of the resources that undergraduate students are using to complete their assignments. Many undergraduate students turn to an Internet search engine when they need information and are unable or unwilling to discern authoritative from amateur work. Lack of easy access to quality resources is having a negative impact on the quality of student learning.

Rhetorical Argument

Carnegie Mellon is committed to serving students "by teaching them problem-solving, leadership and teamwork

skills, and the value of a commitment to quality, ethical behavior, society and respect for one another."[16] We want our students to develop personally and professionally. To achieve these lofty goals, students must use quality resources in their coursework. Assigned readings, selected by faculty, meet the criteria for quality. But when students, particularly undergraduates, do additional reading to write research papers or enhance their understanding, they often read resources that do not meet the standard of quality.

Nationwide studies and research conducted at Carnegie Mellon indicate that students and faculty want easy, speedy, convenient access to information. Ease of access is one of their highest priority needs and most significant problems.[17] Most (50 percent to 90 percent) perceive a significant gap between their high priority needs and the service the library is providing.[18]

Undergraduate students in particular are driven by a need for speed and convenience. They perceive using the physical library facilities and interlibrary loan as time-consuming and inconvenient. Most undergraduates (78 percent) prefer remote access to online resources, but they have difficulty navigating the library Web site, choosing the appropriate resources, and searching the databases. They perceive vendor licensing restrictions and access requirements as significant barriers to use.[19] Furthermore, research shows that Web site users fail to accomplish their tasks 35 percent of the time, and that the ease, speed, and convenience with which a retrieval system enables users to find information can be equally as important in satisfying them as the utility or appropriateness of the information found.[20]

Undergraduate students seem to value efficiency and convenience more than relevance and effectiveness.[21] Most of them (75 percent) turn to an Internet search engine like Google when they need information because it is easier for them to find information using an Internet search engine than it is using the library.[22] Internet search engines index only material on the surface Web. Online library resources reside in the deep Web. Only 6 percent of surface Web content is appropriate for academic work, and no single Internet search engine indexes more than 16 percent of the surface Web.[23] We have no reason to believe that undergraduate students use multiple search engines for the same query, and though queries often return hundreds or thousands of results, students typically do not review more than a few pages of them. This is problematic because the trend is for the results retrieved by popular Internet search engines to be ranked by fees paid by advertisers or sponsors rather than by relevance to the user's query.[24]

Nevertheless, 96 percent of undergraduates believe that the information they find on the surface Web is adequate for their needs.[25] Most of them (73 percent) report that they use the Internet more than the library.[26] Almost four times as many use an Internet search engine for every assignment as use the library for every assignment (42 percent to 11 percent respectively).[27] Many (43 percent) use online resources all or most of the time for their coursework, and believe that other Web sites have better information than their library Web site.[28]

Intervention by a reference librarian would be helpful, but even if undergraduate students come into the library, they are unlikely to consult a reference librarian. Almost half (43 percent) of our undergraduate students never use reference service, and some (14 percent) never even heard of it.[29] Students spend most of their time in the library doing e-mail, instant messaging, or surfing the Web. Many do these activities daily; for example, 72 percent check e-mail daily and 26 percent use instant messaging daily. Some (23 percent) are also heavy users of "chat" software.[30]

In our wireless environment, where almost every student has a computer and laptops are as conspicuous as T-shirts and cell phones, easy, convenient access to online resources is expected. Even our graduate students are so enamored of and accustomed to online resources that they do not distinguish between finding (locating, identifying) information resources and obtaining the information. Like undergraduate students, they are far more likely to turn to an Internet search engine when they need information than to the library Web site or physical collections.[31] We need to provide easy access to quality resources, preferably on the surface Web, and to develop tools that help users locate quality resources in the deep Web.

Rhetorical Audiences and Outcomes

We presented components of the rhetorical argument articulated above to different audiences for different purposes over the past six years. The relevant data available at the time framed the argument. Within that framework, we emphasized critical elements to "spin" the story and achieve the outcome we wanted.

In 1998, using data from a survey we had recently conducted, we explained to university administrators and university advancement (the development office) that our users were not satisfied with the ease of finding information in the libraries. Over half of our undergraduates at that time began their search for information using the Web outside of the libraries–from their residence or a computer cluster on campus–where no reference librarian was available to help them select the appropriate online resource from among our many licensed databases. Anecdotal evidence from faculty indicated that undergraduates were using Internet search engines to find information and, given the quality of much of the information available on the surface Web, using inappropriate material for their course work. We suspected that undergraduates were resorting to Google in part because they could not quickly and easily determine which library database to use. This argument garnered approval for the University Libraries to approach a private foundation for funding to develop a Web-based tool that would help students easily locate appropriate online library resources. Presenting this information to

the private foundation resulted in funding to develop an Automated Resource Finder (ARF), which users can query to identify online library resources appropriate to their topic and purpose. The ARF was released in 2003 (www .library.cmu.edu/Research/arf/index.html). ARF usage averages 3,000 transactions per month. Expectations are that additional functionality, interface design changes, and marketing will increase usage.

In 2000, library faculty used data about declining gate counts, user preferences for remote access and full-text resources, and undergraduate student use (or nonuse) of face-to-face and telephone reference service as justification for starting two new services. Their argument was bolstered by persuasive, albeit anecdotal, evidence that students were heavy users of e-mail and Internet search engines. Many also used online chat software. The growing trend for digital libraries to provide easy remote access to reference librarians and to quality information selected by professors was presented as a logical next step for Carnegie Mellon. The presentation and subsequent discussion resulted in implementing electronic reserves and digital reference services, both e-mail and chat reference, in 2000–01. While use of digital reference remains low (15 percent of total annual reference transactions), use of electronic reserves is very popular, accounting for 96 percent of total reserves use in 2003–04. Furthermore, students are using (or at least accessing) online reserves readings much more than they did traditional print reserves.

The University Libraries house a valuable collection of fine and rare books owned by a private foundation that wants people to use the books. In 2001 we presented to the foundation data on user preferences for remote access to full-text online resources and the increased use of special collections that results from online access, a lesson we had learned firsthand from digitizing archival collections. We also explained the importance of making scholarly material available on the surface Web, given user preferences for Internet search engines, and the importance of full-text searching in facilitating resource discovery. In response the foundation provided $200,000 to digitize and provide (surface) Web access to the collection and the associated archival material. Funding covered the cost of a color scanner suitable for fine and rare books, wages and benefits for the scanner operator, and copyright permission work. Full-text searching and usage statistics are not yet available, but e-mail from users on and off campus indicates the high quality of the digital collection. Most of the collection was out of copyright, but of the publishers we contacted, 65 percent granted permission to digitize and provide open access to their books, accounting for 71 percent of the copyrighted titles in the collection.

In 2002 we presented to the National Science Foundation data and information about user priorities and preferences, specifically their need for easy, speedy, convenient access, which translates into a penchant for using Internet search engines and full-text online resources. We emphasized the negative impact that Internet search engines were having on undergraduate student learning because little scholarly or educational material was available on the surface Web, and the negative impact that interlibrary loan was having on the timeliness and success of faculty and graduate student research. We also addressed the disparity in the size and availability of library collections around the world and the need for equitable access to democratize knowledge and advance scholarship. This argument, in conjunction with our successful track record with digitization projects, yielded $3.6 million for an international project aimed at digitizing and providing (surface) Web access to one million books by 2007. The funding is to purchase equipment and support administrative travel. To date, roughly 140,000 books have been scanned in India and China, where the governments have funded labor and research. Many of the digitized books were shipped from the United States. A similar argument presented to another organization resulted in funding to seek permission to digitize copyrighted books for the million-book collection. To date, permission has been acquired to digitize approximately 52,800 copyrighted books published in the United States.

More recently, presenting to library administrators and department heads information about the importance of providing easy, speedy, convenient access to scholarly information resulted in prioritizing efforts to facilitate access to quality resources on the surface Web. Work is underway to implement Open Archives Initiative (OAI) metadata for locally digitized books, journals, and archival collections so that the metadata can be harvested and the materials easily discovered on the Web through open access venues like OAIster. The OAI metadata will then be converted to HTML to further surface the metadata and make it accessible to Google and other Internet search engines.

Closing Comments

Librarians must transform their organizations and activities to keep pace with user and administrative needs and expectations, fiscal realities, and technological change. Innovations and collaborations that successfully enhance quality while reducing costs will be driven by creative, conscientious, strategic assessments planned and applied using persuasion. To quote James J. O'Donnell, "If the traditional librarian has been conceived as a figure at home in the discreet silences and cautious dealings of a Henry James novel, now perhaps the right model will be found in James Fenimore Cooper or the Star Wars films: something between the pathfinder Natty Bumppo and the Jedi knight."[32] In the current context, this means harnessing and strengthening the force of our rhetoric to help forge a digital future that serves our users and upholds our values.

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