

## Is Usability the New B.I.?

*John Kupersmith*

"Proponents of bibliographic instruction can be likened to a revolutionary party united by conviction ..." — journal article, 1983<sup>67</sup>

"I'm pretty passionate about usability and user centered design." — e-mail from a practitioner, 2003<sup>68</sup>

Dramatic changes are taking place in libraries. Information tools and systems are evolving, and a new paradigm of how libraries should relate to their users is emerging. Librarians are intently studying users' perceptions and behavior, and looking for ways to improve their experience and performance. We are adopting techniques from other fields, evolving new ones, and beginning to share both methods and results. At the same time, there are conflicts within the profession about the legitimacy and credibility of these efforts.

The year is 1982, and the movement at the center of many of these developments is variously known as library instruction, user education, or bibliographic instruction (B.I.). The recommendations of a nationwide "Think Tank"<sup>69</sup> on the status and future of the discipline are being

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*Technology in Libraries: Essays in Honor of Anne Grodzins Lipow*, ed. Roy Tennant. Lulu.com, 2008.

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<sup>67</sup> David W. Lewis and C. Paul Vincent, "An Initial Response ...", *Journal of Academic Librarianship* 9 (1983), 4-6.

<sup>68</sup> E-mail from Brenda Reeb (November 12, 2003).

<sup>69</sup> "Think Tank Recommendations for Bibliographic Instruction," *College & Research Libraries News* 42 (December 1981), 394-98.

hotly debated, and at UC Berkeley, Anne Lipow has just become the first head of Library Instructional Services.

Anne's innovative leadership, both at UC Berkeley and through her workshops and publications, made her an inspiration to many of us who were beginning library public services careers at the time. Her own career spanned the rise of the bibliographic instruction movement, the introduction of the Internet, virtual libraries, virtual reference, and the advent of a new movement, as libraries sought to make their online presences easier to understand and use.

## **Two Disciplines**

There are instructive parallels between the history of B.I. in the late 1970s and early 1980s, as it grew into a recognized professional discipline, and what is happening in library usability work today. The development of both these fields is marked by a high level of personal energy and commitment, an increasing number of practitioners, a growing body of literature, the advent of formal communication mechanisms, and efforts to establish a recognized body of knowledge and generally accepted standards.

However, the road to respectability is not a smooth one. The struggles of B.I. practitioners to win respect (and funding) for their activities have something to teach us about the difficulties that usability practitioners sometimes face in getting support for their activities, in convincing administrators that their findings are valid, and in having their recommendations translated into actual changes in library websites.

Usability is deliberately meant in a broad sense here. Usability is often thought of as an "assessment activity," but this represents only a part of the picture. Seen in a larger perspective, usability focuses on the user's entire experience with the online library: what users bring to it in terms of perceptions, vocabulary, and Internet conventions they may be familiar with; how they interact with it; and how this interaction can be improved. In this sense, it encompasses both assessment and web design. Further, since usability studies often reveal underlying issues with an organization's business

processes, the way a library operates its services sometimes comes into question.

One might use the term “user-centered design” to encompass all of this; but in my experience, that term is often used in a rhetorical sense, sometimes meaning little more than design that involves talking about users. In contrast to this, actual usability work brings us farther from rhetoric and closer to the user, and the decisions with the greatest impact on user success are those involving specific usability issues and empirical data.

I believe it makes sense to discuss both B.I. and usability as professional disciplines, even though they are different in some ways. They both spring from the same professional impulse to bring people and information together. They both focus on the user. They both work toward empowering the user and improving his/her experience. Although the kinds of activity and staffing required are obviously different, they both involve organized activities following (one hopes) a set of standards and protocols to achieve the desired outcomes. And, as disciplines, they have both gone through predictable stages of development.

The following table does not attempt to be a comprehensive history of either discipline, but highlights some of the parallel features in their development. In both cases, we see a pattern of increasing sophistication, specialization, organization, and communication.

<b>B.I. in the 1970s-80s</b>	<b>Usability, 1990s to the present</b>
Early focus on orientation tours and tool-based instruction in the 1960s expanded with the development of course-related programs, strategy-based instruction, information competencies, and “information literacy”.	Early focus on text-based online catalog interfaces in the 1980s expanded with the introduction of web-based interfaces whose design librarians could (in some cases) control or influence. A thriving usability industry in the outside world provided models, methods, and inspiration.

Mainstreaming within libraries	
Traditionally done by individual reference librarians and subject specialists as part of their job responsibilities.	Initially done somewhat informally by individuals or small groups working on specific projects, e.g., online catalog or website design.
Need for coordination grew with the advent of large-scale orientation and course-related instruction programs. Specialized positions and job descriptions evolved, initially at larger institutions, e.g., Instruction Librarian, User Education Coordinator. Sub-specialties are beginning to appear, e.g., “E-Learning Librarian”.	Increasing sophistication of test methods, equipment needs, human subjects regulations, etc. led to individuals designated with this responsibility as part of a larger job description, e.g., Web Services Librarian, Web Applications Manager.  The next step, initially at larger institutions, was to create dedicated positions, e.g., User Research Coordinator, Interface & User Testing Specialist, Usability and Assessment Librarian.
Instruction has been a frequent topic for groups dealing with reference and public services. The 1980s saw the growth of specialized committees and task forces, e.g., User Education Committee.	Usability is a frequent topic for groups with wider responsibilities, e.g., Web Advisory Group, Public Interfaces Committee.  Some institutions are establishing dedicated committees and task forces, e.g., Usability Working Group. <sup>70</sup>

<sup>70</sup> Several days after writing this, I learned that my own institution, which already has a Web Advisory Group, is considering formation of a Usability Working Group.

<p>Some larger institutions established dedicated units, e.g., UC Berkeley's Teaching Library founded 1993.</p>	<p>OCLC's Usability Lab, founded 1990 (and a shining example to libraries and online system vendors).</p> <p>Some larger libraries are establishing or sharing dedicated facilities, e.g., Usability Research Labs at NCSU and University of Minnesota.</p>
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**Associations and conferences**

<p>Dedicated sections within ALA:</p> <p>Library Instruction Round Table (LIRT) founded 1977</p> <p>ACRL Bibliographic Instruction Section (BIS) founded 1977</p>	<p>No dedicated section yet. Usability is addressed within several ALA divisions: ACRL, LAMA, LITA, RUSA.</p>
<p>Conference dedicated to the topic:</p> <p>Annual Conference on Library Orientation for Academic Libraries (1971-)</p>	<p>No dedicated conference yet, partly because of the availability of Internet communication/publication technologies (see next section).</p>

**Communications and publications**

<p>Many significant B.I. documents were composed on typewriters,</p>	<p>All these media are still in use (though a typewriter can be hard to find). But beginning in the early 1980s, BITNET and later Internet e-</p>
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<p>photocopied, shared by mail, discussed at conferences, and published in print journals and books.</p>	<p>mail transformed the communications environment.</p> <p>Listservs such as PACS-L (founded 1989), Web4Lib (1994), and Usability4Lib (2003) provided increasingly specialized venues for discussion of usability issues.</p> <p>Blogs provide a forum for individual writers and a communications medium through comments.</p>
<p>Clearinghouses and information centers:</p> <p>Library Orientation Exchange (LOEX) founded 1971</p> <p>California Clearinghouse on Library Instruction (CCLI) founded 1973</p>	<p>To a great extent, websites now serve this function in various ways. Examples:</p> <ul style="list-style-type: none"> <li>- Web Advisory Group, MIT Libraries, "Usability Testing" <a href="http://libstaff.mit.edu/webgroup/usability.html">http://libstaff.mit.edu/webgroup/usability.html</a></li> <li>- Usability Working Group, University of Michigan, "Usability Studies", <a href="http://www.lib.umich.edu/usability/">http://www.lib.umich.edu/usability/</a></li> <li>- Usability Research Lab, D.H. Hill Library, North Carolina State University, "Usability Testing of Library Websites: Selected Resources" <a href="http://www.lib.ncsu.edu/usability/library-usability.html">http://www.lib.ncsu.edu/usability/library-usability.html</a></li> <li>- John Kupersmith, "Library Terms That Users Understand", <a href="http://www.jkup.net/terms.html">http://www.jkup.net/terms.html</a></li> </ul>
<p>Journal dedicated to the topic:</p> <p><i>Research Strategies</i> founded 1983</p>	<p>No dedicated journal yet, but usability-related articles appear in a number of venues, e.g.:</p> <p><i>Information Technology and Libraries</i>  <i>College &amp; Research Libraries</i>  <i>Journal of Academic Librarianship</i>  <i>Journal of Web Librarianship</i>  <i>Library Hi Tech</i></p>

	<i>OCLC Systems &amp; Services</i>
<p>Major books dedicated to the topic:</p> <p>John Lubans, <i>Educating the Library User</i> (1974)</p> <p>Beverly Renford and Linnea Hendrickson, <i>Bibliographic Instruction: A Handbook</i> (1980)</p> <p>Anne K. Beaubien, Sharon A. Hogan, Mary W. George, <i>Learning the Library: Concepts and Methods for Effective Bibliographic Instruction</i> (1982)</p>	<p>Anne Morris and Hilary Dyer, <i>Human Aspects of Library Automation</i> (1998)</p> <p>Garlock, Kristen L., and Sherry Piontek, <i>Designing Web Interfaces to Library Services and Resources</i> (1999)</p> <p>Nicole Campbell, <i>Usability Assessment of Library-related Web Sites : Methods and Case Studies</i> (2001)</p> <p>Elaina Norlin and CM! Winters, <i>Usability Testing for Library Websites : A Hands-on Guide</i> (2002)</p> <p>Andrew K. Pace, <i>Optimizing Library Web Services: A Usability Approach</i> (2002)</p> <p>Denise Troll Covey, <i>Usage and Usability Assessment: Library Practices and Concerns</i> (2002)</p>

## Two Movements

Besides the organizational features and communication structures outlined above, B.I. and usability both arouse strong feelings in their practitioners. This is not surprising, since both stem from the same desire to understand and empower the user, both involve specialized vocabulary and techniques that differentiate them from other kinds of library work, and both demand a high level of personal involvement.

In the 1970s-80s, as instruction became part of the library mainstream and instruction librarians began to self-identify as such, the term “B.I. movement” was fairly common. The first issue of the journal *Research Strategies* contained a “reflection on the reasons why a specialized journal inevitably emerges in the life cycle of any discipline or movement,” pointing

out that “bibliographic instruction ... has reached the point when theory must catch up to practice.”<sup>71</sup>

While the phrase “usability movement” is generally used in non-library contexts, library usability practitioners do have many of the characteristics of a movement. Like B.I., their work demands considerable personal involvement and calls forth a similar emotional energy. Even more than with B.I., a librarian’s personal commitment to usability tends to start with a bang. It is not unusual for an individual to undergo a kind of conversion experience when he/she first witnesses or participates in a user observation test. Watching students struggle with website features that librarians take for granted gives a sense of suddenly having stepped through the looking glass, changing the way one approaches the routine assumptions of library work afterwards.

Closely related to usability is the advent of “Library 2.0” as an umbrella term for technologies and designs that increase user control and participation in the virtual library, and make the library more a part of the user’s online environment. As a Google or LISZEN search will confirm, “Library 2.0 movement” is a phrase in common use. Library 2.0 proponents often have a usability background and carry their concern for the user experience into a whole new set of tools and interfaces.

## Challenges

One characteristic of any movement is that it meets with resistance and challenges. The controversies surrounding B.I., particularly after the movement began to gain momentum, were highly publicized. The 1981 “Think Tank” recommendations, cited above, were a rallying point for proponents of B.I., and a lightning rod for detractors who claimed B.I. was inefficient, ineffective, a marginal activity, or a ploy to gain faculty status. The *Journal of Academic Librarianship* published a symposium containing a sharp criticism and several responses.<sup>72</sup> An education journal stated “BI

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<sup>71</sup> Sharon Hogan and Mary George, “Start-Up Thoughts,” *Research Strategies* 1 (Winter 1983), 2-3.

<sup>72</sup> Joanne Euster, ed. “Reactions to the Think Tank Recommendations,” *Journal of Academic Librarianship* 9 (1983), 4-14.



librarians are coming to define themselves as a political movement. ... The real purpose of leading all those orientation tours is to gain political clout.”<sup>73</sup> Within library organizations, administrators did not always accept the value of B.I. in allocating resources and setting priorities, and it was often tacked onto individual and departmental responsibilities as an unfunded mandate.

Usability is not often criticized publicly in the same way; it would take considerable bravado to stand up and say one’s website should be difficult to use. However, challenges of a more subtle kind do occur. Often these battles are fought along the line between ease of use and the complexity and sometimes arcane nature of the resources involved. For example, Vaughn and Callicott (2003) claimed that “Designing a library Web site strictly for ease of use may oversimplify the breadth of content included in the site, thereby compromising the instructional mission of an academic library.”<sup>74</sup> Instruction is sometimes proposed as a way to address usability problems by teaching users the idiosyncrasies of the system; unfortunately, such proposals generally do not give details of how this can be done with limited staff and large user populations.

There can also be gaps between test results, recommendations, and implementation. While usability tests are often successful and lead to design improvements, at other times problems that surface in testing are not addressed by changes in the website. Some problems, of course, have no easy solution; there may simply be nothing, or at least nothing that is technically feasible, for testers to recommend. Many problems have their roots in vendor software that is outside the library’s direct control (while being an excellent topic for feedback to vendor representatives or discussions during contract negotiations). Some problems may involve requirements imposed by a campus or consortium of which the library’s site is a part.

However, other issues involve differing perceptions of the test process and the value of its output. Usability tests often follow the standard protocol that testers not be members of the design group. Thus, usability results often

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<sup>73</sup> “Tin Can Think Tank,” *Learning Today* 14 (Fall 1981), 39-40.

<sup>74</sup> Debbie Vaughn and Burton Callicott, “Broccoli Librarianship and Google-Bred Patrons, or What’s Wrong with Usability Testing?”, *College & Undergraduate Libraries* 10 (2003), 1-18.

have to be “sold” to people who did not witness the testing, and who may be unfamiliar with and/or skeptical about the concept.<sup>75</sup> Recommendations from testers are not always accepted by design groups, and recommendations from design groups are not always accepted by administrators in making decisions about website design and content.

This situation typically takes the form of disputes over which user group should have priority in design decisions. For example, there may be tension between “novice user” features intended for students vs. “expert user” features intended for librarians or faculty. Some constituencies within the library may want convenient links on the homepage to tools that others would prefer to introduce more gradually. This is the same sort of conflict embodied in the Vaughn and Callicott article cited above.

The practice of “discount usability testing” on as few as five users<sup>76</sup> is valuable as a way of surfacing basic issues, especially with relatively homogeneous user populations and when used in iterative testing. Being easy to perform with limited staff and low budgets, it has in a very real way made widespread usability work possible for libraries. However, it can lead to disputes about sample size and validity that would not be so likely with a survey using a statistically significant sample.<sup>77</sup>

Naturally, there may also be legitimate differences in the interpretation of test results. Did an undergraduate fail to find information on loan periods because the link said “Circulation” or because it was buried in a haystack of other links and text? Does an “Electronic Journals” link on the homepage inevitably sidetrack users who need to search at the article level? Careful testing, and iterative re-testing, is needed to resolve such issues.

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<sup>75</sup> For an excellent summary of these issues, see Brenda Reeb, “Communicating Usability Results,” in Eric Lease Morgan, ed., *Designing, Implementing, and Maintaining Digital Library Services and Collections with MyLibrary*, n.d.: <http://dewey.library.nd.edu/mylibrary/manual/ch/ch13.html>. Accessed May 11, 2007.

<sup>76</sup> “Why You Only Need to Test With 5 Users”, Jakob Nielsen's Alertbox (March 19, 2000): <http://www.useit.com/alertbox/20000319.html>. See also “Quantitative Studies: How Many Users to Test?”, Jakob Nielsen's Alertbox (June 26, 2006): [http://www.useit.com/alertbox/quantitative\\_testing.html](http://www.useit.com/alertbox/quantitative_testing.html). Both accessed May 11, 2007.

<sup>77</sup> A useful tool for ensuring an adequate sample is the Sample Size Calculator offered on the Survey System website: <http://www.surveysystem.com/sscalc.htm>. Accessed May 11, 2007.

## **Building Credibility**

Up through the 1970s, B.I. drew primarily on existing educational theory and training practices for concepts and methods (e.g., setting instructional objectives or using the “progressive disclosure” technique). As the discipline matured, it evolved its own set of advanced concepts such as research strategy instruction, information literacy, and standardized information competencies. Assessment became a key issue, and remains so to this day, as practitioners attempt to make their programs as effective as possible – and justify them to administrators.

Usability practitioners in libraries rightly draw on the large and growing body of published data generated in other contexts. Many of the design patterns known to work on other kinds of websites are applicable here, especially when they are common enough that most users are familiar with them. However, library usability work has begun to generate its own body of knowledge, as individuals publish their findings, some libraries establish websites to share their test practices and results, and attempts are made to pool results from multiple tests.

What do you think is the most important “next step” for usability to evolve as a recognized professional discipline in libraries? I put this question to Usability4Lib listserv subscribers, most of whom are practitioners. Here are some of their replies:

- “Making user studies public should help the usability cause by showing the library staff, administration, and the public what usability work is being done and how the library benefits from it.”<sup>78</sup>
- “Libraries should stop treating their web sites as an ‘add-on’ to their mission and web librarians need to be insisting that development can't happen without usability. Put another way, if the web site was really viewed by librarians and administrators as a primary service

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<sup>78</sup> E-mail from Suzanne Chapman (April 27, 2007).

point for users then usability will ... mature to a dedicated task by some personnel in the library.”<sup>79</sup>

- “Need to hire usability professionals from the field. I think there has to be a cultural shift, particularly in academic libraries, away from a staff centric view of the Web site to a more user -centric view.”<sup>80</sup>
- “... we need an organization-wide embracing of the concept of user-centered design. I think we've made progress in selling the value of usability testing, but are still working on educating people about the importance of a broader approach to user-centered design.”<sup>81</sup>
- “Usability and librarianship in general need to become much more rigorous in our methodology. I see this as a major hurdle. Beyond that we need to report results in a more rigorous and consistent way. I think that there are many lessons to be learned from evidence-based practice initiatives in other professions, and evidence based librarianship is making some strides.”<sup>82</sup>

## Convergence

I believe Anne Lipow would have liked what the usability movement is becoming. In her last published work, she challenged librarians who operate virtual reference services: “How aware are you of the usability of your Website and the degree to which it encourages or discourages use of your service?” and proposed something new for reference job descriptions: “On the premise that every question asked at the desk is evidence of the library’s failure to be self-evident to the client, [the librarian] analyzes point-of-need questions with the view to eliminating categories of questions [and] suggests methods to accomplish this ...”<sup>83</sup>

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<sup>79</sup> E-mail from Douglas Goans (April 9, 2007).

<sup>80</sup> E-mail from Susan Rector (April 9, 2007).

<sup>81</sup> E-mail from Janet Evander (April 27, 2007).

<sup>82</sup> E-mail from Kathleen Bauer (April 11, 2007).

<sup>83</sup> Lipow, Anne Grodzins. “The Librarian Has Left the Building — But To Where?” *Internet Reference Services Quarterly* 8 (2003): 9-18.

As the latter quote suggests, usability should not operate in isolation from reference – or, I would suggest, from its sister discipline of instruction. The reference desk and the classroom are both excellent venues for informal usability testing and observation. This part of the practice of usability is not limited to a small cadre of formally trained testers. Widespread staff awareness and participation is part of building a culture of usability, just as it was part of building a culture of user education in the 1980s.

In fact, the disciplines of reference, instruction, and usability are converging as reference service is offered via e-mail links, webforms, and instant messaging, and as libraries develop web-based tutorials with sound, animation, and interactivity. They are likely to converge even more as library websites offer other enhanced functions such as personalization, “best bets” recommendations, federated search boxes, and toolbars. An excellent example of this trend is Ellysa Stern Cahoy’s presentation at the 2007 CIC Library Conference. Cahoy, billed as a “next generation librarian,” titled her talk “Interface = Instruction” and urged that “Public service librarians have to consider interface design as part of their job.”<sup>84</sup>

The evolving discipline of usability will not replace instruction. Instead, the two increasingly operate hand in hand. Usability work benefits from teaching and reference experiences, and in turn it influences the content and methods of instruction. Graves and Ruppel (2006) found that “instruction librarians are claiming a stake in usability testing” and are being positively affected by it. In their survey, 79% of respondents reported that participating in a usability study had changed the way they did library instruction.<sup>85</sup>

Websites are ultimately teaching tools, even in the “Library 1.0” world of page-based designs. In this way, they are much like library buildings. Users are constantly learning something from the online spaces in which they navigate and search, whether or not we realize it. In this respect, the

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<sup>84</sup> Ellysa Stern Cahoy, “Interface = Instruction”, presented at the CIC Library Conference (Minneapolis, March 19-20, 2007). The quote is taken from the conference video: [http://blog.lib.umn.edu/CICLib07/2007/03/next\\_gen\\_panel\\_video.html](http://blog.lib.umn.edu/CICLib07/2007/03/next_gen_panel_video.html). The PowerPoint presentation is also available: <http://www.slideshare.net/Ellysa/cic-talk/>. Both accessed May 11, 2007.

<sup>85</sup> Stephanie Graves and Margie Ruppel, “Usability Testing and Instruction Librarians: A Perfect Pair,” *Internet Reference Services Quarterly* 11 (2006), 99-116.

following words – written in 1980 and very much part of the B.I. movement – are applicable to usability work today:

Every user receives cues from the environment; this is true whether these cues are planned or unplanned, consistent or random, helpful or confusing. Whether the environment will be an aid or an obstacle to the user depends upon the extent to which the library acts to shape its environment as an instructional tool.<sup>86</sup>

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<sup>86</sup> John Kupersmith, "Informational Graphics and Sign Systems as Library Instruction Media," *Drexel Library Quarterly* 16 (January 1980), 54-68. Also available at: <http://www.jkup.net/graphics.html>. Accessed May 11, 2007.