

2003

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Recommended Citation

Mary Whisner, *Learning from Library Science*, 95 LAW LIBR. J. 295 (2003), <https://digitalcommons.law.uw.edu/librarians-articles/63>

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Learning from Library Science*

Mary Whisner**

Ms. Whisner describes the method and some of the results reported in a recently published book about the reference interview written by two library school professors. She points out that despite its academic approach, the book has much to offer the practicing reference librarian.

¶1 When I was in library school, I sometimes caught a whiff of defensiveness among the faculty. Some people in the outside world thought that library education must amount to little more than training students to stamp books and be fussy. And if these outsiders did not understand that regular librarians needed master's degrees, then they certainly would not understand that the professors had Ph.D.s. Even within the academy, some faculty members from other fields might have occasionally suggested that library science was not much of a science (not even a social science). I am not saying that their defensiveness was not justified—the discipline does struggle for recognition. Indeed, many library students and librarians themselves roll their eyes and scoff at the idea of pursuing a doctorate. Who would want to write a dissertation about any of *that stuff*?

¶2 This was quite a contrast with what I had seen in law schools. Unlike library school faculty, law professors do not cling to the title of “Dr.” (Of course, few of them even *have* doctorates—other than the juris doctorate, the same professional degree their students earn.) And yet nobody questions that law is a discipline that requires study and should be taken seriously. Law schools do wrestle with competing visions—notably, professional school versus graduate school—but their place is more secure than library schools’.

¶3 Even though people rolled their eyes or joked about library science scholarship, students still gave it some respect. Indeed, at least two of my classmates went on to earn Ph.D.s and are now library school professors. Nonetheless, since my school offered only a master's program and was not focused on research, many of us completed our degrees without becoming steeped in the research methods of

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library and information science. I felt this lack recently when I read a book that takes on the reference interview. Fortunately, my deficiency didn't prevent me from learning from the book.

¶4 *Understanding Reference Transactions: Transforming an Art into a Science*,¹ by Matthew L. Saxton and John V. Richardson, Jr., has much to offer us practicing reference librarians—even if we do not follow all the statistical analysis. If one must choose either the art camp or the science camp, I suppose I fall in the former. But there is nothing wrong with peering over the fence to see what is going on in the other camp. Although I do not conduct the original scientific research, I can learn from it.

¶5 Saxton and Richardson carefully summarize more than a century of scholarship about reference work in chapters 2 and 3 of their book. I found this to be a helpful review of what my reference professor talked about sixteen years ago, as well as an introduction to some authors and studies I had never heard of. It was comforting to read a critique of the studies that found that reference librarians were only right about 55% of the time. I'd wondered whether something was fishy there. After all, every reference librarian I knew was reasonably bright and conscientious. Could we all be messing up nearly half the time? Richardson and Saxton point out that those studies included only “ready-reference questions and not any other aspect of personal reference assistance such as directing readers to sources for resolving research queries and providing readers with bibliographic instruction.”² Moreover, “these studies are predicated on the belief that reference queries exist as entities outside the context of the inquirers who pose them. Reference service is examined as something performed by the librarian in relation to a question, and not to a reader.”³ These two points make great sense. It is comparatively rare in our reference office to get the sort of questions that might be tested in that sort of study. Maybe public librarians get calls asking for the height of a mountain, the population of a city, or the date of a famous battle—questions that have right and wrong answers. But I'm sure they, like we, spend more time working on questions that are open-ended or could have a range of answers. People want help finding information and materials—for jobs, term papers, hobbies, or whatever—not just isolated facts. And a librarian's response that would be “right” for one patron might be “wrong” for another.⁴

¶6 An interesting line of studies looked at user satisfaction, rather than accuracy. For example, studies in the 1980s by Roma Harris and Gillian Michell found

1. MATTHEW L. SAXTON & JOHN V. RICHARDSON, JR., *UNDERSTANDING REFERENCE TRANSACTIONS: TRANSFORMING AN ART INTO A SCIENCE* (2002). Saxton is an assistant professor at the University of Washington Information School. Richardson is a professor of information studies at the UCLA Graduate School of Education & Information Studies.

2. *Id.* at 35–36.

3. *Id.* at 36.

4. For a good summary of the earlier studies, the critique, and the study reported in the book, see John V. Richardson, Jr., *Reference Is Better Than We Thought*, *LIBR. J.*, Apr. 15, 2002, at 41.

that “the ‘demeanor of the librarian toward the patron during the reference interview may be just as important as competently retrieving information.’”⁵

¶7 Most of the book is devoted to the research Matt Saxton conducted for his dissertation.⁶ The review of the literature highlights the strengths of his own project. For example:

- Many earlier studies suffered from small sample sizes. Saxton looked at thirteen public libraries (all in Southern California), attempting to record all reference transactions for ten to thirteen one-hour slices per week during a three-week period in October 1998. This sample included 9274 reference inquiries.
- The notorious “55%-right” studies used only a limited set of factual questions devised by the investigator. Saxton had librarians record the queries asked by real patrons.
- Many earlier studies examined only one or two factors, for example trying to correlate collection size with accuracy. Saxton devised measures for many variables, arranged in complex models.

¶8 The size and complexity of Saxton’s research might make the study seem daunting. On the other hand, maybe the less sophisticated studies have stuck in our minds precisely because they are so simple—too simple. Even those of us with no training in statistics and social science methodology can grasp this: a research team telephoned a bunch of libraries and anonymously asked questions from a list; the librarians at the other end of the phone gave them correct answers only 55% of the time.

¶9 However, those who lack training in statistical analysis—and indeed could be a little frightened of math—might blanch when they see that Saxton and Richardson, using hierarchical linear modeling (HLM),⁷ express the study’s research hypothesis in three equations bristling with Greek letters and subscripts.⁸

5. Roma M. Harris & B. Gillian Michell, *Evaluating the Reference Interview: Some Factors Influencing Patrons and Professionals*, 27 RQ 95, 99–100 (1987), quoted in SAXTON & RICHARDSON, *supra* note 1, at 43.

6. Matthew Locke Saxton, *Evaluation of Reference Service in Public Libraries Using a Hierarchical Linear Model: Applying Multiple Regression Analysis to a Multi-Level Research Design* (2000) (unpublished Ph.D. dissertation, University of California, Los Angeles), *microformed on UMI Dissertations No. 99-79037* (UMI). The book’s title makes it sound more accessible than the dissertation, doesn’t it? I have only looked at the 24-page preview available through ProQuest’s Digital Dissertations.

By the way, Digital Dissertations is a very convenient service, and I encourage law librarians to try it. A citation to a dissertation (found via Dissertation Abstracts on Dialog or Westlaw, for instance) can often be useful for legal researchers doing interdisciplinary work. This service is even better, since it adds to Dissertation Abstracts the 24-page preview in PDF. This enables a professor who wants to look at research from other disciplines to get a good sense of a work before requesting an interlibrary loan or a purchase from UMI. And I can confidently cite Matt’s dissertation, even without reading the whole thing.

7. SAXTON & RICHARDSON, *supra* note 1, at 5.

8. *Id.* at 8–9.

(I'll admit that despite my lifelong love of math, I flipped past the equations rather quickly.)

¶10 Take heart, gentle reader. We can learn from this study even if we don't understand all the details of its analysis.

¶11 We all know that many factors are likely to be involved in reference service. From our experience, we think it makes a difference, for instance, whether the patron is familiar with libraries, whether the librarian is courteous, and whether the question is hard. Saxton looked at all of these factors, and more. Computer processing and social science statistical software—not available to early researchers, of course—made it possible for him to analyze the relationships among many variables across a sample of thousands of queries.

¶12 He listed variables of interest and devised measures for each one. For example, characteristics of the users—education, familiarity with the library, and frequency of reference use—were measured by a simple questionnaire that librarians in the study gave to users. The questionnaire also asked users to say whether they found everything they needed, whether they found useful information, and whether they were satisfied with the service they received. Difficulty of the query and accuracy of the answer were judged by outside librarians who reviewed the sheets completed by librarians in the study. This technique acknowledged an important reality: the questions users ask are not necessarily the same as questions cooked up by library scientists, and the answers are not simply “right” or “wrong.” In Saxton's study, answers were scored on a scale, allowing for the possibility of answers that included some correct information or appropriate referrals, rather than forcing everything to be tallied in either the “right” column or the “wrong” column.⁹

¶13 Here are the variables Saxton measured.¹⁰

- **Dependent variables**—that is, the outcomes of the reference interaction
 - utility of the answer to the user
 - completeness of the answer
 - usefulness of the answer
 - user's satisfaction with the service
 - accuracy of the answer (as scored by the panel of outside librarians)
- **Independent variables**—that is, a range of inputs that might affect the dependent variables above
 - characteristics of the query
 - query difficulty (as scored by the outside librarians)
 - query currency

9. Responses were coded 7 (wholly accurate), 6 (partially accurate), 5 (accurate referral), 4 (no answer), 3 (partially inaccurate), 2 (inaccurate referral), or 1 (inaccurate). *Id.* at 58.

10. *Id.* at 57–67.

- characteristics of the librarian's behavior¹¹ (measured from the user questionnaire)
 - readiness
 - interest
 - understanding
 - verification
- characteristics of the user
 - frequency of library use
 - frequency of use of reference service
 - education level
- characteristics of individual librarians (measured in a librarian questionnaire)
 - hours of experience in reference
 - education level
- characteristics of individual libraries
 - collection size
 - service level¹²
 - service policy¹³

Just listing all of the variables shows the complexity and ambitious scope of the study. But that's its beauty. Reference *is* complex, after all.

¶14 Once Saxton had gathered his data, he did a lot of analysis. Here is where many of us can skip over the hard parts. I am willing to trust that he understood and correctly applied the statistical tests. I have some confidence in the system: his adviser (who became his coauthor) surely must have demanded rigor, and the dissertation committee must have done so, too. Likewise the publisher. So I will take his word that results he tells us are significant are, in fact, significant. I do not have to understand the methodology used by epidemiologists to believe that frequent hand washing and an annual flu shot will probably keep me healthier in the winter.

11. These factors are based on Ad Hoc Comm. on Behavioral Guides for Reference & Info. Services, Reference & Adult Services Div., Am. Library Ass'n, *Guidelines for Behavioral Performance of Reference and Information Services Professionals*, 36 RQ 200, 200-03 (1996), available at <http://www.ala.org/rusa/acrobat/behavior.pdf> [hereinafter *RUSA Behavioral Guidelines*]. Saxton and Richardson refer to these as "the RUSA behavioral guidelines," which might confuse people who do not follow the American Library Association closely. The Reference and Adult Services Division (RASD) changed its name to Reference and User Services Association (RUSA) in fall 1996.

12. This variable's measure was based on librarians' answers to a questionnaire about their institutions' typical service level—e.g., a 4 was assigned for "Guides readers to the stacks, recommends particular works, answers ready-reference questions, consults sources, and provides instruction." SAXTON & RICHARDSON, *supra* note 1, at 66.

13. This variable's measure was based on librarians' responses to a question about how their libraries articulated service policies—ranging from 7 ("The library has developed a comprehensive written reference policy that clearly establishes job expectations.") to 2 ("Traditions of service are passed word-of-mouth among staff members with a low degree of uniformity in understanding regarding policy.") and 1 ("The library has no service policy of any kind."). *Id.* at 66.

Likewise, I don't have to understand all of the statistical analysis in this book in order to learn from it.¹⁴

¶15 One step in the analysis led Saxton to create some composite variables. For instance, the measures of the librarians' behavior—was the librarian ready, interested, etc.—were correlated sufficiently to be rolled into one measure.¹⁵ The user characteristics of frequency of library use and frequency of reference use were also combined into one measure.¹⁶

¶16 Saxton dropped the measure that was supposed to capture how current the needed information had to be. In only a small portion of queries did it make any difference in predicting accuracy, user satisfaction, or usefulness. In fact, “in the sample almost all queries (97.2%) required information from a source that was updated only annually or less frequently.”¹⁷ My hunch is that a similar study in law libraries would have yielded a different result. We are often asked to locate—or to help patrons locate—an act from this year's legislature, a bill that's pending in Congress, a case that was just decided. Even when the answer turns out to be in the bound volume, we emphasize the need to check the pocket part and interim supplement *just in case*.

¶17 The next stage of number-crunching is where it really gets interesting. Here's where Saxton addresses the issues we care about. What difference does any of it make?

¶18 First, accuracy. What is likely to make a reference librarian's answers more accurate? The librarian's education? Experience? The patron's experience and education? The size of the library? No, none of these things seemed to make much difference. “The only variable that was found to predict the accuracy of the librarian's response was the difficulty of the query.”¹⁸ Easier questions were more often answered accurately. The authors note the possibility that the librarians who scored accuracy and difficulty even created that correlation themselves—that is, that they saw a question that was bungled as a difficult one.¹⁹ Overall, the news about accuracy was very good: “In this study, over 90% of the reference queries were judged to be completely accurate or partially accurate or provided the user with an accurate referral to another agency.”²⁰

¶19 Customer satisfaction, variously measured, turns out to be highly correlated with the librarian's behavior—or at least the user's perceptions of the librarian's behavior. (Recall that the measures for librarian's behavior were based on user questionnaires.) When librarians followed the RUSA behavioral guidelines,²¹

14. Uh-oh, I'm talking about cognitive authority again. See Mary Whisner, Black's, Bouvier's, and Tinkerbell, 92 LAW LIBR. J. 99, 2000 LAW LIBR. J. 8.

15. SAXTON & RICHARDSON, *supra* note 1, at 82.

16. *Id.*

17. *Id.* at 81.

18. *Id.* at 98.

19. *Id.*

20. *Id.* at 95

21. RUSA Behavioral Guidelines, *supra* note 11.

users were more likely to say that they had found useful information, that they had found all the information they needed, and that they were satisfied with the service they received. From this, Saxton and Richardson conclude that we should be emphasizing the reference interview more in library education and professional development. Library school reference classes and staff training should devote attention to behavioral skills, not just sources.²² I think that the finding about accuracy suggests that we should still pay enough attention to sources to be able to work on our accuracy, for we cannot get patrons to ask only easy questions.

¶20 As a practitioner of the art of reference, I would have liked to see some anecdotal evidence in addition to the compiled data. The study had 2159 queries that were scored for difficulty and accuracy. I'd love to know what some of them were, even if giving a few examples would not be statistically rigorous. What are typical questions in a public library? What questions count as easy? What questions were scored as difficult? A few illustrations sprinkled through the text might make it more accessible to librarians in the field.

¶21 Few of us reference librarians engage in the sort of research that Saxton and Richardson have done. Many of us cannot even understand all of the statistical analyses. And yet we can—and should—learn from their work. Let's watch for new studies that explore other aspects of the reference process. And let's encourage the researchers to spread the word about their results.

22. SAXTON & RICHARDSON, *supra* note 1, at 99, 101.

