**Evidence Based Library and Information Practice**

*Evidence Summary*

# *Reference Librarians use Electronic Sources Six Times More than Print Sources to Answer Patrons' Questions*

**A review of:**
Bradford, Jane T., Barbara Costello, and Robert Lenholt. "Reference Service in the Digital Age: An Analysis of Sources Used to Answer Reference Questions." The Journal of Academic Librarianship 31.3 (May 2005): 263-72.

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**Abstract**

**Objective** – To test the hypothesis that electronic sources are used by librarians more often than print sources to answer questions at the reference desk.

**Design** – Use study.

**Setting** – Small, private university in the United States.

**Subjects** – Five full-time and two part-time librarians working at the reference desk for four months (two months in the fall of 2002, and two months in the spring of 2003).

**Methods** – The study recorded every question asked by library patrons during the two study periods, with the exception of non-library related directional questions and hardware problems. For each question recorded, librarians, while working solo at the reference desk, paraphrased the question and recorded the source(s) used to answer each question. Although questions were recorded regardless of source – in person, via email, or by telephone – the medium in which each question was asked and answered was not recorded. For the first half of the study period (fall 2002 semester), librarians kept manual records that were subsequently transcribed into a spreadsheet by a student assistant. In the second half of the study period (spring 2003 semester), the librarians entered data directly into a spreadsheet. The study's data monitor (who was also a study participant) was responsible for ensuring the integrity of the data and for assigning a category to each

source. The source category 'librarian' was problematic in that it was unclear whether or not the actual source of the answer was the librarian or a source located by the librarian. After the first half of the study, the procedure was changed to require that a reference librarian was to label a source used to answer a question as 'librarian' only if the answer came from a librarian's own knowledge, and if it did not require consultation of an outside source. Categories were generated on the fly, as the data monitor reviewed the recorded questions and sources. By the end of the study, 23 categories had emerged. While all sources for answers were categorized, questions themselves were not. During the second part of the study, the gender of the patron asking the question at the reference desk was also recorded.

**Main results** –The results for the fall 2002 and spring 2003 semesters were similar. For the entire study period, librarians used a total of 3,487 sources to answer 2,491 questions. Sources fell into 23 different categories. The top 5 categories used to answer reference questions were databases (23.92%), librarians (23.6%), library catalogue (15.03%), internal Web page (12.27%), and reference books (9.38%). The top five categories accounted for 84.2% of all sources used. For 75% of the questions, librarians referred to a single source for an answer. Almost 60% of the sources used to answer questions were electronic. Of the internal Web pages used to answer questions, the library's online journal title listings accounted for 76%. Reference books were used to answer questions in less than 10% of cases. Less than 2% of the library's print reference collection (173 of 9,587 titles) was consulted to answer reference questions during the study period. The approximate 60:40 ratio of questions asked by female to male patrons corresponded to the university's student body ratio.

**Conclusion** – The results of this study confirm the researchers' hypothesis that librarians use electronic sources with greater frequency than they use print sources to answer patrons' reference questions. The surprising finding in this study is the proportion (approximately one quarter) of reference questions answered by the librarians themselves, without the need to consult an outside source, either print or electronic. The study suggests that a large proportion of the reference collection goes unused in answering patrons' questions and that librarians often answer a question using only a single a source of information. A reshelving study analyzing use of the reference collection is underway to supplement the results of the current study.

**Commentary**

This study asks an important question for academic libraries: Do reference librarians use electronic sources more often than print sources to answer patrons' questions? The answer is a resounding "Yes." Unfortunately, the authors did not record the method by which questions were asked (in person, via email, or by telephone). Such data could have provided information about whether or not sources differed depending on the request method. Overall, the results of the study are useful for understanding usage of the reference collection, the library Website, the catalogue, and the librarians themselves in answering patrons' questions. The authors also note that many reference questions asked do not require the expertise of a professional librarian, although library policy dictates that the desk be staffed with one at all times.

The study periods were chosen to ensure a high number of reference questions. Since all questions asked by patrons during the study period were included in data collection, there is no doubt that the data are indeed representative of questions asked at the library reference desk at that particular institution. While the programs of study available at the institution might have influenced the types of questions asked (and

subsequently, the types of sources used to answer them), the results are strong enough to suggest that this was not due to chance and that these results are likely not unique to the location or time of the study. Possible confounding factors include librarian age, prior training, and time pressure – any of which may have impacted selection and use of an electronic source versus a print source or even the decision to use one particular source rather than another to answer a question. The modification of data collection between the fall and spring recording periods provides a cautionary example of the need for beta testing of research processes. This change in methodology may have influenced the results.

The assignment of reference questions to categories is somewhat problematic, as these categories were not determined before the study began, but were chosen by a single librarian following data collection.

The authors do not elaborate as to how the 23 categories emerged from the data. Also problematic is the fact that data was collected by the study subjects themselves, who were also the researchers and were well-aware of the study's hypothesis. This could possibly have introduced bias into the data.

The implications of this study for academic libraries are manifold. The authors state that the manner in which reference questions are answered can have an impact on training, staffing levels at the reference desk, collection development, and Web page design. The results strongly encourage librarians to consider the investment made in purchasing and maintaining print reference collections, in contrast with the emphasis placed on library Website content and design. Further research could explore the accuracy of answers to reference questions, particularly those for which only one (electronic) source was consulted.