LIBRARIANS CONTRACT TO PROVIDE BIBLIOGRAPHIC SUPPORT FOR A NEW MEDICAL TEXT

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In September 1988, the Charles A. Dana Medical Library at the University of Vermont entered into a contract with Raven Press to provide bibliographic support for a two-volume work on the adult spine [1]. The editor-in-chief, a University of Vermont faculty member and orthopedic surgeon, and the senior medical editor for Raven Press wanted to centralize control of the bibliographies of the book's anticipated seventy chapters to ensure that the information was up to date and to reduce inaccuracies in references. The director of the Dana Medical Library appointed a project team to first assess feasibility and costs and then coordinate the undertaking. The Dana reference staff agreed to perform ten-year MEDLINE searches for the chapter authors by the end of 1988 and to update the searches when the book editors received the chapter manuscripts. The project team devised a method for verifying the chapter bibliographies and planned to start that process in July 1989. Subsequently, the editors revised the publication schedule, thereby delaying aspects of the project six to eight months and eliminating the plan to update the MEDLINE searches.

MEDLINE SEARCHES—METHODS AND RESULTS

The book editors instructed the various authors to submit chapter outlines and keywords to help the Dana librarians formulate search strategies. Dana's head of reference received and distributed the outlines to the library's eight online searches with the instructions to develop strategies, critique one another's strategies, and telephone the authors for clarification if necessary. The contract called for articles dealing with human or animal subjects and articles in English or foreign languages with English abstracts. However, the first searches resulted in very large numbers of references, and the librarians received permission from the editors to limit the remaining searches to adult human studies in English.

The librarians downloaded the search results onto floppy disks and used WordPerfect macros to sort each bibliography by author, format the citations, and remove the MEDLINE-prompt notations before printing the results. The librarians sent the printouts, search strategies, and a standardized cover letter to Raven Press for distribution to the authors. The cover letter described the MEDLINE database and explained that other databases undoubtedly would yield additional references.

The reference librarians performed ninety-three searches for the chapter authors: eighty-two originals (the editors added twelve chapters to the planned seventy) and eleven re-formulations. Formulating the search strategies proved more difficult than usual, because each search was designed to cover all concepts in a chapter; many searches required fifteen Boolean combinations, not including "explodes." The average search took an hour to plan, execute, and download; editing, printing, and preparing the strategy statement and cover letter took another half-hour. The editor-in-chief had estimated 80 to 100 references per search, but the average search yielded 154 references, and twenty-seven generated 200 or more.

Various logistical problems arose during this phase of the project. Some of the chapter outlines arrived without authors' names or chapter numbers or titles. The editors revised the chapter numbering scheme several times, and it took a great deal of time and effort to keep track of the changes. Authors generally ignored the editors' instruction to provide keywords along with their chapter outlines, and many of the terms they did furnish proved far too general (e.g., "human spine," "assessment"). Furthermore, the lack

of any formal reference interview hampered the librarians’ efforts to produce good searches quickly; authors contacted for clarifications seldom returned the telephone calls. Consequently, the librarians tended to conduct broad, comprehensive searches.

BIBLIOGRAPHIC VERIFICATION – METHODS AND RESULTS

The editor-in-chief estimated that the chapter bibliographies would contain a total of 7,000 references. The project team chose the bibliographic management system Reference Manager to create a database of the 13,000 references retrieved for the chapter authors to serve as the primary verification source. The first chapter bibliographies arrived in February 1990. The project team hired an experienced health sciences librarian to serve as verification coordinator, with the intent of verifying all citations. The coordinator devised detailed paths of verification for articles, books, and other publications. The project team intended to add unique citations to the Reference Manager database as verified, assuming that chapter authors would likewise cite some of them.

Soon after the verification process began, the project team realized that, because of the high rate of erroneous citations submitted, there was no way to verify all chapter references and meet project budgetary restrictions and publication deadlines. The editors accepted the recommendation that the team verify journal references only. The project team also abandoned the plan to add newly verified, unique citations to the Reference Manager database, because there was no reasonable estimate of what, if any, time savings might result.

The number of chapters continued to increase, eventually reaching 104 chapters with a total of nearly 9,000 references. At this time, two Dana circulation staff members offered to help, and Raven Press also agreed to fund additional hours for the verification coordinator. The verification process consumed more than 400 hours of librarian time and 80 hours of staff time to complete 98 of the 104 chapter bibliographies when, in July 1990, the editors ran up against publication deadlines and called a halt to the project.

Once the project ended, the project staff did a citation-error analysis of thirty-three of the ninety-eight verified bibliographies. They differentiated between minor errors, defined as errors in titles, pagination other than initial page numbers, and authors’ names other than first author; and major errors, defined as incorrect journal titles, dates, or volumes, as well as initial page numbers and first authors’ names. Citations that included both a major and a minor error counted only as major errors. Of the 2,074 citations analyzed, 35% contained inaccuracies (22% had one or more minor errors, 13% one or more major errors).

A review of the literature on citation accuracy revealed studies reporting error rates from 13% to 57% [2–16]. All of those studies analyzed the references of published journal articles. The project described in this paper is the only one to study the references of the chapters for a book.

DISCUSSION AND CONCLUSION

Because authors generally have uneven access to information, the editors of a text on the adult spine and a team of health sciences librarians collaborated to provide the chapter authors with current bibliographic information by performing centralized, computerized literature searches. Further, because a publisher's copy editor usually detects only glaring errors in citations, such as missing volume numbers or major typographical errors, the editors wanted to reduce inaccuracies by having professional librarians verify citations. At the end of the project, the senior medical editor for Raven Press reported two observations: some of the authors wanted more retrospective searches, asserting that a book chapter often requires a historical review of the literature, and the condition of the bibliographies submitted by the authors for this work was typical of that of other works.

The literature on citation-accuracy studies generally places the responsibility for accurate references squarely on the author. Nonetheless, a review of these studies and the results of the error analysis of this project show that citations frequently contain mistakes. Sweetland [17] and Rudolph [18] conclude that students must be trained in the mechanics of bibliographic citation and the importance of accuracy. Hermon [19] suggests that editors who accept manuscripts in spite of inaccurate references perpetuate the belief that such errors are acceptable. Staff members at the Journal of Clinical Anesthesia verify all references accompanying accepted manuscripts, but they point out that this practice may encourage authors to stop checking their own references and rely on the journal staff instead [20]. Other publications may not have the resources for such an effort [21–22]. Delacey [23], Doms [24], Evans [25], Hinchcliff [26], Key [27], and Stull [28] urge referees, editors, and publishers to check a sample of each bibliography submitted for publication and, if errors are found, to return the manuscript to the authors for correction. Other proposals include asking authors to sign a document declaring that they have verified all references [29]; developing a computer program to verify references against MEDLINE [30]; publishing corrections to citation errors in subsequent issues of a journal [31]; limiting the length of bibliographies [32–33]; and evaluating the outcome of these various editorial policies [34].

In reviewing the project, the senior medical editor at Raven Press decided it would be better to devote
all available resources to support the verification process rather than offer the MEDLINE searches to the authors. For its part, the project team concluded that librarians utilizing current information technologies can contribute to improving citation accuracy for a medical text.

REFERENCES

23. DELACEY, op. cit.
24. DOMS, op. cit.
25. EVANS, op. cit.
26. HINCHCLIFF, op. cit.
27. KEY, op. cit.
28. STULL, op. cit.
29. GOLDBERG, op. cit.
30. MCLLLEAN, op. cit.
32. PUTTERMAN, op. cit.
33. BIEBUYCK, op. cit.
34. BENNING, op. cit.

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