This paper describes the evaluation of a current awareness or selective dissemination of information (SDI) service at New Mexico State University. To provide expanded library services to faculty, a current awareness service was offered to 18 science departments in 1991. A profile for each researcher enrolled was entered into a program and was run against "Current Contents" diskettes weekly. Each week relevant citations were delivered to the faculty member who could then request the articles to be delivered. After 18 months of the service, a questionnaire was mailed to the faculty using the service. The purpose of this evaluation was to determine the level of satisfaction and to develop a method for deciding which profiles needed updating. There were 71 responses out of 98 profiles, for a response rate of 72%. It was concluded from the findings that the users were satisfied with the service; the majority of citations received were considered relevant; 35% of the users needed revision of their profiles; and few faculty members took advantage of the document delivery service. The survey instrument is included. (JLB)
ABSTRACT
The challenge of identifying relevant documents is of critical importance for researchers and for those in the information professions. The continuing proliferation of published literature increases the amount of time and difficulty for those who must locate, sort, and read scholarly publications. In order to meet this challenge a current awareness service was instituted at New Mexico State University in the fall of 1991. The value of this kind of service is based primarily on its relevancy and immediacy. The relevancy of retrieved documents is dependent on the quality of the profiles. Therefore, a means of evaluation of the service is necessary for the purpose of determining whether profiles are working. This paper discusses the importance of updating profiles and a method for evaluating a current awareness service as a whole.
CURRENT AWARENESS IN LIBRARIES: BACKGROUND

Identification of relevant material from current literature is crucial to the academic researcher. The library is a partner in the identification and procurement process which may take the form of a current awareness service. Current awareness services are not new. Libraries began offering such services by manually scanning documents as much as 50 years ago (Ohta and Evans, 1970)\(^1\). Lavendel (1982)\(^2\) described selective dissemination of information (SDI) as "the quintessential library service". Recently, computer databases and software have become available and made the scanning of literature much faster than manual scanning. While computerized scanning is not always superior to manual scanning, the savings in cost and time make computerized scanning necessary. Manual scanning is now impractical except in some special libraries, due to the enormous amount of literature to be covered. Document delivery services are a natural link to current awareness services. Rapid, ready access to the literature should follow its identification. Hence, interlibrary loan and commercial document delivery services become part of the current awareness equation. Evaluation of a current awareness or SDI service is crucial for several reasons. Inherent in the service, indeed in the phrase "current awareness" is its up-to-dateness. One of its greatest values, therefore, is its immediacy. The ability to make changes to the service as appropriate, to make them frequently, and to make the researcher/users aware of the ease of changing profiles is highly important. For various reasons the profile may not be working. Subtle differences in profile keywords can cause either lack of retrieval on the one hand or information overload on the other. Additionally, research interests can and do change.

Improvements in technology have led to improvements in service. Cox (1992)\(^3\) described a current awareness service that emphasized the
use of personal bibliographic software to manage literature citations. Butler (1993)\textsuperscript{4} described the use of e-mail for citation delivery and update requests. Evaluations of current awareness services via surveys or personal contacts have been described by Butler (1993)\textsuperscript{5}, Brandli (1976)\textsuperscript{6}, Jax and Houlson (1988)\textsuperscript{7}, and Whitehall (1986)\textsuperscript{8}. While these evaluations were able to determine levels of user satisfaction, they were not designed to determine whether user profiles were to be modified. This was the goal of the current work.
THE CURRENT AWARENESS SERVICE AT NEW MEXICO STATE UNIVERSITY

New Mexico State University (NMSU) is a medium sized (15,000 students) university with 48 masters and 24 doctoral degree programs. To provide expanded library services to NMSU faculty a current awareness service was offered to 18 science departments. Subscription to four Current Contents diskettes (Physical, Chemical, and Earth Sciences; Agriculture, Biology, and Environmental Sciences; Life Sciences; and Engineering and Applied Sciences) was initiated from the Institute for Scientific Information (ISI).

The service was marketed in several ways. A letter describing the service was sent to all faculty in the sciences and when possible a librarian described the service at departmental faculty meetings. Enrollment forms similar to those used for online search requests, were distributed for the purposes of profiling. Meetings with individual faculty were arranged to develop profiles or, if this proved difficult, profiles were established via telephone. The service was also publicized in the NMSU Library Newsletter which is distributed quarterly to all faculty. Some researchers chose to have their profiles run against more than one diskette, e.g. Life Sciences in addition to Agriculture, Biology, and Environmental Sciences. Faculty members had the option of supplying a fund number so that documents could be delivered for a fee of $4 each.

The profile for each researcher was entered into the ISI program, stored, and run against the diskettes weekly. Emphasis was made to all faculty that a current awareness service is an ongoing process and that they might expect to make periodic revisions. Each week relevant citations were printed or downloaded to floppy disk and delivered via campus mail, or were sent by e-mail. A word processor was used to maintain a master list of the profiles and to keep records of weekly "hits". This provided a
convenient way to print a list of the names and profiles for mailing. If faculty wanted document delivery, they sent a marked citation list via campus mail or they could request articles by telephone. Requested articles were obtained from library shelves or from ISI's document delivery service (with a 4-day average turnaround time). Faculty were asked to contact a librarian with any concerns or questions and profiles were adjusted upon request. If more than 15 "hits" were obtained per week, the user was contacted to ascertain if the profile was too broad.

The initial investment in time was substantial. Contacts and meetings for discussion of the program, discussion of research interests, and creating and entering the profiles, required nearly one hour per profile. When the librarians had the system working smoothly, a staff person was hired to take over the duties of running the profiles, printing, and mailing the results. The librarians continue to maintain all current awareness profiles.

Despite distribution of enrollment forms at faculty meetings and in campus mail, only about 15% of the faculty were requesting enrollment. Follow up phone calls improved this percentage to about 30% and after two years about 50% of eligible faculty are enrolled in the current awareness service. Continued follow up phone calls and personal contacts would undoubtedly have kept increasing the percent of users to nearly 100%. However, the librarians began to reconsider whether they should continue to push the service on those who were not enthusiastic about it. As one librarian remarked "you could talk anybody into it". Current awareness services are of most benefit to those active in research or writing. Among the reasons given for not enrolling were that some researchers preferred to do their own scanning in a subject index, that they didn't need a literature review now, that they scanned only a limited number of
journals, their peers keep them informed, or that they had their own *Current Contents* subscriptions.

As more departments began to participate and word of the service spread we began to get inquiries from those who had heard of the service from others. Additionally, reference desk transactions sometimes resulted in referrals to the current awareness service. For the approximately 100 science faculty currently enrolled in the program the staff assistant spends about 4 hours per week running the profiles and printing and mailing the results. The fee-based document delivery demand has been low. Of document delivery requests about 70% of the articles are not in our library and are obtained from ISI at a cost of approximately $12.50 per article. Initially the short form of citations was supplied but after several requests for author addresses all citations are now delivered in long form, which includes author address. The cost to the library of the ISI subscriptions and reprints is about $150 per month at present.
EVALUATION OF THE SERVICE

After approximately 18 months a questionnaire (Appendix 1) was mailed to each of the faculty using the service. The purpose was to determine satisfaction levels and develop a method for deciding which profiles needed updating. We also wanted to determine how cited papers were being obtained. Since initial response to the questionnaire was below 50%, a second mailing was made to those who had not responded. Ultimately there were 71 responses out of 98 profilees (72%).

The first question (A, appendix I) was designed to verify that the responder was in fact getting the mailed citation lists and to introduce the term "citation," which was used in several succeeding questions. Sixty-six of 71 respondents answered "yes" (It was later determined that, in fact, all had received citations). The next two questions were used to establish a measure of the level of satisfaction with the quality and coverage of the citations. Responses to question B "What percentage of citations are appropriate to your topic?" ranged from 5% to 100%. The mean was 58%. Responses to question C "What percentage of citations you may be missing?" ranged from 0% to 90% with a mean of 23%. These types of questions are valuable in determining whether a profile is working for an individual or whether it needs revision. Both questions B and C, as well as other questions, were used to devise a list of faculty names to be contacted to discuss revision of profiles. For question B, the "percent of appropriate citations", any user who answered that they were receiving fewer than 50% appropriate citations was listed for contacting. There were 22 such responses below 50%. For question C, the percent of missed citations, anyone who answered greater than 30% missed citations was added to the list. Ten of the responses indicated that more than 30% of citations may have been missed. In comparison, more than twice the number of users
were deemed unsatisfied due to receiving too many irrelevant citations (question B) as missing citations (question C).

Question D was used to determine other ways users were keeping up with literature in addition to the current awareness service. Responses fell into four categories; browsing, using indexes, personal subscriptions, and personal communications. The greatest number of responders (29) indicated that browsing in the library was a method used to stay abreast of current literature. Many indicated that they regularly browsed the current periodicals room. Some simply stated they used the library. Personal subscriptions was a response given by 19 of those surveyed and some indicated the names of those subscriptions. The use of indexes to keep current was indicated by 18 respondents. These included print, CD-ROM, and online databases, and some responders named the indexes used. The final category was personal communications, including meetings, e-mail, and other methods of contacting one's colleagues. Eleven respondents indicated that this was an important means of keeping current.

The responses to question E, how does one "obtain papers from citations" delivered by the service, revealed that there were many ways of obtaining citations. Answers were ranked from "1" (most frequent) to "6" (least frequent). If there was no response it was assumed that that method was not used. In order to get an estimate of the most common methods of obtaining papers, all of the "1" and "2" frequency responses were combined for each of five categories of obtaining papers. Using this method it was found that papers were most frequently obtained from the library shelves (52 "1" or "2" responses). Papers obtained from personal subscriptions accounted for 30 responses. Papers were also commonly obtained from interlibrary loan (21 responses) or from authors (19 responses). The current awareness document delivery service was
answered as frequently used ("1" or "2" response) by only 3 users.

Question F asked whether the responder had used the document delivery service. Only ten answered yes. Five users responded that they thought the cost per article ($4) was too high. Of the 60 "no" responses, many indicated that they either did not know about it or did not think about using it. It became apparent that many of those profiled over the telephone had not been told of the service. Those who had filled out an enrollment form, on the other hand, had had the opportunity to provide a fund number for use in ordering articles and had theoretically, at least, been informed. A memorandum was sent to all users describing the document delivery service. Despite this memorandum, document delivery requests remain low.

Question G was a general question to determine what changes in the service would be useful. There were 21 responses to this question. The majority (17) requested a change in their profile. These users were added to the list of those to be contacted. Other requested changes were to "make the service free" (it was already free, unless they were referring to document delivery), to "change from disk to print citation delivery" (done for this user), to "include abstracts" (this was done), and to "add Clinical Medicine Current Contents" (this was not done).

Question H, "Have you changed your profile..." allowed us to compare satisfaction levels from other survey questions with previous changes in profiles. Eleven users answered "yes" to this question. Of these, one was requesting another change. There were, however, no apparent differences between those who had or had not had profiles changed, and their answers to questions B and C (% missing or % appropriate citations).

The final question, question I, asked the user to rank the service from "1" (very useful) to "5" (not useful, please discontinue). The majority
of respondents (60 or 84%) answered "1" (very useful) or "2". Those who answered "3" or above were judged to be unsatisfied. There were eight "3's", two "4's", and one "5". The "5" was discontinued and the others added to the list of persons to be contacted.

By this point there were four categories of users to be contacted. Those with inappropriate citations, with missing citations, who ranked the usefulness of the service as low, and those who specifically requested profile changes. These lists were merged resulting in 35 users to be contacted, just under 50% of those who had responded to the survey, about 35% of the total number of users. Each individual was contacted and thanked for answering the survey. The specific reason for contacting the individual was discussed, eg. "you indicated that you were missing about 60% of the citations". The existing profile was reviewed to determine why there seemed to be irrelevant or missing citations. Sometimes it was a simple matter of adding or dropping keywords. For more complicated profiles, a conference was suggested in which modification of the profile was done at the computer terminal and various output combinations were compared until the user and the librarian were satisfied with the results. Users were assured that the only way to make the system work to its potential was to continue modifying the profile until it met their needs. Additionally, it was stressed that people's needs change and they should feel free to contact the librarian at any time to make further changes.
CONCLUSION

The current awareness evaluation survey revealed that users were highly satisfied with the service. Respondents indicated that the majority of citations received were relevant to their research and that on average they felt they were missing about 23% of citations. The survey evaluation included four factors that were designed to determine if profile changes were needed. Using these factors, approximately 35% of the users were contacted for consultation and profile revision. Such revisions are a crucial part of any current awareness service. The current awareness service complements library online and CD-ROM services and has been successful in improving the visibility of the library. The response of faculty has been very positive with many compliments and several faculty members have approached us to enroll after hearing of the service from a colleague. It is expected that about 50% of the faculty will use the service. The use of e-mail for delivery of citations is increasing. Few faculty, however, are taking advantage of our fee-based delivery service. While the cost is low ($4) and does not even require a visit to the library, it appears that most researchers are getting materials from our shelves, from personal subscriptions, using ILL, or requesting reprints directly from authors. Some faculty researchers have developed more insight into how our CD-ROM collection, our online search service, and our current awareness service complement each other. Several have become regular CD-ROM users. For a modest cost we have been able to improve our service, our image, and our liaison function. There has been a positive impact on librarians who have gained a better awareness of faculty research interests.
REFERENCES


APPENDIX I

Memo to:
From: Roger Steeb, Tim McKimmie, Dept. 3475
Subject: Current Awareness Service
Date: April 1, 1993

Please complete this questionnaire and return to Box 3475.

A. Have you received weekly citation lists from the current awareness service? Yes No

B. What percentage of citations that you receive are appropriate to your topic? ____ %

C. What percentage of relevant citations do you think you may be missing? (ie., citations that you find out about from sources other than our current awareness service) ____ %

D. What other sources have you used during the past 3 months to stay current?

E. How do you generally obtain papers from citations you receive? Please rank in order of frequency 1=most frequent, 6=least frequent.

Rank (1, 2, 3, 4, 5, 6)

_____ interlibrary loan
_____ directly from authors
_____ personal subscription
_____ library shelves
_____ from current awareness service (document delivery)
_____ other

F. Do you use our document delivery service ($4 per article)? Yes No
please comment:

G. Are there any changes in the service that would be helpful? Please list.

H. Have you changed your profile since starting the service? Yes No

I. Please rank the usefulness of the current awareness service to you. (please circle)

very useful
not useful, please discontinue

1.......................... 2.......................... 3.......................... 4.......................... 5