E-mail Reference Responses from Academic ARL Libraries: An Unobtrusive Study

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Abstract
E-mail reference connects patrons with reference service providers who can find answers for them. How accurate are the responses to e-mail questions? How firm are libraries' guidelines for time of response, type of questions addressed, and category of user whose questions will be answered through e-mail reference? This article examines e-mail reference services provided by academic libraries in the Association of Research Libraries (111 sites). Sets of three pretested e-mail reference queries were sent to each of these libraries during February 2001. Twenty-one assessment questions were used to record characteristics of the e-mail reference service pages and characteristics of responses to the reference queries; comparisons were made between service policies as stated and as practiced. Assessment questions covered the topics of e-mail reference policies, services to nonaffiliates, elements of reference interviews, features of reference service enabled by the e-mail medium, and accuracy of query answers.

Disciplines
Library and Information Science

Comments
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An Unobtrusive Study

E-mail reference connects patrons with reference service providers who can find answers for them. How accurate are the responses to e-mail questions? How firm are libraries' guidelines for time of response, type of questions addressed, and category of user whose questions will be answered through e-mail reference? This article examines e-mail reference services provided by academic libraries in the Association of Research Libraries (ARL) academic library Web sites. Sets of three pretested e-mail reference queries were sent to each of these libraries during February 2001. Twenty-one assessment questions were used to record characteristics of the e-mail reference service pages and characteristics of responses to the reference queries; comparisons were made between service policies as stated and as practiced. Assessment questions covered the topics of e-mail reference policies, services to nonaffiliates, elements of reference interviews, features of reference service enabled by the e-mail medium, and accuracy of query answers.

Thank you for using the [name] University Library's Ask-a-Librarian service. Your question has been forwarded to the liaison librarian for Not Sure.

This message appeared on the computer screen as a result of filling out an online form for an e-mail reference service and selecting "Not Sure" from a drop-down menu to indicate the subject of the submitted query. Providing "Not Sure" as a choice allowed for the amusing response above—perhaps suggesting an alternate job title for reference librarians. More important, the presence of this option was an acknowledgment that some patrons are unclear on how to categorize their information needs. One aim of reference service is to alleviate our patrons' uncertainty, and e-mail reference service can be a means for achieving that aim.

E-mail reference service is now a common component of large academic libraries' services, and has been an established service for long enough that simply providing it no longer suffices. It is time to look at the quality of the service provided in this area. Quality can be affected by a library's choices in setting policies for e-mail reference service, planning it, staffing it, and advertising for it. But none of these things is the actual service. To measure the quality of the output of e-mail reference, it is necessary to examine the e-mailed query responses. Patron satisfaction with e-mail reference service has been measured for individual libraries, but this does not allow for comparisons among libraries or give a picture of the overall quality of electronic reference service provided by these academic libraries as a group.¹ A means for making comparisons and broader statements about quality was needed.

After a 1999 study of e-mail reference pages on Association of Research Libraries (ARL) academic library Web sites, the author conducted an unobtrusive study of e-mail reference practice as performed by these libraries in early 2001.² The objectives of the 2001 study were to examine common characteristics of responses to e-mail reference queries, and to collect data on these characteristics as expressed in responses received from the reference service providers.

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Kristine Stacy-Bates
Expectations for the state of e-mail reference service were:

- Libraries would give all Web patrons a clear statement of their policies concerning e-mail reference service, and then meet or exceed the goals for service mentioned in those policies.
- Libraries would provide more service to their affiliated patrons than to nonaffiliates.
- Reference service providers would extend accepted good practices for reference interviews into the e-mail environment.
- Libraries would take advantage of technology to provide features not applicable to face-to-face or telephone reference situations.
- Reference service providers would respond to clearly worded queries with direct answers, or with URLs of Web pages containing direct answers, and would answer with high levels of accuracy.

### Literature Review

Literature dealing with e-mail reference is in ample supply. User opinions of service, standards for quality, types of questions received, management issues, and relative merits and drawbacks of e-mail reference compared to other reference types have all been discussed. Unobtrusive studies of reference service have been conducted in various settings and for various types of services. The combination of these two areas—an unobtrusive study of e-mail reference service—seems to be new.

Janes, Carter, and Memmott looked at the proportion of academic libraries that offer digital reference services—primarily e-mail reference—and the characteristics of those services. Characteristics that they observed for digital reference services at 150 libraries included:

- If the service was directly linked from the library homepage;
- If forms or mailto links were used for submitting information;
- If any technological barrier prevented nonaffiliates from accessing the service; and
- If frequently asked questions or other previously asked questions were listed.

They also noted the presence or absence of policies on answering the queries of nonaffiliates, on what types of questions would be answered, and on what turnaround time was stated.

To examine the patron’s perspective in e-mail reference, Bushollow-Wilbur, DeVinney, and Whitcomb surveyed users of a set of e-mail reference services at State University of New York (SUNY)-Buffalo in 1993 and 1994. They found that users valued the immediacy of the service, in the sense that they could pose their questions when they first thought of them, instead of having to remember later during trips to the library. Some of the surveyed users also thought that they could ask questions more precisely via e-mail than in person, and therefore expected the answers to be more accurate than would be the case for in-person reference. This study also considered the content of questions received during the period January 1993 to June 1994; 74 percent of all reference questions received fit into the category of basic reference, including citation verification, directory questions, and ready-reference factual questions; these represented 52 percent of all questions received, as some queries were not categorized as reference.

Kasowitz, Bennett, and Lankes reported in 2000 on a set of standards for digital reference services developed for the Virtual Reference Desk AskA Consortium. Although aimed at the K–12 education community, these standards also contain much that is relevant to libraries in other settings. Standards that influenced the questions used in this study address turnaround time, response policies, elements of reference interviews, and links to related information such as FAQs.

Sloan reviewed the literature of digital libraries up to 1998, finding that before that date resources had been emphasized more than services. He was very interested in the ways librarians and patrons communicated as the digital library developed. Sloan’s description of early efforts at videoconferencing and video reference service contrasted the synchronous environment of a video connection with the asynchronous nature of e-mail. Noting that e-mail reference forms used by library Web pages varied in levels of complexity, he recommended that the more complex forms, those requiring more information from the patron from the beginning of the reference process, be used as models in designing forms for new services. Sloan also considered restrictions either inherent to or imposed on e-mail reference services:

- Setting an expected time to answer;
- Limiting responses to affiliated users only;
- Limiting the types of questions to be answered; and
- Requiring that the user have access to e-mail.

The last limitation was not considered as relevant to academic environments, due to the very high percentage of campus patrons already using e-mail.

The reference interview remains a necessary component of many electronic reference transactions. Straw recommended the use of e-mail reference elements that serve the function of a reference interview, including sending the user an automated response to verify that the query was received, providing the user with the name of an actual person who is handling the request, and checking with the user to see if the answer provided was helpful.

Accepting questions from nonaffiliates of the library has both pros, such as a good public image, and cons, such as...
as diverting reference service providers’ time from serving affiliates. Gray discussed these factors and ways that the disadvantages could be mediated, which could include making referrals to other types of libraries or to a library with a stronger connection to the patron. Gray also addressed the issue of whether to restrict e-mail reference service to just ready-reference questions, or to also provide answers for in-depth questions.

An unobtrusive study of e-mail reference can draw on the literature on other unobtrusive studies of reference, while focusing on the facets of reference service that are most appropriate to the e-mail format. Hernon and McClure reported on extensive work with unobtrusive testing. They emphasized the importance of designing studies carefully and including factors to ensure reliability and validity of the data collected. Their work examined numerous institutional variables for a possible effect on reference quality, and also used unobtrusive testing to test the efficacy of an experimental reference training program. They focused extensively on measuring libraries’ correct answer fill rate.

Tyggett, Lawson, and Weessies focused on evaluating face-to-face reference service at a single library. Their study considered dimensions of service such as “listened to what was being said,” “directed me to right place instead of only pointing,” “said to come back if I needed more help,” “directed me to person with more expertise,” and “located information in reasonable amount of time.” They found that the unobtrusive method of evaluating reference service allowed for the service to be measured as it was typically performed, without an observation effect being introduced by the study.

Dilevko and Dolan have conducted unobtrusive studies of face-to-face and telephone reference services. In their studies of government documents reference and telephone reference, they looked at the services provided by multiple libraries—104 in one study and 21 in another. They used questions requiring a short fact-based answer and did not distinguish among reference service providers based on professional status.

### Definitions

The following definitions were used for this study. An e-mail reference page provides a form or mailto link for patrons to send e-mail, with an indication either on that page or on a linking page that it is an appropriate way to ask a reference question. A library’s home page could serve as an e-mail reference page, but this is seldom done. A mailto link is an e-mail address coded to launch a browser’s e-mail component, creating a new mail message ready to be sent to that address once the user has completed the message body. A reference service provider is a librarian, staff member, or student who responds to reference queries; this term will be used instead of librarian to reflect the fact that the professional status of someone responding to e-mail reference is often unknown. An affiliate of an academic library is one of the institution’s faculty, staff members, or students, and may sometimes also be an alumnus/alumna or, for state colleges or universities, a resident of the state. An FAQ page is used to display and answer questions that are typical of those posed to reference service providers and that can be answered satisfactorily in the format of a Web page. An unobtrusive study of reference service is one where responses to queries are assessed without the reference service providers knowing that they are being studied.

### Pretest

The literature review provided ideas for a set of assessment questions to measure characteristics of e-mail reference. Assessment questions could be answered from information found in library Web sites or e-mailed responses. A set of three sample reference queries was also devised. These three queries and eighteen assessment questions were pretested by sending the reference queries to e-mail reference services at a selection of eleven non-ARL universities. The pretest assessment questions were used to record characteristics of those e-mail reference services as described in their Web pages and characteristics of the responses returned for the queries.

Both the reference queries and assessment questions were evaluated after the pretest. The three original reference queries remained the same for the final study. The eighteen assessment questions were pruned, added to, and edited, resulting in a set of twenty-one questions that could all be answered objectively. One of the questions first considered was “What is the tone of the response?” which proved to be too nebulous to implement in the study; similar questions used in studies of face-to-face reference could take nonverbal factors into account when recording this qualitative information.

### Reference Queries

The three queries used to send to e-mail reference services were as follows:

- Can you tell me the title of [name]’s dissertation? [She/He] finished [his/her] degree at [institution’s name] within the last couple of years. (dissertation query)
- How did [team name] become the name for the school’s sports teams? (sports team query)
- Could you tell me the population of the capital of Honduras in 1995? (population query)

These three queries were chosen for their potential to highlight differences in e-mail reference service policies.
The dissertation query was specific not just to the institution, but to the library resources of that institution. The sports team query was specific to the institution but not the library. The population query could have been addressed to any public library or a number of free Web services, rather than requiring a response from a research library; it was chosen to represent a type of information request that would fall outside some e-mail reference services' guidelines for nonaffiliates. All three queries were intended to require minimal effort to answer, and so be unlikely to take much of the reference service provider's time away from responding to patrons' real information needs.

For the dissertation query, Dissertation Abstracts was used to identify one dissertation on the subject of English literature completed at each institution during 1999. If no match was found for English literature dissertations, the subjects “American literature,” “literature,” and “education” were tried in that order until there was a match.

Assessment Question Development

The questions used in this study describe both the e-mail reference sites and the e-mail reference responses. They cover the topics of e-mail reference policies, services to nonaffiliates, elements of reference interviews, features of reference service enabled by the e-mail medium, and accuracy of query answers.

Incidence of E-Mail Reference Services

A general e-mail reference page is not a universal feature even for academic reference libraries' Web sites. Among the sites that do offer this service, there are varying policies about whether to accept questions from persons not affiliated with the institution. Some libraries link to an e-mail reference page from their home pages, but require a local ID or password to be entered before the e-mail reference page can be seen. A less common occurrence is for the e-mail reference page to be viewable by all, but for the e-mail form to accept only queries from those who enter a valid institutional ID or who use a local e-mail address.

Question 1a. Was there an e-mail Web page accessible to affiliates of the institution?
Question 1b. Was there an e-mail Web page accessible to nonaffiliates of the institution?
Question 6. Was a message successfully sent to the page?

Response Time

The timeliness of e-mail reference service is a key factor in its effectiveness. Giving an estimated time for the library's response helps to assure the patron of the relevance of the service. Setting a local standard for time to respond to e-mail queries was recommended by the Reference and Adult Services Division (RASD), which is now Reference and User Services Association (RUSA), of the American Librarian Association.

Question 3. Did the Web site give a time frame for the library's response?
Question 4. If so, what is that time frame?

One of the most obvious points to check in responses to e-mail reference queries is the timeliness of the response. This was most telling in cases where an estimated time frame was given. Average response time for each query was of interest, as was checking whether those services that stated an estimated response time sent a reply as quickly as indicated.

Question 10. How many business days elapsed between sending the message and receiving the first nonautomated response?

A deadline of fourteen business days from the receipt of the query was set for responses to be counted in the study. One response was sent late enough to miss this deadline, at sixteen business days after the initial query, and is not counted in the final totals.

Question 8. Was a response received within fourteen business days?

Service to Nonaffiliates

There are varying opinions on the level of questions that should be addressed by e-mail reference services, especially for queries sent by nonaffiliates. Whatever the policy, it is preferable to be as clear as possible about what level of service can be expected by each group of potential patrons.

Question 5. According to information on the library's Web site, what type of questions from nonaffiliates will be answered? (1) only those about the library's holdings; (2) only those specific to the library or the school; (3) brief reference questions; (4) no questions; (5) no policy given; (6) no distinction made between affiliates and nonaffiliates; or (7) other.

Stating a service policy on an e-mail reference page does not ensure that it will be followed. The existence or nonexistence of a response is one indicator of whether an e-mail reference policy has been interpreted as stated, and these questions address another dimension of that topic. It is possible for actual practice to be more or less responsive than the service's Web page indicates.
Question 17. Did the response(s) mention the requester's nonaffiliate status except as information reprinted from the e-mail reference form?

Question 21. Did the response(s) say that the question was out of scope for what could be answered for a nonaffiliate?

**Elements of the Reference Interview**

Durrance showed that whether a reference service provider's name is known can be a factor in whether a patron uses a service again.23 Straw also considered identifying the reference service provider to be helpful in the online reference interview.24 Reference service providers may prefer to respond to queries with some level of anonymity.

Question 20. How was the individual who responded identified? (1) not identified; (2) by name; (3) by title or department; d) by name AND title or department; (5) by partial name [e.g., Joe at desk]; or (6) other.

Checking whether a patron needs more information than has yet been provided is considered crucial in a face-to-face reference interview.25 This stage of communication can also be important in the online reference process.26

Question 19. Did the response(s) check if the requester needed any further information?

Although the queries sent were quite straightforward, it seemed appropriate to track whether any question negotiation was attempted through an e-mail reference interview. In some sets of responses, the first response merely indicated that the query had been received by the e-mail reference service. These preliminary responses, whether automated or sent by a reference service provider, tell the patron that the query has reached the reference service and will be addressed.27 There were two libraries that sent a first response to the sports team query (one automated, one apparently from a reference service provider) but never sent a second message answering the query. (The automated response here is the reason for variations in the nonresponse counts for the sports team query.)

Question 7. Was a first message (without an answer) returned within fourteen days to indicate that the query was received by the library?

Question 9. How many messages were received within fourteen days in response to this query?

**Features Enabled by Technology**

E-mail reference pages are sometimes set up in relation to FAQ pages in order to reduce the load of e-mailed questions.28 The ways in which this is done vary, as was noted when pretesting an earlier version of this question: "Is the e-mail reference page associated with an FAQ page?" An option not anticipated in advance was that one site viewed in this study automatically created a database of all previously answered questions, which could be searched by keyword or browsed in chronological order.

Question 2. In what way is the e-mail reference page associated with an FAQ page? (1) no obvious association; (2) e-mail page links to FAQ page; (3) FAQ page is a necessary step on the path between the library home page and the e-mail reference page; (4) e-mail reference page link and FAQ page link are adjacent on home page; (5) the same page serves both for e-mail reference and FAQ; or (6) other.

One of the advantages of e-mail reference over spoken forms of reference is that it is very easy to refer to the original statement of the query, and to include it with responses.29

Question 18. Did the response(s) reprint the query form or query e-mail?

**Answers and Accuracy**

Whether a direct answer or a referral is the result of a reference transaction is a point that has been measured for past unobtrusive reference studies.30 This seemed to be an interesting point to measure for e-mail reference as well. In practice, nearly all the responses without a direct answer did contain a URL for a Web page containing a direct answer. Attachments to the e-mail which contained a direct answer were also counted as direct answers, though attachments were sometimes quite difficult to view from within the free e-mail services used in the study.

Question 12. Did at least one of the responses contain a direct answer to the question?

Timeliness, friendliness, and clearly stated policies may encourage users to return to use a service again, but providing accurate answers is also very important. Because of the varying stories sometimes available to explain a single institution's sports team name, it was not possible to judge whether a given version of the story was accurate or not. The dissertation queries all had one correct answer, while a set of answers for the population question was accepted as correct, depending on the source used by the reference service provider. This variability highlights the importance of citing a source for information provided to a patron.

Question 11. Did the response(s) address the actual query sent (as opposed to misinterpreting the query)?
Question 13. In addition to, or in lieu of, a direct answer, were any of the following sent? (1) citation of a source (other than the library’s catalog); (2) referral to the library’s FAQ; (3) referral to part of the library’s/institution’s Web site (other than the library’s catalog); (4) referral to another library or department; (5) a statement that the library could not provide an answer, but without any referral; or (6) reference of, or link to, the library’s catalog, or call numbers of items in the library’s physical collection.

Question 14. If the answer was in the form of a URL, did the link work?

Question 15. If there was a direct answer, was it possible to check the accuracy of the answer?

Question 16. If so, was the answer accurate?

Assessment Process

Once the final set of twenty-one assessment questions had been determined, the author and an undergraduate student assistant sent each of the three queries separately to 111 academic libraries within the Association of Research Libraries. Special libraries and public libraries in the ARL were omitted because of the focus on services to nonaffiliates; the user groups for academic libraries were assumed to be very different from those for public or special libraries. Hotmail and Yahoo! mail accounts were used as the addresses from which queries were sent, rather than using an e-mail address that would reveal the requester’s university affiliation. E-mail reference pages were located through the home pages for campus library systems. One e-mail reference page was examined for each institution; if there was a choice of e-mail reference services, the one associated with either the humanities library or the main library on campus was used. Six of the final assessment questions dealt with characteristics of the e-mail reference page and were answered once for each site. The fifteen remaining assessment questions were answered up to three times for each site, once for each query to which that site responded. All the queries were sent to the e-mail reference services between February 7 and 23, 2001. The characteristics of responses were tallied as responses were received, with this work being completed by late March 2001.

Following Hernon and McClure’s example, a number of steps were taken to ensure the reliability of the data collected.31 The assessment questions were pretested to eliminate any that might be interpreted inconsistently, such as “What is the tone of the response?” Because of the nature of the e-mail medium, it was easy to keep the queries sent to each library as similar as possible, eliminating variation in the information received by each library except for that introduced by variations in the forms used on e-mail reference pages. As this method also required little time per query sent, there was no need to coordinate the efforts and methods of many proxies as in most unobtrusive studies of face-to-face reference. There were only two data gatherers, the author and the undergraduate assistant, who discussed together how to score each assessment question. In most cases, the answers to a single assessment question were tallied by the same person for all the responses received. Answers to assessment questions were scored over a short span of time, another way of ruling out variations in scoring. All data entry work on the project was double-checked.

Efforts were also taken to assure of the validity of the results. Queries were selected to be within the range of questions that might normally be received by an academic library’s e-mail reference service. Reference service providers were unaware of the study and unable to identify the Yahoo! and Hotmail e-mail addresses used as belonging to a patron from an academic setting.

Results

Incidence of E-Mail Reference Services

Of the 111 Web sites examined, 107 (96 percent) had an e-mail reference service that was available to at least the affiliates of the institution. 101 sites (91 percent) had an e-mail reference form or e-mail address that was viewable by nonaffiliates. For three of those sites, the system would not accept e-mail from nonaffiliates, leaving ninety-eight sites that received the reference queries.

Incidence of Responses

Of the ninety-eight e-mail reference services that received the reference queries, ninety-six (98 percent) responded to the dissertation query, eighty-two (84 percent) responded to the sports team query, and eighty-five (87 percent) responded to the population query within fourteen days. Seventy-four e-mail reference services (76 percent) responded to all three queries.

General Policy Issues

Estimated Time to Response

For all ninety-eight e-mail reference pages that could be viewed by nonaffiliates, the presence or absence of an expected time frame was recorded. Also, four of the sites that were inaccessible to nonaffiliates did state response time estimates on a page that could be viewed by anyone; thus the sample size for this question became 102. Figure 1 has the results of this question for the 2001 study. A related point of interest was whether the suggested times to response for e-mail reference had changed much in the two years before
this study, during a time when real-time virtual reference became much more prominent. For comparison, figure 1 also displays results from a similar assessment question used in 1999.

Elapsed Time to Response

Automated responses were sent in response to thirty-eight of the queries; these were skipped over when recording response times of reference service providers. The elapsed time between sending a query message and receiving the first nonautomated response ranged from less than one day to sixteen days. More complete information for those responses received by the deadline of fourteen days is given in table 1. The first nonautomated response was received later than the estimate given on the e-mail reference page for five (5 percent) of the libraries responding to the dissertation query, ten (12 percent) of the libraries responding to the sports team query, and six (7 percent) of the libraries responding to the population query. So a total of twenty-one (8 percent) of all responses received could be considered late.

Many responses came in more quickly than projected. Nonautomated responses were received at least one full day ahead of the policy deadline for twenty-four of the responses (25 percent) to the dissertation query, eighteen of the responses (22 percent) to the sports team query, and twenty of the responses (24 percent) to the population query, for a total of sixty-two early responses (24 percent). One reference service provider even included an apology for taking so long to respond, though the response was received within six hours of sending the query!

Table 1

How Many Business Days Elapsed between Sending the Message and Receiving the First Nonautomated Response?

(N=98 for each query)

<table>
<thead>
<tr>
<th>Elapsed Days</th>
<th>Dissertation</th>
<th>Sports Team</th>
<th>Population</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>77</td>
<td>50</td>
<td>63</td>
<td>190</td>
</tr>
<tr>
<td>2</td>
<td>9</td>
<td>19</td>
<td>14</td>
<td>42</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>5</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>–</td>
<td>2</td>
<td>–</td>
<td>2</td>
</tr>
<tr>
<td>7–14</td>
<td>1</td>
<td>2</td>
<td>–</td>
<td>3</td>
</tr>
<tr>
<td>More than 14</td>
<td>–</td>
<td>–</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Only automated response received</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>1</td>
</tr>
<tr>
<td>No response</td>
<td>2</td>
<td>15</td>
<td>12</td>
<td>29</td>
</tr>
</tbody>
</table>

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Service to Nonaffiliates

Libraries in the sample took a variety of approaches to the amount of e-mail reference service that they offered to nonaffiliates. Nine of them (8.1 percent) refused this service to nonaffiliates, and enforced that by keeping the crucial part of the service behind a local password, or by an automated rejection of e-mail from addresses not associated with the campus. Ten libraries (9.0 percent) stated that they would not answer questions from nonaffiliates, but did not block a determined nonaffiliate (such as the author) from attempting to do so. Eleven sites (9.9 percent) stated that nonaffiliates could only expect answers to questions specific to that library’s holdings, while twenty-three (21 percent) libraries were also willing to give nonaffiliates information about the institution more generally. Nineteen (17 percent) libraries made no distinction between affiliates and nonaffiliates in their e-mail reference policies and fourteen (13 percent) others gave no policy of any kind regarding what questions would be answered for affiliates or nonaffiliates. Twenty-one (19 percent) of the e-mail reference services had some other policy option; often this was the listing of a policy for affiliates’ questions without an indication of whether nonaffiliates could expect the same, less, or no service. Some sites would answer similar types of questions for affiliates and nonaffiliates, but stated that they would not guarantee as quick a response time for nonaffiliates.

Service Received by Nonaffiliates

Some responses stated that the query was out of the scope of what a given library would answer for a nonaffiliate. This occurred for two of the responses (2.4 percent) to the sports team query, and for twenty of the responses (24 percent) to the population query. In one case for the sports team query and six cases for the population query, the reference service provider provided an answer even though the questioner was a nonaffiliate (see table 2).

The stated policies for nonaffiliates can be compared to the actual responses received, as shown in table 3. Thirty-three libraries (31 percent) answered queries that were outside of their stated scope of service for nonaffiliates. Two libraries provided less service than indicated, not answering the sports team query even though that information was specific to their home institutions, and though the libraries’ policies said such queries would be accepted from nonaffiliates. Two libraries answered none of the three

| Table 2 |
| Did the Response(s) Say That the Query Was out of Scope for What Could Be Answered for a Nonaffiliate? |
| (N=98 for each query) |
| Query | Dissertation | SportsTeam | Population | Total |
| No | 96 | 80 | 65 | 241 |
| Yes, but answered anyway | – | 1 | 6 | 7 |
| Yes, and did not answer | – | 1 | 14 | 15 |
| No nonautomated response within 14 days | 2 | 16 | 13 | 31 |

| Table 3 |
| Stated Policy for Nonaffiliates Compared to Actual Response |

11 sites indicated only queries on the library’s holdings would be accepted
7 answered all three queries
3 answered dissertation and sports team queries
1 answered dissertation and population queries

23 sites indicated only queries on the library or the school would be accepted
12 answered all three queries
9 answered dissertation and sports team queries
1 answered dissertation and population queries
1 answered only dissertation query

19 sites indicated no queries would be accepted from nonaffiliates
3 answered all three queries
3 answered dissertation and sports team queries
1 answered dissertation and population queries
3 answered only dissertation query
9 had no reference e-mail address that was accessible by a nonaffiliate

14 sites had no stated policy
11 answered all three queries
2 answered dissertation and population queries
1 answered none of the queries

19 sites had a policy with no distinction given between affiliates and nonaffiliates
15 answered all three queries
2 answered dissertation and sports team queries
2 answered dissertation and population queries

21 sites had some other option for this policy
14 answered all three queries
2 answered dissertation and sports team queries
4 answered dissertation and population queries
1 answered none of the queries
queries; one of these had no stated policy, and the other’s e-mail reference page gave a statement of the policy for affiliates’ queries without addressing the application of the policy to nonaffiliates. In no case did a library respond to the sports team query or the population query without also responding to the dissertation query.

Table 4

<table>
<thead>
<tr>
<th>Query</th>
<th>Dissertations</th>
<th>Sports Team</th>
<th>Population</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not identified</td>
<td>13</td>
<td>7</td>
<td>7</td>
<td>27</td>
</tr>
<tr>
<td>By title or department</td>
<td>9</td>
<td>7</td>
<td>14</td>
<td>30</td>
</tr>
<tr>
<td>By partial name</td>
<td>11</td>
<td>–</td>
<td>8</td>
<td>19</td>
</tr>
<tr>
<td>By name</td>
<td>11</td>
<td>14</td>
<td>12</td>
<td>37</td>
</tr>
<tr>
<td>By name and title or department</td>
<td>50</td>
<td>52</td>
<td>44</td>
<td>146</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>2</td>
<td>–</td>
<td>4</td>
</tr>
<tr>
<td>No nonautomated response within 14 days</td>
<td>2</td>
<td>16</td>
<td>13</td>
<td>31</td>
</tr>
</tbody>
</table>

Elements of the Reference Interview

Identification of Reference Service Providers

Reference service providers identified themselves in a variety of ways in e-mailed responses, as detailed in table 4. Some gave no identifying information beyond perhaps the name of the e-mail reference service. Some listed their job titles or the names of their departments within the libraries. Some gave their full names, some partial names (first names or initials only). Others provided their full names and also their job titles or library departments.

Reference service providers were identified at a consistent level for thirty-nine (41 percent) of the ninety-four e-mail reference services responding to more than one query. Four of these never identified the reference service provider, four always gave just the title or department name, three always gave just the reference service provider’s name, and twenty-eight always gave both the name and title or department of the reference service provider. In some cases the consistency may be due to the same reference service provider sending all the responses from that library. Lack of consistency on this point may indicate that the level of identification of reference service providers is not covered by guidelines for e-mail reference service at the other fifty-five libraries.

Checking for More Information

In only 18 percent of the total responses did the reference service provider ask if the requester needed more information or actively encourage the requester to send another message if more information was desired. Just eighteen (19 percent) of the responses to the dissertation query, twenty (24 percent) of responses to the sports team query, and nine (11 percent) of responses to the population query checked if the requester wanted to know more about the query. The brief, factual nature of the queries used in this study probably made this seem a less necessary step to include. Other replies did include comments such as “Hope this helps” that can make the reference service provider seem somewhat more approachable. However, these were not counted because they did not explicitly encourage the requester to continue the reference transaction if needed.

Messages Received in Response

Although the queries were not meant to require a reference interview process, there were some cases (fifty-four or 20 percent of 264 total query responses) where more than a single message was received in response to a single query. In forty-seven of those fifty-four cases (87 percent of response sets with more than one message received), an initial message was sent to confirm receipt of the query by the e-mail reference service (see tables 5 and 6). There were thirteen apparently automated responses each for the sports team query and the population query, but only twelve for the dissertation query. The discrepancy probably indicates that there were cases where a reference service provider quickly returned a canned, but not automated, initial response.

Features Enabled by Technology

FAQ Pages and E-Mail Reference Pages

Of the 107 sites with e-mail reference services, thirty-one (29 percent) showed an association between the e-mail
reference page and an FAQ page. For twelve sites (39 percent of those with an FAQ association), the association was made only by the arrangement of links on the library home page—the link to the FAQ page was adjacent to the link to the e-mail reference page. In nine cases (29 percent of those with an FAQ association), the e-mail reference page linked directly to the FAQ page. Four sites (13 percent of those with an FAQ association) had FAQ pages that served as a step on the route from the library home page to the e-mail reference page. Four libraries (13 percent) used the same Web page both as an e-mail reference page and as an FAQ page. Two additional sites (6.5 percent) used combinations of these strategies. None of the query responses mentioned an FAQ page.

Reprinting Query in Response
It was very common for at least one of the response messages to a query to contain a copy of the query form data or the query e-mail. This was the case for eighty-two (85 percent) of the responses to the dissertation query, sixty-three (76 percent) of the responses to the sports team query, and seventy-two (85 percent) of the responses to the population query. Eighty-two percent of all responses included a reprint of the query form or query e-mail. Ninety-four sites responded to two or three of the queries; sixty-five of those (69 percent) were consistent in always reprinting the query information, and five (5.3 percent) were consistent in never reprinting the query information.

Table 5
How Many Messages Were Received within Fourteen Days in Response to This Query? (N=98 for each query)

<table>
<thead>
<tr>
<th>Query</th>
<th>Dissertation</th>
<th>Sports Team</th>
<th>Population</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>76</td>
<td>63</td>
<td>71</td>
<td>210</td>
</tr>
<tr>
<td>2</td>
<td>19</td>
<td>17</td>
<td>13</td>
<td>49</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>None</td>
<td>2</td>
<td>15</td>
<td>13</td>
<td>30</td>
</tr>
</tbody>
</table>

Answers and Accuracy

Direct Answers Provided
Not all of the responses included direct answers to the questions. In some cases the requester was either referred to another service or linked to a Web page that contained the answer. In all cases for which the response was in the form of a URL, the link was to a current URL. The set of responses contained a direct answer for ninety-five libraries (99 percent) responding to the dissertation query, fifty-four libraries (66 percent) responding to the sports team query, and sixty-five libraries (76 percent) responding to the population query. The differences may be due to differences in the length of response needed for each type of question and in the ease of linking to a Web page with the information. In addition, fourteen of the responses to the population query did not give a direct answer because of those services' policies not to answer queries for nonaffiliates.

Accuracy of Answers
The accuracy of direct responses to the dissertation query and the population query could be checked. Ninety-four (99 percent) of the direct answers to the dissertation query were accurate—the one exception gave the title of the master's thesis rather than the doctoral dissertation of the named alumnus. However, just forty-two (65 percent) of

Table 6
Was an Initial Message Returned to Indicate That the Query Had Been Received? (N=98 for each query)

<table>
<thead>
<tr>
<th>Query</th>
<th>Dissertation</th>
<th>Sports Team</th>
<th>Population</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>First message apparently automated</td>
<td>12</td>
<td>13</td>
<td>13</td>
<td>38</td>
</tr>
<tr>
<td>First message apparently from reference</td>
<td>3</td>
<td>6</td>
<td>–</td>
<td>9</td>
</tr>
<tr>
<td>service provider</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>81</td>
<td>64</td>
<td>72</td>
<td>217</td>
</tr>
<tr>
<td>No response within 14 days</td>
<td>2</td>
<td>15</td>
<td>13</td>
<td>30</td>
</tr>
</tbody>
</table>

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the direct answers to the population query correctly answered that query. Three answers contained a typographical error in the number. Twelve responses gave the population of Tegucigalpa for a year other than 1995. (Sometimes the year used for the population estimate was noted; other times this type of error was spotted because the number given matched a population estimate for a different year, often an older population estimate for Tegucigalpa given in a reference book dated 1995.) Eight responses gave a population estimate for the entire country of Honduras rather than just for its capital. Most of the correct answers did give the name of the capital Tegucigalpa as well as its population estimate for 1995.

Another issue that is often raised with accuracy of reference service is whether credit is given to the source of the information. Thirty-two (49 percent) of the direct answers to the population query were both accurate and cited a source for the answer. A number was counted as an accurate answer to this question if it matched a figure given in one of several standard reference works as a 1995 estimate of the population of Tegucigalpa.

Conclusions

The results collected in this study apply to the areas of expectations for e-mail reference practice.

Clear statements of the services’ policies are not always given, but when they are present, they are generally met or exceeded. In particular, response time is often quicker than the guidelines suggest, and nearly a third of the libraries in the study answered more queries than their pages indicated would be the case for nonaffiliates.

This study could not determine the level of service delivered to affiliated patrons, but it was clear that nonaffiliates were often not given answers to all the types of queries used in the study. When a query was not answered, the reference service provider was often acting in accord with the service’s stated policies.

E-mail reference transactions skip many of the elements of a formal reference interview, though this may change in response to more complex queries. Queries used in this study were designed not to require clarifying questions from the reference service provider.

Reference service providers frequently use the technology of digital reference to provide features not possible with face-to-face or telephone reference situations, though queries copied into response messages are a more common example of such a feature than are automated responses.

Accuracy of responses and use of direct or indirect answers were different for the various query types. The differences in type of response were expected due to the differences in type of query; the low accuracy rate on the population query was not expected.

As patrons’ use of the Internet to find answers continues to increase, libraries must offer high-quality reference services online to remain relevant as sources of information. E-mail reference services offered in conjunction with real-time reference services will need to set and meet high expectations for a quick time to response. FAQ lists and searchable databases of previously asked questions may also help cover gaps in real-time coverage, but there will always be patrons with queries that have not been asked before.

E-mail reference should be accurate, timely, and consistent with a library’s stated guidelines. The low accuracy rate for the population query indicates a need for more careful reading of queries and reference sources. Because e-mail queries are answered without the time pressures that can be present in synchronous methods of delivering reference, reference service providers have both the opportunity and the responsibility to check the accuracy of answers before sending them to patrons. Attention to accuracy is just one area that should be part of libraries’ guidelines for providing e-mail reference services. Guidelines should also address points such as how reference service providers identify themselves and whether the initial query is reprinted in the response. These and other areas are addressed by standards for digital reference service that are already available.32

Chat reference and other forms of synchronous digital reference present many of the same issues that e-mail reference does. Policies for how fully to identify reference service providers are helpful for e-mail reference, and take on even more importance when real-time virtual reference is promoted as a means of getting answers from a real person. Integrating a reference interview into the online transaction may be both more necessary and more difficult when questions are input in real time. Ensuring that answers are accurate and attributed to their sources cannot be sacrificed to the need for a quick response. When questions deal with how to search for information, and especially if real-time reference functions include simultaneous viewing of online sources with a patron, knowing whether the questioner is an affiliate is important to determine whether subscription databases are appropriate sources to recommend or demonstrate.

This study is most illustrative of the state of e-mail reference service at large academic libraries, but the results may be useful to other types of libraries with some caveats. Public libraries will have a different picture of who should be considered an affiliate. Corporate libraries will have strict limitations on whom to serve, but the expectations for speed and accuracy of responses to their affiliates likely will be very high. A special library may be willing to address queries from nearly anywhere, provided the subjects of the queries relate to that library’s specific area of focus. Whatever guidelines are followed for e-mail reference services, presenting them clearly on the e-mail reference pages, and then providing service that meets or exceeds the indicated level, remains essential.
Implications for Future Research

Given the current trends in online reference, an obvious next step would be to examine the service provided by real-time virtual reference services. Some of the issues of service quality and clearly stated policies apply equally to this evolving form of reference service. Other issues such as timeliness apply differently—response times need to be measured in minutes or seconds rather than hours or days. Another possible approach would be to survey reference service providers directly to determine libraries’ online reference policies, comparing policy to practice both on the Web and in e-mail. Analyzing reference responses for more subjective elements of service, such as the perceived tone of a message, could also be of interest; such a study might include surveying patrons for their reactions to statements such as “Hope this helps” compared to “Please let me know if this does not completely answer your question.”

References

4. Ibid., 149.
6. Ibid., 361–62.
9. Ibid., 137.