

NCknows Report
Patron Exit Survey & Follow-up Interview Report

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Executive Summary

This report is an analysis of two data collection efforts that are part of the larger evaluation of NCKnows: (1) exit surveys administered to patrons at the conclusion of chat sessions from 29 February through 30 November 2004, and (2) interviews conducted with patrons approximately two weeks following their chat sessions.

There are three evaluation questions that the exit survey and follow-up interviews were designed to answer:

1. What is the users' level of satisfaction with the reference service being provided by NCKnows?
2. What motivates users to use NCKnows?
3. How are patrons using the information provided by NCKnows?

An exit survey pops up for the patron at the conclusion of a chat session. A total of 393 patrons completed the survey. Follow-up interviews were conducted 2-3 weeks after the chat session with those patrons who were willing to be interviewed, 16 by telephone and 34 by email.

NCKnows patrons were very satisfied, both with the information provided to them and with their interaction with the librarian.

The largest demographic group of patrons was students, accounting for 47% of all users, followed by educators, accounting for 18.6% of all users.

Approximately 75% of respondents had used some other medium of reference service offered by their library. The most common reason that patrons used the NCKnows service was its convenience.

The most common motivation for a patron's asking a question of NCKnows was to answer a work- or school-related question, followed by questions from the patron's personal life, and searching for a known item.

Approximately 85% of patrons had used the information provided fully or partially by the time they were interviewed; only 15% of patrons had not used the information provided at all.

Patrons learned about NCKnows in three ways: from their local library's materials (both print and online), an online search, and a recommendation in a school setting.

The evaluation team makes a number of recommendations for ways to improve the NCKnows service. Many of these recommendations are based on patrons' responses on the exit survey and in the interviews.

Introduction

This report is an analysis of two data collection efforts: (1) exit surveys administered to patrons at the conclusion of chat sessions from 29 February through 30 November 2004, and (2) interviews conducted with patrons approximately two weeks following their chat sessions.

NCKnows <www.ncknows.org> is a collaborative state-wide chat reference service, coordinated by the State Library of North Carolina's Library Development Section <statelibrary.dcr.state.nc.us>. Libraries of all types are participating: academic, public, and government; in research universities and community colleges, urban and rural, large and small. NCKnows was launched in February 2004, and as of this writing NCKnows is in an 18-month pilot phase, which will end in June 2005.

From the outset of the NCKnows project, the evaluation was designed to take three perspectives: evaluation from the perspective of (1) NCKnows patrons, (2) the individual libraries participating in NCKnows, and (3) the entire NCKnows collaborative effort. These exit surveys and follow-up interviews allow evaluation from the point of view of the patrons: exit surveys enable the capture of measures of patron satisfaction immediately upon the completion of chat sessions, and follow-up interviews enable the capture of data about the patron's context in which their use of NCKnows is situated.

There are three evaluation questions that the exit survey and follow-up interviews were designed to answer:

1. What is the users' level of satisfaction with the reference service being provided by NCKnows?
2. What motivates users to use NCKnows?
3. How are patrons using the information provided by NCKnows?

Answers to these questions will allow the managers and librarians participating in NCKnows to continue to improve the service.

Methodology

An exit survey pops up for the patron at the conclusion of a chat session. This was set up using the functionality of the 24/7 application itself: when the patron leaves the session by clicking on the Exit button in 24/7, the exit survey pops up. Appendix A reproduces the exit survey. Unfortunately if the patron leaves the session in some other way – if they close their browser window or the browser crashes, or if technical problems cut the chat session short – the exit survey will not pop up.

The 24/7 company has their own exit survey, which is implemented for all of 24/7's customers. (The questions on 24/7's survey can be seen by logging into the 24/7 Info site <www.247ref.org/info/>, and clicking on the Survey Statistics link.) We did not use 24/7's exit survey because it was not clear that their survey questions were methodologically sound: that is, based on the findings of previous reference evaluations

and pilot tested to insure that the respondents would understand the questions. We were not able to determine these things, and so we created our own exit survey.

The exit survey created for this study did not pop up for patrons who came into the NCKnows service through the Public Library of Charlotte & Mecklenburg County (PLCMC)'s queue. Instead, at the conclusion of their chat sessions, PLCMC's patrons received 24/7's default survey. This was the case because PLCMC has a contract with 24/7 Reference, separate from the rest of NCKnows, due to the fact that PLCMC launched their chat reference service prior to NCKnows' launch (two years prior, in February 2002). To have the exit survey created for this study pop up for PLCMC's patrons would have required a separate negotiation between the evaluation team, PLCMC, and 24/7, which was unfeasible at the time that this data collection effort was launched. PLCMC is the largest contributor to NCKnows' volume of chat sessions, accounting for 43% of NCKnows' total volume (see the September stats report). Thus, a large percentage of NCKnows' patrons were not surveyed for this data collection effort. This will not be an issue in future data collection efforts, however, as PLCMC has made the decision to not renew their contract with 24/7, and instead will join the contract between NCKnows and 24/7.

The drawback of creating our own exit survey, however, is that the exit survey responses are not automatically linked to chat session transcript numbers. We were able to manually link most (70%) of the exit survey responses to chat session transcript numbers. However, in the future it will be useful to have this linking occur automatically. Recommendations to this end are presented below.

The final two questions on the exit survey ask the patron if he or she would be willing to be contacted approximately 2-3 weeks after their chat session, and ask for the patron's email address. If the patron was willing to be contacted, the researchers sent the patron an email, asking to set up a telephone interview. This email also contained the text of the interview questions, so that the patron would have advance knowledge of the questions that the researchers would ask. Appendix C reproduces the follow-up interview questions.

Results

Exit Survey

As of 30 November 2004, users have completed a total of 393 exit surveys. As mentioned above, the exit survey pops up for the patron only when the patron leaves the chat session by clicking on the Exit button in 24/7. As of 30 November 2004, a total of 7,847 chat sessions had been conducted and concluded with the COMP resolution code (indicating that the chat session was completed successfully). This is a response rate of 5%. This is a somewhat low rate. There is, however, a fundamental methodological problem faced by exit surveys that limits response rate: the patrons who submit exit surveys are self-selected. Even though the exit survey pops up at the completion of every chat session, the

patron must voluntarily fill it out and submit it. There is, of course, no way to force patrons to do this.

Additionally, after a patron has just spent time in the chat session itself (an average of 14.8 minutes – see the September stats report), spending even an extra minute or two filling out a survey is apparently too onerous for most patrons. On the exit survey consent form, we provide an incentive of two \$25 gift certificates to Amazon.com that will be given away to two randomly selected respondents at the conclusion of the data collection. This is apparently not a sufficiently attractive incentive, either because it is too far in the future for patrons to care about, or it is an insufficient sum of money, or patrons think that their odds of winning are too low, or patrons simply don't know about it because they didn't read the exit survey consent form.

It should be pointed out that exit surveys for other services do not have much better response rates: Hill, Madarash-Hill, and Bich (2003) report a 14.2% response rate, while Marsteller and Neuhaus (2001) report an approximately 20% response rate to “at least part of the survey.” Ruppel and Fagan (2002) do not report their response rate, but they do report that they received 340 exit survey responses. Ruppel and Fagan also report an average of 9.5 questions per day for the semester in which they conducted their study; for a 16-week semester (including reading and finals periods) this allows one to estimate a 32% response rate.

Note that the results presented here reflect only those NCKnows users who filled out the exit survey, *not* the total number of NCKnows users. Because the exit survey respondents were self-selected, the findings presented below cannot be generalized to the population of NC knows users. On the other hand, the comments provided by these respondents are very useful. The individual comments, when taken together, provide a perspective that provides useful information for not only evaluating the service but suggesting possible means by which the service can be improved.

Both NCKnows librarians and 24/7 staff handle chat sessions for the NCKnows service. Because of this, the exit surveys naturally include responses from patrons who chatted with both NCKnows librarians and 24/7 staff. Of all exit surveys:

- 37.2% of responses are from patrons who were handled by NCKnows librarians,
- 19.3% were handled by 24/7,
- 13.7% were handled by both, and
- 29.7% were indeterminate.

Patrons who were handled by both NCKnows and 24/7 librarians were disconnected or logged out, and then reconnected to NCKnows and were picked up by a different librarian. Those exit surveys that were indeterminate were so because, as mentioned above, we were able to manually link 70% of the exit survey responses to chat session transcript numbers. The results presented below are not broken down by NCKnows vs. 24/7 because there was no significant difference in patrons' responses between NCKnows or 24/7 librarians. This is consistent with the finding that the quality of reference service

being provided by NCKnows is high overall, as reported in the Transcript Peer Review report.

Note also for questions 1-4 on the exit survey (#1-4, below), that patrons' satisfaction on all measures is high. People tend, when reporting on their satisfaction with a service, to be generous, especially when that service is provided by another human being with whom the respondent has had some personal contact. This is a frequent explanation for why reports of patron satisfaction with reference services is so high, even when patrons report that the answer provided by the service was not complete (see, for example: Durrance, 1989, p. 35; Richardson, 2002). This is probably also the case here.

1. How satisfied were you with the completeness of the answer you received to your question?

Satisfaction	Number	Percentage (%)
Very satisfied	265	68.48
Satisfied	91	23.51
Dissatisfied	21	5.43
Very dissatisfied	10	2.58

2. How quickly did the librarian answer your question?

Speed	Number	Percentage (%)
Very quickly	258	67.72
Fairly quickly	95	24.93
Slowly	20	5.25
Very slowly	8	2.10

3. How helpful was the librarian?

Helpfulness	Number	Percentage (%)
Very helpful	310	81.15
Helpful	50	13.09
Unhelpful	13	3.40
Very unhelpful	9	2.36

4. How easy to use was the chat software?

Ease of use	Number	Percentage (%)
Very easy to use	320	82.69
Easy to use	55	14.21
Difficult to use	7	1.81
Very difficult to use	5	1.29

Question 5 is an alternative measure of satisfaction, on which NCKnows scored very high. The willingness to recommend something – a product, a service, etc. – is a high bar;

people are generally willing to complain in public but tend to be positive less often. The fact that the overwhelming majority of respondents are very likely to recommend NCKnows is a credit to the service.

5. Would you recommend this chat service to a friend?

Recommend	Number	Percentage
Very likely	337	87.53
Maybe	39	10.13
Unlikely	6	1.56
Never	3	0.78

Question 6 elicits some demographic information about the patron. Combining all of the Student categories accounts for 47.00% of all users, and combining all of the Educator categories (Teacher, Faculty, Librarian) accounts for 18.58% of all users. The Other category accounts for the greatest percentage of users, which suggests an area of improvement for the exit survey. However, the user was asked to specify a role if they responded to this question as Other, and thus some additional roles have been identified., which may be included in revisions to the exit survey. Recommendations to this end are presented below.

6. You asked this question in your role as a(n):

Role	Number	Percentage (%)
Other	110	29.65
Student: Undergraduate	86	23.18
Student: Graduate	50	13.48
Parent	29	7.82
Student: K-12	27	10.34
Librarian	20	7.66
Teacher: K-12	13	3.59
Administrator	10	2.70
Higher Ed Faculty	9	3.45
Adult Educator	8	3.07
Medical Professional	6	6.25
Teacher: Pre-school	3	0.81
Policymaker	0	0.00
Politician	0	0.00

Question 7 is a typical end-of-survey question, asking whether the patron has any additional comments about the service.

7. If you have additional comments, please tell us what we did well or what we need to improve.

Mon and Janes (2003) report a 20% “thank you rate”: they counted unsolicited “thank you” messages received in response to answers provided to email questions received by the Internet Public Library. The additional comments provided by NCknows patrons showed a 13.4% thank-you rate, counting only those comments in which the patron used the words “thank you” or “thanks.” Counting those comments in which the patron made other positive comments (such as about the speed or efficiency of the service, or the helpfulness of the librarian, or how great the service is), the additional comments show a 74.6% “positive comment rate.” Some of the more glowing of these comments include:

“wonderful idea you have here!!!!!!”

“i love it”

“I told my kids about it the first chance I got. Now we’ll have to see how often we can come up with questions we can’t answer by ourselves.”

The additional comments also show a 27.6% “negative comment rate.” Some of the more negative of these comments include:

“I felt a little rebuffed when the operator told me she had two other people she was working with. That response made it seem as if what I wanted was not important.”

“I was booted from the chat prior to closing. I am not sure if I did it or the system kick me out.”

“Maybe rather than saying: ‘Are you there?’ (I was writing down the info. so I wouldn’t lose it.) The librarian could say ‘Waiting for your response...’, or ‘Does this meet your needs?’ or ‘Do you have any other questions I can answer?’, etc.”

The percentages of positive and negative comments sums to greater than 100% because many comments were mixed. Some of these comments include:

“I found the reference librarian to be extremely knowledgeable and interested in helping me. I appreciate that very much. However, I found the chat experience rather confusing and I wasn’t clear what I should be looking at or when I should click or type something.”

“I’m glad you have this service, it will be great for NC residents. I just wanted to comment that the wait time between answers seemed a bit slow. Maybe that’s a function of the software you are using or maybe your librarian is just getting used to it. You might want to explore getting the software to operate a little faster or adding something like the librarian is typing or something like that so people know that the answer is coming.”

Two overarching themes emerged from the patrons' comments. These themes will be familiar to any virtual reference librarian:

- the patron's interaction with the librarian and the service provided
- the usability of the 24/7 reference software

Several more specific issues emerged from the patrons' comments under these overarching themes:

- the convenience of the service
- the speed and responsiveness / slowness and lack of responsiveness of the software or librarian (it is sometimes difficult to tell which)
- the helpfulness / lack of helpfulness of the librarian
- the knowledgeableness / lack of knowledgeableness of the librarian
- The usefulness / lack of usefulness of the information sources provided
- the value of such a service existing at all

The patrons' comments on the whole are concerned with satisfaction with the various aspects of the service, which is the same issue that is addressed in the closed-ended questions. This is a validation of the appropriateness of the closed-ended questions on the exit survey. The patrons' comments also suggest some possible improvements to the service. Recommendations based on patrons' comments are presented below.

The final two questions on the exit survey ask the patron if he or she would be willing to be contacted approximately 2-3 weeks after their chat session, and ask for the patron's email address. The results from these follow-up interviews are presented below.

24/7's Default Exit Survey

As mentioned above, patrons who connected to NCKnows via PLCMC's queue had 24/7's default exit survey pop up instead of the one created specifically for this study. Because this was a significant percentage of NCKnows patrons (43%), a brief analysis of the data collected by 24/7's default exit survey is presented here. However, because, as mentioned above, it was not clear that their survey questions were methodologically sound, this analysis will not be as detailed as the rest of this report. These findings are consistent with the findings from the various data collection efforts from this evaluation effort.

Between the launch of NCKnows on 16 February and the end of this data collection effort on 30 November 2004, users have completed a total of 630 of 24/7's default exit surveys. The questions and results from these questions are as follows:

1. Were you satisfied with the answer you received to your reference question?

Satisfaction	Number	Percentage (%)
Satisfied	414	65.71
Not satisfied	92	14.60
Somewhat Satisfied	112	17.78
Not Submitted	12	1.90

2. The quality of the library staff service in answering this request was?

Quality	Number	Percentage (%)
Excellent	431	68.41
Good	112	17.78
Average	0	0.00
Poor	75	11.90
Not Submitted	12	1.90

3. Is this the first time you have used this service?

First-time user	Number	Percentage (%)
Yes	401	65.65
No	216	34.29
Not Submitted	13	2.06

4. Will you use this service again?

Use again	Number	Percentage (%)
Very likely	488	77.46
Maybe	103	16.35
Never	30	4.76
Not Submitted	9	1.43

5. The ease of using this online reference is?

Ease of use	Number	Percentage (%)
Very Easy	451	71.59
Easy	112	17.78
Difficult	26	4.13
Very Difficult	29	4.60
Not Submitted	12	1.90

6. Which best describes you?

Demographic	Number	Percentage (%)
State Resident	255	40.48
Student (College)	68	10.79
Student (Kindergarten-12th)	187	29.68
Other	77	12.22
Not Submitted	43	6.83

7. How did you find out about this service?

Demographic	Number	Percentage (%)
Library Website	418	66.35
Librarian PL	47	7.46
Librarian AL	10	1.59
Newspaper/Radio/TV/Billboard	14	2.22
School Teacher/School Librarian	38	6.03
Friend/Relative	54	8.57
Surfing the net	57	9.05
Bookmark/Flyer	8	1.27
Other	37	5.87

Follow-up Interviews

Again, note that the results presented above reflect only those NCKnows users who completed the exit survey, *not* the total number of NCKnows users. The results of the follow-up interviews are further limited in that the study team conducted interviews only with that subset of exit survey respondents who agreed to be contacted. Despite this, there was no other way to contact patrons for follow up interviews, without violating their privacy.

If the patron was willing to be contacted, the researchers sent the patron an email, asking to schedule a telephone interview. Appendix B reproduces this email. This email also contained the text of the interview questions, so that the patron would have advance knowledge of the questions that the researchers would ask. 208 patrons indicated on the exit survey a willingness to be contacted. Fifty patrons responded to the email. The evaluation team conducted telephone interviews with sixteen patrons (32%), and thirty-four patrons (68%) responded to the follow-up survey questions by email.

Use of Other Reference Services

Use of other reference services

The first question on the follow-up interview concerned whether the patron had ever used any of the other reference services offered by their library.

A total of 40 patrons replied to this question, by both telephone and email. Of these 40 patrons:

- 45% (18) had used their library's desk reference service,
- 15% (6) had used the email reference service,
- 35% (14) had used the telephone reference service,
- 22.5% (9) had never used any other reference services,

- 7.5% (3) didn't answer the question directly (see examples below), and
- 5% (2) were librarians or library staff.

Note that these numbers sum to greater than 100%. This is because some patrons had used more than one of the other reference services offered by their library.

Three patrons who replied to the follow-up interview questions by email didn't answer the question directly in that they didn't address whether or not they had used any of their library's reference services. These patrons did, however, specify that they used other services offered by the library. Some examples of these responses are:

“I use the library to retrieve books that I would read to children in my classroom.”

“Occasionally use library internet access computers. Occasionally use genealogy section services.”

From just these two quotes, it is clear that some NCKnows users are patrons who use their local library, but nearly a quarter of all patrons had never used any other reference service. Thus, it is clear that NCKnows is reaching both existing and new library patrons.

Motivation for use of NCKnows

This question had a follow-up question that concerned the patron's motivation for using NCKnows rather than any of the other available reference services.

A total of 40 patrons also replied to this question. Nine overarching categories of motivation emerged from patrons' responses:

- Convenience (16, 40%)
- Other means of seeking information are not helpful (8, 20%)
- Curiosity (6, 15%)
- Serendipity (6, 15%)
- Recommended by others (3, 7.5%)
- Personal characteristics (3, 7.5%)
- Other reference services were not available (1, 2.5%)
- Patron does not remember the reason (1, 2.5%)

Many of these categories overlap: one of the quotes below indicates that the patron unable to find information via other means, came across NCKnows serendipitously, and then decided to use it out of curiosity. Another quote indicates that NCKnows was recommended to the patron by another person who apparently came across the service serendipitously.

Convenience. Patrons used NCKnows because chat reference service is fast, efficient, and questions may be answered immediately; it is easy to use and available 24/7; patrons

could connect to it from any computer with internet access, unrestricted by physical location; and it is less hassle than other forms of reference service.

Some examples of responses along these lines are:

“I believed it would be faster and just as efficient.”

“immediate response! i was in a hurry”

“I ask questions, not expecting an answer very early in the morning.”

“I was already on the computer and it was a very convenient tool where I was able to access my own ‘personal librarian’ to help find what I was looking for without the distraction of calling and waiting, or having to stop what I was doing, drive to the library, or wait for someone at the desk to help me, or wait until the desire to search out a matter grew cold, to get a return email.”

“When I was about to call the library, I saw the website information of the NCKnows service beside the phone number. Then I went to the internet and used the service rather than calling the library. I’m in the retail business and my customer may call in any minute so that I don’t want my telephone line occupied.”

Other means of seeking information are not helpful. Before trying NCKnows, patrons had already used other means to search for information but didn’t get their questions answered by those means. They then used NCKnows to obtain information. Some examples of these responses are:

“I used other services but didn’t get my question answered. I was looking for something very specific. I can’t find the info online myself, the reference librarian couldn’t either. Then I went online and found the service and I’d like to try it. I’ve been looking for the answer for three weeks.”

[Note: The patron was provided with some resources during the chat session, and some more in a follow-up email. Unfortunately, because the final contact with the patron was by email and there is no record of a reply from the patron, it is impossible to know if these resources answered the patron’s question.]

“I used the email service for the same question but didn’t get a response. Then I went to my library’s website and saw the ad for NCKnows and I’d like to give it a shot.”

“Had used other services but still did not find what I was looking for.”

“I had no luck finding it in encyclopedia using a number of incorrect spellings.”

Curiosity. Patrons were curious about the service and wanted to try it out. Some examples of these responses are:

“Because it was available as a demonstration and I wanted to find out about it.”

“Curious about how chat works.”

“I clicked on the link from our library’s main page, and discovered that since it was live, I would give it a try.”

Serendipity. Patrons came across the service on the internet and thought it might be useful in answering their questions, and then gave it a try. Some examples of these responses are:

“Because I was looking for information online and your service came up.”

“It was the first one I came across and thought of.”

“I was in the area I was not familiar with. When I brought it up on the internet, it automatically went to your service. And your service then took care of all my problems.”

“I didn’t get any useful information from the foreign literature room and then I turned to the web for help. I used google and ran a bunch of searches for the topic. The website of UNC library just came up as one of the search results. Then I clicked on it and stumbled across the chat service. I thought librarians in the English-speaking country might be experts in searching this kind of information so that I popped in my question.”

Recommended by others. NCKnows was recommended to the patron by another person or reference service. The patron chose to use NCKnows because of this recommendation. Some examples of these responses are:

“My librarian recommended it to me. It would be a good way to get information from the internet that the local library doesn’t have in hard copy.”

“I used this service because my husband saw the advertisement on a web sight [sic] and he thought it might help me.”

“Because in our orientation we were told this is a terrific service.”

Personal characteristics. Patrons chose to use NCknows due to some personal characteristic(s). Some examples of these responses are:

“I am shy and can type well.”

“Besides, I am very visual, so the service really appealed to me as a way to ‘see’ the results quickly.”

“It’s more personal, and as foreigner I then got answer if the person understands what I’ve written right away. If there are problems, I can then correct them right there.”

Other reference services were not available. One patron used NCknows because other reference services were not available at that moment. This responses was:

“The children’s librarian was not on the desk that evening, and I was using a computer so I thought I would try out this service.”

Patron does not remember the reason that he or she chose to use NCknows rather than any other reference service.

Motivation for the Question

The second question on the follow-up interview concerned what motivated the patron to ask the question.

A total of 44 patrons replied to this question, by both telephone and email. Four categories of motivation emerged from patrons’ responses:

- To answer a work-related question (48%),
- To answer a question that arose from the patron’s personal life (27%),
- To conduct a known-item search (23%), or
- To answer a question about the library itself (2%).

It is worth noting that a small but significant percentage of NCknows patrons are themselves librarians (7.7%, according to the exit survey) and MLS students. The follow-up interviews identified 3 patrons ((6% of the total number interviewed) who used the service simply to test it out: a student in an MLS program, a librarian, and a library director.

Work-related questions are those that concern activities, projects or problems in which the patron is engaged. These questions are split fifty/fifty between business-related and school-related questions. Patrons who asked business-related questions were businesspeople who asked questions related to a current project. An example of this sort of a question is:

“I’m a small business owner and I need the information to negotiate with other type of business people to do a joint venture.”

Patrons who asked school-related questions were split between students and teachers. Students asked questions related to a current course or assignment, for example:

“It’s for my master paper.”

“I did this for a class I am in [name of institution] internet class.”

“I was doing a research paper on homeschooling. Want some hard stats numbers from the website about how homeschool students do academically”

“An interest in chat reference in general and the fact that I was doing a paper on staffing chat services in academic libraries this semester.”

Teachers or professors also asked questions related to courses and assignments, but for planning purposes; for example:

“I am a media coordinator, and I need a work of historical fiction to use with my fifth graders as part of a genre study.”

Personal questions are those that concern the patron’s personal interests. Some of these questions are motivated by a patron’s interest in a particular topic, such as genealogy. An example of this sort of a question is:

“Wanted to find passenger ships of 1800 that had been lost at sea, trying to find one that may have been carrying wife and children of my great grandfather.”

“I believe my great great great grandfather was from the Lumbee tribe. BTW, I am also a library student. I am writing a paper about virtual reference. That was the real reason I used the service. Although, I am interested in the Lumbee tribe because my family is of Lumbee descent.”

6% (n=17) of questions are motivated by simple curiosity about something unrelated to personal concerns. An example of this sort of a question is:

“Every time I come across those words [Filipino and Philippine] in a newspaper, it makes me wonder [why one has one P and the other has three].”

6% (n=17) of questions are motivated by patrons’ interest in finding information related to their personal experiences.

“I went to a wedding in a town in NC. I got reminiscent a little bit. It’s not too far from Winston Salem where I went to high school. I tried to remember all the people over there. I did not remember a single name or a single face that I went to school with 64 years ago. The feeling that you have that you cannot remember that part of your life made me ask the question.”

6% (n=17) of questions are motivated by patrons’ personal hobbies.

“Just personal reading for enjoyment”

18% (n=17) of questions are motivated by patrons’ personal interest or responsibility in a particular activity (e.g. social activity)

“Newspaper contest”

“I’m the recruiter for the Crop Walk at my church. I had attended a workshop where I had heard statistics of how many people die of starvation in the world but had not heard the names of the countries where these deaths are occurring. I thought it would be good to know as I encourage others here to help fight hunger.”

18% (n=17) of questions are motivated by patrons’ personal pursuit in vocational or academic growth. (e.g. to perform better in the job, to enroll in school, etc)

“doing research on school that meets the criteria that I’m looking for. I want to go back to school.”

“I am at a new job and am trying to do some research on the field.”

“The motivation was due to me beginning my Ph.D. program for counselor education. I had been a school counselor for 2 years and felt detached from my field, as far as updated matters.”

24% (n=17) of patrons just indicate the questions they asked came out of personal interest without specifying what kind of personal interest they fell into.

Known-item questions are those in which the patron is seeking a specific information source, but is unable to locate it for whatever reason. In these cases, the patron sometimes (7%, n=43) knows the source by name, as with the name of a book; and sometimes the patron knows by name some piece of content contained within a source, as with the name of a poem or short story, but not the name of a source that contains that content. Some examples of this sort of question are:

“I was looking for an audio book and couldn’t understand the new system.”

“our library brought Billy Collins to read poetry. I liked one of the poems he read, but could not find it on any poetry databases.”

Questions about the library concerned library policy or services available online. Only one patron mentioned this as their motivation for using NCKnows, but the evaluation team predicts that with a larger set of respondents this motivation would come up again. This question was:

“I thought it’s inconvenient for me to go to the library each time for a request for an interlibrary loan. It would be nice to do it over the internet.”

Use of the Information Provided

The third question on the follow-up interview concerned whether and how the patron had used the information provided by the librarian in response to the question.

A total of 41 patrons replied to this question, by both telephone and email. Three categories of use emerged from patrons’ responses:

- Use: by the time they were interviewed, the patron had used the information provided and had found it useful (61%),
- Partial use: the patron had used the information provided and had found it partially useful, or the patron had partially used the information provided (24%), and
- No use: the patron had not used the information provided at all (15%).

Patrons who have used the information provided stated that the information helped them in accomplishing one of three types of tasks:

1. Work-related uses: the information provided filled in a gap in the patron’s knowledge that allowed her to accomplish a business-related or a school-related task (69% (n=13) are business related task accomplishments, 31% (n=13) are school related task accomplishments),
2. Personal uses: the information provided filled in a gap in the patron’s knowledge that allowed her to achieve a personal goals (40% (n=25)), and
3. Found a known item: the information provided allowed the patron to find the specific information source or piece of information for which she was searching (8% (n=25)).

These three uses are, as one might expect, the flip-side of the three motivations for the patron asking a question. We suggest that this is the ideal situation, that the information used actually fulfills the information needs of the patrons. Not all patrons, however, had had the opportunity or motivation to fully use the information provided.

Patrons who have partially used the information provided stated that there were three reasons why this was so:

1. The information provided turned out to not be useful: the patron had gone to the information source provided and found this source to be unhelpful. (1)

“NCKnows told me the person to call at my local library who said they can’t provide that information. I was going to use it in my graduate school thesis on feminism in the JK Rowling series. Alas...”

2. The information provided was useful but incomplete: the patron’s question was not fully answered, but relevant information sources or useful leads were provided, so that the user believes a complete answer might ultimately result. (4)
Some comments from patrons regarding this are as follows:

“I got a 50% answer from the NCKnows, so I have to address what I got to the Danish National Archives for further research. But, I did get new information from NCKnows.”

“I am still working on this matter but was provided good leads from your service.”

3. The information provided was only partially used by the patron: the patron had not yet found the time to fully use the information provided, but what had already been used was useful. (1)

Patrons who have not used the information provided stated that there were four reasons why not:

1. Too soon: The patron hadn’t yet had a chance to use the information provided, because they hadn’t yet gotten to the stage in their work where they needed it.
Some comments from patrons regarding this are as follows:

“I plan to call the number I got from the service in time.”

“...actually I’m not sure exactly how I can use the information.”

2. Too late: The information was provided too late, after the patron no longer needed it. This was an issue more for information provided in email follow-ups, than for information provided within chat sessions.
3. Wrong or incomplete answer: The information provided didn’t fulfill the patron’s information need or the patron’s question was not answered. The information provided was either entirely incorrect, or insufficient in breadth or depth to satisfy the patron. There were two reasons given by patrons for why this was the case:
 - a. Because of limitations in access to fee-based services (such as when the patron is outside of North Carolina), the librarian only provided resources on the free web, which restricted the breadth or depth of information that

the librarian was able to provide (this is actually a subtype of the previous case),

- b. The patron's question was so difficult or specific that the librarian was unable to find a complete answer or perhaps any answer at all.

"None of the websites sent to me by the librarian turned out anything. I wrote back to the librarian to say I was still having difficulty and if they had any more ideas and I'd be delighted to hear from them. No matter how hard I tried on this problem, I haven't found any source of such information... It was apparent in the chat session that the question wasn't easy to answer. I wrote back to say thank you and if you had any more ideas and I'd be happy to hear from that."

4. No explanation: The patron didn't explain why the information was not used.

Discovery of NCknows

The fourth question on the follow-up interview concerned how the patron had learned about the service.

A total of 40 patrons replied to this question, by both telephone and email. Three routes by which patrons learned about the service emerged from responses:

1. Local library: Patrons came across the service in materials prepared by their local library, including a library newsletter, flyer, website, etc. Librarians also recommended the service. (27)

"I saw the link on our library's home page."

"In our local library's newsletter."

"Local librarian recommended it to me."

2. Online searching: Patrons came across the service either by searching in a search engine for some topic and retrieving a link to the service, or by surfing a site that links to the service. These patrons did not know about the service until they came across it online. (8)

"I came across it when I tried to Google for information about Robert Lowell."

3. School system: The service was recommended to the patron in a school setting: a college orientation, in class, a link from a school's website, etc. (3)

"I take classes through [name of institution]. My teacher had told me about it before it became operational."

“The school web site.”

“College orientation.”

Improvements

The final question on the follow-up interview elicited the patron’s suggestions and recommendations for improvements to the NCKnows service.

A total of 43 patrons replied to this question. The majority of these patrons (77%) did not have any suggestions for improvements, because they were satisfied with the service, or because they could not think of any suggestions at the time of the interview, or some other reason. Seven categories of recommendations emerged from patrons’ responses. Some of these suggestions may not be feasible, but are presented here so that everyone involved in NCKnows is aware of issues that may be raised in the future by patrons.

- More promotion
- Indicate at the beginning of the chat session that an email transcript will be sent to the patron at the conclusion of the session
- Ask for more detailed information in the pre-chat form
- Have local librarians answer questions related to local resources and services
- Faster connection / Shorter response time
- More full text resources available online

More promotion. Patrons suggested that the service should be promoted or marketed more extensively. An example of these responses is:

“Figure out a way to advertise it better. Community college as a whole ask students to register their email address so that the students can receive an email saying that here’s the service that you can use, you can sit on your computer at home and chat with a librarian and get some help on your research paper. It needs to be promoted better.”

Indicate at the beginning of the chat session that an email transcript will be sent to the patron at the conclusion of the session. Patrons suggested that there should be a notice on the NCKnows site to make the patron aware that the chat session transcript will be emailed to the patron at the conclusion of the session. An example of these responses is:

“Please make it clearer at the outset that the answer to the question will be sent again later by email, so the person does not have to scribble down the answer by hand.”

Asking for more detailed information in the pre-chat form. Patrons suggested that the patron should be asked for more information on the question submission webform. An example of these responses is:

“I do think your pre-chat form could be more detailed. That way, you don’t have to ask as many reference interview-type questions. Also, you should have an area where the patron can enter what information they have found so far and from where.”

Have local librarians answer questions related to local resources and services.

Patrons suggested that for questions related to local issues, librarians in the appropriate town or county should be available to provide an answer. An example of these responses is:

“it would be nice to request someone from your own local library system rather than just someone in the entire North Carolina system. The only problem I saw is not necessarily getting in contact with someone local. Other than that I’m pretty satisfied with it.”

Faster connection / Shorter response time. Patrons suggested that NCknows should be faster, either because the connection or the librarian was slow. Some examples of these responses are:

“I don’t know if this is a function of the software used or something else but it seemed slow. [Name of institution]’s undergrad library’s AIM chat seems to work much faster.”

“There seemed to be a significant lag time from when I asked a question to a response. Long enough that I went back to the web to do some more searches and keep checking on a response.”

“I wasn’t sure how long to wait for each response, since it was the first time I had used the service. Also I wasn’t sure how I was supposed to ‘end’ the chat and I think I signed off before I should have.”

More full text resources available online. Patrons wanted access to the full text of information resources online. Some examples of these responses are:

“I’d like to be able to view records online as opposed to visiting a library to do so.”

“I would like to have the privilege to search all the Genealogy records online.”

Recommendations

Many of these recommendations are based on patrons’ responses on the exit survey and in the interviews, and some are the evaluation team’s suggestions based on the patrons’ responses and other findings from this data collection. Some of these recommendations overlap and complement recommendations presented in previous reports.

Recommendation: Recruit more libraries to join NCKnows. This will allow:

- Local librarians to be available (via email, if not via chat) to answer questions related to local resources and services,
- An increase in the total knowledge and expertise available throughout the NCKnows network.

Recommendation: Increase marketing and PR campaigns.

Recommendation: Publicize NCKnows in contexts in which users are likely to have a need for the service. For example:

- Grade schools, colleges, and universities
- Businesses and other corporate settings
- Social organizations

Recommendation: Publicize NCKnows to influential “recommenders”: librarians, K-12 teachers, college and university faculty. This will create a word-of-mouth marketing campaign, in addition to any other marketing efforts that may be launched.

Recommendation: Encourage multiple libraries and schools to create links to NCKnows from their websites, even those libraries and schools that are not participating in the service.

Recommendation: Write some text to put on the ncknows.org main page that indicates that an email transcript of the chat session will be sent to the patron at the conclusion of the session.

Recommendation: Request that 24/7 Reference implement functionality to allow institutional users to customize the default exit survey. This will allow:

1. NCKnows (and other institutional users) to create its own methodologically sound exit survey and to modify that exit survey as necessary in the future, and
2. The exit survey responses to be automatically linked to chat session transcript numbers.

Recommendation: Add the following categories to the exit survey for the patron’s role in asking the question:

- Genealogist
- Retired
- Student: Masters
- Student: PhD
- Student: Middle school
- Student: High school

Recommendation: Provide access to NC LIVE resources to all users, whether or not the user is an NC resident. This would allow librarians to provide high quality resources to all users. This recommendation may require a renegotiation of licenses with some of the NC LIVE database vendors, which could make it difficult to implement. In arguing for this renegotiation, however, the point should be made that it would add minimal additional use to the database, since:

- 75.3% of all NCKnows users are identifiably from within North Carolina, and
- 6.4% of all NCKnows users are identifiably from outside of North Carolina.

(See the September stats report for discussion of these points.)

Furthermore, a user from outside of North Carolina could walk into a library in North Carolina and would have access to NC LIVE; from the point of view of the service supporting a secondary patron community, these two situations are similar or identical.

Conclusion

Overall, the findings from these data collection efforts suggest that users of the NCKnows service were very satisfied, both with the information provided to them and with their interaction with the librarian. The findings also suggest that a broad range of individuals participated in the surveys and interviews, yet they generally had positive comments to make about NCKnows. In addition, the motivation and use of the service is multifaceted – indeed, as are traditional reference services. The comments also reflected a number of useful suggestions and recommendations to improve NCKnows that are worthy of further consideration. Finally, however, we caution readers that while these findings are very useful, they cannot be generalized to all users of the service.

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Appendix A: Exit Survey

You are invited to participate in a study of *NCKnows*, the [State Library of North Carolina](#)'s Statewide Virtual Reference Service.

The purpose of this study is to determine if a statewide, chat-based virtual reference service is an effective way to meet the information needs of North Carolinians. The findings of this study will help to shape the virtual reference service, so that it can be offered in the most efficient and convenient way possible.

[Please click here](#) for more information on how we will protect your privacy.

I have read the information in this consent statement, and I agree to be in the study. Clicking the Submit Form button at the end of this survey constitutes consent to participate in this study.

<p>1. How satisfied were you with the completeness of the answer you received to your question?</p>	<p>Very satisfied Satisfied Dissatisfied Very dissatisfied</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p> <p>Additional comments:</p> <div data-bbox="776 1037 1334 1134"><input type="text"/></div>
<p>2. How quickly did the librarian answer your question?</p>	<p>Very quickly Fairly quickly Slowly Very slowly</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p> <p>Additional comments:</p> <div data-bbox="776 1394 1334 1491"><input type="text"/></div>
<p>3. How helpful was the librarian?</p>	<p>Very helpful Fairly helpful Unhelpful Very unhelpful</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p> <p>Additional comments:</p> <div data-bbox="776 1751 1334 1848"><input type="text"/></div>

<p>4. How easy to use was the chat software?</p>	<p>Very easy to use Easy to use Difficult to use Very difficult to use</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p> <p>Additional comments:</p> <div style="border: 1px solid #ccc; padding: 5px; min-height: 30px;"> ▲ ▼ ◀ ▶ </div>
<p>5. You asked this question in your role as a(n):</p>	<p>Select a role ▼*</p> <p>Other: <input style="width: 150px;" type="text"/></p>
<p>6. Would you recommend this chat service to a friend?</p>	<p>Very likely Maybe Unlikely Never</p> <p><input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/></p>
<p>7. If you have additional comments, please tell us what we did well or what we need to improve:</p>	<div style="border: 1px solid #ccc; padding: 5px; min-height: 30px;"> ▲ ▼ ◀ ▶ </div>
<p>8. We are conducting a study of the effectiveness of this chat service over time. Would you be willing to be contacted by email at a future date (probably about 2-3 weeks from now) to answer a few short questions about how you used the information provided to you today, and how useful it was to you?</p>	<p>Yes No</p> <p><input type="radio"/> <input type="radio"/></p>
<p>9. Email Address:</p>	<input style="width: 150px;" type="text"/>

Thank you for participating in this study of NCKnows! Your responses are very important and will help to shape the future of the chat service.

Clear Form	Submit Form
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* The options for the patron's role in question 5 appear in a drop-down list. Since the items in this list are not visible in this reproduction of the exit survey, they are listed here:

- Administrator
- Librarian
- Medical Professional
- Parent
- Policymaker
- Politician
- Student: K-12
- Student: Undergraduate
- Student: Graduate
- Teacher: Pre-school
- Teacher: K-12
- Higher Ed Faculty
- Adult Educator
- Other

Appendix B: Follow-up Interview Email Solicitation

Subject: Would you please have a telephone interview with us on a library reference service you used?

Hello –

You used the NCKnows chat reference service a while ago, and filled out a survey afterwards. On that survey you indicated that you were willing to be contacted by us, to answer a few short questions about how you used the information provided to you by NCKnows, and how useful it was to you.

We would like to ask you these questions over the telephone, since we believe that this will take up less of your time than asking you to write out answers to a survey. If you are willing to answer these questions on the phone, please reply to this email and let us know one or two times that would be convenient for you. We will call you at that time, and so absorb any distance charges. We will be happy to work around your schedule on this.

If you do not want to answer questions on the phone, please consider answering them by email. The questions that we would ask you on the phone are below. Just reply to this email and include your answers.

Thank you very much, and we appreciate your feedback on the NCKnows service! Your assistance is valuable and will help to shape the future of the service.

Questions:

1. As best as you remember it, please describe the question that you asked the NCKnows chat service.
2. Have you ever used any of your library's other reference services? (for example, email, telephone, or desk) Which?
 - 2a. Why did you use the chat service to get this question answered rather than any of these other services?
3. Can you tell me about what motivated the question that you asked the NCKnows chat service? (School, work, home, personal, etc.)
4. Have you had a chance to use the information that NCKnows provided to you? Can you tell me about how you've used that information?
5. How did you find out about the NCKnows chat service?
6. How might your experience in using the NCKnows chat reference service be improved?

[Signature block]

Appendix C: Follow-up Interview Questions

1. Have you ever used any of your library's other reference services? (for example, email, telephone, or desk) Which?
 - Desk
 - Telephone
 - Email
 - Other
 - a. Why did you use the chat service to get this question answered rather than any of these other services?
 - Speed
 - Convenience
 - Other
2. Can you tell me about what motivated the question that you asked the NCKnows chat service? (School, work, home, personal, etc.)
3. Have you had a chance to use the information that NCKnows provided to you? Can you tell me about how you've used that information?

Used the info:

Yes No

How:

 School:

 Work:

 Personal:
4. How did you find out about the NCKnows chat service?
5. How might your experience in using the NCKnows chat reference service be improved?