

**IMLS Final Performance Report
June 28, 2008**

Appendices

Appendix A: Project Timeline

Timeline of Data Collection Phases and Methods of Analysis for Seeking Synchronicity Grant 6/19/08

Each phase informs subsequent and/or overlapping phases

ID	Task Name	Start	Finish	2005	2006												2007												2008	
				Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
1	Phase 1 Focus Group Interviews with librarians, users, and non-users Qualitative – Grounded Theme Analysis Quantitative – Descriptive stats on participants	11/14/2005	7/11/2006	[Blue bar from Dec 2005 to Jul 2006]																										
2	Phase 2 Transcript Analysis Qual – Category Scheme Query Clarification Accuracy Geographical Locale Subject Type of Question User’s Age/Generation Quant - Session Time Wait time	3/1/2006	11/30/2007	[Blue bar from Mar 2006 to Nov 2007]																										
3	Phase 3 Online Surveys with librarians, users, and non-users Qual – Critical Incident Technique & Grounded Theme Analyses Quant – Descriptive Stats on Demographics & Stats on quant questions (Likert scale, etc.)	12/8/2006	3/7/2008													[Blue bar from Dec 2006 to Mar 2008]														
4	Phase 4 Telephone Interviews with librarians, users, and non-users Qual – Critical Incident Technique & Grounded Theme Analyses	5/21/2007	3/7/2008													[Blue bar from May 2007 to Mar 2008]														

Appendix B: Summary of Participant Demographics

LIBRARIAN FOCUS GROUPS

21 VRS providers participated in focus groups between 11/13/2005 and 1/20/2006.

67% are female, and 95% Caucasian (5% African-American).

LIBRARIAN ONLINE SURVEYS

175 VRS providers completed online surveys between 12/08/2006 and 02/04/2007.

Most (96%) work in a library: 62% of those are in academic libraries, 32% in public libraries, 4% in special libraries, and 1% in a library consortium.

55% report working in an urban area, 30% suburban, and 15% rural.

76% of respondents are female, and 92% are Caucasian.

The ages of respondents cover a good spread: 21-30 20%; 31-40 22%; 41-50 29%; 51-60 24%; 61+ 6%.

Most reported either 1-3 years experience providing chat reference (55%) or 4-8 years experience (33%); 90% hold an MLS, MLIS, or other related degree, and 95% have taken at least one formal course in library reference.

LIBRARIAN TELEPHONE INTERVIEWS

100 VRS providers participated in telephone interviews between 5/21/2007 and 7/03/2007.

Most (98%) work in a library: 62% of those are in academic libraries, 31% in public libraries, 2% in library consortia, 1% special libraries, and 1% corporate.

56% report working in an urban area, 28% suburban, and 14% rural.

71% of interviewees are female, and 84% are Caucasian (8% African American, 3% Hispanic/Latino, 1% Asian or Pacific Islander).

The ages are relatively well-distributed: 21-30 16%; 31-40 27%; 41-50 28%; 51-60 24%; 61+ 3%.

Most reported either 1-3 years experience providing chat reference (50%) or 4-8 years experience (35%); 91% hold an MLS, MLIS or other related degree, and 96% have taken at least one formal course in library reference.

NON-USER FOCUS GROUPS

40 Non-users of VRS participated in focus group interviews between 1/19/2005 and 5/15/2006.

58% are female, and 48% Caucasian, 35% African-American, 9% Hispanic, 3% Asian.

NON-USER ONLINE SURVEYS

184 Non-users of VRS completed online surveys between 06/27/07 and 08/11/2007

Most had never used the telephone (72% no) or email (81% no) for a reference question. When identifying the type of library they used most often for in-person visits, 59% visit a public library, 24% a school library, and 17% an academic library; 58% report the library's location as a suburban area, 36% urban, and 5% rural.

68% of the respondents are female, 72% are Caucasian; other ethnicities reported include Asian or Pacific Islander (16%), African American (5%), Hispanic/Latino (2%), and Other (4%).

The ages of respondents cover a good spread: 12-18 33%; 19-28 34%; 29+ 33%.

The reported levels of education are: to 12th grade 36%; some college or college degree 40%; some level of graduate work 24%.

NON-USER TELEPHONE INTERVIEWS

107 Non-users of VRS participated in telephone interviews between 9/10/2007 and 3/07/2008.

Most had never used the telephone (76% no), email (74% no), or IM (94% no) for a reference question.

When identifying the type of library they used most often for in-person visits, 54% visit a public library, 25% a school library, and 19% an academic library; 55% report the library's location as Suburban, 37% Urban, and 7% Rural.

66% of the interviewees are female, 70% are Caucasian; other ethnicities reported include African American (12%), Asian or Pacific Islander (9%), Hispanic/Latino (4%), and Other (1%).

The ages are reasonably well-distributed: 12-18 (21%); 19-28 (48%); 29+ (29%).

The reported levels of education are: to 12th grade 21%; some college or college degree 54%; some level of graduate work 23%.

USER FOCUS GROUPS

22 VRS users participated in focus group interviews between 6/05/2006 and 7/11/2006.

All were adult college students; 41% female, 59% male; 68% Caucasian, 18% Asian, 9% African-American, 5% Hispanic.

USER ONLINE SURVEYS

137 VRS Users completed online surveys between 7/25/2007 and 03/01/2008.

A majority were relatively infrequent in their experience of VRS (57% 2-3 times, 22% 4-6 times, 21% routine use at least monthly).

Many did have experience with using email (64%), the telephone (48%), or IM (37%) to ask reference questions.

When identifying the type of library they used most often for in-person visits, 67% visit a public library, 20% an academic library, 11% a school library, and 2% a special library; 63% report that library's location as a suburban area, 28% urban, and 10% rural.

62% of the respondents are female, 78% are Caucasian; other ethnicities reported include Asian or Pacific Islander (8%), African American (8%), Hispanic/Latino (2%), and Other (4%).

The ages of respondents are somewhat spread out: 12-18 19%; 19-28 17%; 29+ 64%.

Despite the numerical disparities, age was the single demographic category for which significant differences in response occurred.

The respondents tended to have higher degrees of education: to 12th grade 20%; some college or college degree 21%; some level of graduate work 51%.

USER TELEPHONE INTERVIEWS

76 VRS Users participated in telephone interviews between 2/05/2008 and 3/06/2008.

A majority were relatively infrequent in their experience of VRS (57% 2-3 times, 28% 4-6 times, 16% routine use at least monthly).

Many did have experience using email (71%), the telephone (59%), or IM (28%) to ask a reference question.

When identifying the type of library they used most often for in-person visits, 76% visit a public library, 13% an academic library, and 8% a school library; 63% report the library's location as Suburban, 33% Urban, and 4% Rural.

74% of interviewees are female, 80% are Caucasian; other ethnicities reported include African American (7%), Asian or Pacific Islander (4%), Native American (1%), and Other (8%).

The ages are dominated by older adults: 12-18 9%; 19-28 18%; 29+ 71%.

The interviewees thus tended to have higher degrees of education: to 12th grade 13%; some college or college degree 34%; some level of graduate work 53%.

Appendix C: Recruitment Documents and Consent Forms

Recruitment Letter for VRS Librarian Telephone Interview

Dear Virtual Reference Librarian:

Greetings! We are looking for 100 virtual reference librarians interested in taking part in an important telephone survey of live chat virtual reference services (aka digital reference). We are willing to pay you for your time.

If you have experience as a provider of live chat reference services, we hope you will be interested in sharing your opinions and insights for our grant-funded research project titled, "Seeking Synchronicity: Evaluating Virtual Reference Services from User, Non-User, and Librarian Perspectives." The telephone survey will take approximately 30 minutes and participants will be paid \$30. All responses will be kept strictly confidential. Please reply to the following email address if you are willing to participate in the telephone survey, or if you have any questions: vrsgrant@rci.rutgers.edu

More instructions about this will follow to confirm your participation. If you have participated in focus groups or the online survey for this study, you are still eligible to participate in the telephone survey.

This project will evaluate the sustainability and relevance of library virtual reference services. This study is funded by a US federal grant from the Institute of Museum and Library Services, Rutgers University, and OCLC Online Computer Library Center, Inc. The principal investigators of the project are Marie L. Radford (Associate Professor, Rutgers University) and Lynn Silipigni Connaway (Consulting Research Scientist III, OCLC).

Thank you for your interest in the study.

Marie L. Radford, Ph.D. Rutgers University

Lynn Silipigni Connaway, Ph.D. OCLC Online Computer Library Center, Inc.

More information can be obtained at the project website:

<http://www.oclc.org/research/projects/synchronicity/>

Consent Form for VRS Online Survey

Dear Online Survey Participants:

Thank you so much for agreeing to participate in our research project, "Seeking Synchronicity: Evaluating Virtual Reference Services from User, Non User, and Librarian Perspectives."

Before you complete the survey you must sign and date the consent form that is attached to this email. If you have difficulties downloading the attachment, please reply to this email and provide a fax number.

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

Once you have signed the consent form, you will need to fax it to (732)932-6916 or mail it to SCILS, ATTN: Jocelyn DeAngelis, Rutgers University, 4 Huntington Street, New Brunswick, NJ 08901. If you have any questions about the consent form, you may contact us at: vrsgrant@rci.rutgers.edu

When your signed consent form has been received, you will be sent instructions on how to complete the survey. Once again, thank you for your participation!

Marie L. Radford, Ph.D. Rutgers University

Lynn Silipigni Connaway, Ph.D. OCLC Online Computer Library Center, Inc.

Librarian Online Survey Participation Call

Dear Virtual Reference Librarian:

Greetings! We are looking for 100 virtual reference librarians interested in taking part in an important online study of live chat virtual reference services (aka digital reference). We are willing to pay you for your time.

If you have experience as a provider of live chat reference services, we hope you will be interested in sharing your opinions and insights for our grant-funded research project titled, "Seeking Synchronicity: Evaluating Virtual Reference Services from User, Non-User, and Librarian Perspectives." The online survey will take approximately 45 minutes and participants will be paid \$25. All responses will be kept strictly confidential.

We anticipate electronic distribution of the survey between October 20 and October 30, 2006. Prior to taking the online survey, we will need a signed consent form. When you respond to this email stating that you are willing to participate, we will send you a one page consent form for you to download, sign, and fax back to us. More instructions about this will follow to confirm your participation.

If you have participated in focus groups for this study, you are eligible (and encouraged) to participate in the online survey.

This project will evaluate the sustainability and relevance of library virtual reference services. This study is funded by a US federal grant from the Institute of Museum and Library Services, Rutgers University, and OCLC Online Computer Library Center, Inc. The principal investigators of the project are Marie L. Radford (Associate Professor, Rutgers University) and Lynn Silipigni Connaway (Consulting Research Scientist III, OCLC).

Please reply to the following email by October 20, 2006 if you are willing to participate in the online survey: vrsgrant@rci.rutgers.edu.

Thank you for your interest in the study.

Thank you for librarian online survey respondents

Thank you for your interest in participating in our online survey on virtual reference services. Specific details on participating will be coming your way later this week.

If you have any questions, please email us at vrsgrant@rci.rutgers.edu.

Thank you, [email signature]

QandANJ Call for Participation Script

Subject: Your Participation Needed for Study of Online Library Information Services

Dear QandANJ User:

Greetings! We are looking for people interested in taking part in an important study of online library information services and we are willing to pay you for your time. When you used the QandANJ information service within the past year, you indicated that you were interested in participating in a follow up study of QandANJ.

We hope you will be interested in sharing your opinions and insights about online library information services like QandANJ in our grant-funded research project titled, "Seeking Synchronicity: Evaluating Virtual Reference Services from User, Non-User, and Librarian Perspectives." We need people for focus group interviews, telephone interviews, and online surveys. You are eligible to participate in all three. Please reply to this email and indicate your willingness to take part in our study by checking one or more of the boxes below.

The focus group interview will take approximately 1.5 hours and will be scheduled at a convenient time in an NJ community near you. Selected participants will be paid \$50 for their time plus refreshments. The telephone interview will take approximately 1 hour and selected participants will be paid \$30. The online survey will take approximately 45 minutes and selected participants will be paid \$25. All responses will be kept strictly confidential.

This project will evaluate the sustainability and relevance of library virtual reference services like QandANJ. This study is funded by a US federal grant from the Institute of Museum and Library Services, Rutgers University, and OCLC Online Computer Library Center, Inc. The principal investigators of the project are Marie L. Radford (Associate Professor Rutgers University) and Lynn Silipigni Connaway (Consulting Research Scientist III OCLC).

You can find more information about the study at:

More information about the study can be obtained at:

<http://www.oclc.org/research/projects/synchronicity/default.htm>

Thank you for your interest in the study.

Marie L. Radford, Ph.D. Rutgers University

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

Lynn Silipigni Connaway, Ph.D. OCLC Online Computer Library Center, Inc.

X Yes!! I am interested in participating in the:

X Focus Group Interview (\$50)

X Telephone Interview (\$30)

X Online Survey (\$25)

Consent Form Email Script

Dear QandANJ user:

Thank you so much for agreeing to participate in our research project, "Seeking Synchronicity: Evaluating Virtual Reference Services from User, Non User, and Librarian Perspectives"!

In order for you to take part in the study we will need you to sign and date the consent form that is attached to this email. If you would prefer to have a print copy of the form or if you have difficulties downloading the attachment, please email us your mailing address and we will mail it to you with a self-addressed stamped envelope for you to use to return the form.

Once you have signed the consent form, you will need to fax it to (fax # here) or mail it to (address here). If you have any questions about the consent form, you may contact us at (number / email here).

When your signed consent form has been received, we will contact you about the section of the study in which you will be participating - survey, phone interview, or focus group interview. You will receive reimbursement as follows: survey (\$25), phone interview (\$30) or focus group (\$50) depending on your choice. Once again, thank you for your participation!

Change Mind Email Script

Dear QandANJ user:

Although you have decided not to participate in our research study, we appreciate you taking the time to consider it.

Your opinions and insights about online library information services like QandANJ are important for our evaluation of such services. An online survey would take just 45 minutes and you would be reimbursed \$25 for your time. A telephone interview with one of our team members would only take about an hour of your time and you will receive \$30. The other opportunity for participation is the focus group interview, which will take approximately 90 minutes for which you will receive \$50!

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

If, at a later date, you change your mind and decide you would like to participate in our research study, please contact us at (email here).

Thank you!

Preliminary Focus Group Email

Subject: Please Read: Follow up to VRS Focus Group participation

Dear QandANJ User:

Thank you for volunteering to participate in a focus group for our grant research on online library reference services like QandANJ. You will receive \$50 and refreshments for your time.

We are setting up the focus groups and need to know your availability. Would you be able to attend a focus group if it was held at the Rutgers University campus in New Brunswick, NJ?

X I would attend a focus group at Rutgers University in New Brunswick, NJ.

X I would not attend a focus group at Rutgers University in New Brunswick, NJ and would prefer a focus group in (choose one) X North Jersey or X South Jersey.

We would also like to know what day of the week and what time of day works best for you. Please indicate your preferred times for the focus group interview:

X Daytime

X Evenings

X Weekends

Please note that this focus group is for adults 18 years of age and older. Please complete and return this availability information by Friday, April 21st by replying to this email.

Thank you again for being willing to participate in this focus group!

Focus Group Date Email (5/16)

Dear QandANJ User:

Thank you for volunteering to participate in a focus group for our grant research on online library reference services like QandANJ.

We would like to know which of the following dates are best for you for a focus group at Rutgers University in New Brunswick, NJ:

X Wednesday, May 24th at 6:30/7pm

X Monday, June 5th at 6:30/7pm

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

Please reply ASAP but no later than Friday, May 19th with the date that is best for you.

Once a date has been set, all those able to participate will receive an email with directions, maps and other information regarding the focus group. Please remember that all those who participate will receive \$50 cash and refreshments.

Thank you again for being willing to participate in this focus group!

Surveys in Development email (5/17)

Dear QandANJ User:

Thank you for your willingness to participate in our focus groups, online surveys and telephone interviews.

The online and telephone surveys are currently in development and you will receive notice of them as soon as they are completed.

The telephone interview will take approximately 1 hour and selected participants will be paid \$30. The online survey will take approximately 45 minutes and selected participants will be paid \$25. All responses will be kept strictly confidential.

Thank you for your patience.

Participant Recruitment Flyers

Earn **\$25.00** NOW!

Web Survey Participants Needed

You can participate if:

- ✓ **You have never Chatted with a Librarian Online**
- ✓ **You have 30 minutes to take the Web survey**
- ✓ **You can take the Web survey before May 30, 2007.**
- ✓ **You are NOT a Library Science Student/Faculty**

Interested??

email us @ vrsgrant@rci.rutgers.edu

**For more information, go to:
www.oclc.org/research/projects/synchronicity/**

Earn **\$30.00** NOW!

Research Participants Needed

You can participate if:

- √ **You have never Chatted with a Librarian Online.**
- √ **You have 30 minutes to participate in the phone survey.**
- √ **You can complete the phone survey before Oct 30, 2007.**
- √ **You are between 12-18 years old or 29 and older.**
- √ **You are NOT a Library Science Student/Faculty.**

Interested??

email us @ vrsgrant@rci.rutgers.edu

For more information, go to:

www.oclc.org/research/projects/synchronicity/

Earn \$25.00 NOW!

Web Survey Participants Needed

You can participate if:

- √ **You have Chatted with a Librarian Online (a service like Ask a Librarian, QandANJ, Ask Here PA, Ask Colorado, Know it now).**
- √ **You have 30 minutes to take the Web survey.**
- √ **You can take the Web survey before Oct 30, 2007.**
- √ **You are 12 years old or older.**
- √ **You are NOT a Library Science Student/Faculty.**

Interested??

email us @

vrsgrant@rci.rutgers.edu

For more information, go to:

www.oclc.org/research/projects/synchronicity/

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

CONSENT FOR ADULT PARTICIPATION IN FOCUS GROUP INTERVIEW

I consent to participate in the research entitled, “Seeking Synchronicity: Evaluating Virtual Reference Services from User, Non-User, and Librarian Perspectives.” Dr. Marie L. Radford, Co-Principal Investigator, or Dr. Lynn Silipigni Connaway, Co-Principal Investigator, has explained to me the procedures for conducting the focus group. I understand that the purpose of the study is to evaluate virtual (chat) reference services and to suggest areas for improvement. I understand that the focus group will take a maximum of 1.5 hours to complete and that the interview will be tape recorded, then transcribed. After the transcription is complete, the tape will be erased. I also understand that my identity will be confidential. I will be assigned an alias name in the data records and that my real name will never be connected with my transcribed interview responses. If during my interview, I refer to names or roles of specific individuals, I understand that these names will also be disguised with aliases in the transcription.

The potential benefits of the study will be to improve virtual reference service for future users and to aid their sustainability. I acknowledge that I have had the opportunity to obtain additional information regarding the study. Any questions I have asked have been answered to my full satisfaction. I understand that I will receive a \$50.00 payment for participating in the focus group. Furthermore, I understand that I am free to withdraw my consent at any time and to terminate my participation in the study without penalty to me. I acknowledge that payment is only possible if I complete the focus group interview and that in order to be paid I will be required to provide a mailing address and social security number on a respondent payment form. I understand this personal information is being obtained only for payment purposes and will be kept in a locked drawer at Rutgers University, that it will never be connected with my responses in the focus group interview, and that it will be destroyed within a year of my participation

Finally, I acknowledge that I have read and fully understand the consent form. I consent to participate in the focus group interview freely and voluntarily. A copy of this consent form has been given to me. A copy of the research report will be available at the end of the project upon request.

If you have any questions about your rights as a research subject, you may contact the Sponsored Programs Administrator at Rutgers University at: Rutgers University Institutional Review Board for the Protection of Human Subjects, Office of Research and Sponsored Programs, 3 Rutgers Plaza, New Brunswick, NJ 08901-8559, 732.932.0150, x 210. Principal Investigator contact information is below.

Date: _____

Informant signature: _____

Investigator or representative: _____

Funded by: Institute for Museum and Library Services, Rutgers, the State University of New Jersey, and OCLC, Online Computer Library Center, Inc.

Dr. Marie L. Radford, Associate Professor, Rutgers University, 4 Huntington Street, New Brunswick, NJ 08901, phone: 732.932.7500, x 8233; mradford@scils.rutgers.edu.

Dr. Lynn Silipigni Connaway, Research Scientist, OCLC, Online Computer Library Center, Inc. 6565 Frantz Road, Dublin, OH, 43017-3395, : 303.246.3623.

Or go online to: <http://www.oclc.org/research/projects/synchronicity/>

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

CONSENT FOR ADULT PARTICIPATION IN ONLINE SURVEY

I consent to participate in the research entitled, “Seeking Synchronicity: Evaluating Virtual Reference Services from User, Non-User, and Librarian Perspectives.” Dr. Marie L. Radford, Co-Principal Investigator, or Dr. Lynn Silipigni Connaway, Co-Principal Investigator, has explained to me the procedures for conducting the interview. I understand that the purpose of the study is to evaluate virtual (chat) reference services and to suggest areas for improvement. I understand that the online survey will take a maximum of 45 minutes to complete. I also understand my identity will be kept anonymous. My name or other identifying information will not be gathered in my survey. My email address and any other identifying information will not be connected to my survey in any way.

The potential benefits of the study will be to improve virtual reference service for future users and to aid their sustainability. I acknowledge that I have had the opportunity to obtain additional information regarding the study. Any questions I have asked have been answered to my full satisfaction. I understand that I will receive a \$25.00 payment for completing the online survey. Furthermore, I understand that I am free to withdraw my consent at any time and to terminate my participation in the study without penalty to me. I acknowledge that payment is only possible if I complete the survey and that in order to be paid I will be required to provide a mailing address and social security number on a respondent payment form. I understand this personal information is being obtained only for payment purposes and will be kept in a locked drawer at Rutgers University, that it will never be connected with my responses in the survey, and that it will be destroyed within a year of my participation

Finally, I acknowledge that I have read and fully understand the consent form. I consent to participate in the survey freely and voluntarily. A copy of this consent form has been given to me. A copy of the research report will be available at the end of the project upon request.

If you have any questions about your rights as a research subject, you may contact the Sponsored Programs Administrator at Rutgers University at: Rutgers University Institutional Review Board for the Protection of Human Subjects, Office of Research and Sponsored Programs, 3 Rutgers Plaza, New Brunswick, NJ 08901-8559, 732.932.0150, x 210. Principal Investigator contact information is below.

Date: _____

Informant signature: _____

Investigator or representative: _____

Funded by: Institute for Museum and Library Services, Rutgers, the State University of New Jersey, and OCLC, Online Computer Library Center, Inc.

Dr. Marie L. Radford, Associate Professor, Rutgers University, 4 Huntington Street, New Brunswick, NJ 08901, phone: 732.932.7500, x 8233; mradford@scils.rutgers.edu.

Dr. Lynn Silipigni Connaway, Research Scientist, OCLC, Online Computer Library Center, Inc. 6565 Frantz Road, Dublin, OH, 43017-3395, : 303.246.3623

Or go online to: <http://www.oclc.org/research/projects/synchronicity/>

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

CONSENT FOR ADULT PARTICIPATION IN INDIVIDUAL TELEPHONE INTERVIEW

I consent to participate in the research entitled, “Seeking Synchronicity: Evaluating Virtual Reference Services from User, Non-User, and Librarian Perspectives.” Dr. Marie L. Radford, Co-Principal Investigator, or Dr. Lynn Silipigni Connaway, Co-Principal Investigator, has explained to me the procedures for conducting the interview. I understand that the purpose of the study is to evaluate virtual (chat) reference services and to suggest areas for improvement. I understand that the phone interview will take a maximum of 45 minutes to complete and that the interview will be recorded in the form of notes taken by the interviewer. I also understand I will be anonymous. No record will be kept nor any connection made from my interview responses to my name or phone number. If during my interview, I refer to names or roles of specific individuals, I understand that these names will also be disguised with aliases in the investigator’s notes.

The potential benefits of the study will be to improve virtual reference service for future users and to aid their sustainability. I acknowledge that I have had the opportunity to obtain additional information regarding the study. Any questions I have asked have been answered to my full satisfaction. I understand that I will receive a \$30.00 payment for participating in the interview. Furthermore, I understand that I am free to withdraw my consent at any time and to terminate my participation in the study without penalty to me. I acknowledge that payment is only possible if I complete the interview and that in order to be paid I will be required to provide a mailing address and social security number on a respondent payment form. I understand this personal information is being obtained only for payment purposes and will be kept in a locked drawer at Rutgers University, that it will never be connected with my responses in the interview, and that it will be destroyed within a year of my participation

Finally, I acknowledge that I have read and fully understand the consent form. I consent to participate in the interview freely and voluntarily. A copy of this consent form has been given to me. A copy of the research report will be available at the end of the project upon request.

If you have any questions about your rights as a research subject, you may contact the Sponsored Programs Administrator at Rutgers University at: Rutgers University Institutional Review Board for the Protection of Human Subjects, Office of Research and Sponsored Programs, 3 Rutgers Plaza, New Brunswick, NJ 08901-8559, 732.932.0150, x 210. Principal Investigator contact information is below.

Date: _____

Informant signature: _____

Investigator or representative: _____

Funded by: Institute for Museum and Library Services, Rutgers, the State University of New Jersey, and OCLC, Online Computer Library Center, Inc.

Dr. Marie L. Radford, Associate Professor, Rutgers University, 4 Huntington Street, New Brunswick, NJ 08901, phone: 732.932.7500, x 8233; mradford@scils.rutgers.edu.

Dr. Lynn Silipigni Connaway, Research Scientist, OCLC, Online Computer Library Center, Inc. 6565 Frantz Road, Dublin, OH, 43017-3395, : 303.246.3623

Or go online to: <http://www.oclc.org/research/projects/synchronicity/>

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

Seeking Synchronicity: Evaluating Virtual Reference Services from User,
Non-User, and Librarian Perspectives
Focus Group Participation Student (Age 12-17) Consent Form

Principal Investigators: Dr. Marie L. Radford, Associate Professor, Rutgers University and Dr. Lynn Silipigni Connaway, Research Scientist, OCLC, Online Computer Library Center, Inc.

You are invited to take part in a research study about the use of virtual reference services, and this study includes finding out more information from middle and high school students.

Your participation in this study is voluntary, and you may decline to participate without any penalty. Your answers may increase understanding of the factors that influence students' use of virtual reference services. You may choose not to answer any questions that you are not comfortable with, and you may decide to stop participating at any time without any penalty to you.

Your name will NOT be used, but you will be asked to write your age, grade, and gender (whether you are male or female) on the form. Please don't write your name anywhere on the form. It will not be possible to link your name with your form.

If you agree to participate, you will be asked to participate in a focus group where you will be asked questions about your library use, and the focus group will be about one hour long. For taking part in this focus group, you will receive a gift card from Barnes and Noble in the amount of \$___ and refreshments.

One of your parents or your guardian will be required to provide permission for you to participate in the study. If you or your parents have any questions about the research, please contact any official representative below. You will be given a copy of this form to keep.

If you have any questions about your rights as a research subject, you may contact the Sponsored Programs Administrator at Rutgers University at: Rutgers University Institutional Review Board for the Protection of Human Subjects, Office of Research and Sponsored Programs 732.932.0150, x 210. Principal Investigator contact information is below.

If you agree to participate in the study, please sign below:

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

Student signature _____ Date _____

Student name (printed) _____ Date _____

Investigator signature _____ Date _____

Parent's or Guardian Signature _____ Date _____

Dr. Marie L. Radford, Rutgers University, 4 Huntington Street, New Brunswick, NJ 08901 732.932.7500, x 8233, mradford@scils.rutgers.edu.

Dr. Lynn Silipigni Connaway, OCLC, Online Computer Library Center, Inc., 6565 Frantz Road, Dublin, OH, 43017-3395, 303.246.3623

Or go online to: <http://www.oclc.org/research/projects/synchronicity/>

*Seeking Synchronicity: Evaluating Virtual Reference Services from User, Non-User, and Librarian Perspectives
Online Survey Participation Student (Age 12-17) Consent Form*

Principal Investigators: Dr. Marie L. Radford, Associate Professor, Rutgers University and Dr. Lynn Silipigni Connaway, Research Scientist, OCLC, Online Computer Library Center, Inc.

You are invited to take part in a research study about the use of virtual reference services, and this study includes finding out more information from middle and high school students. If you agree to participate, you will be asked to participate in an online survey where you will be asked questions about your library use. The survey will take approximately 30 minutes to complete. For taking part in this survey, you will receive a gift card from Barnes and Noble in the amount of \$____.

Your participation in this study is voluntary, and you may decline to participate without any penalty. Your answers may increase understanding of the factors that influence students' use of virtual reference services. You may choose not to answer any questions that you are not comfortable with, and you may decide to stop participating at any time without any penalty to you.

Your name will NOT be used, but you will be asked your age, grade, and gender (whether you are male or female). It will not be possible to link your name with your survey.

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

One of your parents or your guardian will be required to provide permission for you to participate in the study. If you or your parents have any questions about the research, please contact any official representative below. You will be given a copy of this form to keep.

If you have any questions about your rights as a research subject, you may contact the Sponsored Programs Administrator at Rutgers University at: Rutgers University Institutional Review Board for the Protection of Human Subjects, Office of Research and Sponsored Programs 732.932.0150, x 210. Principal Investigator contact information is below.

If you agree to participate in the study, please sign below:

Student signature _____ Date

Student name (printed) _____ Date

Investigator signature _____ Date

Parent's or Guardian Signature _____ Date

Dr. Marie L. Radford, Rutgers University, 4 Huntington Street, New Brunswick, NJ 08901 732.932.7500, x 8233, mradford@scils.rutgers.edu.

Dr. Lynn Silipigni Connaway, OCLC, Online Computer Library Center, Inc., 6565 Frantz Road, Dublin, OH, 43017-3395, 303.246.3623

Or go online to: <http://www.oclc.org/research/projects/synchronicity/>

Seeking Synchronicity: Evaluating Virtual Reference Services from User, Non-User, and Librarian Perspectives
Telephone Interview Participation Student (Age 12-17) Consent Form

Principal Investigators: Dr. Marie L. Radford, Associate Professor, Rutgers University and Dr. Lynn Silipigni Connaway, Research Scientist, OCLC, Online Computer Library Center, Inc.

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

You are invited to take part in a research study about the use of virtual reference services, and this study includes finding out more information from middle and high school students. If you agree to participate, you will be asked to participate in a telephone interview where you will be asked questions about your library use, and the interview will take approximately 15 minutes. For taking part in this phone interview, you will receive a gift card from Barnes and Noble in the amount of \$____.

Your participation in this study is voluntary, and you may decline to participate without any penalty. Your answers may increase understanding of the factors that influence students' use of virtual reference services. You may choose not to answer any questions that you are not comfortable with, and you may decide to stop participating at any time without any penalty to you.

Your name will NOT be used, but you will be asked your age, grade, and gender (whether you are male or female). It will not be possible to link your name with your interview.

One of your parents or your guardian will be required to provide permission for you to participate in the study. If you or your parents have any questions about the research, please contact any official representative below. You will be given a copy of this form to keep.

If you have any questions about your rights as a research subject, you may contact the Sponsored Programs Administrator at Rutgers University at: Rutgers University Institutional Review Board for the Protection of Human Subjects, Office of Research and Sponsored Programs 732.932.0150, x 210. Principal Investigator contact information is below.

If you agree to participate in the study, please sign below:

Student signature _____ Date

Student name (printed) _____ Date

Investigator signature _____ Date

Parent's or Guardian Signature _____ Date

Dr. Marie L. Radford, Rutgers University, 4 Huntington Street, New Brunswick, NJ 08901 732.932.7500, x 8233, mradford@scils.rutgers.edu.

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

Dr. Lynn Silipigni Connaway, OCLC, Online Computer Library Center, Inc., 6565
Frantz Road, Dublin, OH, 43017-3395, 303.246.3623

Or go online to: <http://www.oclc.org/research/projects/synchronicity/>

Appendix D: Focus Group Interview Guidelines and Questions

Note: Virtual Reference Service (VRS) equals chat reference services in this document.

Librarian Providers of VRS

1. How would you compare your experiences as a reference librarian with face-to-face, phone, or email reference to VRS?
[PROBES: What aspects of VRS experience are similar to those experienced by a reference librarian with face-to-face, phone, or email reference? What aspects of the VRS experience are different than those experienced by a reference librarian with face-to-face, phone, or email reference?]
2. What challenges and difficulties do you experience with VRS?
3. What makes you comfortable using VRS?
[PROBE: [What makes your VRS experience more comfortable?]
4. What improvements would you suggest to make VRS more comfortable for you to use?
5. What system characteristics would make VRS more comfortable for you to use?

VRS Users

1. What do you like best about VRS?
2. What don't you like about VRS?
3. What most influences your decision to use VRS?
4. How would you like to see VRS improved? [PROBE]What system enhancements would you like to see in VRS?
5. How would you compare your VRS experiences to face-to-face, email, or phone interactions with librarians?
6. When you decide to seek help from a librarian, how do you decide which format to use?

Non-Users of VRS

1. When you are stuck in assignments or have an information need, where do you usually go for help?
2. What is your preferred format for assistance from a librarian (face-to-face, phone, email) and why?
3. Why have you not yet tried VRS?
4. What factors would help you to decide to try VRS?
5. What have you heard (if anything) about VRS?

Non-Users of VRS (Ages 12-17)

1. When you are stuck in a homework assignment and need information, what do you do when you need help?
2. When you need help with homework and decide to get help from a librarian, what do you do?
[PROBES: do you usually go to the library, email a librarian, or call the library on the phone? How do you decide what kind of help to try?]
3. Do you know that you can ask librarians questions or for help using email or IM, instant messaging? If yes, why haven't you tried them?
4. Would you like to try “IM”ing or chatting with a librarian for help? What would make you interested in trying email or IM to get help from librarians?
5. What have you heard about getting librarian help or getting library resources on the Web from your friends or teachers?

Appendix E: Coding Scheme for Question Classification

**KKAR Classification Scheme, with Operational Coding
for IMLS—OCLC—Rutgers “Seeking Synchronicity” project**

Updated 5/23/06 by MR

Katz (1997) Classification Scheme, modified by Kaske and Arnold (2002) and Radford (2005-2006)		
Directional	D	“‘Where is the catalog?’ ‘Where are the indexes?’ ...The general information or directional question is of the information booth variety, and the answer rarely requires more than geographical knowledge of key locations. The time required to answer such questions is negligible...”
Ready Reference	RR	“‘What is the name of the governor of Alaska?’ ‘How long is the Amazon River?’ ...These are the typical ready-reference or data queries that require only a single, usually uncomplicated, straightforward answer. The requested information is normally found without difficulty in standard reference works, ranging from encyclopedias to almanacs and indexes... Ready-reference queries may be divided and subdivided in many ways...Who? What? When? Why? Where?...It usually takes more than a minute or two to answer this type of question.”
Subject Search	SS	“‘Where can I find information on sexism in business?’ ‘What is the difference between the conservative and the liberal views on inflation and unemployment?’ ...The essential difference between the specific-search and the ready-reference question is important. Ready-reference queries usually can be answered with data, normally short answers from reference books...” (Note, Katz/Kaske/Arnold called this “Specific Search”)
Research	R	“Almost any of the types of questions described in the ‘specific-[subject] search’ section above may be turned into research questions. A research query is usually identified as that coming from an adult specialist who is seeking detailed information to assist in specific work...Research questions differ from other inquiries in that most involve trial-and-error searching or browsing, primarily because (a) the average researcher may have a vague notion of the question but usually cannot be specific; (b) the answer to the yet-to-be-completely formulated question depends on what the researcher is able to find (or not find)...another useful method of distinguishing types of queries.”
Policy and Procedural	PP	Includes questions like: “How do I borrow books?” “How do I get access to my patron information?” “How do I borrow books from another library?” Most of these questions begin with “How do I?” They differ from directional questions in that they usually require some explanation of a policy or a procedure.
Holdings / Do You Own?	H	Questions about specific holdings of a library in print or digital form. Normally, the customer has the title of a book, journal,

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

		video, etc. and would like to know if the library owns the material. Also includes how to locate journal articles. “How do I get the full text of a particular journal article when I have the citation?” (Note: last 2 sentences added by Radford)
Additional Categories Identified by Radford (2005-2006)		
No Question	N	Includes systems test, practice sessions between 2 librarians, any interaction in which there is no discernable reference question.
Inappropriate	I	Questions which are not appropriate for a reference service including personal questions (e.g., “How old are you?”), goofing around (e.g., “What can I do? I’m bored.”), rude questions (e.g., “How do you have sex?”), or questions containing obscene language.
Reader’s Advisory	RA	Reader’s Advisory questions are asked by users who want to “find books they want to read, usually fiction books to be read for pleasure” (Ross, Nilsen, & Dewdney, 2002, p. 162). (e.g., “I read <i>The DaVinci Code</i> by Dan Brown, what other books can I read that are like this one?”)

(Note: The Katz Classification Scheme, with modifications by Kaske and Arnold, appears as Appendix E to the “Seeking Synchronicity...” project proposal.)

Appendix F: Coding Scheme for Question Subject

Dewey Decimal Classification Hundred Divisions

000	Computer science, information & general works
000	Computer science, knowledge & systems
010	Bibliographies
020	Library & information sciences
030	Encyclopedias & books of facts
040	[Unassigned]
050	Magazines, journals & serials
060	Associations, organizations & museums
070	News media, journalism & publishing
080	Quotations
090	Manuscripts & rare books
100	Philosophy & psychology
100	Philosophy
110	Metaphysics
120	Epistemology
130	Parapsychology & occultism
140	Philosophical schools of thought
150	Psychology
160	Logic
170	Ethics
180	Ancient, medieval & eastern philosophy
190	Modern western philosophy
200	Religion
200	Religion
210	Philosophy & theory of religion
220	The Bible
230	Christianity & Christian theology
240	Christian practice & observance
250	Christian pastoral practice & religious orders
260	Christian organization, social work & worship
270	History of Christianity
280	Christian denominations
290	Other religions
300	Social sciences
300	Social sciences, sociology & anthropology
310	Statistics

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

320	Political science
330	Economics
340	Law
350	Public administration & military science
360	Social problems & social services
370	Education
380	Commerce, communications & transportation
390	Customs, etiquette & folklore
400	Language
400	Language
410	Linguistics
420	English & Old English languages
430	German & related languages
440	French & related languages
450	Italian, Romanian & related languages
460	Spanish & Portuguese languages
470	Latin & Italic languages
480	Classical & modern Greek languages
490	Other languages
500	Science
500	Science
510	Mathematics
520	Astronomy
530	Physics
540	Chemistry
550	Earth sciences & geology
560	Fossils & prehistoric life
570	Life sciences; biology
580	Plants (Botany)
590	Animals (Zoology)
600	Technology
600	Technology
610	Medicine & health
620	Engineering
630	Agriculture
640	Home & family management
650	Management & public relations
660	Chemical engineering
670	Manufacturing
680	Manufacture for specific uses
690	Building & construction

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

700	Arts & recreation
700	Arts
710	Landscaping & area planning
720	Architecture
730	Sculpture, ceramics & metalwork
740	Drawing & decorative arts
750	Painting
760	Graphic arts
770	Photography & computer art
780	Music
790	Sports, games & entertainment
800	Literature
800	Literature, rhetoric & criticism
810	American literature in English
820	English & Old English literatures
830	German & related literatures
840	French & related literatures
850	Italian, Romanian & related literatures
860	Spanish & Portuguese literatures
870	Latin & Italic literatures
880	Classical & modern Greek literatures
890	Other literatures
900	History & geography
900	History
910	Geography & travel
920	Biography & genealogy
930	History of ancient world (to ca. 499)
940	History of Europe
950	History of Asia
960	History of Africa
970	History of North America
980	History of South America
990	History of other areas

Appendix G: Coding Scheme for Relational Content

Categories and Nodes

(Facilitators)

- Greeting Ritual

- Deference

 - Agreement to Try What is Suggested or to Wait

 - Apology

 - Asking for Other to Be Patient

 - Expressions of Enthusiasm

 - Suggesting Strategy or Explanation in a Tentative Way

 - Polite Expressions

 - Praise, Admiration

 - Self-Deprecating Remarks

 - Thanks

- Rapport Building

 - Familiarity

 - Humor

 - Informal Language

 - Alternate Spelling, Abbreviated Single Words

 - Slang

 - Interjections

 - Offering Confirmation

 - Approval

 - Empathy

 - Inclusion

 - Offering Reassurance

 - Encouraging Remarks, Praise

 - Repair, Self-Correction

 - Seeking Reassurance, Confirmation, Self Disclosure

 - Self Disclosure

 - Admitting Lack of Knowledge, At a loss as to where to search

 - Explaining Search Strategy

 - Explaining Technical Problems

 - Offer Personal Opinion, Advice, Value Judgment

- Representation of Nonverbal Cues

 - All Caps

 - Alpha-Numeric Shortcuts

 - Asterisk or Symbol for Emphasis

 - Ellipsis

 - Emoticons

 - Lower Case

 - Phrase Abbreviations

- Spells Nonverbal Behaviors
- Punctuation or Repeated Punctuation
- Closing Ritual
 - Explanation Abrupt Ending
 - Invites to Return If Necessary
 - Makes Sure User Has No More Questions
 - Offers to Continue Searching & E-Mail Answer

(Barriers)

- Negative Closure
 - Abrupt Ending
 - Disclaimer
 - Failure to Refer
 - Ignoring Cues that User Wants More Help
 - Premature or Attempted Closing
 - Premature Referral
 - Sends to Google
- Relational Disconnect / Failure to Build Rapport
 - Condescending
 - Derisive Use of Spelling NV Behaviors
 - Disconfirming
 - Failing to Offer Reassurance
 - Failure or Refusal to Provide Information when asked
 - Goofing Around
 - Ignoring Humor
 - Ignoring Self-Disclosure
 - Impatience
 - Inappropriate Script or Response
 - Inappropriate Language
 - Jargon, No Explanation
 - Lack of Attention or Ignoring Question
 - Limits Time
 - Mirrors Rude Behavior
 - Mistakes
 - Misunderstands Question
 - Reprimanding
 - Robotic Answer
 - Rude or Insulting

Node Descriptions with References & Transcript Examples

Facilitators

(FACILITATORS)	Interpersonal aspects of the chat conversation that have a positive impact on the librarian-client interaction and that enhance communication (see also Radford, 1993, 1999, 2006).
----------------	---

Greeting Ritual

Node	Description & Example
GREETING RITUAL	A hello message, marking the beginning of an interpersonal interaction by exchanging "salutations" (See Goffman, 1972, p. 79). E.g., Librarian: “Hi (name) what a great question!”

Deference

Node	Description & Examples
DEFERENCE	Showing courtesy and respect for the other's experience, knowledge and point of view. Regularly conveying one's appreciation and confirming the relationship between participants (Goffman, 1956).
Agreement to Try What is Suggested or to Wait	User: “Okay; I will, sure, no problem”
Apology	L or U: “Sorry”
Asking for Other to Be Patient	A request for the other to wait. L: “Will you hang on for a few minutes while I check...”
Expressions of Enthusiasm	U: “Awesome! This gives me a great starting point for Saturday's research!” “Wow! This service is great!”
Suggesting Strategy or Explanation in a Tentative Way	L: “Perhaps you should try...; I think you might want to try...”
Thanks	Thank you, thanx, TY
Polite Expressions	“Please, if you would be so kind; you're welcome”
Praise, Admiration	U: “You are amazing!” “You're the best!”
Self-Deprecating Remarks	U: “I don't know where to start; I’m not good at research; I am becoming a pain, aren't I?” L: “I’m not a good typist either.”

Rapport Building

Node	Description & Examples
RAPPORT BUILDING	Aspects of the interaction that "involve[s] conversation encouraging give and take, establishment of mutual understanding, and development of relationships" (Radford, 1999, p. 25).
Familiarity	Reference is made to knowing the other person or having had an interaction (FtF or in chat) with the other on a previous occasion (Radford, 1998)
Humor	L: "This is a pickle!"
Interjections	e.g., Oh, Well, Ah, Wow, um, hummm, woa, oops, aha, etc.
Offering Confirmation	"I agree"
Approval	L: "Good idea," "good question"
Empathy	L: "That is a difficult situation." "I hope you are feeling better."
Inclusion	L: "Let's ... " "why don't we..." "Let me..."
Offering Reassurance	L: "That's okay; don't worry about it, no one is perfect;" "Sure thing, I'll be right here;" "Just give them a call. It'll be fine."
Encouraging Remarks/ Praise	L: "I am sure you can do this; you are doing very well." "This is pretty easy once you get the hang of it." "I hope this helps." U: "That's just great!"
Repair, Self-Correction	"I meant sorry, not sarry;" "*sorry"
Seeking Reassurance, Confirmation, Self Disclosure	"Can you help me with this?" "I'm going to try that, can you hang on while I try that?"
Self Disclosure	U: "I am in 6th grade"; "I have never used this resource; I don't know... I'm not sure where to go to find information."
Admitting Lack of Knowledge/ at a Loss as to Where to Search	L: "I have not heard of this subject before, can you tell me more?"
Explaining Search Strategy	L: "I am using the terms 'history' and 'Muslim' for this search in the Academic Search Premier database."
Explaining Technical Problems	L: "Our system has been acting up today. It is slow."
Offer Personal Opinion/Advice/Value Judgment	L: "I think you should try this first." "This resource is excellent."
Informal Language	Language that is relaxed or "Instant Messenger" speak
Alternative Spelling Abbreviated Single Words	Use for single word abbreviation (e.g., u,) and truncations (e.g., info, sec, lib, q. for question) and alternate spellings (e.g., thanx)
All Lower Case	U: "i need info on harry potter"
Slang Expressions	U: "hey dude" "what up dawg?"

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

REREPRESENTATION OF NONVERBAL CUES	The use of text characters or characteristics such as punctuation, emoticons, font, or abbreviations to represent nonverbal cues not present in the face-to-face interaction (Radford, 2006).
All Caps	UPPERCASE, can be a FLAME or used just for emphasis (e.g., use EXACTLY these terms)
Alpha-Numeric Shortcuts	Abbreviating phrases by using a combination of letters and numbers L8r (later), G2G (got to go), ne1 (anyone)
Asterisk or Symbol for Emphasis	Demarcating a word for emphasis or to make a spelling repair through use of asterisk, ex. those who *are* affiliated or sarry *sorry
Phrase Abbreviations	Using letters for phrase abbreviations e.g., LOL(laughing out loud), BRB (be right back)
Spells Out Nonverbal Behaviors	Spelling out words for facial expressions or nonverbal behaviors, e.g., Grin, wink wink, ha ha
Ellipsis	Using ellipsis to indicate “word contact” e.g., “More...” or “still searching...”
Emoticons	Using text characters to represent facial expressions, e.g., ;-)
Punctuation or Repeated Punctuation for Emphasis	Wow! Thank you VERY MUCH!!!!!!!!!!

Closing Ritual

Node	Description & Examples
CLOSING RITUAL	A goodbye message that signals the end of interpersonal encounters, "some form of farewell display performed during leave-taking" (Goffman, 1972, p. 79).
Explanation of Signing Off Abruptly	U: “G2G;” “I have to go have dinner.” “My time on the computer is up now.”
Invites to Return If Necessary	L: “Please come back if you need more help.”
Makes Sure User Has No More Questions	L: “Is there anything else I can help you with?” “Have I completely answered your question?”
Offers to Continue Searching & E-Mail or Refer	L: “I will keep looking and e-mail you anything else I find.” Or making referral to another librarian who will e-mail answer.

Barriers

Node	Description
BARRIERS	Interpersonal aspects of the chat conversation that have a negative impact on the librarian-client interaction and that impede communication (see also Radford, 1993, 1999, 2006).

Negative Closure

Node	Description & Examples
NEGATIVE CLOSURE	Strategies “that library staff use to end the reference transaction, apart from providing a helpful answer” (Ross & Dewdney, 1998, p. 154).
Abrupt Ending	Person disappears in the middle of the encounter or at the end with no closing ritual or closing script
Disclaimer	Librarian states that information is not available or they can not help. L: “I am not an attorney;” “I don't think I will find that;” “This is all I can find;” “For more please go to your public library for information”
Failure To Refer	Librarian is unable to help user but does not make an appropriate referral. Turns user away empty handed or with only a partial answer to query.
Ignoring Cues That User Wants More Help	Librarian ignores request for additional help. L: “This is all I can find.” “For more please go to your public library.” U: “You did not help much.”
Premature or Attempted Closing	L: “Why don’t you call some of your classmates to see what they are doing about this.”
Premature Referral	Sending to another service, or physical library without clarifying the question.
Sends to Google	L: “Go back to Google and in the search box type in "segregation in education in the 1930's."

Relational Disconnect/Failure to Build Rapport

Node	Description & Examples
RELATIONAL DISCONNECT/FAILURE TO BUILD	Failing to encourage give and take, establish mutual understanding, and engage in relationship development (see Radford, 1999, p. 25).
Condescending	L: “I think that it is too obvious. Just fill in the blanks with the words that make sense.”
Derisive Use of Spelling Out NV Behaviors	U: “Ha Ha! I bet your spouse is cheating on you.”
Disconfirming	You should have checked the catalog first; your information is outdated.

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

Failing to Offer Reassurance	Does not respond to questions, like: Can you help me? etc. Also failure to apologize when apology is called for.
Failure or Refusal to Provide Information when asked	Not replying when asked a direct question, not providing e-mail address when asked.
Goofing Around	When user has no query, is just being playful.
Ignoring Humor	Not responding with a "ha ha" "grin" or :) "smiley face" when other makes a joke.
Ignoring Self-Disclosure	Failing to respond appropriately to other’s disclosures.
Impatience	Typing indications of haste: e.g., U: “Hurry up! Hurry, hurry!”
Inappropriate Script or Response	Librarian sends the wrong script or gives an inappropriate response.
Lack of Attention or Ignoring Question	Logging off when user has unanswered question or not attending to user's needs for assistance.
Limits Time	L: “I think the easiest thing is for you to do the search yourself since we are closing in a few minutes; I must help other customers now, bye.”
Mirrors Rude Behavior	Flaming when other flames, becoming nasty if the other is nasty.
Mistakes	Using or typing wrong word, providing wrong information
Misunderstands Question	Failure to clarify question, searches for and/or finds inappropriate information. Can also be used for delayed question clarification, i.e., clarification after question has been inappropriately answered or after user provides information w/o being asked.
Reprimanding	Reprove sharply or censure openly (Merriam-Websters Collegiate Dictionary, 1998). L: "You don't need to use all caps." "This is your homework, not mine."
Robotic Answer	Pursuing a script when personal response was called for, e.g. when user self-discloses as ill.
Rude or Insulting	Showing poor attitude, FLAMING, and other inappropriate comments. Ex. U: "Get a real job loser."
Inappropriate Language	Use of any inappropriate language, curse words, etc.
Jargon, No Explanation	Have you used ERIC, CATNYP, WorldCat?

Appendix H: Coding Scheme for Query Clarification

Categories and Nodes

- Juicy Quotes
- (Clarifier)
 - User
 - Librarian
- (Clarification)
 - Yes
 - Scripted
 - No
 - No Clarification Necessary
- (Type of question)
 - Open Question
 - Closed Question
- (Query type)
 - Self-Generated Query
 - Imposed Query
 - School assignment
 - Work related
 - Unknown
- (Stage of interaction)
 - Before Searching
 - During Searching
 - After Searching
- (Information Sought)
 - Topic
 - Search History
 - Background
 - Extent/depth
 - Type of Resource
- Verification
- Correction
- Follow-up Question
 - Referral Question

Node Descriptions with References & Transcript Examples

Nodes	Description	Examples
Juicy Quotes	Prime examples of any particular code below. Also includes examples of rare or unique occurrences in transcripts.	N/A
(Clarifier)		
User		N/A
Librarian		N/A
(Clarification)		
Yes	Occurrence of clarification	N/A
Scripted	An occurrence of clarification by means of a script	[Is this for a school assignment? If so, what grade level so I don't give you something that is to difficulty or too easy.]
No	Absence of clarification	N/A
No Clarification Necessary	In light of content/detail of user's question, no clarification is necessary on the librarian's part. "We all know that some questions need no negotiations -- such as when the physical library is open, does the library provide a given service, or how to access databases when off campus. We know these questions do not need to be negotiated; because once the customer has the answer, they are gone. They hang up the phone or sign off of a chat service, sometimes without even saying thank you, thanks, or tks" (Kaske, 2004, p. 295).	U: "I cannot find the Writ of Execution form online with the other forms. Please direct me."** L: "That's form no. EJ-130. Here's the link:"
(Type of question)		
Open Question	"Questions are open when the response is left up to the respondent; when they <i>cannot</i> be answered 'yes' or 'no'" (King, 1972, p. 158). "Open questions... allow users to respond in their own words and do not limit answers to the narrow range of choices presented by the closed question: open questions are invitations to talk" (Dervin & Dewdney, 1986, p. 508).	L: "How are you hoping to use this information?"
Closed Question	"Questions are closed when the respondent does not have a choice in his response other than those provided by the questioner" (King, 1972, p. 158). "Closed questions... limit the expected range of response to a 'yes'/'no,' 'this'/'that' answer... a closed question always restricts the freedom of the user's response" (Dervin & Dewdney, 1986, p. 508).	L: "Do you want the Trenton or Washington representatives?"
(Query type)		
Self-Generated Query	User identifies an information need and asks a question [there is a] "need to differentiate between	U: "I want to plan a camping and rock climbing trip to Pilot Mountain. Do you have any recommendations?"

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

Nodes	Description	Examples
	<p>information seeking that is self-generated (users transacting questions they have determined for themselves) and imposed information seeking in which agent users seek information on behalf of someone else." (Gross & Saxton, 2002, p. 252).</p> <p>“Self-generated questions arise from the context of a person’s life and are pursued by the person who is asking the questions. Imposed questions occur when the person who constructs the question asks someone else to transact it.” (Gross, 2005, p. 164).</p> <p>User identifies an information need and asks a question ("Each of these theories of the self-generated question has been useful in refining the ways in which we view and conduct the reference interview..." (Gross, 1995, p. 237).</p> <p>“information seeking may be either self-generated (internally motivated by personal context) or imposed (set in motion by someone else).” (Gross, 1999, p. 501).</p>	
Imposed Query	<p>“a question that is given to someone else to transact or resolve”</p> <p>“the <i>agent</i>, the person pursuing the question, has been put on this course by someone else (the <i>imposer</i>), and that the search is completed not when the agent finds the information but rather when the agent communicates it to the imposer” (Gross, 1995, p. 237).</p> <p>“Imposed queries emanate from both formal and informal relationships between people. For instance, students routinely use library services to answer questions posed by teachers, and likewise, there are various positions—research assistant, law clerk, administrative assistant, and so forth—that involve finding information for a supervisor or employer” (Gross, 1999, p. 501).</p>	(See below examples)
School Assignment	<p>Clarifies the school-related project requirements</p> <p>“How is the information going to be used?” (Katz, 2002, p. 133).</p> <p>“Why does the enquirer want this information?” (Taylor, 1968, p. 129).</p>	<p>U: “For a history project, I must do a poster diagram of the evolution of pyramids from masatbas to step pyramids to straight-sided pyramids. Please find me websites and books (at least 1 book) with information on these different types of pyramids.”</p>
Work Related	<p>Clarifies work-related project requirements</p>	<p>U: “I work for a Poli-Sci professor and she needs some information from "The Working Press of the Nation" (magazines and internal publications directory). We don't have a copy of this on campus, and I haven't been able to reach the Reference desks</p>

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

Nodes	Description	Examples
		of the 3 area libraries that have the book. Can you help?”
Unknown	Unable to determine origin of query	U: “who is the state rep for nj”
(Stage of interaction)		
Before Searching	Clarifies before beginning of search or at the beginning of interaction during or immediately following greeting ritual	N/A
During Searching	Clarifies after searching has commenced or in the middle of interaction	N/A
After Searching	Clarifies immediately before or even after closing ritual	N/A
(Information sought)		
Topic	Seeking or offering additional info on topic “...the primary purpose of negotiated subject definition is to provide some general delineation of the area... continued dialogue on the ramifications and structure of the subject will define, expand, narrow, and qualify the enquiry” (Taylor, 1968, 128).	L: “Where did you hear this term, in class?” L: “Do you mean what natural resources?” L: “What kind of advertisements are you thinking about or considering?” L: “I’m not finding that title. Do you know anything about it?”
Search History	Clarifies sources and strategies already used “How much information does the user already have about the topic?” (Katz, 2002, p. 133).	L: “Have you tried the last four digits of your phone number” L: “Where have you looked for an answer to your question so far?”
Background	Clarifies personal background characteristics of user. This question “in the negotiation process has to do with the personal background of the inquirer... Answers to these types of question have relevance to the total negotiation process... in short, it is the context, the environment for the negotiation process” (Taylor, 1968, p. 129).	L: “Are you at uni?” “...what year are you in?” L: “Is this for a school project?” L: “...can you tell me more about your project...” L: “Can you tell me a bit more about your assignment?”
Extent/Depth	Clarifies extent/depth/amount of information sought “What degree of sophistication is required?” “How much is needed?” (Katz, 2002, p. 133).	U: “the thing is i need it to be simple and not to wordy so its easy to find the information that i need”
Type of Resource	Clarifies type of materials or formats for desired resources “What kind of information is needed?” (Katz, 2002, p. 133).	L: “Are you looking for books, articles, or online information?” L: “What sort of materials or formats are you interested in?” L: “Are you trying to find titles of e-journals, by keyword? Or, rather, are you trying to find individual articles?”
Verification	Clarification by confirming/paraphrasing/summarizing “In any interview, no matter how short, it is wise to summarize the question of the facets of the question. The client may then correct or modify the librarian’s response” (Katz, 2002, p. 131).	L: “You want a web site on Brown vs Bd of Educ?” L: “So there was some kind of vote in your county back in 2000? Is that correct?” L: “OK so it sounds like you want to protest the election results.”

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

Nodes	Description	Examples
	<p>“echoes” query (statement to confirm by paraphrasing/summarizing) “Other times, the librarian would echo the patron’s request in question (or question-like) form, either using the same words or paraphrasing what the patron had asked.” (Ford, 2003, p. 250).</p>	
Correction	<p>One corrects the other’s misunderstanding “...many of the questions asked – by librarians and patrons alike – moved interactions along by confirming understanding, and repairing misunderstandings.” (Ford, 2003, p. 249).</p>	<p>U: “i know you can access it as a student for free” L: “Yes, you can get into westlaw for free, but from what i can tell this is only access to legal information and laws, not individual criminal records”</p> <hr/> <p>L: “Do you mean the John Stevens who was the chief engineer of the Panama Canal?” U: “No John Stevens III, He was the father of American Railroads”</p> <hr/> <p>L: “There is a book called Heroes of the Holocaust by Arnold Geier.” U: “no heroes of the holocaust by allan zullo and mara bovsun”</p>
Follow-up Question	<p>Confirming user has received the correct information and the right amount “The follow-up question can help fix some of the problems which may occur during a reference interview (such as miscommunication, not understanding the question, faulty assumptions, etc.)...” (Durrance, 1995, p. 254). “This may be the single most important behavior because it has the potential for allowing one to remedy lapses in other desirable behaviors” (Gers & Seward, 1985, p. 34).</p>	<p>L: “Does it give you the info. you need?” L: “Does this answer your question?” L: “Do you think you can use what I've given you here?” L: “Does this completely answer your question?”</p>
Referral Question	<p>Librarian asks if user would like to be referred to another librarian for follow-up to the query</p>	<p>L: “I'm not having much luck, a business librarian might know of a source I am missing, Can I have one contact you back via email?” L: “Would you like me to forward it for followup by email?” L: “There is a library in NJ that specializes in business questions. Would you like me to forward your question to them?”</p>

Appendix I: Coding Scheme for Ready Reference Accuracy

Category	Description	Example*	Coding Notes
Correct with citation	Question is answered completely and accurately with appropriate reference	U: "can you please send me song lyrics for Under pressure by my chemical romance?" L: sent lyrics and link http://www.plyrics.com/lyrics/mychemicalromance/underpressure.html . (QP001)	The answer can be complete, accurate and cited even when the answer is no. For example, a user was looking for "A Village Life" by Derek Wakott on the internet (ts243). The librarian did a thorough search and gave references to full-text sites. Although the poem was not on any of those sites, the answer (no, in this case) was complete and accurate.
Correct without citation	Question is answered completely and accurately without appropriate reference	U: "What is the definition of alliumphobia?" L: "Fear of gralic [garlic]." (QP038)	A citation would have been appropriate, but would not have changed the accuracy of the answer.
Correct, no citation needed	Question is answered completely and accurately without appropriate reference and none is needed	U: "how do ypu say test plurally. Is tests acceptable?" L: "Yes, tests is the correct form of the plural." (TS191)	Answers are obvious or well-known, no citations are needed.
Incorrect with citations	Question is answered incompletely or inaccurately with appropriate reference	U: "How far is it from Maryland to the North Pole?" L: provided the North Pole website and general location information. (QP14)	The question was not answered, but the user could find the answer from the site provided.
Incorrect without citations	Question is answered incompletely or inaccurately without appropriate reference	U: "How do I know when a journal is peer reviewed or are all journals peer reviewed?" L: "When instructors say 'peer reviewed' they usually mean simply scholarly journals. 'Peer reviewed' journals are a small subset of scholarly journals." (TS225)	Further research finds that answer was wrong and no citations were provided.

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

<p>Incorrect, without specific information requested, with only general/ related resource</p>	<p>Question is answered incompletely or inaccurately with reference that is related to inquiry but does not address specific question</p>	<p>U: "Where is the great wall of china on a map with longitude, latitude with near by cities on scale?" L: pushed the site (http://www.travelchinaguide.com/china_great_wall/) which is about the Great Wall, but has no map or information about longitude, latitude or nearby cities. (TS261)</p>	<p>General answer to the inquiry without responding to specific information request but cites provide general information on the topic.</p>
<p>Other</p>	<p>Miscellaneous</p>	<p>U: “what is the number to financial aid” L: “Okay. Let me see if I can find the number for you. Please hold on.” U: “thanks sorry found it.” (TS100)</p>	<p>A variety of circumstances, including librarian being unable to find answer and users finding information themselves. Does not include responses that were terminated without an answer due to technical problems or inquiries that were referred elsewhere.</p>

* All quotes are verbatim from transcripts and errors in spelling and content are not corrected.

Note: TS indicates 24/7 example, QP indicates QuestionPoint example.

Coding procedures derived from Arnold & Kaske (2005) and developed by Janet Torsney, and revised by Marie L. Radford for Seeking Synchronicity (2007).

Coding Procedures

These procedures were followed by the Seeking Synchronicity research team to code the accuracy of ready reference answers in live chat virtual reference transcripts.

The first step is to eliminate two types of ready reference interactions that will not be coded:

- Questions that were not answered, but were referred for follow-up (via e-mail, fax, to another library/librarian, etc.)
- Questions that were not answered because of technical difficulties, such as user disconnecting. Note: questions that were answered even though the user disconnected will be coded, not eliminated

The remaining ready reference answers are to be placed into one of the following categories:

1. Correct with citation
2. Correct without citation
3. Correct without citation, no citation needed
4. Incorrect with citation
5. Incorrect without citation
6. Incorrect, without specific information requested, with only general/related resource
7. Other

These categories are described in detail in the scheme: “Ready Reference Accuracy in Live Chat Virtual Reference Transcripts: Code Descriptions with Examples.” Categories 1 through 5 are consistent with the criteria used by Arnold and Kaske (2005). Categories 6 and 7 emerged as new categories in the Seeking Synchronicity analysis. Category 6 was created for those answers that were incorrect because they provided general information/citation/site that did not answer the specific question. Category 7 was created for answers that were complete, but did not fit into any of the other categories.

Live chat transcripts may have more than one ready reference question/answer. Each question/answer will be given a unique number and coded individually. For each answer, the coder will determine whether the answer is correct by checking the sites/links provided. In cases where links are not provided or are wrong, the coder will conduct research to determine whether the answer was correct or incorrect.

In order to be coded as correct, the answer must provide information that answers the specific question rather than general information on the topic. If one of several links provides the correct answer, the answer is considered correct, which is particularly important when the initial question is wrong and the correct question and answer is arrived at only through the chat.

For each incorrect answer, the coder will determine which of the three incorrect categories is appropriate.

The category “Other” will be assigned to responses that do not fit into any other category, such as the librarian being unable to find the answer. The coder should make a note of the reason the response was placed into this category.

Appendix J: Online Survey Instruments

LIBRARIAN VRS PROVIDERS

Online Survey

Introduction:

Thank you for agreeing to take this survey, which should take less than 45 minutes to complete. Please answer all questions to the best of your ability. When considering any questions having to do with Virtual Reference Services (VRS, i.e., live chat), you should respond from your own experience with any and all live chat reference services.

1. Demographic Questions

Have you provided live chat reference? Yes No

If yes, how many years of live chat reference experience do you have? Less than 1, 1-3, 4-8, 9 or more

What is/are the name(s) of the live chat services for which you have provided reference service?

Which software have you used when providing live chat reference service?

Do you hold an MLS, MLIS, or other related degree? Yes No

If no, are you a student in an MLS, MLIS, or other related program? Yes No

Have you taken any formal reference courses? Yes No

Do you work in a library? Yes No

If yes, what type of library? Academic Public Special Corporate Library consortium

If no, what type of institution or company employs you to provide reference services?

In what kind of setting is your place of employment located? Urban area, Suburban area, Rural area

What is your gender? M F

What is your age? 21-30, 31-40, 41-50, 51-60, 61+

What is your ethnicity? Native American, Asian or Pacific Islander, African American, Hispanic/Latino, Caucasian, Other

How many years reference experience do you have? 1-5, 6-10, 11-15, 16-20, 21 or more

2. Please compare your experiences with different modes of providing reference service: face-to-face (FtF), phone, live chat, e-mail, IM (instant messaging), and text messaging. Please select one response per question. [radio buttons for the formats following each case]

- I am able to develop the most positive relationship with users in:
- I am able to afford users the best access to library services via:
- I am able to afford users the best access to resources via:

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

- Users thank me most often for my help in:
- I derive the most professional satisfaction from the experience of:

3. Please compare the following *specific aspects* of your experiences as a chat reference provider. [5-point scale in each case, Excellent, Very good, Good, Fair, Poor, N/A]

- My ability to conduct a reference interview is:
- My ability to receive and respond to users’ feedback is:
- My ability to provide the best service and resources is:
- My ability to communicate with users is:
- My ability to deal with time pressures is:
- My ability to follow-up on users’ queries later is:
- My ability to provide users access to databases is:
- My sense of professional satisfaction is:

4. Please compare your experiences, as a chat reference provider, of the following *issues of oversight and resource allocation*: [5-point scale, Excellent, Very Good, Good, Fair, Poor, N/A]

- Availability of training is:
- Support from my superiors is:
- Administrative oversight over my work is:
- Level of support and resources from my administration is:
- My sense of personal accountability is:
- Feedback from users is:

5. Please rate live chat reference service for the following items: [5-point scale, Excellent, Very Good, Good, Fair, Poor, N/A]

- Ability to guide users to better resources is:
- Ability to guide users to specific databases is:
- Ability to guide users to specific websites is:
- Ability to refer users to subject specialists is:
- Ability to increase access to my own institution’s special collections is:
- Ability to offer service to another potential pool of users is:
- Opportunity to educate myself about other library collections and resources is:
- Opportunity to make personal connections with users is:
- Ability to follow-up on users’ queries is:
- Sense of control over the reference encounter is:
- Sense of personal satisfaction in a successful encounter is:
- Sense of user satisfaction in a successful encounter is:

6. Have you experienced any of the following advantages in the *environment* of chat reference? [Yes No N/A]

- Anonymity (a layer of separation between librarian and user)
- Personal sense of greater connection to user
- Elimination of geographic boundaries
- Obtaining email address or name from user
- Personal convenience (i.e., working from home)
- Less physical pressure, as users are not physically present
- Excitement of working in a high-tech environment
- Pleasure of receiving more varied and interesting questions
- Ease of understanding users’ reactions

7. Have you experienced any of the following advantages for your *professional development* as a chat reference provider? [Yes No N/A]

- Opportunity to perform a variety of services
- Opportunity to learn multi-tasking skills
- Opportunity to learn new technologies
- Opportunity to broaden personal knowledge base
- Opportunity to learn new problem-solving techniques
- Opportunity to learn new user-centered reference techniques
- Opportunity to become more objective in reference work
- Opportunity to improve my institution’s image in the community

8. Please indicate if you have experienced any of the following challenges and difficulties while providing chat reference. [Yes No N/A]

- Burnout
- Difficulty managing time with other duties and responsibilities
- Staff resentment
- Lack of adequate training
- Lack of proper marketing for service
- Lack of computer literacy
- Lack of typing proficiency
- User affiliation problems (i.e., which users can take advantage of the service)
- Lack of political support from administration
- Lack of financial support from administration
- Lack of sympathetic IT support
- Jealousy on the part of other library units
- Pressure from administration
- Difficulty operating in a consortium (i.e., with different, unfamiliar collections and policies)
- Questions are too difficult because they are out of my geographic area
- Questions are too difficult because they are out of my area of subject expertise

- Questions are too difficult because they are in a language I do not understand

9. What challenges and difficulties with *software* have you experienced providing chat reference? [5-point scale: Very often, Often, Occasionally, Rarely, Never]

- Abrupt disconnection during session
- Interference from pop-up blockers
- Interference from firewalls
- Platform incompatibility
- Difficulty with co-browsing
- Difficulty customizing message scripts
- Message scripts too impersonal
- Other software “bugs”
- Difficulties with updates or software conversion
- Difficulties with users’ computer literacy
- Users’ impatience with software
- Software vendors have not tested product
- Software vendors have not taken into account desired features

10. Please indicate the frequency of the following challenges in *user interaction* in your experience. [5-point scale: Very often, Often, Occasionally, Rarely, Never]

- Prank questions
- Inappropriate language
- Inappropriate questions
- Impatient users
- Rude users
- Disappearing users (who suddenly disconnect)

11. Thinking about the challenges and difficulties in user interaction above (Question 10), please rate your ability to *handle* such users. [5-point scale: Excellent, Very Good, Good, Fair, Poor]

- Prank questions
- Inappropriate language
- Inappropriate questions
- Impatient users
- Rude users
- Disappearing users (who suddenly disconnect)

12. Please rate the following technological improvements in terms of how important they are to you as a chat reference provider. [5-point scale: Very important, Important, Somewhat important, Not very important, Not at all important, N/A]

- Faster software

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

- Enhancement of co-browsing reliability
- Greater ability to customize software
- Greater ability to customize outgoing message scripts
- Less complex software interface
- Across-the-board compatibility with all web browsers
- Addition of streaming audio
- Addition of Voice-Over Internet Protocols (VOIP, or oral transactions) with ability to capture transcript
- Addition of translation packages
- Web-based system instead of plug-in software
- Ability to locate all user input in a single location on the screen
- Ability to route questions to subject queues
- Ability to route questions through language queues

13. Please think about one experience in which you felt a chat reference encounter achieved a positive result.

- Please describe the circumstances and nature of the reference query.
- Describe why you felt this encounter was a success.

14. Please think about one experience in which you felt a chat reference encounter did *not* achieve a positive result.

- Please describe the circumstances and nature of the reference query.
- Describe why you felt this encounter was not a success.

15. Please add any additional comments here.

If you have completed all the questions for this survey, please enter your required survey code here and then click “Submit Your Responses” so that we may begin to process payment for you.

VRS NON-USERS

Online Survey

Introduction:

Thank you for agreeing to take this survey, which should take less than 45 minutes to complete. The survey contains seven sections; please answer all questions to the best of your ability, as most questions are required to complete the survey. When considering any questions having to do with reference services, your responses should reflect your own experience with any library reference service.

1. Demographic Questions

Have you ever used virtual reference services or instant messaging with a librarian? Yes
No

Have you ever used the telephone for a library reference question? Yes No

Have you ever emailed a librarian with a reference question? Yes No

What type of library do you most often use for in-person visits? (check one: academic library, public library, special library, school library, other, N/A)

In what kind of setting is that library located? (Urban area Suburban area Rural area)

What is your gender? M F

What is your age? (12-14, 15-18, 19-28, 29-35, 36-45, 46-55, 56-65, 65+)

What is your ethnicity? (Native American, Asian or Pacific Islander, African American, Hispanic/Latino, Caucasian, Other)

What is the highest grade level or level of education that you have completed? (6th grade, 9th grade, 12th grade, some college, college degree, some graduate work, masters' degree, doctoral degree)

2. Please compare your experiences with different modes of reference service, e.g. face-to-face (FtF), phone, email, and text messaging. Please select one response per question. [radio buttons for the formats following each case]

- The format of reference service that is most effective overall is:
- The format that is most efficient is:
- The format that is most reliable is:
- I can get the most accurate information in:
- It is easiest to communicate my question to a librarian in:
- I can develop the best relationship with a librarian in:
- I most enjoy using:
- I am *least* intimidated by:

3. Please rate the following *specific aspects* of your experiences with face-to-face reference services. [5-point scale in each case, Excellent, Very Good, Good, Fair, Poor, N/A]

- The overall helpfulness of the service is:
- My interpersonal experience with the librarian is:
- This method of communicating with the librarian is:
- My sense of time pressure while asking questions is:
- The convenience of my access to reference help is:
- My chances of finding quick pieces of information are:
- My chances of finding specific resources are:
- My chances of finding online information are:
- My chances of a librarian being helpful are:
- My chances that a librarian will follow up on my questions are:
- The probability that I will use reference services again is:

4. What is your preferred format for assistance from a librarian (face-to-face, telephone, electronic) and why?

Please select one of the following, and answer the questions in the appropriate section.

I prefer getting assistance from a librarian face-to-face (Complete only section A)

I prefer to use the phone (Click here to skip to section B)

I prefer electronic formats (Click here to skip to section C)

A. What specific features are important to you about the experience of working with a librarian in person? [Very important, Important, Moderately important, Of little importance, Unimportant, N/A]

- The library is convenient
- The librarian is very knowledgeable
- The librarian keeps trying to find answers
- The librarian is friendly and polite
- I trust the information sources that my librarian recommends
- The librarian offers me helpful feedback on my questions
- I can learn new research techniques by interacting with the librarian
- I can choose to ask questions of a specific librarian
- I can locate a librarian with specialized subject knowledge
- I can develop a personal relationship with the librarian
- I trust the librarian at my library
- The librarian has helped me before
- If the librarian is busy, I can wait
- I want to browse library sources
- I value being able to hold a book
- I need primary sources from the library

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

If you have answered section A, please skip sections B and C, and continue with Question 5.

B. What specific features are important to you about telephone reference services? [Very important, Important, Moderately important, Of little importance, Unimportant, N/A]

- The telephone is convenient
- The librarian will keep trying to find answers
- The librarian is friendly and polite
- I can phone and request a specific librarian
- I can locate a librarian with specialized subject knowledge
- If the librarian is busy, I can call back later
- The librarian has helped me before in person
- The librarian has helped me before on the phone

Please rate to what extent you agree with how the following reasons might *discourage* you from going to the library in person. [Strongly agree, Agree, Disagree, Strongly disagree, N/A]

- The library building is not convenient
- The library is not open at convenient hours
- There is a lack of parking close to the library
- The library atmosphere is too distracting to work
- The library reference desk is intimidating
- I have been embarrassed when asking for help at a library
- The librarian is not particularly helpful
- The librarian does not have enough specialized subject knowledge
- The librarian may only do a quick search for some websites
- The librarian tends to be too busy
- The librarian makes me feel stupid when I ask a question
- I may not be able to find the right librarian who can help

If you have answered section B, please skip question C, and proceed to question 5.

C. What specific features are important to you about the experience of using electronic formats (email or text messaging) to contact a librarian? [Very important, Important, Moderately important, Of little importance, Unimportant, N/A]

- Electronic formats are convenient
- Electronic formats are fast
- Electronic formats are informal
- I can use electronic formats at night or on weekends
- I can use electronic formats while working from home
- The librarian will keep trying to find answers
- The librarian will follow-up with me later
- The librarian is friendly and polite
- I can email or text message a specific librarian

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

- I can email or text message a librarian with specialized subject knowledge
- When I use email or text messaging I can strengthen a personal relationship with a librarian
- If the librarian is too busy, I can wait for a response
- The specific librarian has helped me before in person
- The specific librarian has helped me before electronically
- I don't mind waiting to get a response from a librarian, even if it takes a day or two

Please rate to what extent you agree with how the following reasons might *discourage* you from going to the library in person. [Strongly agree, Agree, Disagree, Strongly disagree, N/A]

- The library building is not convenient
- The library is not open at convenient hours
- There is a lack of parking close to the library
- The library atmosphere is not conducive to work
- The library reference desk is intimidating
- I have been embarrassed when asking for help at a library
- The librarian is not particularly helpful
- The librarian does not have enough specialized subject knowledge
- The librarian may only do a quick search for some websites anyway
- The librarian tends to be too busy
- The librarian makes me feel stupid when I ask for help
- I may not be able to find the right librarian who can help

5. Please rate the following factors in terms of their impact on why you have not used chat reference services (VRS). [Strongly agree, Agree, Disagree, Strongly disagree, N/A]

Access to chat reference

- I do not know what chat reference is
- I have no access to chat software
- I did not know chat reference service was available to me
- Chat reference service fees might cost too much
- Chat reference may not be offered at the times I would need the service

Technology issues

- I am uncomfortable trying chat software
- My internet connection is too slow
- My own level of computer literacy is too low
- I think it might take too much time to type out the questions accurately
- It might be difficult to frame questions in chat environment
- I don't think I could use equations in chat reference
- I don't think I could use visual images or sound files in chat reference

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

- Chat reference might be too complicated
- It might be difficult to express myself in chat environment
- It might be difficult to type that quickly

Other concerns

- I would not trust answers from a chat service
- I am afraid of chatting with a stranger
- I can get all the information I need from other sources
- My chat reference questions might annoy a librarian
- My chat reference questions might overwhelm a librarian
- My chat reference questions might get me a negative response
- I might not get adequate feedback from the librarian
- The librarian might not be able to help me via chat
- I do not know to whom I would be speaking
- I don't think I could locate the specific librarian I prefer
- I don't think I could locate a librarian with specific subject expertise
- I don't think I could connect to a pleasant librarian
- I'm never really satisfied by any library reference services
- I'm concerned that chat conversations could be saved and shown to others without my permission
- I'm concerned that hackers might enter my chat conversation
- I'm concerned that chat service might connect me to an internet predator

6. Specific Reference Situations

Please think about one experience in which you felt you achieved a *positive result* after seeking library reference services in any format.

- Please describe the circumstances and nature of your question.
- Describe why you felt the encounter was successful.
- Did the format (face-to-face, telephone, email, or text messaging) help your experience to be successful? If yes, how?

Please think about one experience in which you felt you did *not* achieve a positive result from reference services.

- Please describe the circumstances and nature of your question.
- Describe why you felt the encounter was not successful.
- Did the format (face-to-face, telephone, email, or text messaging) contribute to your lack of success? If yes, how?

7. Additional comments:

What might convince you to try chat reference services? Why?

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

Please add any additional comments here.

If you have completed all the questions for this survey, please enter your required survey code here and then click “Submit Your Responses” (ONCE) so that we may begin to process payment for you.

VRS USERS

Online Survey

Introduction:

Thank you for agreeing to take this survey, which should take less than 45 minutes to complete. The survey contains ten sections; please answer all questions to the best of your ability, as most questions are required to complete the survey. When considering any questions having to do with Virtual Reference Services (VRS, i.e., chat reference), you should respond from your own experience with any and all live chat reference services.

1. Demographic Questions

Have you used chat reference services more than once? Yes No

If yes, roughly how often have you used chat reference? (2-3 times, 4-6 times, 1-2 times per month, 3-4 times per month, 5 or more times per month)

What is/are the name(s) of the chat reference services you have used? (QandANJ, Maryland AskUsNow! Ask Here PA, etc.)

Have you ever used the telephone for a reference question? Yes No

Have you ever used email for a reference question? Yes No

Have you ever used IM (instant messaging) or text messaging for a reference question? Yes No

What type of library do you most often use for in-person visits? (Academic library, Public library, Special library, School library, Other)

In what kind of setting is that library located? (Urban area, Suburban area, Rural area)

What is your gender? M F

What is your age? (12-14, 15-18, 19-28, 29-35, 36-45, 46-55, 56-65, 65+)

What is your ethnicity? (Native American, Asian or Pacific Islander, African American, Hispanic/Latino, Caucasian, Other)

What is the highest grade level or level of education that you have completed? 6th grade, 9th grade, 12th grade, some college, college degree, some graduate work, masters' degree, doctoral degree

2. Please compare your experiences with different modes of reference service, e.g. face-to-face (FtF), phone, e-mail, text messaging, and chat reference. [radio buttons for the formats following each case]

- The format of reference service that is most effective overall is:
- The format that is most efficient is:
- The format that is most reliable is:
- I can get the most accurate information in:
- It is easiest to communicate my question to a librarian in:
- I can develop the best relationship with a librarian in:

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

- I most enjoy using:
- I am least intimidated by:

3. Please compare the following *specific aspects* of your experiences with chat reference. [5-point scale in each case, Excellent, Very good, Good, Fair, Poor, N/A]

- The overall helpfulness of the service is:
- My interpersonal experience with the librarian is:
- This method of communicating with the librarian is:
- The amount of time I have to respond while chatting with the librarian is:
- The convenience of my access to reference help is:
- My chances of finding quick pieces of information are:
- My chances of finding specific resources are:
- My chances of finding online information are:
- My chances of a librarian being helpful are:
- My chances that a librarian will follow up on my questions are:
- The probability that I will use reference services again is:

4. When you have chosen to use chat reference instead of other reference formats (FtF, phone, email, and text messaging), how important have the following factors been in your decision? [Five-point scale, Very important, Important, Somewhat important, Of little importance, Unimportant, N/A.]

- Chat reference is a good starting point
- Chat reference is convenient
- Chat reference is free
- My experience in the past with chat reference was good
- Chat reference helps me find online resources
- Chat reference helps me use databases to find information
- Chat reference librarians keep trying to find answers
- Chat reference librarians are friendly and polite
- I can multi-task during the chat reference session
- After using chat reference, I receive a transcript of the answers
- The environment of chat reference is user-friendly
- Chat reference is just like talking to a person
- I can develop a personal relationship with the librarian
- Someone else recommended chat reference to me
- I needed reference help late at night or on the weekend
- I had a desperate need for quick answers
- I could not get to the library

5. When you have chosen to use other reference formats (FtF, phone, email, or text messaging) instead of chat reference, how important have the following factors been

in your decision? [Five-point scale, Very important, Important, Somewhat important, Of little importance, Unimportant, N/A.]

- The library is convenient
- Other reference formats are more convenient
- I want to browse library sources
- I value being able to hold a book
- I need books or other materials from the library
- The librarian is very knowledgeable
- The librarian keeps trying to find answers
- The librarian offers me helpful feedback on my questions
- I can better judge if the librarian is being helpful
- The librarian is friendly and polite
- I can develop a personal relationship with the librarian
- The chat environment is cold and distant
- The chat scripted messages are too impersonal
- I can choose to ask questions of a specific librarian
- I can locate a librarian with specialized subject knowledge
- I have been frustrated with chat technology
- I have been frustrated with the chat environment

6. What specific features have been important to you in chat reference? [Very important, Important, Moderately important, Of little importance, Unimportant, N/A]

- Immediate answers
- Convenience
- Better resources
- Availability of subject specialists
- Follow-up with email after the session
- Helpful transcript after the session ends
- Ability to do other things while using chat reference
- Opportunity to make personal connections with librarians
- Anonymity (a layer of separation between the librarian and myself)
- Sense of greater connection to librarian
- Good opportunity for dialogue
- Elimination of geographic boundaries
- Less intimidating than going to reference desk
- Librarian’s reactions are more clear
- Easier to express my thanks to a librarian

7. Please rate to what extent you agree with how the following items might discourage you from using chat reference. [Strongly agree, Agree, Neutral, Disagree, Strongly disagree, N/A]

- System abruptly disconnects

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

- Slow internet connection
- Interference from pop-up blockers
- Interference from firewalls
- Platform incompatibility
- Difficulty viewing web pages with librarian
- Difficulty receiving web pages sent by the librarian
- Other software “bugs”
- Own mistakes using software
- Software mistakes made by the librarian
- Impatience with slow software
- Problems with typing speed or accuracy
- Accidental sending of messages too soon
- Lack of marketing from the library
- Slow response time
- Answers not helpful
- Librarian sent me to Web pages that are not correct
- Lack of training for librarians
- The environment is impersonal
- Chat reference librarians tend to interrupt the dialogue
- Chat reference librarians are too busy
- Chat reference librarians might only use Google
- Chat reference librarians might not be from the appropriate library
- Chat reference librarians might not be from the right geographic area
- Chat reference librarians might not be experts in my subject area

8. Please rate the following in terms of how significant an *improvement* they could make to your experience of chat reference services. [Very important, Important, Somewhat important, Of little importance, Unimportant, N/A]

- More stable software
- More flexible software
- Software interface that can be personalized
- Faster software
- Easier software
- Availability of tutorials
- More reliable co-browsing
- Across-the-board compatibility with my web browser
- Availability in other languages
- Addition of streaming audio
- Addition of VOIP (Voice-Over Internet Protocol, for verbal transactions)
- Addition of translation packages
- Better use of color and organization of website
- Better links to the service
- Broadband Internet access instead of dialup

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

- Better satellite access to Internet and chat
- Better capabilities for people with disabilities
- More marketing of the service
- Bookmarks/ links to the service from more sites
- Availability on cell phones and handheld devices
- More hours of service
- More experienced chat reference librarians
- Younger and more tech-savvy chat reference librarians
- More chat reference librarians
- Concierge-type service at a kiosk offering assistance using the library technology
- Cyber cafes on campus with information and instructional services
- Centralized information commons areas with information and instructional services

9. Specific Reference Situations

Please think about one experience using chat reference services in which you felt you *achieved a positive result*.

- Please describe the circumstances and nature of your question.
- Describe why you felt the encounter was successful.
- Did the chat format help your experience to be successful? If yes, how?

Please think about one experience using chat reference services in which you felt you did *not* achieve a positive result.

- Please describe the circumstances and nature of your question.
- Describe why you felt the encounter was not successful.
- Did the chat format contribute to your lack of success? If yes, how?

10. Additional comments

Would you recommend chat reference services to someone else? Why or why not?

Please add any additional comments here.

If you have completed all the questions for this survey, please enter your required survey code here and then click “Submit Your Responses” (ONCE ONLY).

Appendix K: Coding Scheme for Critical Incidents

Facilitators - Content Themes

Categorize the critical incidents as content (C) if non-user/user/librarian *primarily* discussed one or more of the following as associated with his/her perception of interaction’s success:

FC 1. Providing **information**

1.1 Assisting information **delivery/retrieval**

1.11 **Answering question** (ready reference, technical questions, holdings)

1.12 **Quickly** providing answers

1.13 Locating **specific resources**

1.14 Providing **accurate answer/information**

1.2 Providing **information access**

1.21 Access to **other geographic locations**

1.22 Access to **those with disabilities**

1.23 Access to **speakers of languages other than English** or language difficulties

1.24 Access for those **unable to come in person**

1.25 Access to **non-traditional users**

1.3 Being **product oriented** (e.g., concerned with finished product such as speech or paper, rather than with the process of research)

1.4 Making **referral**

1.41 Making referral to come in **to physical library** or phone

1.42 Making referral **to other electronic service** (e.g., email, SMS)

1.5 Using **software/interface** to assist information seeking process (technology worked)

1.51 Co-browsing worked

FC 2. Demonstrating **knowledge** (e.g., provides specialized knowledge of sources or systems)

2.1 **General** knowledge

2.2. **Specialized** knowledge

2.21 **Subject knowledge** (other than library science)

2.22 Knowledge of **library science** (including e-resources)

2.23 Knowledge about **information need**

2.24 **Knowledge of how to articulate need**

2.241 **Spelling and grammar**

2.25 Knowledge of **search process** (including time needed to search)

2.26 Knowledge/ability to speak **languages other than English**

2.27 Knowledge/ability **to use chat** conventions

2.28 Knowledge of tools, **information sources**

2.3 **Technical** knowledge

2.31 Solving technical problems (or working around them)

FC 3. Providing **instruction** - teaching process/resources

- 3.1 **Guiding user** through search process
- 3.2 Introducing **new resources**
- 3.3 Providing **appropriate level** of instruction
- 3.4. Librarian learned new resource/process
- FC 4. Convenience/Multitasking/Time saving/Money saving
 - 4.1 Specific technological interface benefits (e.g., providing a transcript, drawing a graph)

Facilitators - Relational Themes

Categorize the critical incidents as relational (R) if the non-user/user/librarian *primarily* discussed one or more of the following as associated with his/her perception interaction’s success:

- FR 1. **Attitude** – Displaying positive attitude
 - 1.1 Toward **other** (e.g., supportive, friendly, helpful, patient, grateful)
 - 1.11. Provides positive feedback (in service’s survey or in chat transcript)
 - 1.2 Toward **task** (e.g., persistent, patient)
 - 1.21 **Receptive** toward instruction
 - 1.22 Positive impact of **anonymity**
 - 1.3 Toward **VR service**
- FR 2. **Relationship quality**
 - 2.1 Good **communication skills**
 - 2.11 Ability/use of **question clarification/feedback/responsive**
 - 2.12 Use of **humor**
 - 2.2 Good **orientation toward process** (e.g., librarian or user concerned primarily with teaching/learning the research process)
 - 2.3 Willingness to **self-disclose** to provide context for query (e.g., age, personal info)
 - 2.4 Providing follow-up
- FR 3. **Approachability**
 - 3.1 Positive **nonverbal behavior** (e.g., smiling, nodding, use of positive re-representation, chat speak, emoticons)
- FR 4. **Impact of technology** assisting relationship formation/development
- FR 5. **Familiarity** (repeat user)

Facilitators - Content/Relational Combination

Categorize the critical incidents as combination (C/R) only if non-user/user/librarian discussed both content and relational dimensions as contributing equally to perceptions of interaction’s success.

Barriers - Content Themes

The author categorized the critical incidents as content (C) if the non-user/user/librarian *primarily* discussed one or more of the following as associated with his or her perception of the interaction being unsuccessful:

BC 1. Information

1.1 Impeding information delivery/retrieval

- 1.11 Problematic for **complex**, obscure, highly specific questions
- 1.12 Not **answering question**
- 1.13 **Slow** in providing answers/response
- 1.14 Not locating **specific resources**
 - 1.141 **Missing** or unavailable resources
- 1.15 **Shortage** of library staff
- 1.16 Waiting a long time in queue for response
- 1.17 Providing **inappropriate level/type** of information
(e.g., sends websites when databases/or scholarly materials requested)

1.2 Lack of information access

- 1.21 No **local** library access

1.3 Lack of accuracy (e.g., wrong information provided/searching for wrong information /broken links pushed)

1.4 Information technology- impeding process

- 1.41 **Limited availability of resources** (number, type, no paper, etc.)
- 1.42 **Time pressure** (e.g., users in queue)
- 1.43 **Multi-tasking, distraction**
- 1.44 **Lack of proximity** to physical library, librarian
- 1.45 **Poor usability** or unclear/misleading information

1.5 Negative software/interface impact

- 1.51 **Limitations** of software (e.g., IM, chat, e-mail)
- 1.52 Software **problems** (e.g., co-browsing, abrupt shutdown or dropped chat)

BC 2. Lack of knowledge

- 2.1 **General** knowledge
- 2.2. **Specialized** knowledge
- 2.3 **Technical** knowledge (including knowledge of chat/computer skills/typing)

BC 3. Instruction

- 3.1 **Lack** of instruction
- 3.2 **Level** of instruction inappropriate
- 3.3 **Amount** of instruction inappropriate

BC 4. Task unreasonable (e.g. school assignment)

Barriers - Relational Themes – Coding Scheme

The author categorized the critical incidents as relational (R) if the non-user/user/librarian *primarily* discussed one or more of the following as associated with his or her perception of the interaction being unsuccessful:

- BR 1. **Attitude** – Displaying negative attitude
 - 1.1 Toward **other** (e.g., angry, impatient, resisting, rude)
 - 1.2 Toward **task** (e.g., uninterested)
 - 1.21 **Unreceptive toward instruction**, demand for answer
 - 1.22 **Unrealistically high expectations** for quick & full answers
 - 1.23 Fear of **being overwhelmed**
 - 1.24 Fear of **transcript evaluation/presence**
 - 1.25 Detrimental impact of **anonymity**
 - 1.26 **Librarian points** or does not come out from behind desk
 - 1.27 **Busy**/does not commit time to question
 - 1.28 Detrimental impact of FtF
 - 1.281 Feeling **intimidated**, vulnerable, or uncomfortable
 - 1.3 Toward **VR service**
- BR 2. **Relationship quality**
 - 2.1 Poor **communication skills**
 - 2.11 Inability/**poor use of question clarification**/lack of feedback/response
 - 2.12 Abrupt sign off
 - 2.13 Different than FtF (in a negative way)
 - 2.2 Poor **orientation toward process** (e.g., not concerned primarily with teaching/learning the research process)
 - 2.3 **Unwilling to self-disclose** to provide context for query (e.g., age, personal info)
 - 2.4 Lack of personal response
 - 2.5 No follow-up
- BR 3. **Approachability**
 - 3.1 Negative **nonverbal behavior** (e.g., frowning, staring, use of negative chat speak)
 - 3.2 Disclaimer
- BR 4. **Impact of technology** impeding **relationship formation/development**

Barriers - Content/Relational Combination

The author categorized the critical incidents as combination (C/R) only non-user/user/librarian discussed both content and relational dimensions as contributing equally to their perceptions of the interaction being unsuccessful).

Appendix L: Telephone Interview Questions

Librarian Telephone Interview Questions

Interviewer:

Interviewee Code: L-

Interview Date:

Additional notes for interviewer when typing interview:

Indicate interviewer comments in *italics*

Indicate juicy quotes or interesting remarks in **Bold**

Indicate interview questions in ALL CAPS, interviewee answers in regular type.

Indicate emphasis on part of interviewee through underlining.

Time interview starts:

1. How would you describe the quality of the interpersonal communication in chat?
 - a. (Ways to improve?)
2. What user behaviors are the most comfortable for you in chat?
 - a. Uncomfortable?
 - b. Why? If the interaction becomes uncomfortable in some way (rudeness, impatience), how do you handle this challenge?
(Probe: What effects do you believe anonymity has on the behavior of the user?)
(face-work question)
3. When you have chat questions, what factors influence your decision whether or not to ask the user to clarify the question?
 - a. In your experience, how does the question clarification process you engage in during the chat reference interview differ from the process you use when conducting a reference interview face-to-face?
 - b. What makes you think the question clarification process differs between these two formats? (QC question)
4. What improvements would you suggest to make VRS more successful?
(If the respondent is having difficulty identifying improvements, probe by asking if it would be helpful to have better technology, co-browsing capabilities, system support, administrative support, etc.)

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

(If administrative support is mentioned in question #4, use question #5 to probe for examples. If administrative support is NOT mentioned in question #4, ask question #5 and include the probe.)

5. Please describe your impressions of administrative support for chat reference at your institution.

Probe if not mentioned: staffing, monetary support, technological support, buy in from administration regarding the importance of VRS, vendor support.

How does the level of administrative support influence the effectiveness of the service? (Probe for examples.)

Time Check: How many minutes has the interview been:

6. How would you compare the level of difficulty of chat questions to face-to-face questions?
 - a. Why?
7. Remember a successful chat interaction. Describe.
 - a. What factors are indicators for you that the chat interaction was successful?
8. Remember an unsuccessful chat interaction. Describe.
 - a. What factors are indicators for you that the chat interaction was unsuccessful?
9. What are the factors that help you determine whether to provide either an answer or a (hyper)link to a source likely to contain the answer?

What are the factors that help you decide whether to make a referral---or teach the user how to find the answer?
(Probe: What factors influence the level of instruction provided?)
(Probe if not mentioned: When do you suggest change to different mode, e.g., email or face-to- face?)
10. What questions or comments about chat reference would you like to add before we end our conversation?

Time Interview Ends:

Total Interview Time:

Additional notes, impressions, comments on interview:

Non-User Telephone Interview Questions

Interviewee Code: N-

Interviewer:

Interview Date:

Time Interview Starts:

Additional notes for interviewer when typing interview:

Indicate interviewer comments in [brackets]

Indicate juicy quotes or interesting remarks in *asterisks*

Indicate interview questions in ALL CAPS, interviewee answers in regular type.

Indicate emphasis on part of interviewee through underscore marks.

Please do NOT insert any tabs or outline structuring into your typed answers.

1. Have you ever interacted with a librarian in person, by phone, by e-mail, or by any other means?
 - a. If yes, how would you characterize the experience(s)?
 - i. If successful, what made the experience(s) successful?
 1. [If not mentioned, ask: were you comfortable interacting with the librarian?]
 - a. Please tell me a little about the librarian whom you meet most often, i.e. demeanor, knowledge/ subject specialist, approachability, trust.
 - b. Do you think the mode of communication (FtF, telephone, electronic, etc.) contributed to the success?
 - i. Why or why not?
 - ii. If unsuccessful, what made the experience(s) unsuccessful?
 1. [If not mentioned, ask: were you uncomfortable interacting with the librarian?]
 - a. Please tell me a little about the librarian whom you meet most often, i.e. demeanor, knowledge/ subject specialist, approachability, trust.
 - b. Do you think the mode of communication (FtF, telephone, electronic) contributed to the unsuccessful experience?
 - i. Why or why not?

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

- b. If no, why haven't you interacted with a librarian?
 - i. What might convince you to ask a librarian for help in the future?
2. Think about a time when you needed to know something. How did you go about getting what you needed?
 - a. Probe: Did you use sources such as friends, family, professors, colleagues, librarians, etc.
 - b. What led you to use these sources?
3. Have there been times when you made the choice not to use a library (university/ college, public, etc.) and used other source(s) instead?
 - a. What led you to this choice?
 - b. Where there other alternative sources? Did you also use them? How come? Why not?
4. Have there been times that you did choose to use a library (university/ college, public, etc.)?
 - a. What led you to this choice?
 - b. Where there other alternative sources? Did you also use them? How come? Why not?

Time Check: How many minutes has the interview been:

5. Tell me about your experience using electronic formats (e-mail, text messaging, chat) for business, school, or personal communication.
 - a. Have you ever used any of these formats to communicate with a librarian?
 - b. If yes, what led you to this choice?
 - i. [Probe for awareness of the chat reference service, i.e. marketing, promotion, visibility on the library web site, free, and technology issues, i.e. security, need to download software, etc.]
 - c. If no, can you tell me why you did not choose to use them?
 - i. [Probe for awareness of the chat reference service, i.e. marketing, promotion, visibility on the library web site, free, and technology issues, i.e. security, need to download software, etc.]

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

- d. How can you envision using these formats to communicate with a librarian?
 - e. How might it be different to use one of more of these forms of communication with a librarian than with colleagues, family, and friends?
6. What might convince you to ask a librarian for help using a chat reference service? (note: if they are unfamiliar with the idea of a chat reference service explain that this is when you use IM to ask a librarian a question).
 7. What questions or comments about chat reference would you like to add before we end our conversation?

Time Interview Ends:

Total Interview Time:

Additional notes, impressions, comments on interview:

User Telephone Interview Questions

Interviewee Code: U-

Interviewer:

Interview Date:

Time interview starts:

Additional notes for interviewer when typing interview:

Indicate interviewer comments in [brackets]

Indicate juicy quotes or interesting remarks in *asterisks*

Indicate interview questions in ALL CAPS, interviewee answers in regular type.

Indicate emphasis on part of interviewee through underscore marks.

Please do NOT insert any tabs or outline structuring into your typed answers.

Please turn off special characters in MSWord if used to record interviews.

1. What factors lead you to use chat reference?
 - a. Probe (if not mentioned): e.g., convenience, good starting point, cost (free), previous experience, good answers, allows multitasking, late-night/weekend availability?
 - b. Does the possibility of anonymity affect your decision to use chat reference?
If so, how? (If not, why not?)
2. Please tell me about any concerns you have (if any) in choosing chat reference?
 - a. Probe (if not mentioned): What about privacy or security concerns?
3. In what kind of situations is chat reference your first choice for finding information?
Why?
 - a. Have there been times where you decided not to use VRS but used other resources instead? Why?
4. Please recall one specific chat interaction that you would consider successful and describe. (Note to interviewer, if given a general example of interaction, push for one specific interaction: “Can you remember one of these in particular?”)
 - a. What in particular made this interaction successful for you?
5. Please recall one specific chat interaction that you would *not* consider successful and describe. (Note to interviewer, if given a general example of interaction, push for one specific interaction: “Can you remember one of these in particular?”)
 - a. What in particular made this interaction unsuccessful for you?
6. Can you please discuss the relative importance of getting the information (or answer) as opposed to how you are treated by the librarian in deciding whether an interaction is successful?

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

This question may require clarification: While getting the answer you need is important, how important is how you are treated during the chat interaction?

Time Check: How many minutes has the interview been:

7. How do you usually end chat reference interactions? Why?

This question may require clarification: Do you sign off, if so how do you (what do you type)?

- a. How do you usually express satisfaction/dissatisfaction with chat reference?
 - b. Have you ever had to log off hastily during a chat reference interaction? Please describe.
8. What improvements could enhance your chat reference experience? (technical or otherwise)
9. How important is it to you to receive help from a chat librarian who is an expert in the subject area of your question? How would you feel about the trade off of waiting longer for help from a subject expert?
10. Would you recommend chat reference to others? If so, why? (If not, why not?)
11. Please compare your impressions of working with a librarian face-to-face vs. working via chat. How do they compare in your satisfaction with the interaction?
- a. Probe (if not mentioned): What do you think of librarians using “canned scripts” such as “Welcome to our chat service, a librarian is reading your question now” during chat sessions?
12. What other questions or comments about chat reference would you like to add before we finish the interview?

Time Interview Ends:

Total Interview Time:

Additional notes, impressions, comments on interview:

Appendix M: Project Outcomes

Publications, Book Chapters, & Proceedings

- Connaway, L. S., Radford, M. L., Dickey, T. J., Williams, J. D., and Confer, P. (in press, June, 2008). Sense-making and synchronicity: Information-seeking behaviors of Millennials and Baby Boomers. *Libri*, 58(2).
- Radford, M. L. & Mon, L. (in press, 2008). Reference service in face-to-face and virtual environments. In: Marie L. Radford & Pamela Snelson (Eds.), *Academic Library Research: Perspectives and Current Trends*. ALA/ACRL, Publications in Librarianship series. Chicago: ACRL.
- Connaway, L. S., Radford, M. L., & Dickey, T. J. (2008). On the trail of the elusive non-user: What research in virtual reference environments reveals. *ASIST Bulletin* 34(2). [Available: http://www.asis.org/Bulletin/Dec-07/connaway_radford_dickey.html]
- Connaway, L.S., de Gaia, J., & Radford, M.L. (2007). *Social networking: The confluence of content, collaboration and community*. In H. Jezzard (Ed.), *Applying Web 2.0: Innovation, Impact, and Implementation Conference Proceedings*. (pp. 161-162). Online Information 2007, London, England, December 4-6, 2007
- Connaway, L. S. & Radford, M. L. (2007). *Service sea change: Clicking with screenagers through virtual reference*. In H. Thompson (Ed.) *Sailing into the Future: Charting our Destiny. Proceedings of the Thirteenth National Conference of the Association of College and Research Libraries, March 29-April 1, 2007, Baltimore, Maryland*. (pp. 191-197). Chicago: ACRL/ALA.
- Connaway, L. S. & Radford, M. L. (2007). The thrill of the chase in cyberspace: A report of focus groups with live chat librarians. *Informed Librarian Online [electronic journal]* [Available: <http://www.informedlibrarian.com/guestForum.cfm?FILE=gf0701.html>]
- Radford, M.L. & Connaway, L. S. (2007). Connecting in cyberspace: The millennial generation and virtual reference service. Part of panel presentation: *Behaviors and Preferences of Digital Natives: Informing a Research Agenda, Online proceedings of The American Society for Information Science and Technology Conference*, Milwaukee, Wisconsin, October 18-20, 2007.
- Radford, M. L. & Connaway, L. S. (2007). “Screenagers” and Live Chat Reference: Living Up to the Promise. *Scan* 26(1), 31-39.
- Bolander, R. C., Connaway, L. S., & Radford, M. L. (2006). Seeking Synchronicity: OCLC and Rutgers researchers explore virtual reference services by analyzing chat transcripts. *NextSpace* 2, 18-19.
- Radford, M. L. & Connaway, L. S. (2006). Seeking sustainability and singularity: evaluating virtual reference from user, non-user, and librarian perspectives. Presented on Panel: *Information realities: Shaping the digital future for all. Online proceedings*

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

of The American Society for Information Science and Technology Conference, Austin, TX, November 3-9, 2006. [Available: <http://www.asis.org/Conferences/AM06/proceedings/openpage.html>].

Radford, M. L. & Connaway, L. S. (2006). Virtual windows: Observing chat reference encounters through transcript analysis. *Online Proceedings of a symposium: The Role of Observation and the Health of Community* presented at the 19th International Association for People-Environment Studies, Alexandria, Egypt, September 11-16, 2006

Presentations

Radford, M. L. & Connaway, L. S. (2008, October). E-Valuating virtual viewpoints: User, non-user, and librarians perspectives on live chat-based reference. Accepted for presentation at the American Society for Information Science and Technology Conference, Columbus, OH, October 24-29, 2008.

Radford, M. L. & Connaway, L. S. (2008, August). Getting better all the time: Improving communication and accuracy in virtual reference. Accepted for presentation at Reference Renaissance: Current and Future Trends, Denver, CO, August 4-5, 2008.

Connaway, L. S., Radford, M. L., Dickey, T. J., & Williams, J. D. (2008, June/July). “I find what I need” Investigating the behaviors and information seeking preferences of non-users of virtual reference. Accepted for presentation by the Library Research Round Table at the American Library Association Conference, Anaheim, CA, June 26-July 2, 2008.

Radford, M. L. (2008, June/July) Keynote speaker: Quality Service in an Impersonal World, RUSA President’s Program, American Library Association, Anaheim, CA, June 26-July 2, 2008.

Radford, M. L. (2008, June/July) To participate on panel on virtual reference for University Libraries Section, American Library Association, Anaheim, CA, June 26-July 2, 2008.

Connaway, L. S., & McGlamery, S. (2008, June). Quality assurance in a multi-state, multi-national virtual reference cooperative. Presented at the Libraries in the Digital Age 2008 Conference, Dubrovnik and Mljet, Croatia, June 2-7, 2008.

Radford, M. L., & Connaway, L. S. (2008, June). Cordial connections: Evaluating virtual reference from user, non-user, and librarian perspectives using the critical incident technique. Presented at the Libraries in the Digital Age 2008 Conference, Dubrovnik and Mljet, Croatia, June 2-7, 2008.

Radford, M. L. (2008, May). Achieving effective interpersonal communication in virtual environments. Presented at Pennsylvania Library Association, Lehigh Valley, Cedar Crest College, Allentown, PA, May 15, 2008.

Radford, M. L., Connaway, L. S., & Williams, J. D. (2008, May). “Ha ha... Get a real job, loser!!!” An analysis of generational differences in the re-representation of

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

- nonverbal cues and of conflict in live chat transcripts. Presented at the Nonverbal Communication Interest Group of the Eastern Communication Association Conference, Pittsburgh, PA, May 1-5, 2008.
- Radford, M. L. (2008, April/May). Introduction to chat reference: Getting comfortable and increasing accuracy. Presented at NJLA, Long Branch, NJ, April 29-May 1, 2008.
- Radford, M. L. (2008, April). “Pls hurry it up thanks!!!” Interpersonal communication in virtual reference. Presented at Florida Library Association, St. Pete Beach, FL, April 24, 2008.
- Radford, M. L. & Connaway, L. S. (2008, April). Smiling online: Applying face-to-face reference skills in a virtual environment. Presented as a Webinar (Web Based Seminar) at OCLC, Dublin, OH, April 16, 2008.
- Radford, M. L. & Connaway, L. S. (2008, March) Exceeding expectations: E-reference excellence in collaborative VR. Presented at the Public Library Association, 12th National Conference, Minneapolis, MN, March 25-29, 2008.
- Radford, M. L. (2008, March). Keynote speaker: Maryland AskUsNow! 5th Anniversary Celebration, Anne Arundel County Public Library, MD, March 19, 2008.
- Radford, M. L. & Connaway, L. S. (2008, January). Users and librarians engaging in virtual spaces: Using critical incidents to inform practice and education in chat reference. Presented at the ALISE Conference, Philadelphia, PA, January 8-11, 2008.
- Connaway, L. S., de Gaia, J., & Radford, M. L. (2007, December). Social networking: The confluence of content, collaboration and community. Presented at the Online Information Conference, London, England, December 4-6, 2007.
- Radford, M. L., Connaway, L. S., & Williams, J. D. (2007, November). Connecting in cyber communities: Comparing communication preferences and behaviors in live chat reference encounters. Presented as part of a pre-convention: Urban Communication: Proliferating Worldviews in the Urban Landscape at the National Communication Association Conference, Chicago, IL, November 14, 2007.
- Connaway, L. S. (2007, November). “The Library is a good source if you have several months.” Making the Library More Accessible. Presented at the Delaware Valley Chapter, Association of College and Research Libraries (ACRL) Conference, Millersville, PA, November 2, 2007.
- Radford, M. L. (2007, November). Creating chat connections: E-evaluating virtual reference transcripts. Presented and participated on panel at Delaware Valley Chapter, Association of College and Research Libraries (ACRL) Conference, West Chester, PA, November 2, 2007.
- Radford, M. L. & Connaway, L. S. (2007, October). Connecting in cyberspace: The Millennial generation and virtual reference service. Presented on panel, Behaviors and Preferences of Digital Natives: Informing a Research Agenda, at the American Society for Information Science and Technology Conference, Milwaukee, WI, October 18-20, 2007.

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

- Radford, M. L., Connaway, L. S., & Williams, J. D. (2007, October). Virtual rituals: Applying Goffman’s Face-Work to an analysis of live chat reference encounters. Accepted for presentation at the Library Research Seminar IV in London, Ontario, October 10-12, 2007.
- Radford, M. L. (2007, August). Challenges for reference excellence: Realities and possibilities. Keynote address at Reference Retreat, Pennsylvania State University Libraries, State College, PA, August 1-2, 2007.
- Connaway, L.S. & Radford, M.L. (2007, June). Focusing on change: Connecting to both Millennials and Baby Boomers. Presented at the information: interactions and impact (i3) conference, The Robert Gordon University, Aberdeen, Scotland (UK), June 27, 2007.
- Radford, M. L. (2007, June). See it, hear it, touch it: How do communication and learning styles affect virtual reference? Presented to panel for RUSA's RSS/MARS Virtual Reference Committee, American Library Association, Washington, DC, June 21-27, 2007.
- Radford, M. L. & Connaway, L. S. (2007, June). Not dead yet! Ready reference in live chat reference. Presented at the 13th RUSA New Reference Research Forum, American Library Association Conference, Washington D.C., June 21-27, 2007.
- Radford, M. L. & Connaway, L. S. (2007, June). Are we getting warmer? Query clarification in virtual reference. Presented at the Library Research Round Table, American Library Association Conference, Washington DC, June 21-27, 2007.
- Radford, M. L. & Connaway, L. S. (2007, June). Shared expectations: Getting comfortable and providing quality service in cooperative VR. Presented at the OCLC panel, Best Practices in Cooperative Virtual Reference, American Library Association, Washington, DC, June 23, 2007.
- Radford, M. L. & Connaway, L. S. (2007, June). Getting in synch with screenagers: Virtual reference and sustaining the relevance of libraries. Presented at the IRPG/ALA panel, American Library Association, Washington, DC, June 22, 2007.
- Radford, M. L. (2007, June). “I was kind of confused b4” Interpersonal communication research in virtual reference. Keynote address at 2007 Oregon Virtual Reference Summit, Bend, OR, June 1, 2007.
- Radford, M. L. (2007, April). User 2.0: The millennial generation and the future of digital library services. Keynote address at Beta Phi Mu, Pratt Institute, NYC, April 29, 2007.
- Connaway, L. S. & Radford, M. L. (2007, March/April). Service sea change: Clicking with screenagers through virtual reference. Presented at the Association for College and Research Libraries, 13th National Conference, Baltimore, MD, March 29-April 1, 2007.
- Radford, M. L., Connaway, L. S., & Williams, J. DeAngelis (2007, March). Face-work in computer-mediated communication: An analysis of live chat reference encounters. Paper presented at the New Jersey Communication Association Conference, Kean University, Union, NJ, March 24, 2007.

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

- Connaway, L. S. (2007, March). Why not libraries? Users identify their information preferences. Presented to the Central Ohio Chapter, American Society for Information Science and Technology (CO-ASIS&T), Dublin, OH, March 6, 2007.
- Radford, M. L. & Connaway, L. S. (2007, January). Reflections of reference practice: Analyzing virtual reference transcripts. Presented at the ALISE Conference, Seattle, WA, January 16-19, 2007.
- Radford, M. L. & Connaway, L. S. (2006, November). Expect the unexpected: Urban screenagers’ communication and information seeking preferences. Paper presented at pre-conference: Urban Communication: Creating Sites for Connection and Action. National Communication Association, San Antonio, TX, November 15, 2006.
- Radford, M. L. & Connaway, L. S. (2006, November). Seeking sustainability and singularity: Evaluating virtual reference from user, non-user, and librarian perspectives. Presented on panel, Shaping the Future Realities of Virtual Reference, at the American Society for Information Science and Technology Conference, Austin, TX, November 3-9, 2006.
- Radford, M. L. & Connaway, L. S. (2006, October). “Screenagers” and virtual (chat) reference: The future is now! Presented at the New Jersey Association of School Librarians, Long Branch, NJ, October 29-31, 2006.
- Radford, M. L. & Connaway, L. S. (2006, September). Virtual windows: Observing chat reference encounters through transcript analysis. Presented at The Role of Observation and the Health of Community Symposium, 19th International Association for People-Environment Studies, Alexandria, Egypt, September 11-16, 2006.
- Radford, M. L. & Connaway, L. S. (2006, June). Seeking synchronicity: Evaluating virtual reference transcripts. Presented at the QuestionPoint Users Group Meeting, American Library Association, New Orleans, LA, June 25, 2006.
- Radford, M. L. & Connaway, L. S. (2006, June). Face-work in chat reference encounters. Presented at the Library Research Round Table Research Forum: Librarians as Research Subjects, American Library Association Conference, New Orleans, LA, June 24, 2006.
- Radford, M. L. (2006, June) Reinvented reference: The integration of digital & traditional reference services. Featured presentation at the Inquisitive Assessment RUSA MARS/RSS Pre-conference, American Library Association, New Orleans, LA, June 23, 2006.
- Radford, M. L. (2006, May). Service excellence: Realities and possibilities. Annual Address at Monmouth County Library, Annual Meeting, May 12, 2006.
- Radford, M. L. (2006, May). Thanx a lot 4 ur help! Interpersonal communication in live chat virtual reference. Presented to Virtual Reference SIG, METRO, Baruch College, NY, NY, May 8, 2006.
- Radford, M. L. (2006, April). “R U there dawg?” Interpersonal communication in the virtual reference environment. Colloquium presentation, Emporia State University, Emporia, Kansas, April 7, 2006.

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

Radford, M. L. & Connaway, L. S. (2006, March). Relational communication in chat reference. Presented at the 10th New Jersey Communication Association Conference, Montclair State University, NJ, March 25, 2006.

Radford, M. L. & Connaway, L. S. (2006, January). Seeking synchronicity: Evaluating virtual reference transcripts. Presented at the 2006 ALISE Conference, San Antonio, TX, January 16-19, 2006.

Radford, M. L. (2005). Participant in panel: Recent research findings on virtual reference services: What we have learned lately and what should we research next? Presented to the VRD 7th Annual Digital Reference Conference, San Francisco, CA, November 14-15, 2005.

Appendix N: Project Website Hits

Seeking Synchronicity Website Statistics	<i>Jan. 2006</i>	<i>Feb. 2006</i>	<i>March 2006</i>	<i>Apr. 2006</i>	<i>May 2006</i>	<i>June 2006</i>	<i>July 2006</i>	<i>Aug. 2006</i>	<i>Sept. 2006</i>	<i>Oct. 2006</i>	<i>Nov. 2006</i>	<i>Dec. 2006</i>
Page Views	104	392	437	458	↓	↓	↓	↓	↓	↓	635	530
Downloads	108	435	625	729	877	678	1344	1028	1051	1146	954	856

Seeking Synchronicity Website Statistics	<i>Jan. 2007</i>	<i>Feb. 2007</i>	<i>March 2007</i>	<i>Apr. 2007</i>	<i>May 2007</i>	<i>June 2007</i>	<i>July 2007</i>	<i>Aug. 2007</i>	<i>Sept. 2007</i>	<i>Oct. 2007</i>	<i>Nov. 2007</i>	<i>Dec. 2007</i>
Page Views	592	620	622	940	899	2944	1707	640	703	706	790	624
Downloads	940	1078	1503	1837	1372	1272	1436	1922	2606	2948	2769	2347

Seeking Synchronicity Website Statistics	<i>Jan. 2008</i>	<i>Feb. 2008*</i>	<i>March 2008</i>	<i>Apr. 2008</i>	<i>May 2008</i>	<i>June 2008**</i>
Page Views	546	80	302	540	310	242
Downloads	5241	48	77	120	91	66

*Partial month: 02/11/08 - 02/29/08

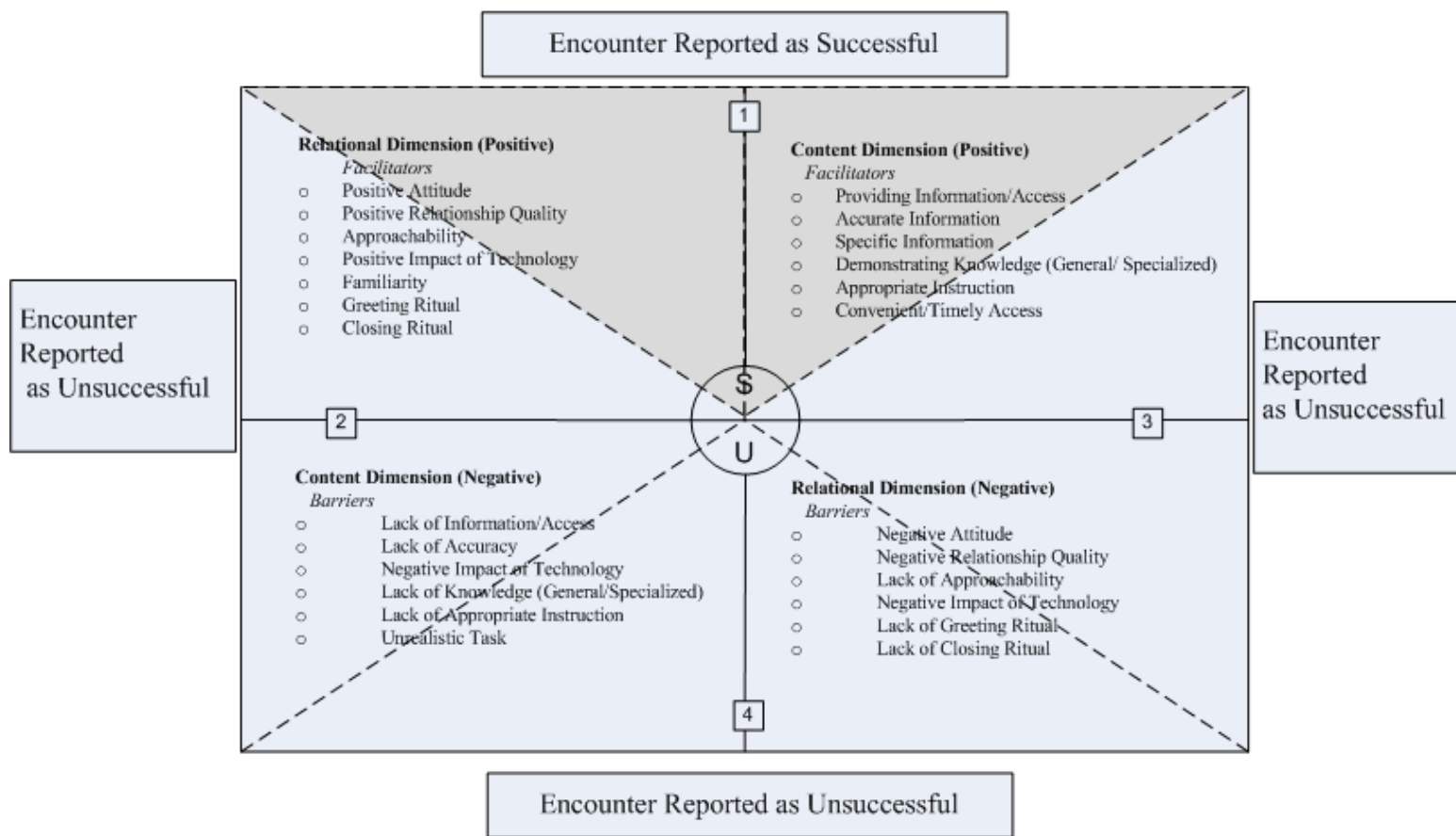
**Partial month: 06/01/08 - 06/24/08

Page View: "One complete [html] Web page load in a user's browser. Page Views count the number of times an entire page has been accessed rather than individual site elements [e.g., images or other items that exist as files on the server and are called by the browser in the process of rendering a complete page]."

On 11 February 2008 OCLC implemented a new system for reporting traffic on its Web site. This system uses a very different methodology for traffic reporting than the previous one. Thus, overall levels of reported traffic are different under the new system. Furthermore, implementation of the system is still being fine-tuned. It is known that some measures are underreported although it is not possible to provide reliable estimates of the magnitude of this discrepancy.

Appendix O: Theoretical Model

A Content/Relational Model of Reported Success in Synchronous Reference Encounters (Face-to-Face and Chat)



© 2008 Marie L. Radford and OCLC Online Computer Library Center, Inc.

Quadrant Descriptions:

Quadrant 1: Positive relational and positive content – successful. Participants’ (librarian’s and user’s) information and interpersonal needs are met.

Quadrant 2: Positive relational and negative content – unsuccessful. Participants’ (librarian’s and user’s) interpersonal needs are met, but information needs are not met.

Quadrant 3: Positive content and negative relational – unsuccessful. Participants’ (librarian’s and user’s) information needs are met, but interpersonal needs are not met.

Quadrant 4: Negative content and negative relational – unsuccessful. Participants’ (librarian’s and user’s) information and interpersonal needs are not met.

Assumptions/Notes:

This model is for synchronous reference encounters (e.g., face-to-face (FtF), live chat, and telephone) for dyadic communication (i.e., between two people).

Both positive relational and positive content dimensions are critically important for successful encounters for participants, including librarians and users.

This model follows from the theoretical work of Watzlawick, Beavin, & Jackson, 1967; Goffman, 1967; and Radford 1993, 1999, 2006. It rests on a finely detailed category scheme of facilitators and barriers derived from these studies, as well as Radford & Connaway 2005 – Seeking Synchronicity. The category scheme was constructed on empirical data from librarians, users, and non-users in FtF and live chat environments as well as from live chat transcript analysis.

User and Librarian Characteristics - Cognitive and Affect Variables Vary by Context (cultural, institutional, type of library, etc.)

User Characteristics (age, gender, cultural background, level of education, past experience with libraries, librarians, reference mode, technology; language facility, technological skills, communication skills, etc.)

Librarian Characteristics (age, gender, cultural background, education, reference experience, communication skills, language facility, technological skills, subject knowledge, keyboarding skills, etc.)

Model focuses attention on the dual dimensions of communication, content and relational dimensions. For successful interactions, the combination positive content and relational aspects must be present. Interactions that have negative content or negative relational components will be unsuccessful.

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

We know that there are some differences/similarities in the reported importance of the Content and Relational Dimensions as reported by librarians, users, and non-users. These will be articulated in the article to accompany the theoretical model.

Likewise we know that there are differences/similarities in the reported importance of the Content and Relational Dimensions in chat vs. FtF (e.g., in FtF, users were more concerned with relational dimensions than they were in chat where they were more concerned with content). Librarians in both FtF and chat were highly focused on Relational Dimensions (i.e., mostly the user’s poor attitude) in their descriptions of unsuccessful encounters.

Appendix P: Project Staff

Jocelyn DeAngelis Williams, Project Manager (10/2005 – 03/2008)

Timothy J. Dickey, Project Manager (04/2008-)

Patrick Confer, Grant Research Assistant

David M. Dragos, Research Assistant

Jannica Heinstrom, Research Assistant

Erin Hood, Research Assistant

Stephanie Kip, Research Assistant

Vickie Kozo, Research Assistant

Heather L. Moulaison, Research Assistant

Lisa Rose-Wiles, Research Assistant

Susanna Sabolsci-Boros, Research Assistant

Andrea M. Simzak, Research Assistant

Janet Torsney, Research Assistant

Appendix Q: Best Practice Guidelines for Librarian Providers of VRS

Dazzle ‘em (from a distance)

VRS librarians are encouraged to promote both a global and local presence. The cooperative nature of the staffing means that the chances of a user connecting to one of his or her own local librarians can be quite small. Therefore, many users will go to their own library website, but be helped by a librarian with no connection to that user’s library. In a telephone interview, one VRS librarian stated, “I think [VRS] is going to kind of contribute to the whole globalization that the Internet is doing; it’s going to make it possible for anyone, anywhere to ask a librarian a question – a question of any librarian or any information person anywhere.” (Interview L-034) Scripted or non-scripted greetings identifying the librarian, the librarian's location, and the nature of the cooperative service should be used. This type of greeting provides a perfect opportunity for VRS librarians to use the same interpersonal techniques to connect globally to a local user and to build rapport with them in a virtual environment. This benefit may be more evident from the user’s perspective than the librarian's perspective. One user from the Midwestern United States who was seeking information from a librarian on the Eastern coast of the United States asked, “How is the weather in Boston?” when the user realized the librarian was located thousands of miles away (Radford and Connaway, 2005, chat transcript QP-108).

Overcome Boundaries and Heighten Awareness of Remote Access Issues

Librarians should try to assist users with resources at their own library, rather than resources at the VRS librarian’s library. Librarians in cooperative VRS must provide links to their local library's databases and policy pages to allow cooperative VRS librarians to direct users to their own local sources. Librarians should not just send links to web pages, but rather provide context and instruction to the user. Merely providing links to resources often will not suffice since some URLs are dynamic, such as library catalog search results, and some databases will not be available to the user. The librarian may need to guide users beyond consortial limits, such as to other databases that are accessible to the user or to a local library that would provide access to the databases and resources.

Develop and Share Expectations

It is crucial that all participants in a cooperative VRS have a shared vision for what the service offers and for determining quality. Quality is defined both by accuracy in answering questions and by building strong interpersonal rapport with virtual users. Members of the Cooperative must agree on how much help will be given (aim for generosity within staff/time limits), so that a consistently high level of service is developed and consistently offered to users. All users (children, young adults, even rude or impatient people) should receive high levels of professionalism, courtesy and respect. The reference interview (or, as it could more accurately be called, the reference conversation) is the key element in developing user expectations and is crucial to the success of the session. The reference interview process helps the librarian determine what the user is seeking, and allows the librarian to tell the user what can be done during the

online session and what may need to be sent for follow up. The librarian must be effective in identifying the patron’s information needs and must do so in a manner that keeps patrons at ease. In online chat, there is a tendency to skip the reference interview. Librarians, however, should always ask at least one question, if only to repeat what the user just said (the user may have made a typographical error and may not in fact mean what he just typed). When users ask general questions, librarians should ask open ended questions to allow users to explain their need in their own words.

Exceed Expectations – Aim for Excellent Service and Cultivate Repeat Users

To show users new to cooperative VRS what the service can do for them, librarians should provide valuable information in a friendly and approachable way. This is the key value that a virtual reference service can provide to busy users – personal interaction with a knowledgeable information guide. Several minutes spent with a capable reference librarian can save many users countless hours spent on Google or other search engines. Ensuring that valuable information has been provided includes asking users if the information given meets their need, or asking, “Does this completely answer your question?” Sending this message signals the librarian’s interest in the user, and tends to result in higher user satisfaction with the service. Once all needs have been met, VRS librarians should either send the scripted Goodbye message provided by the user’s library (“Thanks for using Maryland AskUsNow!”) or, if no script is available, thank the users for using the service and encourage them to return if they have more questions. This not only reinforces the name of the service, but also helps to cultivate repeat users. Users will come back and spread the word to others when they have a positive experience.

Start off on the Right Foot

It is important to establish rapport early in the chat. Building rapport requires developing a more personal, interactive experience for the user, including using first names – or pseudonyms for the privacy-conscious – and refraining from resorting to too many automated scripts. When users see scripts they think these are computer generated and are more likely to become impatient or rude. In order to promote good rapport the librarian can also reassure the user when the user may be intimidated by the format or technology, attempting to keep the user from feeling “judged by the librarian” and focusing on the user’s information need. When one user apologized to the librarian for making a typo, the VRS librarian assured the user that typos were no problem by stating, “Don’t worry about the typos – I make them too!” (Radford and Connaway, 2005, chat transcript QP-20). Rapport is not easy to establish with every user, and negative comments from a user should not be taken personally. Librarians can defuse the situation by staying detached from the negative interaction, demonstrating a sense of humor, and offering to follow-up on the question by email.

Accentuate the Positive

Librarians can present their service in the best light by focusing on what CAN be done to answer users’ questions, avoiding negative words like “can’t,” “don’t,” or “but.” A negative response to a homework help question, such as, “We cannot do homework for you,” can be turned into a teachable moment, allowing the librarian to demonstrate a

database, instruct the user on effective search terms or on ways to evaluate resources for authoritativeness and relevancy.

Give the User the Option to Go Beyond Initial Resources

Librarians should provide professional search assistance – that is the value added by an online reference service. Many times librarians simply push web pages to the user, in order to answer a question. It is important to provide context and instruction to the user, rather than just sharing resources or merely sending web pages. Librarians should provide enough guidance so that the user can recreate the search if needed (include the name of links, which one the user should click on, as well as the “click path”).

Manage Complex or Multiple Queries

Researchers with complex questions or students seeking answers to multiple homework questions in the course of one chat session represent particular challenges to librarians, especially when the service is busy. Librarians can handle multiple student questions by recognizing common elements to the questions, by providing appropriate general resources for general questions, and by offering the user alternative ways to procure an answer (email, phone, etc.). For complex queries, interaction between user and librarian is invaluable for negotiating the query, determining what steps the researcher has already tried and what resources have already been found.

Continue Providing Information if Patron Disappears

Online users may disappear from a chat session for a variety of reasons, but it is important for the librarian to continue providing as complete an answer and citations as possible. In many chat systems, if the user has left an email address, then the entire session will be sent to that address automatically.

Appendix R: Recommendations for Facilitating Interpersonal Communication in Chat Reference Encounters

General Notes

- Always remember that your interpersonal skills and experience are transferable to the chat environment.
- There is a general misunderstanding that interpersonal niceties are not important in chat or virtual settings. Interpersonal dimensions are present and vitally important in virtual communication.
- The large majority of time spent in virtual interactions is spent in the searching process, not in interpersonal exchanges.
- Type short sentences and hit send frequently at appropriate places to maintain “word contact.” If you are going to be searching for a while, continue to send short reassurances (e.g., searching...) so the users know you have not disconnected.

Greeting

- Give a personal greeting after the script (can be a quick “Hi!”)
- Use the person’s first name in your response, younger users especially like a personal approach. This softens the anonymous environment and may head off problems.
- When reading user’s initial question, look for any self-disclosure or indications that the user is seeking reassurance (Can you help me?) and provide an appropriate response.
- When initial question looks complex, immediately let the user know that you think this may take some time and ask if they have the time to wait while you search. Users sometimes expect instant answers, like when they search Google, but often they are multitasking and may not mind waiting.
- If you can see that the user is from a geographically remote place, you may want to make a comment on this right away (e.g., How’s the weather in Florida? It’s snowing here in Maryland). This gently alerts the user that a question about local information may have to be referred.

Strategies for Building Rapport

- As appropriate, be willing to self-disclose, to provide information about yourself, to use “I” statements. This can mean:
 - Offering personal opinion/advice/value judgment (e.g., I think that you will have more success if you do X; or I have used this strategy before and it works!)

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

- Admitting lack of knowledge (e.g., I don’t know what you mean, could you be more specific? I have not heard of this term before, can you tell me what it means?)
- Ask for confirmation as needed (e.g., Is this what you mean?)
- Acknowledge user self-disclosure (e.g., I’m sorry you’re not feeling well and are unable to travel to your library, let me see how I can help. Then, at the closing, “feel better soon!”)
 - Be empathetic when users self-disclose difficulty or frustration. (e.g., It is frustrating when our technology doesn’t work!)
- Include user in search process (e.g., Let’s try this; We’ll look here first; Would it be ok if we...)
- Indicate your approval as appropriate (e.g., That’s great! or Good for you!)
- Offer reassurance when users indicate that they are tentative, or unsure of how to proceed. Realize that they can be fearful of your disapproval (if, for example, they have poor computer skills).
 - Use encouraging remarks, praise, and enthusiastic remarks as appropriate.
 - Humor also can be reassuring, as can the use of self-deprecating remarks (I’m not the world’s best speller either!)
- Mirror the level of formality/informality of the user
 - If they use informal language, feel free to be less formal (as appropriate).
- Be deferential and respectful of all users.
 - Use polite expressions as appropriate (e.g., please, thanks, you’re welcome, etc.).
 - Apologize as appropriate (e.g., use sorry, unfortunately, or oops).

Compensation for Lack of Nonverbal Cues

- Mirror the user’s style. If they use shortcuts, acronyms, abbreviations, and emoticons (smileys), feel free to do so also (as appropriate).
 - You may see more “chat speak” in younger users, respond in kind if you are comfortable doing so.
- If you are not comfortable using emoticons, you can spell out nonverbal behaviors or use interjections (e.g., hmmm, oh, ha ha, grin).
- Use repeated punctuation for emphasis (e.g., !!!, or ??).
- Use ellipsis to indicate more to come (e.g., still searching...)
- Be careful when using ALL CAPS, this may seem like a reprimand or like shouting (e.g., Don’t EVER ...).

Closing

- Always give a personal closing (can be a quick “bye!”)
- In the closing, as in the greeting, be sure to respond to self-disclosure, enthusiasm, or polite expressions. (e.g., if the user says: “This is a great service!” Don’t just send them the scripted closing, give an appropriate response like “Glad you think so, thanks!”)
- Avoid premature closing, make sure you have answered users question(s) completely. Ask if they need anything else before closing.

“Seeking Synchronicity: Evaluating Virtual Reference Service from User, Non-user, and Librarian Perspectives” LG-06-05-0109-05

- Look for subtle cues that the user wants more help. (e.g., “Well, thanks for your help” is one example, the “well” hedge may indicate that they are settling for what you have provided, but really want more.)

Relational Barriers to be Avoided

- Avoid robotic answers.
- Avoid sending an inappropriate script (e.g., a welcome script half-way through).
- Don’t ignore user self-disclosure or use of humor. If the user makes a joke (even if it is lame!) respond with a ;-) or ha!
- Avoid failing to offer reassurance when the user seeks it.
- Don’t ignore parts of questions or additional questions.
 - When dealing with a several part question let the user know that you will take the questions in order.
 - If busy, indicate that you will start with question one, and may have to answer the others by e-mail.
- Avoid being condescending or disconfirming.
- Avoid negative closure
 - Premature Closing – make sure that you have answered all questions.
 - Abrupt ending – let user know you are going to close.
 - Disclaimer – don’t indicate that question is unanswerable or problematic before checking, many things previously unavailable may now be accessible. Provide a good referral if you are unable to answer question.
 - Never ignore cues that user wants more help, even if it means asking them to wait while you help others.

© Marie L. Radford and OCLC Online Computer Library Center, Inc., 2008

Recommendations for Facilitating Interpersonal Communication in

Chat Reference Encounters with Rude/Impatient Users

- Remember you have skills and experience in dealing with rude/impatient people in face-to-face encounters – these skills can be just as effective in virtual encounters.
- Don’t “mirror” rude behavior; this only provokes further rudeness.
- Be polite and professional at all times.
- Resist the urge to reprimand or admonish users for rude behavior or FLAMING, again this only provokes more rude behavior.
- Avoid jargon or language that will create a barrier or send the message that you are blindly following the rulebook.
- Apologize to the user as appropriate, this does not mean that you are accepting blame.
 - An apology can diffuse potentially rude behavior on line.
 - E.g., I’m sorry that you had to wait so long; our service is very busy today.
 - E.g., I’m sorry that I can’t help with your request this time, please visit your local library for that information.
- When users are impatient (Hurry, hurry!), let them know realistically how long you think that the search for the information they need will take. If you think it will take more than a minute or so, let them know. Present alternatives and let them decide.
 - E.g., I know you are in a hurry, but this will take about 4 to 5 minutes. Can you wait?
 - If they can’t wait, apologize (e.g., I’m sorry I can’t answer your question quickly, but I can e-mail that answer to you within 2-3 days).
- If the user complains about library service or another chat librarian, thank them for bringing their concern to your attention and promise to follow-up. Regard a complaint as a gift, as a way to improve service.
- Don’t be condescending to a person with a “simple question.” Sometimes parents are helping their children with homework and you may insult them. Treat all users with equal courtesy and respect.
- Realize that the rude users are in the minority, but understand that you will encounter one now and then.
- Don’t take rude behaviors personally, sometimes users are stressed by deadlines and other life problems and their rudeness and impatience usually has nothing to do with you or your service.

© Marie L. Radford and OCLC Online Computer Library Center, Inc., 2008