Cassidy R. Sugimoto. Evaluating Reference Transactions in Academic Music Libraries. A Master's Paper for the M.S. in L.S degree. April, 2007. 48 pages. Advisor: Jeffrey Pomerantz

This study evaluates the quality of reference transactions in academic music libraries. The study builds on previous research that identified music libraries as having different evaluation needs than main, multidisciplinary academic libraries. Using unobtrusive evaluation techniques, this study analyzes chat/IM and e-mail reference transactions at 128 U.S. academic music libraries in order to determine the quality of responses provided. Differences in quality of responses between the two mediums are also analyzed. The results of this study provide a state-of-the-art view of the current media on which reference services are offered for music libraries, and the quality of those services. This work discusses the implications of the findings and provides suggestions for improving the quality of these reference services in academic music libraries.

Headings:

Reference services (Libraries) – Academic library Reference services.

Reference services (Libraries) – Case studies.

Reference services (Libraries) – Humanities libraries Reference services.

Reference services (Libraries) – Internet in library Reference services.

Reference services (Libraries) – Research.

EVALUATING REFERENCE TRANSACTIONS IN ACADEMIC MUSIC
LIBRARIES

by
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Approved by

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Table of Contents

1 Introduction

Evaluation of reference services is an essential process in a reference department. Proper evaluation can be used to improve services, manage resources more effectively, and supply administrators with quantifiable measures of the quantity and quality of the service provided (Allen, 2001, p. 246). Although it has existed in some form since the emergence of the profession, the evaluation procedure for reference grew in complexity and garnered more interest from librarians and researchers in the mid-twentieth century (Ibid.). Since then, methods such as unobtrusive testing (Crowley & Childers, 1971, pp. 1-96) and new media (i.e., chat/IM reference) have challenged researchers to explore new possibilities of reference evaluation.

Information professionals have answered this challenge with an abundance of research on reference service assessment in academic main libraries; however, very little has been published in regards to reference service assessment in academic music libraries. In fact, a review of the literature shows only two assessments of reference service in music libraries: a 1994 study by the Music Library Association's (MLA) Reference Performance Subcommittee (Christensen, 2001, pp. 39-54) and a survey by the MLA Information Sharing Subcommittee in 2002 (Szymanski & Fields, 2005, pp. 634-658).

The need for separate reference assessment in music libraries is a prominent concern for music librarians (Clegg, 1985, pp. 69-75). Music librarians have long recognized the complexities of their discipline which distinguish its reference work from

that of other types of libraries, for example: "multiple physical manifestations of musical compositions in various sound recording, video recording, and score formats, and publication of works in collections and series," (Christensen, 2001, p. 40) the unique cataloging system which relies heavily on uniform titles, and the growing interdisciplinary nature of the field (Davidson, 1993, pp. 13-22). These differences often make it difficult for the patron to navigate the public catalog and require more in-depth bibliographic instruction on the part of the music librarian.

The 1994 study by the MLA's Reference Performance Subcommittee (Christensen) surveyed thirteen libraries and evaluated differences between reference transactions in music libraries and those in general libraries. The study found that there are marked differences in the way reference is conducted in these two environments. The results of this article emphasize the need for reference evaluation research that evaluates academic music libraries distinctly from general libraries.

The 2002 survey by the MLA Information Sharing Subcommittee (Szymanski) surveyed librarians to ascertain the degree to which they provided virtual reference service, such as e-mail and chat. The results of this article "are descriptive only, since survey participants volunteered rather than being chosen through a valid and reliable statistical process (Szymanski, 2005, 635)." The results of the survey provided only a snapshot of reference services at a particular time and explicitly called for further research in quality assessment of reference service in music libraries (Szymanski, 2005, p. 649).

The lack of the literature on reference evaluation in academic music libraries and the findings of the two empirical studies cited provide strong evidence on that academic

music libraries need to be studied separately from the general reference environment and that particular studies in reference evaluation in this context is necessary. The current study will do both of those things. In addition, this study will investigate questions that were not explored in the previous studies. The current study is motivated by the model and suggestions of the Reference Performance Subcommittee study in that it separates out music reference for special evaluation. However, this study moves beyond the Reference Performance Subcommittee study by attempting to evaluate the relationship between the quality of the reference transaction and the media on which it is offered.

In particular, this study addresses two research questions that are currently unanswered by the existing empirical studies on reference in academic music libraries. Specifically:

1. What electronic media do academic music libraries use in their provision of reference services?

2. Are there any differences in the quality of services provided between differing types of electronic media?

The purpose of this study is to observe, analyze and evaluate the quality of reference services in academic music libraries. By unobtrusively gathering data from a large sample of academic music libraries, this study identifies the extent of the use of electronic media in providing reference service and provides evidence of the quality of services associated with each media.

2 Literature Review

Very little literature has been published regarding reference service performance in academic music libraries. The literature that exists on music reference is comprised primarily of essays and reflections by practicing librarians (Casey and Taylor, 1995; Gottlieb, 1994; Lasocki, 1999-2000; Duckles, 1972; Redlich, 1993; Duggan, 1987). A review of the literature yields only two empirical studies assessing reference service in music libraries: a study conducted in 1994 by the Music Library Association's (MLA) Reference Performance Subcommittee (Christensen, 2000, p. 39-54) and a survey issued by the MLA Information Sharing Subcommittee in 2002 (Szymanski & Fields, 2005, p. 634-658).

The study produced by the MLA's Reference Performance Subcommittee in 1994 surveyed thirteen libraries and evaluated differences between reference transactions in music libraries compared to general libraries. The study was an obtrusive reference study which employed the Wisconsin-Ohio Reference Evaluation Program (WOREP)[i] to evaluate the reference transactions. The results of the WOREP evaluation notes the ways in which reference services in music libraries vary from that of the central/general library: music libraries "rely heavily on student and paraprofessional employees to refer, or even to answer, reference questions,"[ii] the types of materials found in the music library and the multiple instantiations of a single work makes music reference work extremely complicated, and music cataloging varies from other disciplines with its heavy reliance on complex uniform titles and form-genre subject headings (Christensen, 2000, p. 40).[iii] Music reference librarians also require a higher degree of subject specialty knowledge (in music) than general reference librarians, which results in different ways of conducting the

reference interview. For example, Christensen points out that music reference librarians tested with the WOREP survey instrument used "own knowledge" as a source 32.31% of the time, while general reference departments tested using this survey only used "own knowledge" as a source 12.75% of the time (p. 40). The results of this article, publishing in 2001 as a progress report, emphasize the need for reference evaluation research that treats the music librarian separately.

The study produced in 2002 by the MLA Information Sharing Subcommittee surveyed forty-five librarians to ascertain the degree to which they provided virtual reference service, such as e-mail and chat. The analysis predominantly examines the hours these services are offered/used, the types of patrons served, and the time librarians spend using each medium. The study found that 100% of respondents used e-mail to answer reference questions, 77% used a Web based form to answer reference questions, and 49% used a chat service to conduct reference. The respondents reported receiving the majority of reference questions in person. In regards to chat reference, the study found that chat reference was predominately offered between 1-3 p.m. in the libraries queried. Many of these respondents mentioned that chat reference was handled through cooperation with a larger system or consortium, with at least one respondent mentioning that no music librarians were staffed for chat reference. The article, though descriptive only, provided an idea of the types of media on which reference was being provided in music libraries and explicitly called for further research in quality assessment of reference services in music libraries (Szymanski & Fields, 2005, p. 649).

One way in which the current study distinguishes itself from the literature on reference in music libraries is that it will be done unobtrusively, rather than obtrusively

(like the Christensen study) or on a volunteer basis (like the Szymanksi study). The

technique of unobtrusive evaluation (where an event is observed and evaluated without

the knowledge of those being observed) was first applied to library reference evaluation

by Terence Crowley in his 1968 dissertation (Bopp & Smith, 2001, p. 254). Crowley

used unobtrusive techniques to identify whether differences in budget affected the

reference answering ability of medium-sized public libraries in New Jersey. Crowley did

not find any significant data to answer his question, but did find that only 54.2% of the

questions were answered correctly (Crowley, 1968). Crowley's study was replicated on a

larger scale by Tom Childers (1970). Childers, like Crowley, focused on New Jersey

libraries, but expanded the number of libraries and the range of questions. Childers'

study verified the findings of Crowley's report, finding 55 to 64 percent accuracy.

To validate the unobtrusive technique, Weech and Goldhor (1982) conducted a

study comparing unobtrusive and obtrusive evaluation of reference services. They

surveyed five Illinois public libraries, asking fifteen questions at each. They found that

using unobtrusive techniques yielded an accuracy rate of 70%[iv] while obtrusive

measurers yielded a score of 85%. Their report "established the value of this technique in

providing an accurate picture of service provision by demonstrating that when reference

staff were aware that they were being evaluated, they correctly answered a larger

proportion of the questions" (Bopp & Smith, 2001, p. 254). By suggesting that reference

evaluation was done more accurately with this technique, Weech and Goldhor firmly

established unobtrusive evaluation as a valuable tool for evaluating reference services. In

addition, the authors "provided a wealth of detail on the use of student proxies" and

through this article "[a]nother important line of research was thus opened" (Crowley, 1985, p. 63).

Crowley (1985) revisited the subject of unobtrusive evaluation of reference services to produce a literature review seven years after his initial study. Crowley's report provides summaries of the major unobtrusive studies done in that period of time (i.e., Martin, Crowley, & Shaughnessy, 1969; Childers, 1970; Crowley & Childers, 1971; King & Berry, 1973; Childers, 1978; Weech and Goldhor; McClure and Hernon, 1983) and addresses issues of impact and ethics of the unobtrusive reference evaluation technique.

One year after Crowley's literature review, Hernon and McClure (1986) published another work utilizing unobtrusive evaluation for reference services and coined the term "55 percent rule." This rule was a remark on the fact that since Crowley's 1968 study, researchers had consistency been finding that librarians answered 55% of questions accurately when tested unobtrusively. The authors provoked the reference community by asserting that, due to these accuracy reports, "[p]erhaps libraries need to consider the relative importance of 'reference services' vis-à-vis other library activities and resource allocation priorities" (Hernon & McClure, 1986, p. 41). Hernon and McClure concluded by saying that "unobtrusive testing will force librarians to address issues regarding: the 55 percent reference rule; the appropriateness of incorporating formal mechanisms of evaluation into library reference services; the quality of reference services from the user's perspective; [and] the research competencies of library staff to conduct evaluation studies" (p. 41). To further emphasize the importance of the unobtrusive technique for reference evaluation, Hernon and McClure (1987) authored a

book entitled *Unobtrusive Testing and Library Reference Services*. This book provides a

background of the technique, insight into designing methodology utilizing this technique,

results of the author's studies, and the impact of this technique on management and

educational practices.[v]

Criticism of the "55 percent rule" and of the current practice of evaluation of

reference services has come from many different arenas. Authors such as Durrance

(1989) argued that "accuracy may not be the most appropriate measure of success" (p.

31) and conducted an unobtrusive study evaluating the environment in which reference

occurs. Durrance sought to examine other factors which may impact a patron's

willingness to return to a particular library or librarian—beyond pure accuracy rates.

Durrance found that the environment "seems as much to interfere with as to facilitate and

effective reference interview" (p. 36) and urged future researchers to take the

environment into account, along with accuracy scores, when evaluating reference

services.

Another counterexample to the Hernon and McClure 55% rule is a study done by

Saxton and Richardson (2002) in which they randomly sampled actual questions rather

than inventing questions (as Hernon and McClure did). They evaluated the transactions

on many levels, including accuracy, and found that over 90% of the reference

transactions were judged to be completely/partially accurate, or provided the user with an

accurate referral (p.95).   Hernon and McClure concluded that there was "strong evidence

that the expectation of 'half-right reference' is not supported when a large, random

sample of actual reference queries is examined" (p. 95).

Hubbertz (2005) evaluated the methodology behind unobtrusive evaluations,

working on the premise that "if one sets aside the specifically unobtrusive aspect of

[unobtrusive] studies, what is left is nothing more than a standardized test" (p. 328). In

evaluating the history of unobtrusive evaluation of reference services, Hubbertz claims

that "the uniform test requirement has been violated, so far as can be determined, in

virtually every unobtrusive evaluation since Childers" (p. 329). Hubbertz boldly asserts

that:

> It has been established beyond any serious question that
> unobtrusive evaluation does not measure the overall quality
> of reference service, that overall scores in the middle range
> are an artifact of the methodology, and that the '55 percent
> rule' of Hernon and McClure is a spurious generalization.
> As the analysis shows that the purported rule is not half-
> wrong or partly wrong, but simply nonsense, there is no
> reason to elaborate the argument further. (p. 333)

Despite these strong admonitions against unobtrusive evaluation, Hubbertz maintains that

it could be a useful tool, among others, if standardized and used "properly" (p. 335).

The tool of unobtrusive evaluation has been particularly useful in evaluating the

assorted media with which reference services are conducted—namely telephone, chat,

virtual reference, and e-mail. In regards to telephone reference, Paskoff (1989) evaluated

51 academic health sciences libraries and hospital libraries via telephone inquiries. Using

unobtrusive evaluation techniques, Paskoff and one trained graduate-student proxy

queried the libraries with six factual questions. She found an accuracy score that was

"average" (63%) and that referrals accounted for 25.1% of the answers given (Paskoff,

1989, p. 175). This referral rate "was one of the highest of any of the unobtrusive studies

of reference service that have been reported" (p. 178). Paskoff speculated that this may

"indicated a different attitude toward the user by health sciences librarians than by those in academic and public libraries" (p. 178). Paskoff's study was the "first unobtrusive study of the accuracy of telephone reference service in health sciences libraries" (p. 183). Paskoff's study informs other studies that look at evaluating reference in subject-specific libraries.

Chat/virtual and e-mail reference are particularly well-suited for unobtrusive evaluation, due to the anonymity and the production of transcripts from each transaction. Ward (2004) analyzed 856 chat transactions from the University of Illinois "Ask a Librarian" virtual reference service (p. 48). These transactions were conducted by five trained proxies: two graduate students in library and information science, and three student assistants from the undergraduate library (p. 49). Questions used in Ward's study were found in the chat archive and from a previous study that utilized actual questions (Woodward, 1989, 455-67). Ward used a "Completeness scale" which was based on Childers' "Correctness" scale (p. 49) to evaluate the chat transactions. The coding that Ward used was based on the number of predetermined criteria present in each transaction. In addition to studying the effectiveness of chat in answering reference questions, Ward presented a metric for evaluating future reference transactions.

In the spirit of Durrance (1989), Walter and Mediavilla looked to examine chat reference transactions for more than pure accuracy. The metric with which they evaluated the 100+ online transactions in their study is called the "Virtual Reference Behavior Checklist" (Walter & Mediavilla, 2005, 214), modeled after a form developed by Gers and Seward (1985, p. 34). In addition to evaluating whether or not the librarian exhibited "appropriate behavior," they also evaluated the transcripts using discourse

analysis. The idea of discourse analysis in analyzing chat (or e-mail reference, for that matter), opens a new line of research for reference evaluation.

E-mail reference entered scholarly discussion in the 1980s with articles such as Schardt's (1983) "Electronic mail service: applications in the Pacific Northwest region" and Roysdon and Elliott's (1988) article "Electronic Integration of Library Services Through a Campuswide Network." Roysdon and Elliott's article praised e-mail reference for its convenience and accuracy over telephone reference. Roysdon and Elliott wrote that "electronic reference encourages a more thoughtful, leisured, and coherent approach to question answering" (Bushallow-Wilbur, DeVinney, & Whitcomb, 1996, p. 360). However, they noted the limitations of this media, calling question negotiation via e-mail "slow and often frustrating" (p. 360).

After e-mail reference had gained a more ubiquitous standing in the reference community, Abels (1996) undertook a study at the University of Maryland to evaluate the process of conducting e-mail reference. Abels' research utilized 56 students acting as librarians for the same number of student "clients." The project was comprised of three different phases: in the first phase, students conducted the reference interview using e-mail only; in the second phase, students reviewed the previous transcripts, discussed the reference interview in other modes (in-person and telephone), and conducted reference interviews with real clients; in the third phase, students conducted reference interviews with real clients in whichever mode the client preferred. The transcripts of all of these reference interviews were collected to analyze the nature of the e-mail reference interview and how it differed from other media. Abels also presents "a taxonomy of approaches to e-mail reference interviews" (Abels, 1996, p. 348). Abels' findings

suggest that complex questions can be effectively answered using e-mail as a media for reference transactions.

Since Abels' analysis, many researchers have sought to evaluate e-mail reference services using a variety of methods: Bushallow-Wildbur, DeVinney, and Whitcomb (1996) evaluated 485 queries asked at three different University of Buffalo libraries, looking to find insight on "who is asking what types of questions via electronic reference service and when they are asking them" (p. 309); Moore (1998) studied e-mail reference services at the University of Central Arkansas, evaluating who was asking questions and when; Diamond and Pease (2001) analyzed 450 reference transactions received at California State University Chico in an effort to categorize the types of questions received by electronic means; Moeller (2003) analyzed transcripts from questions submitted to Ohio State University's Main Library Ask-A-Librarian e-mail reference service to see who was asking questions and what types of questions they were asking.

What is lacking from much of this research evaluating reference in multiple media is a standardized metric for observing quality. Many authors, (e.g., Crowley (1968), Childers (1970), Weech and Goldhor (1982), Hernon and McClure (1986), and Paskoff (1989)) implicitly evaluate accuracy as a measure of quality, although how they measure accuracy varies. Childers (1970) defines his metric as the "Correctness Scale." Ward (2004) uses a "Completeness Scale" modeled in part after Childers' scale (p. 49). Christensen (2000) uses the Wisconsin-Ohio Reference Evaluation Program, in an attempt to produced standardized results.   Walter and Mediavilla use the "Virtual Reference Behavior Checklist" (2005) modeled after a form created by Gers and Seward (1985, p. 34). Durrance (1989) evaluates the quality of the transaction based on the

patron's willingness to return to the library. Similar metrics define quality as "the different between a library user's expectations and perceptions of service performance" (Nitecki, 1996, p. 182). As Pomerantz, Luo and McClure (2006) have noted in their review of evaluation techniques used in reference assessment: "In short, there is not lack of proposed approaches and measures to assess reference services in general and chat reference in particular" (p. 25). Saxton (1997) explored this issue in an article focusing on meta-analysis of reference service evaluation. Saxton found that reference evaluation is highly heterogeneous, making meta-analysis extremely difficult. Saxton's concluded with commenting that "until a modicum of consensus is reached on what definitions are best to use, repetition of tests across multiple studies will rarely occur, making it difficult to perform meta-analyses and ultimately nullifying the potential benefit that could be gained from cumulative findings over many studies" (p. 287). This leaves the researcher with the opportunity to choose whichever metric seems most relevant to the research question, but also makes comparison of quality scores across research difficult.

The current study will build upon this previous literature. Although this study is aimed specifically at academic music libraries, it will be informed by the body of general reference assessment. In addition, this study will utilize the repertoire of literature on digital reference to construct a sound study to compare both synchronous and asynchronous reference media. Another important body of literature for this study is that of unobtrusive evaluation, as this will be the first unobtrusive evaluation of reference services in an academic music library. Lastly, this work is informed by the two previous empirical studies on music librarianship, particularly the Christensen study, which

provides evidence that music libraries conduct reference in a way dissimilar from that of general academic libraries and thus warrant specialized evaluation.

3 Methodology

3.1 Technique

As stated earlier, this study was conducted using unobtrusive research techniques. According to Babbie, unobtrusive research involves "methods of studying social behavior without affecting it" (2004, p. 313). The method used for this study required the author to "pose" as an average patron in order to simulate a typical reference transaction. These transactions were conducted without the libraries or librarians being aware that a study is being performed. This technique was chosen in an attempt to receive less biased responses, informed by research that shows "that when reference staff were aware that they were being evaluated, they correctly answered a larger proportion of the questions (Allen, 2001, 254)." Utilizing this method strengthened the likelihood of observing less biased responses. Collecting data unobtrusively, rather than on a voluntary basis, differentiated this study from that of the Information Sharing Subcommittee study. In addition, the Information Sharing Subcommittee asked for volunteers, while this study evaluated all institutions identified as being in the population. This study differed dramatically from previous studies and filled a void in the existing literature. A review of the literature yielded no results of unobtrusive evaluation methods being applied to academic music reference transactions, nor research evaluating the quality of the reference transaction across multiple media.

3.2 Selection of music libraries

The first step in this study was to select the music libraries to be included. The goal was to identify all academic music libraries in the population. For the purpose of

this study, academic music libraries were defined as being music collections that: are affiliated with an institution of higher education (excluding all orchestral, public, and conservatory libraries); have at least one full-time music librarian on staff; are separated from the main library collection in some way, although they can be combined with other "arts" disciplines (i.e. Performing Arts Library, Fine Arts Library, Music/Dance Library, etc.); and are in the United States.

Various sampling techniques were used to select the music libraries to be included in this study, including purposive and snowball sampling. The initial selection criteria for the libraries studied was that they be members of the Association for Research Libraries (ARL). The assumption here was that this list would be representative of the major academic music libraries in the nation. After excluding Canadian and public libraries, the websites of the remaining 97 U.S. academic ARL libraries were searched for potential music libraries. The results fell into four categories: 1) music holdings were not explicitly mentioned on the website at all; 2) a self-described "music collection" was mentioned, but that collection was not housed separately from the main library; 3) a self-described "music collection" was held within an arts library (e.g., Fine Arts Library, Performing Arts Library, etc.); and 4) the institution had a self-described Music Library that was either housed completely separately or with one other discipline (i.e. Music/Dance Library).

In an attempt to isolate those situations in which one would be interacting with a music specialist, the first two categories were completely filtered out. In these categories, it would be unlikely that a reference transaction would take place with a music specialist or even a student assistant with experience in music materials. The third category was

slightly more ambiguous, but libraries in this category were included when a music librarian was on staff (nine libraries). All libraries in the fourth category were included in this study (55 libraries).

After identifying this set of relevant libraries, it became obvious that gaps existed in this list of academic music libraries. The next resource consulted was the Music Library Association Membership Handbook. Searching through the list of academic libraries with which individual members were affiliated elicited 42 more academic music libraries, bringing the total number of academic music libraries to 106. This list of 106 music libraries was then sent to the listserv of the Music Library Association asking the members of the listserv to check the list for accuracy and completeness. The responses from this query added 27 more libraries to the fold, increasing the total to 133. A few libraries were eliminated from this due to technical difficulties with their websites, and The University of North Carolina at Chapel Hill was eliminated because the librarians were already familiar with the questions, the research, and the researcher. In total, 128 academic music libraries in the United States were included in this project.

One potential limitation of this study is the unknown sample frame from which the academic music library list was collected. Since no data could be found to provide an accurate number of the total number of academic music libraries in the United States, the data are analyzed against an unknown population number. However, considerable effort was made in the selection of the academic music library list to collect as comprehensive a list as possible.

Once the academic music libraries had been identified and selected, data was collected on the types of synchronous and asynchronous reference services offered at

these libraries. More specifically, data was collected on whether or not these institutions offered e-mail and instant messaging (or chat) reference. This data was gathered by viewing the information available on the websites of both the music library and its supporting university library system. It was noted whether or not the service was offered by the particular library or as part of a university-wide service (typically either the university's main library or a consortium).

3.3 Selection of questions

In keeping with Saxton and Richardson's methodology (2002) questions for this study were taken from a binder of recorded reference questions asked at the University of North Carolina Chapel Hill Music Library between July 15, 1996 and September 22, 1998. The five questions selected were:

1. What is the address for the Bartok Archive in NY?

2. Can you help me locate Civil War flute music?

3. I am a percussion student studying the piece "Fantasy on Japanese Wood Prints" by Alan Hovhaness. I wondered if there was any information available about the actual Japanese wood prints that inspired the composer. If so, what are their titles, and is it possible to find prints or posters of them?

4. Do you have any information on Francis Hopkinson (as a composer)?

5. What are the lyrics to "Who will Answer"? Also, who wrote this and who performed it?

The questions were chosen to represent a range of possible question types. For example, the first question represented a "ready reference" question in which the answer

could be found in reference books and dictated an exact response (an address). The fourth question was more representative of an open research question, in which a number of sources could serve as a "correct answer" to the question. The answers (or in the case of some of the questions, the sources) to all of these questions were located before the study to assure that correct answers or relevant sources could be found. In addition, it was verified that responses to some of these questions could be found both electronically and in print and that the majority of these questions could be answered with the average holdings of the music libraries in the study. In general, the selection criteria were that these be actual questions and that they be representative of a typical range of questions asked in a music library.

3.4 Assignment of questions to each library

Interviews on the two different media were conducted sequentially—first, all of the e-mail transactions were conducted, and then all of the chat/IM transactions were conducted. All institutions which were to be queried were entered into a spreadsheet in alphabetical order, by the state in which the library was located. The questions were assigned in that order. For the selection of questions to be asked in the chat reference, the researcher assigned the questions from 1-5 in order of the spreadsheet, but skipping those libraries that do not have chat and making sure no library was asked the same question by chat and e-mail. For an example of this procedure, see table 1.

Table 1: Method for assigning questions to libraries

Institution	E-mail	Chat
A	1	2
B	2	3
C	3	n/a
D	4	2

E	5	4
F	1	5
G	2	1

This technique was chosen to ensure that certain libraries were not burdened with more "difficult" questions and that a single librarian would not have the potential of answering the same question twice.

3.5 Formation of an alias

In order to be completely unobtrusive, an alias was created for the researcher in each of the media. The alias had to be different in the different media, so that the librarian would not recognize the researcher from previous reference questions. For e-mail, the researcher used a Duke University e-mail address with a male name, that was an Anglo first name and an Asian last name[vi]. This e-mail was chosen in order to have an .edu domain name, under the assumption that better service would be provided to an unaffiliated user with an .edu domain name and that this e-mail would be less likely to be interpreted as spam mail by the librarian's e-mail system. For chat, the researcher used a female name, that, like the e-mail alias was an Anglican first name and an Asian last name. An e-mail address was created for this alias at hotmail.com. The initial e-mail name was chosen as a matter of convenience, and the second name was chosen in an attempt to match the ethnic assumptions of the first, in order to keep the research less biased. This decision was motivated by Shachaf and Horowitz's article (2006) regarding virtual reference and the impact of the patron's assumed ethnicity on the quality of service provided by the librarian.

3.6 Coding of transcripts

Transcripts of the reference transactions were directly produced as a result of the IM/Chat and e-mail media. These transcripts were coded for responses and analyzed for quality. The quality metric that was employed is generally based on Ward's (2004) "Completeness Scale." The four criteria for a complete response are:

- Was an answer provided?[vii]

- Was a source provided (at least one)?

- Was guidance (bibliographic instruction) provided?

- Was the "patron" probed with questions (question negotiation)?

The quality rating for each question was determined by the "correctness" rate as described below:

- Complete (C)—All four criteria are fulfilled

- Mostly Complete (MC)—Either a source or an answer was provided, along with one other criteria

- Mostly Incomplete (MI)—One criteria is present (or two criteria, lacking source and answer)

- Incomplete (I)—No criteria is present

- Referral (R)—patron was given a referral, and no additional criteria were present

Ward's Completeness Scale, which was based on Childers' Correctness Scale, was chosen as a model because it best fit the needs of the current study. Ward's scale was devised for an unobtrusive reference evaluation studying, using actual questions and looking at chat reference transactions. The current study was similar in all these ways,

except the additional inclusion of e-mail reference transactions. The modifications made from Ward's scale, to the current scale, reflect a slight difference in research question/agenda.

One major appeal of the current scale was its ease of use in coding. In an attempt to maintain a degree of objective parameters (in a field plagued with ambiguity), this scale does not attempt to gauge the quality of each response type (answer, source, etc.), but rather assess overall response quality by the number and types of responses received in the course of each transaction.

There are some obvious limitations to this scale, for example, an answer may be complete without necessarily being accurate and the criteria of "answer" and "source" are themselves ambiguous criteria. However, the devised Completeness Scale meets the needs, purpose, and research questions of this study. Lastly, the criteria chosen for completeness cover the main facets of a reference interview: answers, sources, bibliographic instruction, question negotiations, and referrals.

4 Results

4.1 Chat

Chat transactions were conducted for 25 (19.5%) of the 128 academic music

libraries included in this study. The remaining 101 transactions were not conducted

because a) there was no chat service available for that school, b) the chat service was

explicitly offered only to affiliates of that particular school, c) the service was only

offered for specific questions types (e.g., medical or governmental research questions), d)

the service was not offered during the summer (when this research was conducted), or e)

the service was experiencing technical difficulties. Table 2 illustrates these findings.

Table 2: Reasons for Exclusion (Chat)

Reason for not conducting the chat transaction	Number of libraries excluded for this reason	Percentage of overall libraries in the study (n=128)
No chat service available	55	42.97%
Affiliates only	37	28.91%
Specific questions only	4	3.13%
Seasonal	3	2.34%
Technical difficulties	4	3.13%

Evaluating the 25 chat transactions that took place on the "Completeness Scale" it

was found that the majority were "Mostly Incomplete", that is, containing only one of the

four criteria designated by the completeness scale (or containing two criteria, but lacking

"source" or "answer" among those two). Table 3 details the level of completeness on

each question.

Table 3: Level of completeness by question (Chat)

Question	C	MC	MI	I	R
1		1	4		
2		2	1		2
3			5		
4	2		3		
5		2	3		
TOTAL	2 (8%)	5 (20%)	16 (64%)		2 (8%)

The two items that are listed as referrals were those that received only referrals, and no other type of response (i.e. source, answer, bibliographic instruction, or question negotiation). However, 12 of the transactions included referrals along with other types of responses. The coding for those with referrals was usually "Mostly Incomplete."

Table 4: Referrals within each coding by question (Chat)

Question	C	MC	MI	I
1			3	
2		1	1	
3			5	
4				
5			2	
TOTAL		1/5	11/16	

As shown by table 4 all of the responses to the third question[viii] received a referral, but none of those to the fourth question[ix] received a referral. In total, 48% of the transactions included a referral in the response.

Broken down by type of response, it was found that question negotiation and referral are the most heavily used types of responses for chat reference.

Table 5: Types of responses by question (Chat)

Question	Answer	Source	Bibliographic Instruction	Questions	Referrals
1	3			3	3
2		2	1	2	4
3		1	2	3	5
4	2	3	3	3	
5	2	1	1	4	2
TOTALS	7 (28%)	7 (28%)	7 (28%)	15 (60%)	14 (56%)

4.2 E-mail

E-mail transactions were initiated for 112 (87.5%) of the 128 academic music libraries included in this study. The remaining 16 transactions were not initiated because

a) the service was explicitly offered for affiliates only (or questions pertaining to the school or collection), b) e-mail addresses were not provided, or c) the service (or webpage) was experiencing technical difficulties. Table 6 highlights these findings.

Table 6: Reasons for Exclusion (E-mail)

Reason for not initiating the e-mail transaction	Number of libraries excluded for this reason	Percentage of overall libraries in the study (n=128)
Affiliates only	10	7.81%
E-mail addresses not provided	5	3.91%
Technical difficulties	1	0.78%

However, although e-mail transactions were initiated in 112 (87.5%) of the institutions, only 74 institutions responded to the initial query. In short, only 66% of the institutions that were queried responded—meaning that an actual transaction only transpired in 57.8% of the institutions in this sample.

Table 7 illustrates the "completeness" of the 74 transactions which transpired. The plurality of the responses were coded as "Mostly Complete" followed by "Mostly Incomplete."

Table 7: Level of completeness by question (E-mail)

Question	C	MC	MI	I	R
1	1	9	3		5
2	1	4	5	4	4
3		4	4	1	3
4		7	6	2	
5		4	5	3	1
TOTAL	2 (2.7%)	28 (78.4%)	21 (28.4%)	10 (13.5%)	13 (17.6%)

Although 13 of the responses received only referrals as answers, referrals were used in 18 additional transactions, in combination with other responses. Table 8 shows the placement of referrals among level of completeness.

Table 8: Referrals within each coding by question (E-mail)

Question	C	MC	MI	I
1	1	5		
2	1	2	1	
3		2	1	
4		5		
5				
TOTAL	2/2	14/28	2/21	0/10

Sources and referrals were the most frequently used type of response in the e-mail

transactions. Least used was the reference technique of question negotiation, with only 8

transactions including questions from the librarian.

Table 9: Types of responses by question (E-mail)

Question	Answer	Source	Bibliographic Instruction	Questions	Referrals
1	11	9		1	11
2		5	6	4	8
3	2	5	4	2	6
4		12	4	1	5
5	5	6	3		1
TOTALS	18 (24.3%)	37 (50%)	17 (23%)	8 (10.8%)	31 (41.9%)

4.3 Comparison

Figure 1 depicts the number and percentage of each coding by the media in which

it was conducted. Although chat reference had a higher percentage of complete

responses than e-mail, a majority of its responses were mostly incomplete, while most e-

mail reference transactions were mostly complete. In all, more than 58.0% of the e-mail

transactions resulted in a complete, mostly complete, or referral response. In contrast,

only 36.0% of the chat transactions resulted in complete, mostly complete or referral.

Figure 1: Percentage in each completeness coding by reference media

Level of Completeness
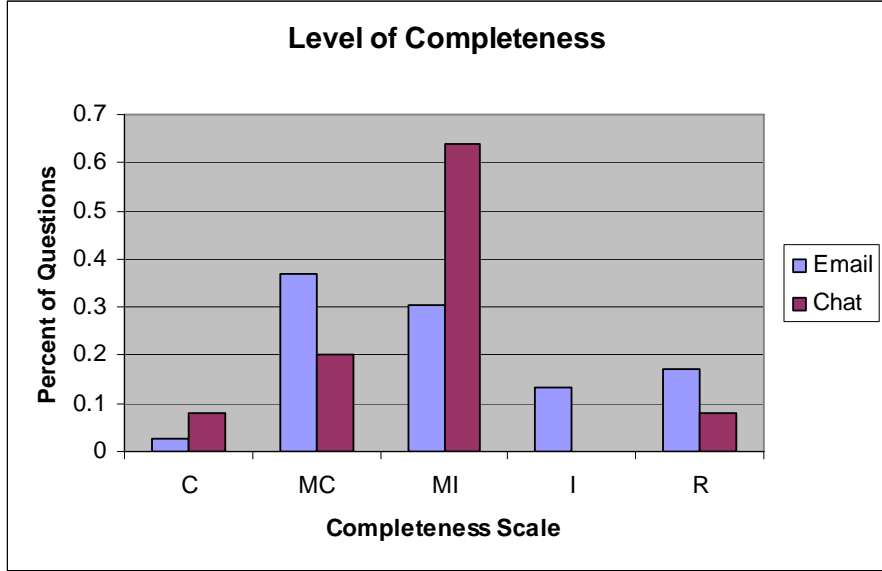
In evaluating the total number of responses in each coding, regardless of the media in which it was conducted, we find that 52.4% of the responses were complete, mostly complete, or a referral only.

Evaluating the types of response per media type, we can see that question negotiation is one of the most striking differences between the two media.

Figure 2: Percentage of response type by reference media
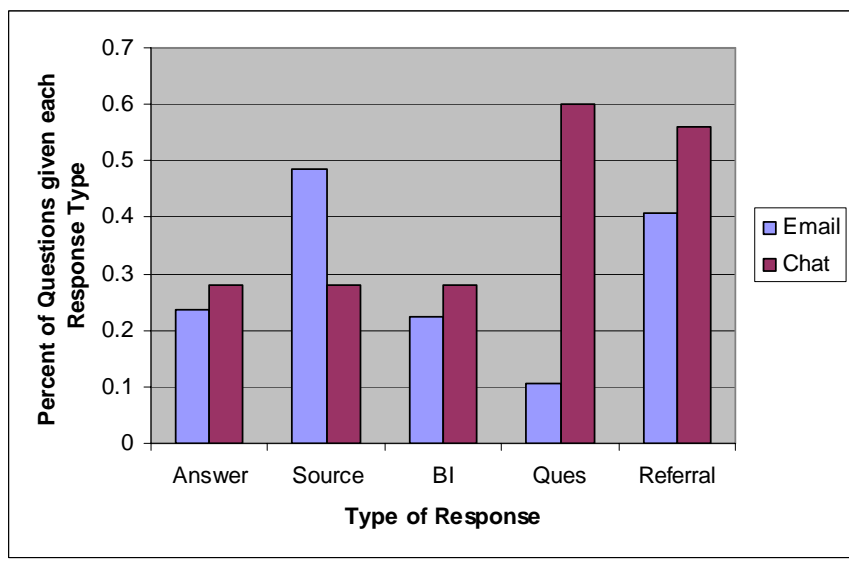
The chat reference media, being a synchronous reference media, lends itself better to question negotiation than e-mail reference. Chat also provides slightly more bibliographic instruction and referrals than e-mail. The only area in which e-mail provided a higher percentage of response type than chat was in providing sources.

5 Discussion

As shown above, a large percentage (43.0%) of the libraries in this study do not offer chat reference. In addition, nearly 30.0% of the libraries in this study restricted the use of the service to affiliates only, excluding the service from researchers from other institutions and those not in the academic community. In sum, chat reference services were only available at 25 (or 19.5%) of the libraries in this study for those unaffiliated with a particular academic institution. Of these 25 libraries, only in one instance was the chat reference service provided by the music library itself and staffed by a trained music librarian. In the remaining 24 instances, the service was run either through the main reference desk or through a consortium. Although it is possible that music librarians may be involved in these services, there is no guarantee that you are being assisted by someone with music librarianship training when you are interacting through this media. While Szymanski (2005) reported 49% of music librarians utilizing chat reference services, the findings from the current study indicate that perhaps it would be better stated that 49% of the institutions *housing* the music library offer chat services—and that these services are not necessarily staffed by a music librarian. This finding may indicate that studying chat reference for academic music libraries is premature—as only one academic music library is offering this service from within their unit.

The result of these chat transactions predominately occurring with librarians lacking music librarianship training may account for the high number of referrals and "Mostly Incomplete" responses in this media. This may call for more explicit information from the web pages of the academic music libraries. The majority of those offering a link to an "Ask a Librarian" service did not indicate whether or not a music

librarian would be staffing that service. Due to the high number of responses that explicitly referred the researcher to the academic music librarian (by means of providing an e-mail address of that librarian), it can be inferred that these services were not staffed by music librarians and thus using chat reference would only provide a circuitous step for a researcher with a music related question. The researcher would initiate a reference question on chat only to be instructed to e-mail, phone or visit a music librarian.

E-mail transactions did not have this problem as most of the e-mails were specifically listed as those belonging to the Music Librarian. However, the response rate was a larger issue in e-mail reference than in chat reference (where all initiated conversations received a response). As reported earlier, although e-mail transactions were initiated in 112 instances, responses were only received from 74 (66%) of the institutions. It is notable to compare this finding with that of Szymanski's (2005) study in which 100% of participants answered that they used e-mail as a reference tool. The current study may indicate that offering a service and actually performing that service are not equivalent.

In looking at degrees of completeness, the findings indicate that higher degrees of completeness are found using e-mail reference instead of chat reference. In chat reference 28% of the total reference were coded as complete or mostly complete, whereas in e-mail reference 40.5% of the responses were complete or mostly complete. This contrast in level of completeness may be due to the fact that music librarians are more likely to be performing the service in e-mail transactions than in the chat transactions. The level of completeness may also be due to the asynchronous nature of the e-mail environment—the librarian has a greater degree of control on when the transaction

actually occurs and how much time is spent on it. However, despite this control, and the fact that these are music librarians conducting the searchers, the completeness rate of the transactions is still markedly low. Future research needs to be conducted to evaluate what particular aspects of this media might contribute to the low completeness rates found in this study.

The types of response indicate a strength that chat reference has over e-mail reference. Chat reference utilized question negotiation in 60% of the instances, whereas e-mail only utilized this method in 10.8% of the e-mail transactions. This may lead to questions of accuracy between the two media—even though e-mail transactions provided users with more sources and higher degrees of completeness were those sources and responses actually addressing the true needs of the user? Would question negotiation have more accurately pinpointed the exact needs of the user? This may lead to speculation that e-mail is only more complete because the librarians are searching to provide as much information as possible—to cover all possible bases.

Referrals were a response type used equally heavily in both chat and e-mail transactions (56% and 41.9%, respectively). Paskoff's (1989) unobtrusive study of health sciences librarians yielded a similarly high number of referrals, which she explained may be due to a difference in attitude between health sciences librarians and academic/public librarians. This study may indicate that the difference is not limited to health sciences librarians or music librarians, but may be a difference between subject-specific libraries and general, multidisciplinary libraries. Future work needs to be done to evaluate the shared needs of subject-specific libraries in contrast with more multidisciplinary academic/public libraries.

Another area of future work may be to further investigate specific question types on differing media. It appears from this data that if a user presents a question that requires little negotiation, they will be better served via e-mail. However, if they require more question negotiation and bibliographic instruction, they might choose to use the chat medium for their reference transaction. More work needs to be done to assess the consistent strengths and weakness of electronic reference media and information needs to be presented to the users and to the librarians as to which media fit which question types (e.g., ready reference questions, research questions, etc.) and which user situations (e.g., distance v. local user, timeliness of question, etc.).

6 Summary and Conclusion

Evaluation has long been established as an essential process in any reference department. However, as has been shown by the literature, there exists very little in regards to reference service assessment in academic music libraries. Evidence suggests that the special nature of reference services in academic music libraries warrants evaluation apart from those provided in main, multidisciplinary campus libraries.

This study addressed a major gap in the literature by evaluating chat and e-mail reference in 128 academic music libraries by means of unobtrusive evaluation techniques. The methods and quality metric used in the study were informed in part by many different studies of reference evaluation, but most heavily by Ward (2004).

Findings suggest that more complete answers can be garnered by means of e-mail in comparison to chat reference services. However, chat reference services were found to better facilitate reference techniques, such as question negotiation and bibliographic instruction, which were utilized to a lesser degree in the e-mail reference services.

One major recommendation from this study is that academic music libraries be more specific on their webpages in regards to the extent and delivery of their reference services. For example, libraries should take care to inform patrons which services are actually provided by the music library staff and which services are provided by non-music library specialists. They should also be more explicit in regards to offering reference services through e-mail. If they are only going to assist certain populations or question types, these restrictions should be explicitly mentioned on their webpages.

Future research needs to be conducted to further develop the quality metric and find a standardized metric that can be used for reference evaluation within subject-

specific libraries. In addition, research needs to be done to evaluate if specific types of questions can be better answered with specific types of media. While the current study began to address these issues, the realization of this question in a future study is required.

7 Notes

[i] The WOREP is a survey tool used in evaluating "effectiveness in answering reference questions" (Christensen 41). The tool is comprised of two pages, one for the patron/user and one for the person being queried. The sheets are filled out directly after the reference transaction and provide data that can be compared against other libraries using this same survey instrument.

[ii] General reference services are provided by" librarians 77.3% or the time, from paraprofessionals 10.7% of the time, and from student employees 7.6 % of the time." Music library reference services, on the other hand, are provided by librarians "41.5% of the time, by paraprofessionals 23.3% of the time, and by students 33.8% of the time." Christensen notes that "this heavy reliance on student employees may have a negative effect on the overall success of answering reference questions in music libraries" (Christensen, 2000, p. 47).

[iii] It is important for music reference librarians to be familiar with music cataloging procedure as knowledge of uniform titles in music has an immense impact on searching ability.

[iv] That is, the librarians answered reference questions correctly 70% of the time under unobtrusive techniques and answered correctly 85% of the time when tested using obtrusive measures.

[v] A similar, more recent book addressing these issues is Dilevko's (2000) *Unobtrusive Evaluation of Reference Service and Individual Responsibility*.

[vi] This selection was one of convenience. The researcher wanted to use an educational e-mail domain, so had to find someone willing to have their e-mail used for this study.

[vii] This category purposively does not say "correct" answer. For the purpose of this study, an "answer" which was provided by the librarian will fulfill this category. In some cases, an "answer" was a source, such as the response to question number four, which called for sources of information about a particular composer.

[viii] Question that begins: "I am a percussion student studying the piece "Fanatasy on Japanese Wood Prints" by Alan Hovhaness."

[ix] Question is: "Do you have any information on Francis Hopkinson (as a composer)?

8 References

Abels, E.G. (1996, Spring). The E-mail Reference Interview." *RQ, 35*(3), 345-358.

Allen, B. Evaluation of Reference Services. In R.E. Bopp (Ed.), *Reference and Information Services (3rd ed.)*, (pp. 245-264). Englewood, Colorado: Libraries Unlimited, 2001.

Bopp, R.E., & Smith, L.C. (2001). *Reference and Information Services: An Introduction* (3rd ed.). Englewood, Colorado: Libraries Unlimited.

Bushallow-Wilbur, L., Devinney, G., & Whitcomb, F. (1996, Spring). Electronic Mail Reference Service: a Study. *RQ, 35*(3), 359-71.

Casey, J., & Taylor, K. (1995). Music library users: Who are these people and what do they want from us? *Music Reference Services Quarterly, 3(3),* 3-14.

Childers, T.A. (1970). Telephone Information Service in Public Libraries: A Comparison of Performance and the Descriptive Statistics Collected by the State of New Jersey. (Doctoral dissertation, Rutgers Univ., 1970).

Childers, T.A. (1978). *The Effectiveness of Information Service in Public Libraries: Suffolk Co., Final Report*. Philadelphia: Drexel Univ. School of Library and Information Science.

Christensen, B., et al. (2001, September). Taking note: assessing the performance of reference service in academic music libraries: a progress report. Notes, 58(1), 39-54.

Clegg, S. M. (1985) User Surveys and Statistics: The Opportunities for Music. *Fontes Artis Musica, 32*, 69-75.

Crowley, T. (1968). The Effectiveness of Information Service in Medium Size Public Libraries. (Doctoral dissertation, Rutgers Univ., 1968).

Crowley, T. (1985, Fall). Half-Right Reference: Is It True? *RQ*, 59-68.

Crowley, T. & Childers, T. (1971). *Information Service in Public Libraries: Two Studies*. Metuchen, N.J.: Scarecrow.

Davidson, M.W. (1993, September). American Music Libraries and Librarianship: Challenges for the Nineties. *Notes, 50(1)*, 13-22.

Diamond, W., & Pease, B. (2001). Digital Reference: A Case Study of Question Types in an Academic Library. *Reference Services Review, 29*, 210-218.

Dilevko, J. (2000). *Unobtrusive Evaluation of Reference Service and Individual Responsibility: the Canadian Experience*. Westport, CT: Ablex Publishing.

Duckles, V. (1972). Service in the music research library. *Fontes Artis Musicae, 19*, 181-83.

Duggan, M.K. (1987). Teaching online reference for music librarians. *Fontes Artis Musica, 34,* 44-53.

Durrance, J.C. (1989, April 15). Reference Success: Does the 55 Percent Rule Tell the Whole Story? *Library Journal*, 114, 31-36.

Epps, W. Questioning Chat: A study of the types of questions asked through chat reference. (Master's paper, University of North Carolina at Chapel Hill, 2003).

Gottlieb, J. (1994). Reference service for performing musicians: Understanding and meeting their needs. *The Reference Librarian, 47*, 47-59.

Hernon, P., & McClure, C.R. (1986, April, 15). Unobtrusive Reference Testing: The 55 Percent Rule. *Library Journal*, 37-41.

Hernon, P., & McClure, C.R. (1987). *Unobtrusive Testing and Library Reference Services*. Norwood, New Jersey: Ablex Publishing Corporation.

Howell, D.C. (2002) *Statistical Methods for Psychology*. 5th ed. Belmont, California: Thomas Higher Education.

Hubbertz, A. (2005). The Design and Interpretation of Unobtrusive Evaluations. *Reference & User Services Quarterly, 44*(4), 327-35.

Jirjees, J.M. (1980). The Accuracy of Selected Northeastern College Library Reference/Information Telephone Services in Responding to Factual Inquiries. (Doctoral dissertation, Rutgers Univ., 1980).

King, G., & Berry, R. (1973). *Evaluation of the University of Minnesota Libraries Reference Department Telephone Information Study: Pilot Study*. Minneapolis: Univ. of Minnesota Library School, ED 077 517.

Lasocki, D. (1999-2000). Music reference as a calling: an essay. *Notes, 56*, 879-93.

Lasocki, D. (1999-2000). Reference. *Notes, 56,* 605-10.

Lavender, K., Nicholson, S., & Pomerantz, J. (2005, March). Building Bridges for Collaborative Digital Reference between Libraries and Museums through an Examination of Reference in Special Collections. *The Journal of Academic Librarianship, 31*(2), 106-118.

Library Research Center, University of Illinois. (1983-). Illinois Library Statistical Report, Annual. Springfield: Illinois State Library.

Martstellar, M.R., & Mizzy, E. (2003). Exploring the Synchronous Digital Reference Interaction for Query Types, Question Negotiation, and Patron Response. In Kimmel, S., & Heise, J. (Eds.) *Virtual Reference Services: Issues and Trends*, 149-165. Haworth Information Press.

Martin, L.A., Crowley, T., & Shaughnessy, T. (1969). *Library Response to Urban Change: a Study of the Chicago Public Library*. Chicago: American Library Assn.

McClure, C.R., & Hernon, P. (1983). *Improving the Quality of Reference Service for Government Publications.* Chicago: American Library Assn.

Moeller, S.E. (2003). Ask-A-Librarian: An Analysis of an E-Mail Reference Service at a Large Academic Library. *Internet Reference Services Quarterly*, 8(3).

Moore, A. (1998). As I Sit Studying: WWW-Based Reference Services. *Internet Reference Services Quarterly*, 3.

Myers, M.J. (1979). The Effectiveness of Telephone Reference/Information Services in Academic Libraries in the Southeast. (Doctoral dissertation., Florida State Univ., 1979).

Nitecki, D.A. (1996). Changing the Concept and Measure of Service Quality in Academic Libraries. *The Journal of Academic Librarianship*, 22, 181-190.

Paskoff, B.M. (1989). Unobtrusive evaluation of the accuracy of telephone reference services in health sciences libraries. (Doctoral dissertation, The Florida State University, 1989).

Peat, M., & Mitchell & Co. (1975). *California Public Library Systems: A Comprehensive Review with Guidelines for the Next Decade*. Los Angeles: Peat, Marwick, Mitchell, ED 105 906.

Pomerantz, Luo, & McClure. (2006). Peer review of chat reference transcripts: approaches and strategies. *Library & Information Science Research, 28*, 24-48.

Redlich, B. (1993, Summer). Refining the art and music reference interview. *New Jersey Libraries, 26*, 28-30.

Roysdon, C.M., & Elliot, L.L. (1998, Fall). Electronic Integration of Library Services Through a Campuswide Network. *RQ*, 28, 82-93.

Saxton, M. L. (1997). Reference Service Evaluation and Meta-analysis: Findings and Methodological Issues. *Library Quarterly, 67*(3), 267-288.

Saxton, M. L., & Richardson Jr., J. V. (2002). *Understanding Reference Transactions: Transforming an Art into a Science*. Amsterdam, NY: Academic Press.

Schwartz, J. (2003). Toward a Typology of E-Mail Reference Questions. *Internet Reference Services Quarterly, 8*(3), 1-15.

Shachaf, P., & Horowitz, S. (2006). Are Virtual Reference Services Color Blind? *Library & Information Science Research, 28*(4), 501-520.

Schardt, C. M. (1983). Electronic mail service: applications in the Pacific Northwest region. *Bulletin of the Medical Library Association*, *71*(4), 437-438.

Szymanski, G. & Fields, M.A. (2005, March). Virtual reference in the music library. *Notes, 61*(3), 634-658.

Walter, V.A., & Mediavilla, C. (2005). Teens Are from Neptune, Librarians are from Pluto: An Analysis of Online Reference Transactions. *Library Trends, 54*(2), 209-227.

Ward, D. (2004). Measuring the Completeness of Reference Transactions in Online Chats: Results of an Unobtrusive Study. *Reference & User Services Quarterly, 44*(1), 46-58.

Weech, T.L., & Goldhor, H. (1982, October). Obtrusive versus Unobtrusive Evaluation of Reference Services in Five Illinois Public Libraries. *Library Quarterly, 52*, 305-24.

Woodward, B. (1989, July). The Effectiveness of an Information Desk Staffed by Graduate Students and Nonprofessional. *College & Research Libraries, 50*, 455-67.

9 Appendix

University of North Carolina-Chapel Hill
Information about a Research Study

IRB Study #   **Consent Form Version Date:** 03-30-06

Title of Study: Evaluating the Quality of Academic Music Library Reference Service

Principal Investigator: Cassidy R. Sugimoto
UNC-Chapel Hill Department: Information and Library Science
Faculty Advisor: Dr. Jeff Pomerantz

Study Contact telephone number: (919) 969-8716
Study Contact e-mail: cpratt@e-mail.unc.edu

What are some general things you should know about research studies?
You are being asked to take part in a research study. To join the study is voluntary. You may refuse to join, or you may withdraw your consent to be in the study, for any reason, without penalty.

Research studies are designed to obtain new knowledge. This new information may help people in the future.   You may not receive any direct benefit from being in the research study. There also may be risks to being in research studies.

Details about this study are discussed below. It is important that you understand this information so that you can make an informed choice about being in this research study. You will be given a copy of this consent form. You should ask the researchers named above any questions you have about this study at any time.

What is the purpose of this study?
We want to evaluate reference service as it is provided in academic music libraries. In evaluating these services, we hope to provide recommendations to improve this service.

How many people will take part in this study?
If you decide to participate in this study, you will be one of approximately 100 participants in this study.

How long will your part in this study last?
The reference transaction should take approximately 3-20 minutes. You can choose to stop the reference transaction at any time.

What will happen if you take part in the study?

I will ask you to go to the music library on campus and ask a pre-formed question. After your transaction is complete, I will ask you to fill out a short survey about your experience and describe the experience in detail. Once you have completed that form, I will ask that you e-mail it to me. It will be made anonymous for evaluation.

What are the possible benefits from being in this study?
Research is designed to benefit society by gaining new knowledge. Your participation is important to help us understand the way reference is being conducted in academic music libraries. A potential benefit for you, if you are a frequent library user, is improved reference service.

What are the possible risks or discomforts involved from being in this study?
There is little to no risk from being in this study. If, at any time, you feel uncomfortable in the study, you are free to discontinue the study.

How will your privacy be protected?
The only information I will ask of you will be your library usage and familiarity with the library. Your e-mail address will not be shared, and will remain on a password protected laptop only for the duration of the study.

Will you receive anything for being in this study?
Each participant will be entered for a drawing to win a $50 gift certificate to Amazon.com.

Will it cost you anything to be in this study?
There are no costs for being in the study.

What if you have questions about this study?
You have the right to ask, and have answered, any questions you may have about this research. If you have questions, or concerns, you should contact me at cpratt@email.unc.edu or (919) 969-8716. If you would like information about the study after it has been completed, you are free to contact me at the above e-mail/phone number and I will be happy to share my results.

What if you have questions about your rights as a research participant?
All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. If you have questions or concerns about your rights as a research subject you may contact, anonymously if you wish, the Institutional Review Board at 919-966-3113 or by e-mail to IRB_subjects@unc.edu.

Thank you for helping me with this study.

Coding form
_____

Please describe the reference transaction in as much detail as possible, or reproduce the transcript of the reference transaction here:

To the best of your ability, please answer the following questions:

- Was an answer provided during the course of the reference transaction?

- Was a source provided during the course of the reference transaction?

- Was guidance (bibliographic instruction) provided during the course of the reference transaction?

- Were you probed with questions during the course of the reference transaction?

- Did you receive a referral during the course of the reference transaction?