Melissa L. Harden. Signage and Librarian Perceptions: Assessing the Reference Service Point. A Master's Paper for the M.S. in L.S degree. March, 2013. 30 pages. Advisor: Jeffrey Pomerantz

This study examines the perceived function of a reference desk and actual usage by patrons. Interviews were conducted with employees of the Undergraduate Library at UNC-Chapel Hill to determine their perceptions of the primary intended function of the reference desk. The majority of interviewees said research-related services were the primary intended function of the desk.

The reference desk was relabeled as the "Research Desk" for the Fall 2012 semester to test whether signage increased the percentage of research questions. Reference statistics were then compared to those from the Fall 2011 semester. The percentage of questions asked that were research questions dropped from Fall 2011 to Fall 2012. Though the desk is busy, research questions are the smallest percentage of questions asked at the reference desk, differing from librarian perceptions of its primary intended function. Results show that signage alone does not increase percentage of research questions asked at the desk.

Headings:

Academic libraries -- Reference services -- Evaluation

Reference services -- Statistics

Library signs

Librarians -- Attitudes

SIGNAGE AND LIBRARIAN PERCEPTIONS: ASSESSING THE REFERENCE
SERVICE POINT

by
Melissa L. Harden

A Master's paper submitted to the faculty
of the School of Information and Library Science
of the University of North Carolina at Chapel Hill
in partial fulfillment of the requirements
for the degree of Master of Science in
Library Science.

Chapel Hill, North Carolina

March, 2013

Approved by

_____

Jeffrey Pomerantz

Table of Contents

Introduction

Most libraries, whether they are public, academic, or special libraries, have a reference desk in some form. These desks are called or labeled a variety of names in different libraries. Some of the common names for the reference point of service at an academic library include "Information Desk," "Reference Desk," and "Research Desk." Not only are there several names by which these desks are called, but they can also be located in different parts of a library. These desks are often placed independently in strategic locations within a library (e.g., near a computer bank or the exit); however, reference services may be included as part of a unified desk. Making matters even more confusing is the fact that libraries often have some sort of a circulation desk, which may or may not be in the same location as the reference desk. While people who are well-acquainted with libraries may know the differences in the names and forms these desks can take, many library patrons do not understand what these desk labels mean and what purpose each one serves. This can lead patrons to ask reference questions at the circulation desk and vice versa. It may also cause patrons to simply become confused or afraid and, therefore, not ask reference questions at all. This study looked at how signage at the reference desk affects the types of questions asked there, as well as what librarians perceive the role of this desk to be.

Libraries in academic settings that cater primarily to undergraduate students are structured to best meet the educational needs of those students. This typically includes hosting reference and instruction services in some capacity. At the University of North

Carolina at Chapel Hill, the Undergraduate Library has a desk dedicated to providing reference services. The sign hanging from the ceiling nearest the desk – though not directly above the desk – says "Information." Additionally, there is a sign over the elevator in the lobby area on the main floor that directs patrons to the Reference area of the library where the reference desk is located. When librarians are directing students to that desk, they often tell them to go to the "reference desk." Thus, there is some inconsistency in terms. Aside from a small marker on a nearby wall, the desk itself is not labeled as the reference desk. It is, however, the desk in the reference area.

Employees at the reference desk at the Undergraduate Library gather reference statistics by tracking reference interactions in a program called DeskTracker. After any in-person or phone interaction at the desk, the librarians select the type of reference questions asked from a predetermined list of question types. During the Fall 2011 and Fall 2012 semesters, the question types included in this list were "Technology," "Information/Directional," "Research," and "Miscellaneous." Additionally, employees document the amount of time spent on each question. While these same employees also help answer questions that come in through the chat queue, these interactions are not tracked with DeskTracker.

A field experiment was conducted during the Fall 2012 semester to determine what effect signage of the desk has on the types of questions asked at that service point. My hypothesis was that if a sign with the phrase "Research Desk" was affixed to the front of the desk, then there would be an increase in the percentage of questions asked at the desk that are categorized as research questions in DeskTracker, as compared to Fall 2011.

Additionally, interviews with full-time librarians and graduate student assistants who worked at the reference desk throughout the Fall 2012 semester were conducted. The purpose of these interviews was to learn more about what promotion, if any, of that service point had been done in recent years, what the employees perceived the primary intended function of the reference desk to be, and how they developed their perception of this function. The interviews provided another lens through which to view the reference statistics that were gathered. They also provided a context for possible areas of future research.

Literature Review

There are several types of signs found in libraries including informational, directional, and instructional signs. There is no shortage of information in the literature on these and other signs in libraries. Some of the literature in the field relates to library signage systems and evaluating the signs in libraries. Several books are available that are dedicated entirely to signage in libraries. The book *Sign systems for libraries: Solving the wayfinding problem* (1979) and others (Reynolds, 1981; Mallery, 1982) discuss similar themes and topics, including font size, style, and color, manufacturing signs, using symbols and pictures on signs, location, and installation. Each book also touches briefly on selecting appropriate terminology for library signs.

Many of the available journal articles are directed at helping libraries overcome signage clutter, which often occurs when signs and fliers are made quickly and attached to any available wall space. This can lead to confusion, instead of clarity, for patrons. Johnson (1993) writes about "twelve steps to signage recovery," sharing steps for evaluating which signs are necessary and how to create signs for your library. Yeaman

(1989) discusses how to evaluate signage in a school media. One of his recommendations is to think of a learning objective that each sign fulfills. This helps the librarian determine what function each sign serves. This process could be applied to signs in other types of libraries, as well.

In more recent years, libraries have begun to use digital signage to replace paper fliers and signs and to inform patrons of services and upcoming events. McMorran and Reynolds (2010) explain how they overcame sign clutter and increased engagement with patrons in their library by replacing paper signs with one large plasma display system and several small digital picture frames. Barclay, Bustos, and Smith (2010) shared how they implemented digital signage in the library at the University of California, Merced. Their paper explains how they planned for the implementation of digital signage and assessed the new system.

There is little in the library literature about what words are used on information/directional signs in libraries and how patrons actually comprehend them. The work that does exist indicates that it is important for signs in libraries to be meaningful to patrons and not to include library jargon. Reynolds (1981) and *Sign systems for libraries: Solving the wayfinding problem* (1979) include small sections about selecting appropriate terminology for library signs, reiterating that jargon should be avoided. They also mention how crucial it is that, once terms are selected, they are used consistently to avoid confusing patrons. Boyd (1993) wrote an article on library signage for multicultural patrons. She says, "Terms such as 'periodical' and 'circulation' mean very little to patrons without North American backgrounds" (p. 63). The term "reference" could also

be placed in this category, as it can potentially be confused with other terms such as "information" or "research."

Accordingly, the sign in the field experiment described below used the term "Research Desk" because it is a jargon-free phrase. The phrase "Research Help" was also considered but not used due to a point made by Johnson (1993). When Johnson was describing her twelve step library signage evaluation plan, she suggested observing and interacting with patrons and asking them if they are finding what they need. However, she says, "Don't offer to 'help' – that implies to some people that they've failed" (1993). Thus, the phrase "Research Desk" was used as it is clear and jargon-free and does not make patrons feel like they have failed if they decide to approach this desk.

Signs have also been frequently evaluated in libraries in general in terms wayfinding and user-friendliness. This topic often comes up when discussing confusion of patrons in libraries and library anxiety. One such example is Bosman and Rusinek's (1997) paper on the evaluation of patrons' perceptions of the signs in their library. In this case study, patrons were surveyed about their opinions of directional signs throughout the library. Responses from this survey informed the project directors of ways to improve library signage from patrons' perspectives. Eaton, Vocino, and Taylor (1993) wrote about a similar wayfinding study they conducted at the University of Rhode Island Library. However, these studies focused primarily on how effective signs in libraries are at directing patrons to the correct location, whether it was the circulation desk or to a shelf for a certain call number. They do not study how the signs affect what types of questions patrons think they can ask at a reference desk.

The human factors and ergonomics literature sheds light on signs, in general, affect people's attention and comprehension. Ben-Bassat and Shinar (2006) studied the relationship between how well people comprehended highway signs and how compliant those signs were with three ergonomic principles of design, including sign-content compatibility, familiarity, and standardization. Through this study, they determined that ergonomically designed traffic signs are more understandable than non-ergonomically designed traffic signs. Ng and Chan (2008) conducted another study identifying how driver factors and sign design features affected comprehension of traffic signs. The sample they surveyed in this study came from the pool of full driving license holders in Hong Kong. They found that "frequently encountered signs are comprehended better than less frequently encountered signs" (p. 328).

The Americans with Disabilities Act Standards Homepage hosts an entire section on their website with Guidelines for Buildings and Facilities (*ADA accessibility guidelines for buildings and facilities.*). Specifically, there is a whole section on signage alone (section 4.30). In this section, guidelines for character height, character proportion, finish and contrast, and mounting location and height, are laid out. According to these guidelines, characters on signs need to be at least three inches tall, and characters and symbols need to contrast with the background color of these signs.

There is information available on signage in terms of wayfinding and providing directions, both in the library and information science world and outside of it. There have been studies conducted on how clutter produced by paper signs and fliers can be evaluated and streamlined in order to better communicate information to patrons. Additionally, there is information available confirming that it is not wise to use jargon on

signs in a library. ADA Guidelines exist to guide the creation of signage for any public place. Finally, there is literature documenting the effect certain aspects of traffic signs, in particular, have on members of the general public. However, there seems to be a gap in the literature on how calling the reference desk different names on a sign (e.g., "research desk," "research help," "information," "reference," etc.) affects the types of questions asked at this desk.

This study also discusses evaluation of reference services in that it looks at the types of questions asked at a reference desk. Reference departments have engaged in evaluation processes in order to improve, expand, and justify reference services for many years. There is more importance placed on evaluating services now as libraries work to update services and stay relevant in a climate of declining budgets and changing demographics. As Prensky stated in 2001, "our students have changed radically," and the main difference between students today and students of previous generations is the fact that they have grown up in a digital world. Growing up in a time when technology is ubiquitous may change the way these students think about and access information, and thus can have an indirect effect on the way they view reference services when they get to college. Alire (2007), while discussing the importance of marketing for academic libraries, states that "the competition is greater because we are no longer the only information service game in town" (p. 546).

Reference librarians at academic libraries have maintained an awareness of the ways in which each generation of students and education as a whole are changing, and they have modified services to best meet students' needs, including implementing various types of virtual reference (Granfield and Robertson, 2008). However, it is not enough for

libraries to simply implement new services and hope patrons use them. Rather, in order to stay competitive in this day in age, it is important for libraries to promote themselves and the value they add to patrons' lives. MacDonald, vanDuinkerken, and Stephens (2008) note that "academic libraries need to aggressively market the variety and quality of their information resources.

Libraries at colleges and universities track reference statistics in a wide variety of ways, including making tick marks with pencil and paper, data entry with Microsoft Excel, or data entry with reference-tracking software. There does not seem to be consistency across libraries in terms of how librarians determine the category of a question (e.g., ready reference, research, informational/directional) or the intervals of time spent on a question (one minute increments, five minute increments, etc.) (Philips, 2005). Logan (2009) says, "After many decades of defining, discussing, and experimenting, a universally accepted method of assessment does not seem to exist" (p. 230). Because there is not one universally accepted method for evaluating the types and occurrences of questions at the reference desk, the reference statistics included in this study were collected and categorized in the same fashion as has been done since the Undergraduate Library began using the DeskTracker program.

Methodology

Terms

For the purposes of this study, the phrase *research questions* refers to the questions which are categorized as research questions by reference desk employees in the program used to track reference statistics. Additionally, in this study, *reference desk* or *research desk* refers to the desk in the Undergraduate Library which handles reference

questions and services but not circulation procedures. *Reference desk employees* may refer to any employees who work shifts at the reference desk, including full-time librarians, graduate students, or employees who primarily work in other departments at the Undergraduate Library but also work shifts at the reference desk. *DeskTracker* is the software which the Undergraduate Library uses to record reference statistics.

Collecting Reference Statistics

After reference interaction, reference desk employees select from a predetermined list of categories in the DeskTracker program the type of question they answered. During the Fall 2011 and Fall 2012 semesters, the main question categories the Undergraduate Library had chosen for data collection were: Technology, Informational/Directional, Research, and Miscellaneous. Additionally, there is a free-form text box available for employees to type in any clarifying information about the type of reference interactions they have. For example, if an employee helps a student find relevant articles for an assignment, they might categorize that question as a research question and then type in a description of that interaction in the free-form text box, noting that they helped a patron finding research articles.

Signs

At the beginning of the Fall 2012 semester, a sign that says "Research Desk" was affixed to the front of the reference service point. The sign, with dimensions three feet by one foot, was created with presentation software, and the lettering was similar in size and font (Calibri 300 point font) to the signage system currently in place at the Undergraduate Library. The letters on the signs were three to four inches in height with white lettering on a blue background. Figure 1 shows a photograph of the sign at the beginning of the Fall 2012 semester.

Figure 1: Photograph of the research desk sign, August 2012

At times, smaller signs, which are 8.5 inches by 11 inches, are placed on the reference desk while a librarian is temporarily away or while the desk is closed. In addition to the main sign shown in Figure 1, these small signs were also updated to say "research desk" instead of "reference desk." The Design Lab, a smaller room with computers and scanners, is staffed by the same employees who also work at the reference desk. When the employee has stepped away for a moment, a small sign is placed on the desk which directs patrons to the reference desk for assistance. This sign was also updated to reflect the name change of the reference point of service. All of the signs mentioned here were put in place for the first day of class of the Fall 2012 semester.

Reference Statistics

A key question for librarians is whether the signage placed in a library actually influences patron behavior. Specifically, this study looks at whether labeling a reference desk as a research desk influences the amount of research questions asked at that service point. Analyzing the number of different types of questions asked at the reference desk provides a means of determining how patrons of the Undergraduate Library, particularly

students, view the function of that service point. Throughout the Fall 2012 semester, the employees at the reference desk ("Research Desk") continued to use DeskTracker software to indicate the types of questions they answered at the desk. This is the same process for collecting reference statistics that was already in place.

Data on the percentage of questions that were categorized as research questions were collected each week, Sunday through Saturday, throughout the Fall 2012 semester, beginning with the Sunday prior to the first day of classes and ending on the Saturday of the last week of the semester (August 19, 2012 – December 15, 2012). Additionally, weekly reference statistics from the Fall 2011 semester were obtained, also beginning with the Sunday prior to the first day of classes and ending on the Saturday of the last week of classes (August 21, 2011 – December 17, 2011). By collecting data in this way, corresponding weeks (e.g., the tenth week of each semester) were able to be compared. Finally, the total percentages of questions categorized as research questions for Fall 2011 and Fall 2012 semesters were gathered and compared. A difference-of-means test was used to compare the average weekly percentage of questions that were categorized as research questions during these two semesters to determine if there was a statistically significant difference between the two values.

The Fall 2012 reference statistics were compared with statistics from the previous Fall semester (Fall 2011) instead of the previous Spring semester (Spring 2012) because the academic calendar at UNC-Chapel Hill follows a similar pattern each year. Theoretically, peak research times (midterm assignments, final papers and projects, etc.) will occur during approximately the same weeks and months. Additionally, there are certain classes that are only offered in the fall or the spring, so course offerings are taken

into account. By comparing two fall semesters, corresponding weeks in each semester were easily matched, and the number and types of questions asked at the Research Desk between the semesters were more comparable.

Interviews

Another key question for librarians is whether or not patrons are using a service point in the same way as the perceived intended function of that point. In addition to gathering reference data as described above, four full-time librarians and four graduate student assistants were interviewed. All eight of these interviewees worked shifts at the reference desk during the Fall 2012 semester. These interviews were conducted during the last week of October and the first of week of November 2012. The purpose of the interviews was to identify what a wide range of employees at the Undergraduate Library perceived to be the intended purpose of the reference service point. The responses can then be compared to the reference statistics to determine whether librarian and patron perceptions of the reference service point are consistent with one another. Additionally, the interviews were conducted to learn if any sort of calculated, widespread promotion of the reference desk had been done recently. All interviewees were asked the same three questions:

- What promotion of this service point has been done over the last few years?
- What is your understanding of the intended function of this service point?
- How did you come to this understanding?

The first question was asked to determine whether or not any formal or planned marketing had been conducted to promote the reference desk recently, and if so, the extent to which it was done. This information about marketing is important because if

any marketing had been done, it may have an effect on the outcomes of the experiment. At the same time, if it was determined that no marketing campaign had been done recently, this information, in conjunction with analysis of reference desk statistics, may indicate that more promotion of the reference desk could be done in the future.

The second question was asked in order to find out what each employee thought was the primary purpose of the reference desk. In order to determine why each interviewee gave the response they did for the second question, the third question was asked as a probing question. This particular question was asked to find out whether interviewees had certain understandings of the function of the reference desk based on their personal experiences and/or from some sort of training they received while working at the Undergraduate Library, and this question helped provide context for the interviewees' responses to the second question.

The responses given during the interviews helped provide a different lens through which to view the reference statistics. Employees of the Undergraduate Library, as opposed to patrons of that library, were best to interview for this study because they were able to provide information that would help answer of the question of whether employee perceptions of the function reference desk as a service point matched the actual activity occurring at that service point. Additionally, the way in which employees would express their thoughts and opinions about the reference desk, including the words they would use to describe library services, would best match the terminology used in the DeskTracker system for data collection. In this sense, it was helpful to talk with librarians about library services using common library vocabulary.

Results

Reference Statistics

Table 1 summarizes the weekly percentage of questions asked at the research desk that were categorized as research questions for the Fall 2011 and Fall 2012 semesters. The first column denotes the week in the semester. The next two columns give the dates that correspond to the week in the semester for Fall 2011 and Fall 2012. The final two columns indicate the percentage of questions asked at the research desk that were categorized as research questions during the Fall 2011 and Fall 2012 semesters.

Table 1: Weekly percentage of research questions

Week	2011 Dates	2012 Dates	2011%	2012%
1	8/21 - 8/27	8/19 - 8/25	11	9
2	8/28 - 9/3	8/26 - 9/1	10	10
3	9/4 - 9/10	9/2 - 9/8	11	11
4	9/11 - 9/17	9/9 - 9/15	20	9
5	9/18 - 9/24	9/16 - 9/22	15	8
6	9/25 - 10/1	9/23 - 9/29	13	9
7	10/2 - 10/8	9/30 - 10/6	6	8
8	10/9 - 10/15	10/7 - 10/13	10	7
9	10/16 - 10/22	10/14 - 10/20	8	10
10	10/23 - 10/29	10/21 - 10/27	12	10
11	10/30 - 11/5	10/28 - 11/3	10	9
12	11/6 - 11/12	11/4 - 11/10	11	6
13	11/13 - 11/19	11/11 - 11/17	9	9
14	11/20 - 11/26	11/18 - 11/24	18	7
15	11/27 - 12/3	11/25 - 12/1	10	13
16	12/4 - 12/10	12/2 - 12/8	10	5
17	12/11 - 12/17	12/9 - 12/ 15	4	6
Total			11	9

The average weekly percentage of questions asked that were categorized as research questions was 11% during the Fall 2011 and 9% during the Fall 2012 semester.

A difference-of-means test was used to compare these average weekly percentages. The difference of two percentage points was statistically significant with a p-value of less than 0.05.

Interviews

Three main themes emerged from these interviews. First, there has not been any sort of formal approach to marketing the services of the reference desk in the last few years. When asked about marketing or promotion of that service point, the interviewees only mentioned smaller informal types of promotion. As an example of informal promotion, every interviewee said they tell students about the services of the research desk in instruction sessions they teach for undergraduate classes. This means they tell students that if they are ever stuck with their research or need help with any part of a research process, they can talk to a librarian at the research desk. Other examples of promotion mentioned include adding slides about the research desk to the screensaver slideshow on the computers in the Undergraduate Library and providing stickers and magnets with contact information for the research desk.

At times throughout the semester, small promotions were conducted through social media, such as Facebook and Twitter, in order to get people to come to the research desk. For example, a post on social media would include information about locating an object or a display somewhere in the library, and if a patron finds it, they were directed to the research desk to claim a prize. This is not actually promoting research desk services, but rather promoting awareness of the desk, in general. Other than these smaller informal promotions, there has not been any calculated, explicit, or long-term marketing or promotional campaign to let students know about the type and depth of research help they can receive at the research desk.

The second main theme corresponds to the second question asked in the interviews. When asked about their perception of the primary intended function of the research desk, seven out of eight of the interviewees mentioned something related to supporting the research needs of the students. This reveals a disconnect between librarian perception and patron use of the research desk. Research questions are the lowest percentage of questions asked at the research desk, yet research is the perceived intended primary function of this service point by the majority of the employees interviewed. By comparing the reference statistics and the interview responses, research-related services seem to be the most important function of the desk from the perspective of the employee, but perhaps not the most import function of the desk from the perspective of the students.

Reference desk employees are also there to help patrons with any other needs they might have. In fact, even though research-related services were the first response seven out of eight of the interviewees mentioned, they all also mentioned other services not related to research that are provided at that desk later in their answers. This includes providing assistance with scanners, printers, computers, and other technological support. It also includes answering basic information and directional questions (e.g., "Where is the bathroom?" or "Do you have a stapler?"). The one interviewee who did not mention research first as the primary intended function of the desk said that they saw the desk as a "one-stop shop for anything," and that employees there could "pretty much do anything except check out books there." In this sense, all interviewees recognized that the reference service point provides more than traditional research services.

In order to better understand interviewees' responses to the second question, a third question clarifying how they arrived at their understanding of the intended function

of the research desk was asked. This question produced varying answers, but typically, the responses included experience and training when working at a research/reference desk. While several interviewees mentioned training when starting work at the Undergraduate Library, they did not mention a specific part of the training that made clear the intended function of the desk; rather, interviewees inferred from their training what the intended function of the desk was. This was based on the resources they were trained to use (those that would aid in answering research questions); clear directions on what services are provided (e.g., assist with clarifying topics, finding articles, providing citation help, etc.) and what services are not provided (e.g., completing homework for students); and suggestions for activities employees could do if there is not a lot of traffic at the desk.

Several interviewees also mentioned that their perception about the intended function of the desk has been formed from previous experiences, such as going to their public library or the reference desk at the library at their undergraduate institution. Additionally, pervious work experience, either at their undergraduate institution or while in graduate school, was mentioned by a few of the interviewees. Even though the interviewees have varied backgrounds and experiences, they produced similar responses to this question. This makes it seem as if the intended function of a reference desk is universal, and all of these interviewees found their experiences corroborated these perceptions.

According to one interviewee, the intended function of a reference desk could also be inferred by process of elimination. This interviewee said that many of the information and directional queries often asked at a reference desk could also be

answered by other service points within a library. However, when it comes to research-related questions, "other library service points specifically don't address those things, whereas… that's our specific function, that's why we exist as a separate desk." The perceived intended function of the desk is to support research-related activities because there is on other specified point within the library building where employees are expected, and possibly even trained, to handle those queries.

Discussion

Reference Statistics

The difference of two percentage points was statistically significant with a *p*-value less than 0.05. This is the opposite of what I predicted with my hypothesis—the percentage of questions asked that were categorized as research questions actually decreased during the semester in which the "Research Desk" sign was affixed to the reference desk. There are several reasons a decrease in the percentage of research questions could have occurred, including the wording and the location of the sign.

The wording of the sign may have been intimidating to some patrons. They may have thought that the phrase "research desk" meant help would be given for in-depth research assignments, such as theses or dissertations in specialized areas of research. They may not have interpreted it to mean that it was the appropriate place to ask general questions on assignments in all types of classes. This may have caused some patrons to assume that their query was not "important" enough to ask for research assistance.

Another possible reason is that the sign may not have been placed in an advantageous location for all patrons of the library to see. The sign was affixed to the front of the desk just below the counter. It was not hung from the ceiling or posted on a

wall. Though the sign was visible from the entrance, the desk is not located in a direct

path as patrons walk in the front doors. Rather, the reference desk is located off to the

side near the back. Even though the phrase "research desk" on the sign was visible on the

desk from the entrance, it was probably not the first thing a patron would see upon

entering the building. Further, there was no sign near the front entrance directing patrons

to the research desk.

Interviews

The interviewees indicated that no formal campaign to promote the services of the

research desk has been done in the last several years. These interviews also made clear

that, while research questions constitute the lowest percentage of questions asked at the

research desk, providing research services is the perceived primary intended function of

this service point from the perspective of the majority of the employees interviewed.

Thus, there is some inconsistency between the perceived primary intended function of the

desk and the way the desk is actually used. If library management wanted to see an

increase in the percentage of research questions asked at the desk, so as to better match

the perceived intended function of the desk, they could create and implement a

promotional campaign to let students know the types and depth of research assistance

they can receive at that service point. Not only would this campaign let students know

that they can receive research help at that desk, it would also allow librarians to impart

their perceptions of the intended function of the desk to the patrons.

Finally, several of the interviewees mentioned the chat reference service in this

answer, as well. While the employees at this desk assist in answering questions that come

in through the chat service, they do not do so exclusively, nor are they the only librarians

on campus who are able to respond to those questions (unless a question is sent directly

to the Undergraduate Library's reference chat queue). Though chat services were not included in the field experiment, it is hard to completely disentangle chat reference from the traditional and in-person reference services provided at the research desk. No analysis was done in this study to determine if there has been an increase in the number of research questions asked through the chat reference service. It is possible that there was an increase in the number of research questions asked through the chat service, even though there was a decrease in the percentage of research questions asked in person at the reference desk from Fall 2011 to Fall 2012.

Benefits

The results of this study are beneficial to the librarians who are tasked with managing the Undergraduate Library. This study informs library management that there is a discrepancy between the perceived primary intended function of the reference service point and how patrons are using that service point. If the library's goal is to align patron use with perceived primary intended function, the relatively inexpensive option of simply creating a new sign, as was done in this study, is not effective enough in achieving that goal. This study also provides the library with a baseline set of data against which future studies can be measured. These future studies may include assessing attempts to increase the percentage of research questions asked at the reference desk.

The patrons of the Undergraduate Library, who are primarily college-aged students (late teens and early twenties), will benefit from the results of this study, as well. The data gathered throughout this field experiment show that questions asked at the reference desk that are categorized as research questions make up a small percentage of the total questions asked. This can be interpreted to mean that undergraduate student patrons may not be using the desk and assistance provided at it to its full advantage. If the

library is able to increase awareness that students can receive in-depth research assistance from qualified personnel at that service point, then more students will be receiving expert and professional help with their questions. Most students coming to college today are part of the "millennial" generation or are frequently called "digital natives," which means many of them are familiar and comfortable with a wide range of technology. Often this leads the general public to assume that reference librarians will no longer be needed in the future; however, just because one primarily accesses information digitally does not mean that same person can successfully conduct thoughtful and deep research. Becker (2009) says of this generation, "Many students have basic computer search skills but not the appropriate skills for academic and real-world success" (p. 352). This supports the need for reference librarians in the academic libraries well into the future. However, students have to know that the reference librarians are there, and they need to fully understand the level and quality of research assistance available to them at the reference desk.

Limitations

This study has a few limitations. First, the "Information" sign hanging from the ceiling near the reference desk at the Undergraduate Library was not able to be taken down, so it remained in its location throughout the field experiment. This means that, even though the reference desk was relabeled as the "Research Desk," the "Information" sign remained affixed to the ceiling somewhat nearby. Additionally, the "Research Desk" sign did not look exactly like the other signs in the library because those signs were professionally made. This limitation would make it harder to find a difference between the two semesters, so it made for a conservative test of my hypothesis.

The university's libraries manage various aspects of a chat reference service, which has varying levels of accessibility to patrons across the campus. Depending on how a patron accesses the chat reference service, they may be contacting an individual library or the general chat queue. Reference employees at Davis Library (the main library) and the Undergraduate Library receive the chats that are sent to the general library queue. Additionally, chats can be sent only to one library or another. This study did not include any statistics or information about chat reference services; therefore, we do not know what effect, if any, the "Research Desk" sign may have had on patrons who visit the library regularly, have seen the sign in person, and/or prefer to use the online chat service, either by contacting the Undergraduate Library directly or by contacting the general chat queue.

Finally, the tracking of reference statistics relied on the employees' judgment when it came to categorizing the types of questions asked at the reference desk. However, any inconsistencies or errors made should be neutralized, as the data were collected over the span of several months, and employee judgment was used when tracking reference statistics for both semesters used for the comparison.

Suggestions for Future Research

Patrons do ask research questions at the reference desk, just in smaller numbers than other types of questions asked. If the library implemented a focused marketing campaign in an attempt to increase the amount of research questions asked at the desk, further studies could be conducted to evaluate the effect of various aspects the campaign. Different aspects of this promotional campaign might include targeted social media posts or more in-depth outreach to professors and instructors, particularly those who teach

undergraduate courses. Additionally, the library may choose to study the effect adding multiple Research Desk signs throughout the library may have on the percentage of research questions asked at the reference service point.

The literature shows that well-planned and focused marketing campaigns can have a positive impact on academic libraries. In her case study of the effects marketing for the University of New Mexico University Libraries, Alire noted that a word-of-mouth marketing campaign was successful in bringing in the support of several stakeholders in the university community and garnering additional funds for the library (2007, p. 550). The Texas A&M University Libraries rolled out a campaign to market their virtual reference service in 2005. The results were positive they provide "evidence that the implementation of an organized, cohesive marketing strategy can have a positive effect on the promotion of library services" (MacDonald et al., 2008).

The desk does serve a purpose to support the academic and research needs of the students, but those students might see it a different way. Data about the perceived intended function of the reference service point from the perspective of the patrons would provide valuable insight as to how they perceive the desk. These data could be collected with focus groups, interviews, or surveys. Doing this may shed light on whether or not they know they can ask research questions at that desk. It would also elucidate whether students perceive that desk to act as a point of service for them to receive whatever help they need, including providing school supplies, technology support, or academic support.

As stated above, this study did not include any data regarding chat reference. Chats from previous semesters could be analyzed and categorized by type of question.

The library could determine what percentage of chat questions are classified as research questions. These data could be compared to statistics gathered at the reference desk.

Conclusions

Based on the results of this study, signage alone did not increase the percentage of research questions asked at the reference desk at the Undergraduate Library. By talking with full-time librarians and graduate student assistant employees of the this library, it is clear that a lot of value is placed on assisting students with research-related processes, including clarifying topics for assignments, developing good search strategies, locating appropriate and relevant articles, etc. However, based on reference statistics, this is the smallest portion of the types of questions asked at the reference desk. Because research services are valued highly by those who work at the reference service point and represent a main part of the mission of the Undergraduate Library, it seems that more would need to be done if there was a desire to increase the amount of research questions asked at the reference desk. This may include a targeted marketing campaign, such as posting more information about research services on social media, or an increase in the amount information given to students during instruction sessions and when collaborating with faculty and instructors who teach classes primarily composed of undergraduates.

Bibliography

ADA accessibility guidelines for buildings and facilities. Retrieved 05/28, 2012, from

    http://www.access-board.gov/adaag/html/adaag.htm#4.30

Barclay, D. A., Bustos, T., & Smith, T. (2010). Signs of success. *College & Research*

    Libraries News, 71(6), 299-333.

Becker, C. H. (2009). Student values and research: Are millennials really changing the

    future of reference and research? *Journal of Library Administration, 49*(4), 341-364.

    doi:10.1080/01930820902832454

Ben-Bassat, T., & Shinar, D. (Spring 2006). Ergonomic guidelines for traffic sign design

    increase sign comprehension. *Human Factors: The Journal of the Human Factors*

    and Ergonomics Society, 48(1), 182-195. doi:10.1518/001872006776412298

Bosman, E., & Rusinek, C. (1997). Creating the user-friendly library by evaluating patron

    perceptions of signage. *Reference Services Review, 25*(1), 71-72-82.

    doi:10.1108/00907329710306599

Boyd, D. R. (1993). Creating signs for multicultural patrons. *The Acquisitions Librarian,*

    5(9-10), 61-66. doi:10.1300/J101v05n09_07

Eaton, G., Vocino, M., & Taylor, M. (1993). Evaluating signs in a university library. *Collection Management, 16*(3), 81-101. doi:10.1300/J105v16n03_06

Granfield, D., & Robertson, M. (2008). Preference for reference: New options and choices for academic library users. *Reference & User Services Quarterly, 48*(1), 44-53.

Haskell P. C., Pollet D. (Eds.). (1979). *Sign systems for libraries: Solving the wayfinding problem*. New York: Bowker.

Johnson, C. (1993). Signs of the times: Signage in the library. *Wilson Library Bulletin, 68*(3), 40-41, 42.

Logan, F. F. (2009). A brief history of reference assessment: No easy solutions. *The Reference Librarian, 50*(3), 225-233. doi:10.1080/02763870902947133

Mallery, M. S. (1982). In American Library Association., DeVore R. E. (Eds.), *A sign system for libraries*. Chicago: American Library Association.

MacDonald, K.I., vanDuinkerken, W., & Stephens, J. (2008). It's all in the marketing: The impact of a virtual reference marketing campaign at Texas A&M University. *Reference & User Services Quarterly, 47*(4), 375-385.

McMorran, C., & Reynolds, V. (2010). Sign-a-palooza. *Computers in Libraries, 30*(8), 6-7, 8, 9.

Ng, A. W. Y., & Chan, A. H. S. (2008). The effects of driver factors and sign design
    features on the comprehensibility of traffic signs. *Journal of Safety Research,*
    39(3), 321-328. doi:10.1016/j.jsr.2008.02.031

Philips, S. M. (2005). The search for accuracy in reference desk statistics. *Community &*
    Junior College Libraries, 12(3), 49-60. doi:10.1300/J107v12n03_06

Prensky, M. (2001). Digital natives, digital immigrants part 1. *On the Horizon*, 9(5), 1-6.

Reynolds, L. (1981). In Barrett S. (Ed.), *Signs and guiding for libraries*. London:
    Bingley.

Yeaman, A. R. J. (1989). Vital signs: Cures for confusion. (cover story). *School Library*
    Journal, 35(15), 23.