

MIND THE GAP:

Transactional Distance and Access to Human Support in Academic Libraries in Florida

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Abstract

Seventy-four colleges and universities in Florida were examined to determine the transactional distance of connecting to human support in academic libraries. Transactional distance was defined as how far away students or users may feel from getting human support. This distance was measured with the number of steps it would take a user to navigate from university home pages to academic library home pages, which was affected by the location and visibility of the library link on the university home page. The transactional distance of human support through synchronous systems, live chat, and virtual or in-person appointments with a librarian was also measured by the number of steps, as well as hours of availability, and access to human interaction rather than chatbots. The researchers concluded that the transactional distance for users, prospective students, current students, and community members had increased due to the findings that the link to the library was more than two steps for 46% of the colleges and universities compared to similar research ten years ago. However, the researchers concluded that transactional distance for students decreased due to synchronous methods such as live chat and the availability of reference appointments with a librarian. This study found that 80% of academic libraries in Florida had live chat, and 66% had visible means for students to make an appointment with a librarian. Askalibrarian.org, Florida's chat consortium which is used by 39 colleges and universities, positively impacted the availability and number of hours that live chat could be offered. Chatbots were used by 10% of libraries, in six institutions. Academic libraries in Florida should continue to advocate for visibility on university home pages and explore options to increase student support through human interactions.

Keywords: transactional distance, college or university Web sites, academic library Web sites, virtual reference, live chat, chatbots, Florida college and universities

Introduction

The purpose of this research study was to determine the transactional distance of access to human support in academic libraries in Florida. Transactional distance is defined as the gap between the learner and the teacher in online classes.¹ In other words, how far away the learner feels from the teacher or the ability to get assistance. This definition can also be applied to how far away the learner feels from the library or the ability to get assistance. Awareness of the placement and visibility of links to library home pages from university home pages may inform librarians of the need to advocate for a better presence on university home pages. Attention to the placement of virtual reference and appointment options on academic library home pages ensures patrons can readily access support from academic librarians. Learner autonomy is often assumed to be high, but many students struggle to navigate college and library Web sites to find what they need. Two crucial issues in transactional distance are structure and dialogue. The structure of learning materials and the ability for students to communicate their learning needs are also important for libraries and librarians. According to Moore, educators can “bridge the gap” of transactional distance with “communications technology.”² Web sites must have a logical structure, and students must have the ability to communicate with someone to get help if needed. This research study will focus on the premise that transactional distance for students increases as the number of steps to reach the library and library support increases.

1. Moore, “The Theory of Transactional Distance”

2. Moore

The Association for College and Resource Librarians' (ACRL) Standards

The ACRL Standards for Libraries in Higher Education clearly explain the importance of structure and transactions with students.³ Rather than focusing on the Framework for Information Literacy in Higher Education, the Standards establish principles and performance indicators in the following areas: institutional effectiveness, professional values, educational role, discovery, collections, space, management, personnel, and external relations. Although many of the standards could be tied to research related to library Web sites, virtual reference, and supporting students via individual appointments, the standards connected to the Educational Role, Discovery, and Space were the primary focus of the inquiry. ACRL defines Discovery as how libraries empower students to discover for themselves everything libraries have to offer, which can be accomplished by carefully constructing library Web sites and connecting to university Web sites and portals. Discovery is tied to one-on-one instruction, which can be accomplished through in-person and virtual options. ACRL defines the Educational Role of librarians and includes the ability of library personnel to provide "appropriate and timely instruction," which may be accomplished via in-person or virtual options. Finally, Space is defined by ACRL as not just physical space but also virtual spaces, which should be formatted in ways that are conducive to students' self-discovery of library resources. ACRL defines Space as "convenient hours" of access to library personnel, services, and resources. Therefore, academic libraries should regularly examine issues related to library Web sites, and students' access to virtual reference.

Transactional Distance

Transactional distance is a theory developed by Moore (1993) to explain the psychosocial distance students may feel in an online course rather than physical distance.⁴ This seminal work posits the organization or logical structure of courses impacts students because, otherwise, they may feel lost or confused. He also determined that interactions with humans, such as the course instructor and fellow students, affected transactional distance. Moore's theory can be applied to how students interact with libraries through online library Web sites. The number of online students rose nationally from 36.3% in 2019 to 53.3% in 2022.⁵ The number of online students in Florida colleges and universities rose higher than national averages, from 45.6% in 2019 to 60.6% in 2022.⁶ Academic libraries must consider the needs of online students who do not have the option of walking up to a reference desk to ask for help. Regardless of the physical location of students on the main campus, satellite campus, or online, students need to be able to access library resources.

3. ACRL, "Standards for Libraries in Higher Education"

4. Moore, "The Theory of Transactional Distance"

5. National Center for Education Statistics, "Percent of Students Enrolled in Distance Education Courses in Postsecondary Institutions 2012-2022"

6. National Center for Education Statistics

Importance of Access to Library Resources and Support

Many research studies, most notably the comprehensive research of ACRL's Assessment in Action program, have proven the importance of access to academic libraries and the instruction provided by librarians.⁷ Reports from studies in 2016 and 2017 concluded the following:

1. Students benefit from library instruction in their initial coursework.
2. Library use increases student success.
3. Collaborative academic programs and services involving the library enhance student learning.
4. Information literacy instruction strengthens general education outcomes.
5. Library research consultations boost student learning.⁸

A more recent longitudinal study by Soria et al. in 2017 investigated students' library usage for four years and concluded that students benefited the most academically by utilizing books and Web-based services such as databases.⁹ Students who engaged with reference services, such as an appointment with a librarian, were also more engaged with their academics. A study by Wittkower in 2022 showed the benefits of students who received in-person, synchronous library instruction in an undergraduate English course compared to a control group that did not.¹⁰ Students who received library instruction were more likely to complete the course and earn a higher grade. Access to libraries and library instruction are essential for students' success in higher education.

University Web Sites

Since the earliest study of library links on university Web pages, a connection has been made between the library's value to the institution and where the links are located. A study of 122 Association of Research Libraries (ARL) library Web pages was conducted by King in 1998 and included the number of steps from the institution's Web page to the library.¹¹ His results showed that 44% of library links could be found in one step, 38% in two, 10% in three, and only one in more than four steps. What has changed since 1998 is the development of portals, most with password-protected access, for current students, while university Web pages have become advertisements for prospective students. However, the prominence of a link to the library, or the lack of one, speaks to the value of the library to the university. A study in 2015 by Becher of 357 college and university Web pages found that the link to the library was either immediately visible or easily located in the main menu more frequently on home pages of doctoral-granting institutions.¹² Becher concluded that doctoral-granting institutions were more likely to consider the value of the library important to prospective students versus institutions focused on "career-oriented" degrees and certificate programs.¹³ Becher also noted a correlation between larger public universities and library link placement within one step. Academic librarians must advocate for visibility on their institution's Web site with administrators and Information Technology departments. Students at large, small, public, private, and for-profit universities deserve the same ease of access to library services, which are important to their academic success.

7. Karen Brown, "Documented Library Contributions to Student Learning and Success"

8. Brown

9. Soria, Fransen, and Nackerud, "Beyond Books"

10. Wittkower, McInnis, and Pope, "An Examination of Relationships between Library Instruction and Student Academic Achievement"

11. David L. King, "Library Home Page Design"

12. Melissa Becher, "Factors Impacting Library Visibility on Academic Institution Home Pages"

13. Becher

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Academic Library Web Sites

When students reach the library home page, they need to be able to navigate the site and know how to get help if needed. There are many issues related to Web site design for libraries, including visual design, usability design, and accessibility design. Most of these design issues are outside of the scope of this research. However, some topics related to navigation and usability were factors in this study. For example, Comeaux examined 37 library sites in the Association of Southeastern Research Libraries and found that certain design elements related to navigation were more popular than others, such as the prevalence of top menus with drop-down links.¹⁴ The terms “Help” and “Ask” were in a list of common menu terms but not used as frequently as “About,” “Services,” “Collection,” and “Research.” Comeaux also noted the most prevalent placement of library hours in the top right area of library home pages. Jones and Thorpe examined 488 library home pages.¹⁵ They created a list of the most common elements starting with the most frequent and presented in decreasing order: link to university home page, library hours, images, interlibrary loan link, “About” link or section, link to catalog search, link to tutorials or guides, contact librarian link, and link to staff directory.¹⁶ Overduin conducted a usability study after redesigning their library Web pages. The results showed that one of the most difficult tasks for students was to locate the contact information for a subject/liason librarian if they needed help, with a 22% success rate.¹⁷ However, students were more successful in finding how to get research help from a non-specific librarian at a 68% rate. Overduin also noted that although the “Ask a Librarian” chat widget was featured prominently on the home page, students expressed distrust over using it and said they preferred to ask a librarian in person or on the phone. Overduin concluded that whether students were new or returning, they needed instruction on navigating the library’s Web site pages.

Virtual Chat and Virtual Reference Appointments

Using many different methods to provide information literacy instruction to students promptly has led to the rise in academic libraries using “Ask a Librarian,” which is a service of Springshare, also known as Libchat, and offering virtual reference appointments utilizing video conferencing platforms such as Zoom, Web Ex, Microsoft Teams, and Google Meet. The COVID-19 pandemic and lockdowns impacted the number of libraries using chat services. Askalibrarian.org is a service provided in Florida by the Tampa Bay Library Consortium and provides virtual reference services to over 100 academic, public, and special libraries, including 39 colleges and universities.¹⁸

14. David J. Comeaux, “Web Design Trends in Academic Libraries—A Longitudinal Study”

15. Comeaux

16. Jones and Thorpe, “Library Homepage Design at Medium-Sized Institutions,”

17. Terezita Overduin, “Like a Robot”

18. Tampa Bay Library Consortium, “Ask a Librarian Statewide Chat, Text, and Email”

A report by Bailey et al. stated that during lockdowns from 2019 to 2020, the number of chats increased by 121%. Chats remained high in 2021, increasing by 113% from 2019.¹⁹ Although participating in a consortium can help libraries without sufficient personnel to provide chat services for more hours, there is evidence that students may not trust sources outside of their institutions. A study by Barrett and Pagotta found that, “Users were more likely to be dissatisfied if the [chat] operator disclosed that they were affiliated with a different university or campus than the user.”²⁰

Another way libraries can offer chat services when personnel are unavailable is to use a chatbot. Springshare LibChat now offers a chatbot to answer questions according to Frequently Asked Questions (FAQ) and other “flow” settings. The chatbot will direct questions that require human interaction to email or transfer to a live chat operator if available.²¹ There are two different ways of using chatbots: integrating or separating. Full integration means the chats go through the chatbot first, and then a “live agent” is notified if the answer cannot be located, or the user requests it. Separating the chatbot means it is employed only when chatting with a live agent is unavailable. More intricate details of what chatbots are and exactly how they function are beyond the scope of this research study. According to Adetayo, chatbots assisting with reference services may be helpful, but there are risks, such as students who prefer to talk to librarians and the frustration of chatbots not providing the correct answer.²² Ehrenpreis and DeLooper implemented a chatbot in addition to live chat with a librarian. They found that students often got mixed up and did not understand the differences or limitations of chat systems.²³

However, students benefit from information literacy instruction that can take place during chats with a human, specifically a librarian. A study by Barrett et al. found that 33% of chats included instruction.²⁴ Rather than graduate students or paraprofessionals, librarians were more likely to provide instruction in chat interactions. A study by Hervieux and Tummon found that 23% of chat interactions included instruction. As they noted, students often asked questions that required short answers or information about another department or service. More effective instruction can be accomplished through virtual reference with individual appointments. As Cole and Raish explained, in their experience, although Zoom or video conferencing can be initiated from chat, depending on chat volume, it can be very distracting for librarians.²⁵ Cole and Raish explained scenarios based on chat transcripts that would be more beneficial for students in virtual appointments, such as working with students with negative emotions to establish a calming, trusting environment with face-to-face interactions. A study by Bennett of virtual consultations found that students gained confidence in their research abilities and learned valuable research skills they would use again.²⁶ There are many benefits of virtual reference, especially individual appointments.

19. Jules Bailey et al., “Chat Services and Covid-19: Trends in ‘Ask a Librarian’”

20. Barrett and Pagotto, “Pay (No) Attention to the Man Behind the Curtain”

21. Lilly Sundell-Thomas, “Springshare Buzz: SpringyNews”

22. Adebowale Jeremy Adetayo, “Artificial Intelligence Chatbots in Academic Libraries”

23. Ehrenpreis and DeLooper, “Implementing a Chatbot on a Library Web Site”

24. Kathryn Barrett et al., “Teaching and User Satisfaction in an Academic Chat Reference Consortium”

25. Carmen Cole and Victoria Raish, “Serving the Need: Engaging in Virtual Video Reference with Students”

26. Jessica L. Bennett, “Virtual Research Consultations Study”

Mind the Gap

Research Questions/Objectives

1. How many steps does it take to reach the library home page, starting from the university home page? Where was the link to the library located on the university's Web site? Standard 4.2, "The library integrates library resource access into institutional Web and other information portals."²⁷ This standard was connected to our inquiry regarding the placement of library access on university Web sites.
2. Was chat virtual reference available? Where was the chat widget placed on the library Web site? How many hours was chat available? Was it explained whether the chat was with a person or chatbot? Was it explained whether the person answering the chat was a librarian? Was it explained whether the chat system was part of a consortium? Can students ask a question and get it answered later if chat is offline? Standard 4.6, "The library provides one-on-one assistance through multiple platforms to help users find information." Standard 3.4, "Library personnel provide appropriate and timely instruction in a variety of contexts and employ multiple learning platforms and pedagogies."²⁸ These standards prompted the researcher's questions regarding access to chat virtual reference and appointments with librarians. Standard 6.1, "The library creates intuitive navigation that supports self-sufficient use of virtual and physical spaces."²⁹ These standards are correlated with our research into the logical location of chat and options to make appointments within library Web site pages. Standard 6.7, "The library provides ... convenient hours for its services, personnel, resources, and collections." This standard inspired the researcher's questions about the availability and number of hours for chat.
3. Was there a way that students could make an appointment? Where was the information located so that students could make an appointment? How many steps does it take to make an appointment from the library home page? Was there a phone number, email, link, or other method for making the appointment? Were in-person, virtual, or both types of appointments offered? Standards 3.4, 6.1, 6.7, and 6.8, as listed previously, were used to develop these research questions related to students being able to make an appointment with a librarian for one-on-one instruction and support.

27. ACRL, "Standards for Libraries in Higher Education."

28. ACRL

29. ACRL

Method

Seventy-four four-year colleges and universities in Florida were examined to determine the number of steps from university Web sites to library Web sites and the number of steps from library homepages to human support through virtual reference or an appointment with a librarian.

A list of 122 four-year colleges and universities in Florida was generated using the National Center for Education Statistics College Navigator (<https://nces.ed.gov/collegenavigator>). Forty-three schools were eliminated from the study because their enrollment was less than 800 students. An additional four for-profit schools were not included in the study because access to their libraries was permitted only for active students. IRB approval was not required for this study as no human subjects were involved.

Data was collected by two researchers using a private Qualtrics survey, which was used to compile the data and utilize analysis tools. The two researchers conducted a trial of five universities each and then met to improve their questions and response options for the study. The researchers reviewed what would be defined as a step prior to and after the first trial. The definition of clicks and steps were similar to previous studies by King (1998), Becher (2014), and Simpson (2015). If the library link was immediately visible it was one step. If the link was immediately visible but the researcher had to scroll down to view it at the bottom of the page, it was considered two steps. If the researcher had to click on the main menu or hover the mouse over the words in the main menu before clicking on the library link or another link, that was considered two steps. Additional clicks or steps on other pages were determined in the same manner. The researchers communicated with each other about any difficulties and reviewed special cases together to reach an agreement on how to report them.

This study was non-experimental empirical research because it was based on the observation and description of the relationship between currently occurring variables of the university and library Web sites at the time of the study in February 2024. Quantitative data was analyzed for the mean, total counts, and percentages of responses. Data is publicly available at this link: <https://qj.tc/iMdNHb>

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Results

Number of Steps from University Web Sites to Library Home Pages

The university Web sites and library home pages for 74 four-year colleges and universities in Florida were examined. Out of the 78 institutions that were identified, four university Web sites had password-protected access to all school resources and had to be eliminated from the study. 53% of the colleges and universities were public, 38% were private, and 9% were private for-profit. 36% of the colleges and universities were small (enrollment between 1,000 to 5,000 students), 32% were medium (enrollment between 5,000 to 15,000), 12% were large (enrollment between 15,000 to 30,000), 11% were huge (enrollment over 30,000 students), and 8% of the colleges and universities were very small (enrollment less than 1,000 students).³⁰ Note that the Carnegie classification of size was adjusted because there was a variety of residential characteristics within four year institutions in Florida.

The average number of steps from the university Web site to the library home page was 2.5. Cross-referencing data for public and private schools did not show much difference between them: public 2.6 average and private 2.5 average, but for-profit was higher at 2.7 average steps. However, cross-referencing data based on school size showed some interesting differences. Very small schools had the highest average of 2.8 steps, small and medium schools had 2.6 steps, while large and huge schools had the lowest average step count at 2.4 (see Table 1). The lowest number of steps was one step, which meant that the link for the library was immediately visible in the main menu. The highest number of steps for any school was five steps, which also required searching for it much longer (see Table 2).

Table 1

Average Number of Steps from University Web Sites to Library Home Pages by Institutional Size

Total avg.	Very small	Small	Medium	Large	Huge
2.5	2.8	2.6	2.6	2.4	2.4

Note. Very small (enrollment less than 1,000 students), small (enrollment between 1,000 to 5,000 students), medium (enrollment between 5,000 to 15,000), large (enrollment between 15,000 to 30,000), huge (enrollment over 30,000 students).

Table 2

Number of Steps from University Web Sites to Library Home Pages by Institution

Number of steps	Percent	Count
1	5	4
2	49	36
3	32	23
4	10	7
5	4	3
NA		1
Total	100	74

Note. NA means non-applicable. One institution did not have a link to a library.

30. American Council on Education, "Size & Setting Classification"

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Location of Library Link

The most common location for the link to the library was in the main menu, located under or after clicking on “Academics.” Selecting “Current Students” from the main menu was also common. Several other menu terms were used, such as academic resources, academic support, and additional academic links. Menu terms similar to current students were student life, student support, and links for students. There was only one school where the link to the library could not be located but was accessed after a Google search. (see Table 3).

Table 3

Location of Library Link on University Web Sites

Link location	Percent	Count
Main Menu - Academics	40	34
Main Menu - Current Students	21	18
Other	15	13
Main Menu - Resources	6	5
Bottom of the Page links	5	4
Main Menu (immediately visible)	4	3
Main Menu (after opening it)	4	3
Main Menu - Quick Links	4	3
Google Search	1	1
Total	100	84

Note. N=84 due to two or more choices being selected per institution

Access to Virtual Reference Chat

Location and Hours of Chat

Sixty-eight percent of institutions had chat services immediately visible on their library home page. 20% (15 schools) did not have chat services. For 12% of schools, it was necessary to click on a link or go to another page to get to chat. Those links or menu terms were usually clearly labeled as “Ask a Librarian,” “Ask Us,” or “Get Help.” Notably, one school had two chat boxes, one for the home institution and one for the “Ask a Librarian” consortium. Cross-referencing data based on institutional size showed that institutions with less than 5,000 students were less likely to have chat services (see Table 4).

Table 4

Number of Libraries Without Chat Services by Institutional Size

Total	Very small	Small	Medium	Large	Huge
15	3	10	2	0	0

Note. Very small (enrollment less than 1,000 students), small (enrollment between 1,000 to 5,000 students), medium (enrollment between 5,000 to 15,000), large (enrollment between 15,000 to 30,000), huge (enrollment over 30,000 students).

Sixty-six percent of schools clearly posted the hours that chat was available on the library home page or on the page where chat was located. The average number of hours for chat Monday to Thursday was 14.9 hours. Although Sunday hours were often the same as Monday to Thursday, there were a few schools with fewer hours, so the average was 14.1 hours. On Fridays and Saturdays, the hours were an average of 10.6 and 10.4. The number of hours chat was available was affected by whether the institution was part of a consortium. The Florida “Ask a Librarian” consortium service is available 14 hours (10 a.m. to midnight) Sunday through Thursday and seven hours (10 a.m. to 5 p.m.) on Friday and Saturday (ET). Seven libraries offered chat services 24 hours a day, seven days a week. The average number of hours offering chat was lower for schools that were not part of the Florida “Ask a Librarian” or another consortium (see Table 5)

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Table 5

Comparison of Number of Hours for Chat: Consortium and Not in Consortium

	Sunday	Mon.-Thu.	Friday	Saturday
Total	14.1	14.9	10.6	10.4
Schools not in consortium	9.2	12.1	8.1	6.4

Who is Answering Chat: Consortiums, Librarians, or Chatbots?

Although there are 39 colleges or universities identified as belonging to the Florida consortium, not all schools advertised or clearly posted the information. 61% of institutions did not identify they were part of a consortium. In many cases, it was not clear if other consortiums or chat services were being utilized outside of personnel paid by institutions.

Sixty-nine percent of libraries advertised or posted that students were chatting with a person. It was unclear whether chat was being answered by a person or chatbot in 20% of institutions. Chatbots were being used by only six schools. Three institutions used the chatbot only after normal library hours. One institution using the chatbot explained that a “live agent” could be requested. Two institutions were using a chatbot, and it was unclear if questions that couldn’t be answered would be directed to a person (see Table 6).

Table 6

Chat Monitored by People, Chatbots, or Both

Chat monitor	Percent	Count
Person	69	41
Unclear	20	12
Both	7	4
Chatbot	3	2
Total	100	59

Sixty-one percent of libraries indicated that chats were being answered by a librarian either clearly stated or by advertising services such as “Ask a Librarian.” It was not clear who was answering questions at 25% of schools because the chat was titled “Ask Us” or “Contact Us,” and there was no further explanation available. Only two libraries clearly explained that a librarian or library staff would be answering questions. One library explained that a librarian, learning services coordinator, instructor, or tutor would answer the question. More than half of the libraries indicated that students could ask a question, and someone would answer it if chat were not available, which was not an issue for institutions that offer 24/7 chat (see Table 7).

Table 7

Students Could Ask a Question Using Chat and Get a Response Later

Response	Percent	Count
Yes	59	35
Unclear	25	15
NA 24/7 chat	12	7
No	3	2
Total	100	59

Note. NA means non-applicable.

Reference Appointments

Although 66%, more than half, of the academic libraries examined clearly showed a way that students could make an appointment for support, that meant that 34% did not. Small to medium-sized institutions were more likely not to offer appointments in a clearly visible manner (see Table 8). It is possible that students could make appointments in person or directly by email with specific librarians who identify themselves in other ways or by using staff directories.

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Table 8

Institutions with No Visible Way to Make an Appointment by Institutional Size

Institution Size	Percent	Count
Very small	8	2
Small	40	10
Medium	40	10
Large	4	1
Huge	8	2
Total	100	25

Note. Very small (enrollment less than 1,000 students), small (enrollment between 1,000 to 5,000 students), medium (enrollment between 5,000 to 15,000), large (enrollment between 15,000 to 30,000), huge (enrollment over 30,000 students).

The location of a link or access point to making an appointment with a librarian was located on 43% of library home pages. Eight libraries, or 16%, required a user to click on “Contact Us” or “Ask Us” to see the information. “Get Help” or “Get Support” pages were also used to post information on how to make an appointment. A variety of other terms were used for pages using a combination of common words such as research, assistance, support, resources, connect, and ask. Although “Ask a Librarian” was used for chat services in most cases, three libraries featured a separate page labeled that way, which included how to make an appointment. Only two libraries placed the information on the library directory page (see Table 9).

Table 9

Location of Information to Make an Appointment with a Librarian

Location	Percent	Count
Library Home Page	43	21
Other	27	13
Contact Us/Ask Us	16	8
Get Help/Get Support	10	5
Library Directory	4	2
Total	100	49

The average number of steps to make an appointment with a librarian from the library home pages was 2.6 steps. Students were able to make appointments using many different methods, such as email, phone, and links to calendar applications and request forms. Springshare’s LibCal was used by 15 libraries. Using a shared calendar is an excellent way to be sure students have the most options for dates and times (see Table 10).

Table 10

Methods for Making an Appointment

Method	Percent	Count
Link	30	30
Email	27	27
Phone	23	23
LibCal/shared calendar	15	15
Email form	3	3
Ask in-person	1	1
Total	100	99

N equals 99 because more than one response could be chosen.

More than half of all libraries, 67%, where students could make an appointment offered virtual and in-person options. Twenty-two offered virtual only, and 10% required in-person appointments.

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Discussion

RQ1

This research study focused on the premise that transactional distance for students increases as the number of steps to reach the library and library support increases. The researchers concluded for RQ1 that the transactional distance for users, prospective students, current students, and community members had increased because the link to the library was immediately visible: one step for only 5%; within two steps for 49%; and more than two steps for 46% of the colleges and universities compared to similar research ten years ago. Simpson examined 256 university sites in 2014 and found that from 80% to 95%, depending on the type of university, had a link to the library on the home page within one step.³¹ In 2014, Becher examined 357 institutions and found that 32% of library links were immediately visible, 37% were visible within two steps, and 31% were visible in more than two steps.³²

The huge decrease in the visibility of library links is due to several reasons. First, universities are now focusing on Web page creation as advertisements for new students, while portals and learning management systems often have links to the library and other services. A study by Becher found that doctoral-granting universities were more likely to promote the library as important to research.³³ Second, students and others seeking the library can use Google or another search engine to find it. Third, libraries, in general, are being undervalued due to students preferring to use Google or Google Scholar for research. Another salient point is that community members benefit from universities in their area and do not have access to student portals or links placed in courses. Considering these issues, academic libraries must continue to advocate for visibility on university Web sites.

RQ2

The researchers concluded that transactional distance for students decreased due to synchronous methods such as live chat. This study found that the number of academic libraries using chat had risen considerably compared to similar research ten years ago. Eighty percent of academic libraries utilized chat services. A study by Yang and Dalal in 2014 found that out of 362 academic libraries, 48% provided chat services but not all of them were synchronous.³⁴ The overall increase in the number of academic libraries utilizing live chat is significant because it is a synchronous method for students to contact human support. A study by Pyburn showed that prior to having a chat widget on the home page, only 1% of online students engaged with a reference librarian.³⁵

31. Jessica Simpson, "The Heart of the University"

32. Becher, "Factors Impacting Library Visibility on Academic Institution Home Pages."

33. Becher

34. Yang and Dalal, "Delivering Virtual Reference Services on the Web"

35. Lydia L. Pyburn, "Implementing a Proactive Chat Widget in an Academic Library"

The number of chats doubled from 4,020 questions answered in 2015–2016 to 8,120 questions answered in 2016–2017 after implementing the chat widget and adjusting the hours that chat was available and staffing. Askalibrarian.org, Florida's chat consortium, positively impacted the availability and number of hours that live chat could be offered. Libraries that were not part of the Florida consortium or 24/7 chat service were not able to have live chat available for as many hours. Chatbots were only being used by 10% (six) and unclear whether they were being used by 20% (12) of libraries. Although chatbots may extend the number of hours that chat is available, there may be a distrust of using this fairly new technology.

RQ3

The researchers concluded that the transactional distance for students decreased due to the visibility and availability of students to make an appointment with a librarian compared to similar studies. This study found that students could make an appointment with a librarian at 66% of libraries, and 43% were clearly visible on the library home page. A study by Jones and Thorpe found that about 50% of library home pages featured library hours and a link to contact a librarian.³⁶ A study by Yang and Dalal in 2014 found that out of 362 academic libraries, 74% offered virtual reference by phone, email, or video chat.³⁷ Our study examined options for making an appointment with a librarian at 66% of academic libraries, which was different from the study done by Yang and Dalal.

Limitations

Although university and academic library Web sites are considered stable, they do change over time. During the time that research was being conducted, one university relocated the link to the library, which was immediately visible in the main menu the first time observed, and then it was moved more than two steps away. Researchers tried to be consistent with definitions of what constituted one step and other measurements, but there could have been differences in the way Web sites and virtual reference were examined by two different researchers, as well as the potential for error. Researchers tried to examine Web sites as efficiently as possible the first time because repetition in viewing the site meant that it became more familiar and easier to navigate or remember specific steps. In a few cases, to address outliers in the number of steps or other issues, sites were reexamined or examined by both researchers.

Although students were not involved in the study, the researchers experienced frustration when they could not find links or information in logical or expected places on university and library Web pages. Since the researchers were experienced academic librarians conducting the study rather than students, it is likely their level of perseverance was higher. A usability study of a library Web site by Vargas Ochoa found that students often did not complete tasks if they had to click more than five times or scroll down the page.³⁸

36. Jones and Thorpe, "Library Homepage Design at Medium-Sized Institutions"

37. Yang and Dalal, "Delivering Virtual Reference Services on the Web"

38. Isabel Vargas Ochoa, "Navigation Design and Library Terminology"

Mind the Gap

Limitations, cont.

Overduin conducted a usability study of a library Web site with students and found that they had a difficult time finding contact information for librarians (39% success rate) and how to get research help (68% success rate), noting the number that gave up was higher than expected.³⁹ Overduin also found that students preferred to talk to a librarian in person or on the phone. The logical conclusion is that students would feel lost, confused, and more likely to give up if they cannot find the information or link they want within a few steps.

The researchers developed a Qualtrics survey form to help record their data as they examined university and library Web sites. In only a few cases, it was discovered that there were unique issues which had not been incorporated into the response choices. However, researchers were able to utilize “other” text responses. Despite these limitations, the researchers are confident in their results and their efforts to conduct research ethically and carefully. The data gathered is generalizable and applicable to academic libraries of any size, public or private. This information is significant because it is the first research of its kind to focus specifically on Florida colleges and universities.

Implications

Academic libraries should advocate for improved placement and visibility of links to their home pages on university home pages because doing so is connected to the perceived value of the library to the institution. Cox stated in a 2018 article, “Traditionally, the library was viewed as the heart of campus, and there was an almost unquestioning acknowledgment of the centrality of its contribution to the institutional mission.”⁴⁰ Based on a systematic review of the literature, Cox recommended several strategies to improve library visibility and perceived value. Align the mission and strategic plans of the library to the university. Libraries and librarians should be involved in leadership, creating policies, and working on collaborative projects. Libraries should refocus their energy on users rather than collections and consider rebranding or adjusting marketing efforts. Although collaborating is laudable, there is a danger of losing the library’s distinct mission, for example, by combining or blending with support services. Libraries should consider emerging roles related to technology and the way they work in teams. Most importantly, libraries should convey their value to all stakeholders.

39. Overduin, “Like a Robot.”

40. John Cox, “Positioning the Academic Library within the Institution

Academic libraries should ensure that students have easy access to virtual reference and appointment options on library home pages. Smaller universities should consider participating in a consortium such as Florida’s Askalibrarian.org to extend the number of hours live chat can be offered. Although using chatbots to extend the number of hours chat is an option, libraries should test them out and get faculty and student feedback prior to implementing them. Virtual reference appointments are a great option for students no matter their location, so all academic libraries should consider using some type of video reference.

Future Research

As the interest in Artificial Intelligence (AI) rises and chatbots continue to advance, further research should be done on their effectiveness and students’ perceptions. One study found that students mistrusted answers to questions provided by librarians outside their institution, but more research is needed on this topic. Usability studies of academic library Web sites should be continued, especially related to accessibility, Universal Design for Learning (UDL), student navigation, and visual design. The placement of chat widgets inside learning management systems, password-protected student portals, and databases should all continue to be studied.

Conclusion

Academic libraries and librarians should continue to advocate for visibility on university home pages for the sake of prospective students and community members, and to add to the perceived value and reputation of the university. As the number of online students continues to grow, ensuring fair and equitable access to human support will continue to be an issue. Advocating for sufficient technology resources and personnel to provide “just in time” instruction via live chat, virtual reference appointments, and other methods should be considered vital. Academic libraries and librarians should continue efforts to decrease the transactional distance for all users.

*Mind the Gap***Resources**

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