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Reaching Additional Users with Proactive Chat

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Abstract

Despite a general decline in recent years in academic libraries' reference desk statistics, research indicates that library users continue to have complex research questions but are largely unaware that librarians are waiting and ready to assist them. The challenge for librarians is to connect with users at their point of need. At Bowling Green State University we are making a move in this direction with proactive (pop-up) chat widgets embedded within our library web pages, catalog, and databases. Since implementation, the number of chat reference questions received has more than doubled, helping us reach additional users from on and off-campus. (100 words)

Introduction and Background

At Bowling Green State University (BGSU), chat reference has been a mainstay of the library's reference service since the late 1990s. We have always valued it as a means of reaching our library users and the recent implementation of a proactive approach to chat reference underscored this value. This article examines the implementation process, assesses its value for BGSU and highlights its potential for other libraries.

Through the years, BGSU libraries has primarily staffed our chat service with a combination of librarians and student assistants while working at our Research and Information Desk. For the past ten years, the number of questions received through chat reference has hovered around ten to twelve percent of our total questions received (includes in-person, phone, email, texting and chat). The volume of chat questions received was not insignificant and the questions were often quite complex, but the chat service was typically managed quite well at the desk without seemingly sacrificing our level of service or putting too much stress on our reference service providers.

BGSU library users could initiate a chat question with Research and Information Desk staff via various chat boxes placed on library web pages. Our main chat box was located on the library AskUs! (general assistance) web page.   Library users were directed to this page from an icon on the library home page and a link from the navigation bar on all University Libraries web pages. Over time, AskUs! links were added to various other pages, including the campus web portal (MyBGSU) and within the Summon discovery service. We also placed a small chat box within the EBSCO databases and within various LibGuides.

BGSU reference librarians were committed to our chat reference service and valued the access it gave students to librarians when they were not in the library. From user surveys, we knew that our chat reference service was valued and appreciated by faculty and students alike, many of whom were distance students. Though we considered our chat reference service healthy, it was feeling a bit stagnant, and there was a slight decline in our statistics. We promoted our chat service through a variety of methods, but it was an ongoing challenge, and we knew that not all of our students were aware that we offered such a service.

Investigation and Implementation of Proactive Chat Reference

In December 2014, the chat service system we were currently using (LibraryH3lp) introduced an integrated proactive chat component to their product. Though chat reference software has evolved in its twenty plus years of existence, adding new and improved features, the proactive chat component is one of the newest and more significant features that has been introduced.   Borrowing from the business practice of various online retailers, a text box offering chat assistance can now be programmed to pop-up on library web pages and within the catalog and databases. The traditional chat features of the LibraryH3lp product all remain the same, the difference is simply the manner in which the service is offered. Instead of just a static link or chat box on a library web page, the offer to chat now pops up on

the web page after a predetermined period of time. We were immediately intrigued by this new feature, but were concerned it was too aggressive and that our library users would not appreciate this intrusion.

Months later, we read about a library at the University of Texas at San Antonio (UTSA) that had implemented a proactive approach to marketing their chat service, which included pop-up chat boxes, and it was wildly successful (Kemp, Ellis, & Maloney, 2015). This convinced us to seriously investigate this option with the intent of giving the proactive, pop-up chat boxes a try, but we still had many concerns.

One of our concerns was the intrusiveness of the pop-up box. We certainly did not want to "put-off" or annoy our users. We tried to counteract this concern by placing the pop-up chat box in the bottom right corner of the screen, a fairly unobtrusive spot. The pop-up box includes a friendly offer of assistance ("Need Help?" or "Hi there. Let us know if we can help you find something!"), but does not require users to stop what they are doing to respond. The user can choose to close the box or ignore the pop-up box altogether, and it will just quietly remain in the corner of the screen. A 2011 user study (Mu, Dimitroff, Jordan, & Burclaff, 2011) found that though some library users found a pop-up offer of assistance to be both intrusive and annoying, the pop-up design and text could successfully reduce that negative user response. We also believed that the type and manner of the pop-up must affect the way that it is perceived by users. A more recent study found that users (college students) were very amenable to pop-up widgets and understood their value (Imler, Garcia, & Clements, 2016).

It was also necessary to decide on the amount of time needed to trigger the pop-up chat box. If the pop-up box was triggered too soon after a user landed on the web page, would this add to negative reactions to the proactive offer of assistance? On the other hand, we didn't want to wait so long as to render it unhelpful. We experimented with various trigger times on different pages and predominately settled on 20 or 30 seconds.

Another concern was that the proactive offers to chat would be so successful that we would not be able to handle the increased traffic with our current staffing situation. Upon proactive chat implementation at UTSA, the library needed to enlist assistance from subject librarians as well as hire three additional half-time reference librarians to meet the user demand (Kemp, Ellis, & Maloney, 2015). Because we staffed our chat reference service from the Research and Information Desk, a significant increase in question volume would be a challenge to our reference desk staff. Chat reference questions tended to be complex and often time-consuming to complete. In 2014, 91 percent of our chat transactions were categorized as reference questions verses directional or equipment. A large increase in time consuming chat reference questions could likely have a negative impact on our in-person reference service.

In November 2015, we began experimenting with the addition of LibraryH3lp proactive chat boxes within our chat service. Because of our concerns, we were cautious in our approach and decided to add the pop-up triggers in phases. Initially, we added the pop-up chat trigger to a few select pages, including the research databases menu pages (within the catalog), which we have long known could be confusing to our users, and to two relatively low-traffic library web pages, Faculty Services and Student Services. We almost immediately started receiving chat questions from these pages. Though not high in number, we did not encounter any problems or receive any complaints. The questions received from the pop-up widget on our database menu pages were typically relevant to the referring page. Generally speaking, these users were needing help navigating the lists of research databases. They knew they needed a database or article(s), but didn't know what to do once they landed on the database menu page.

Over the course of the next few months, we proceeded to add more proactive chat triggers on carefully selected library web pages, including the library home page. We also scattered the proactive chat triggers throughout the BGSU Library Catalog and added them within the widely-used Summon discovery service. We hoped and braced for an influx of questions.

Analysis of Implementation

Chat Transactions More Than Doubled

The proactive chat triggers led to a significant increase in the number of chat reference questions

received. Table 1 shows that chat transactions increased by an average of 132 percent in February –

October 2016, over the same 9 month period a year earlier.

Table 1

 Chat Reference Transactions, Before and After Proactive Triggers

Month	2015, Prior to proactive triggers	2016, With proactive triggers	Percent increase
February	148	328	121%
March	157	351	124%
April	151	407	170%
May	75	183	144%
June	53	140	164%
July	42	98	133%
August	88	231	163%
September	202	373	85%
October	158	382	142%
TOTAL	**1074**	**2493**	**132%**

Note: The numbers in this table are taken from the reference statistics system that desk staff use to record user transactions and not from the LibraryH3lp system itself.

Our numbers at BGSU bear out what early adopters of proactive chat have shown: triggered pop-up

chat boxes significantly increase the number of chat reference questions received. At Grasselli Library at

John Carroll University, the implementation of triggered pop-up chat boxes increased chat questions to

21 percent of their total reference transactions, up from just three percent of reference transactions

prior to implementation (Zhang & Mayer, 2014). Kemp, Ellis & Maloney (2015) reported that proactive

chat questions increased by 340% in the first year. It should be noted that the institutions in these

articles, UTSA and John Carroll University, both used the Zopim (now Zendesk) chat system (not

LibraryH3lp), a product designed for businesses rather than libraries.

Understanding Our Users

        Knowledge and Awareness. The most likely and obvious explanation as to why the number of

chat questions increased so drastically is that users did not know online assistance was available until

the pop-up was triggered. Another plausible explanation is that they had heard about the library chat

service, but they had forgotten about it or it did not occur to them to use it or maybe they did not know

how to access the service. Librarians understand the importance of telling users about chat reference,

but it seems to be a continual effort to educate them.   During a series of guerilla user testing within the

BGSU University Libraries in April 2016, we asked 68 students about our chat reference service. Thirty-

nine of the 68 students (57 percent) said they knew about the chat service, but just 13 of those students

(19 percent) had actually used the service.   Previous studies have found that users do not know that

librarians are available to help, but if they know, questions will follow (Lewis & DeGroote, 2008;

Matteson, Salamon, & Brewster, 2011; Naylor, Stoffel, & Van Der Laan, 2008). Universities welcome a

group of new students (and faculty) every year that we need to educate about many library resources

and services.   And even if we tell them about chat service when they first arrive, they might not

remember it at their point of need. Proactive chat is one effective response to this challenge. It

effectively markets itself and undoubtedly reaches students who we would not otherwise reach, even if

they had previous knowledge of the service.

At BGSU we have been offering our chat patrons (both from pop-up boxes and static chat boxes) the

option of completing a survey to rate our service. In January 2016, we added a survey question asking

chat users how they would have proceeded had the chat service not been available (Table 2). Only half

of these chat users would have sought assistance from the library if the chat service had not been an

option. While this is just a small segment (survey respondents) of our chat users, and not limited to

users responding to a proactive chat box, we think it is a reasonable supposition that our proactive chat triggers are helping us reach hundreds of users (mostly students) that we would not have otherwise reached. And not just reaching them in a passive way, but rather engaging them in interactions at their point of need within the library research process.

Table 2

If this Chat Service were not Available, How would you have Proceeded?

Response Options	Number	Percent
I would have sought assistance from the library through another means (phone, website, in-person, etc).	136	50%
I would have sought assistance elsewhere (friend, professor, google, etc).	63	23%
I would not have sought assistance.	59	22%
Other	13	5%
Total	271	100%

Convenience and Reach. Chat reference service, proactive or not, offers library assistance to help meet the needs of students wherever they might be. Convenience is important. Most students and faculty conduct library research outside of the library building, so we need to be ready to assist them where they are (Lewis & DeGroote, 2008; Naylor, Stoffel, & Van Der Laan, 2008; Wells, 2003). As shown in Table 2, if the library is not present to assist them at that moment, then many students would just do without. And the addition of proactive chat informs or reminds our users that we are there for them even as they are doing their research away from the library.

Meeting distance students where they are is not just convenient but essential for those unable to visit the library in person. The proactive service helps us reach distance students who might be needing our assistance but are unaware of the services we offer. In 2016, twenty-two percent of respondents to our chat user survey self-identified as distance students. And we expect the number of distance users to rise as our university has recently initiated two academic programs that are significantly increasing the number of students taking classes from off campus.

To determine the geographic location of origin of our chats, IP addresses were examined for 2950 chats recorded in the LibraryH3lp system during the review period (Table 3). These were analyzed using an IP bulk lookup tool to determine geographic location. Library IT staff helped to identify campus and library-specific IP subnets. As anticipated a number of our chats initiated from locations beyond our geographic region. While we were not able to match questions to the status of the user, it is likely that a number of these questions originated from BGSU distance students. Thirteen percent of total chats were initiated from forty-six states beyond Ohio. The most represented state was Michigan (46 chats), which is near enough to campus to be where some members of the on-campus community reside. Thirty-six questions also stemmed from locations beyond the United States.

Table 3

IP Location Analysis

IP Location of Chat User	Number	Percent
XXSU Campus	1448	49%
XX city, excluding campus	459	16%
Ohio, excluding XX	645	22%
United States, excluding Ohio	362	12%
International	36	1%
Total	2950	100%

In addition to the impressive geographic reach of our chat service, our IP analysis also demonstrated the extent to which our local users also rely on the convenience of our chat service. Almost half (49%) of the recorded chats were initiated by users located on our main campus. A surprising number of these originated from desktop computers on the first floor of the library (103 chats). The majority of these computers are located in a public computer lab just steps away from our in-person Research & Information Desk.

Intrusiveness. Did BGSU library users find the new proactive chat boxes intrusive or annoying? If students did, they did not tell us about it. The only complaints that we received were from library staff members. Criticism was centered on triggers within the library catalog, where many library staff

spend significant time. If the pop-up box is triggered when the user is actively typing, the pop-up

interrupts the typing and the user must take action to continue. To address these complaints, we

adjusted the timing of the trigger, attempting to minimize the number of typing disruptions. We also

addressed the issue with our library staff, sharing the successes we were having with the new proactive

chat approach and thanking them for their patience.

Question Complexity. Prior studies have demonstrated that questions received from

proactively triggered chat boxes are more complex than questions from static chat boxes (Maloney &

Kemp, 2015; Zhang & Mayer, 2014). Though we have not formally measured and compared the

complexity of questions from the two types of chat boxes, we judge this estimation to be true for us as

well. The questions from proactively triggered chat boxes are coming from students in the midst of their

library research, while searching within Summon or the library catalog, perhaps at the most complex

point in the research process. Students might learn general searching tips and strategies in a library

instruction session and be able to get started on their own (a very important skill), but their chat

questions often come at a later point in the process. Students are within a database, struggling with

correct search terms, article evaluation, etc.   It is often at this point that a student responds to the

proactive chat box that is offering assistance.

Analysis of Referring Pages: From Where Do Users Respond to Proactive Chat Boxes?

The LibraryH3lp chat administrative module records the referring URL for all chat transactions, both

from proactively triggered chat boxes and static chat boxes. The referring pages are summarized in

Table 4. We analyzed this data to learn from where on the web site our users were experiencing

challenges and then initiating chat questions.

Table 4

Chat Transaction Referring Pages: February 1, 2016 – October 31, 2016

Embedded Static Boxes			Triggered Pop-Up Boxes	
Ask Us! Page	874		Summon	727
EBSCO	135		Library Catalog	552
MyBGSU	129		University Libraries Home Page	179
360 Link	90		Unidentifiable (I.E. technical issue)	108
LibGuides	46		Services Pages (Faculty & Student)	90
Miscellaneous	4			
Total	1278 (44%)		Total	1656 (56%)

Note: Eighteen referring URLs were eliminated from the table as origination could not be discerned.

The static chat box that resides on the library's general Ask Us! page was the top initiating location (874) of all chat questions during this 9 month period. From the triggered pop-up chat boxes, the greatest number of questions (727) originated from the Summon discovery service. This did not surprise us as Summon is a popular search tool and a Summon search box is featured prominently on the library home page.   Library users search Summon to locate sources for their research papers and projects. As they search, they are observably encountering challenges that prompt them to ask for assistance when the proactive chat box appears.

The next greatest number of questions (552) originated from the proactive boxes from within the library catalog. Examination of those 552 questions, showed us from where in the catalog the questions were initiated (Table 5). Twenty-seven percent of the questions came from a search results page following a keyword search. The users attempted a keyword search and then encountered results which led them to respond to a librarian's offer to help. We speculate that in most cases their search was not successful in producing needed results and they needed searching assistance.   An analysis of the transcripts associated with each initiating page would tell us more about the users' questions and is planned for a future study.

Table 5

Chat Referring Pages from within the Library Catalog: February 1, 2016 – October 31, 2016

Keyword Search Results	148	27%
Bib Record	143	26%
My Library Account	79	14%
OCLC Number Search	26	5%
Resource Subject Search	20	4%
Subject Search	20	4%
Title Search	20	4%
Database Page	20	4%
Author Search	17	3%
Advanced KW Search Page	11	2%
All Other (less than 1% each)	48	8%
Total Referring from Library Catalog	552	100%

Another one-fourth of the questions originating from the library catalog came from an individual bibliographic record. Fourteen percent of questions from the catalog came from within the users *My Library Account.* Chat reference staff are unable to answer the majority of questions concerning a user's *My Library Account* as our reference staff does not have access to student patron records. In these cases, a referral would need to be given to circulation desk staff. The remaining types of catalog pages accounted for 5% or fewer of the catalog referring pages.

Referring back to Table 4, after the library catalog, the library home page had the next greatest number of questions with 179. It was somewhat surprising to us that three times as many chat questions originated from within the catalog than from the library home page. Participants in a Penn State library study (Imler, Garcia, & Clements, 2016) indicated that a widget would not be helpful on an individual catalog record, but our statistics show that 26 percent of chat questions from the catalog come from individual records.

Next on the referring pages list is EBSCO databases with just 135 referring URLs. Within EBSCO, we embedded a static chat box several years ago and did not change it to the proactive, pop-up widget. The chat box embedded in EBSCO is quite small and we had questioned in the past whether or not users

were noticing it. This current study finding made us question this further as we knew that the EBSCO search button was getting more hits on our library home page than the BGSU Catalog search button, and only 135 chats were initiated from EBSCO as compared to the 552 chats initiated from the catalog.

For comparison purposes, we looked at the actual number of home page clicks (or searches) recorded for Summon, EBSCO, and the Catalog that had been compiled using Google Analytics (Figure 1). Though the actual numbers are not relevant or comparable, we think that the percentages among the three resources are. Note that the Summon percentage is relatively the same for both, receiving 49% of clicks/searches and representing 51% of referring URL chats. However, the percentages are not the same for the library catalog and EBSCO. The percentage of chat question referrals are overrepresented in the library catalog (39 percent) compared to the volume of search clicks (19 percent) from the home page, and the number of chat question referrals are underrepresented in EBSCO (10 percent) compared to the volume of EBSCO searches from the home page (32 percent).

To further the comparison of static chat boxes versus proactive chat, we also looked at usage statistics of Summon (proactive chat) and EBSCO (static chat box). From February 2016-October 2016 there were 108,236 uses (sessions) of Summon and we received 727 chats from Summon. During the same time period there were 77,862 EBSCO sessions and 149 chats respectively. That breaks down to a 1/149 ratio of chat-to-uses for Summon versus a 1/577 ratio of chat-to-uses for EBSCO. Clearly our Summon users are chatting with us more frequently.

Figure 1

Comparison of Three Databases: Summon, EBSCO & the Library Catalog
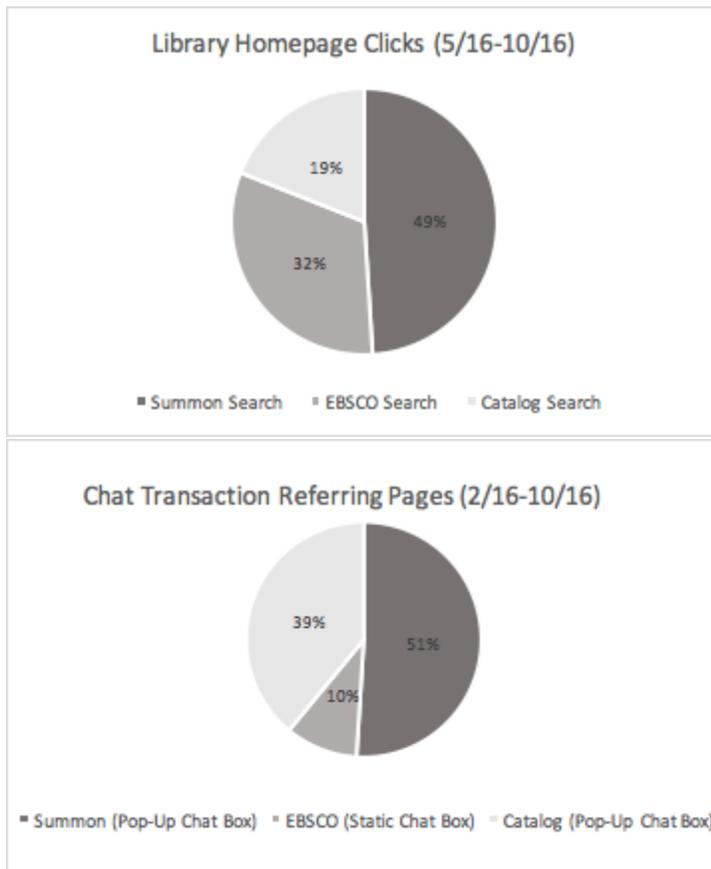
What does this data tell us? For one, it suggests that the proactive chat box initiates more chats than a static chat box.   Does it also speak to the ease-of-use of the various databases? Does a higher percentage of catalog users than Summon users run into problems and thus initiate more questions? Perhaps Summon is more intuitive and user friendly than the catalog.   Taking a closer look at the referring pages data might assist in identifying changes that could be made within the library catalog to improve its usability. These questions suggest many opportunities for further study, especially if combined with analysis of the accompanying transcripts.

Staffing Challenges at the Research and Information Desk

The increased number of chat transactions did cause difficulties at our Research and Information Desk, which is where we were staffing our chat service. We staff this service point nearly all hours that the library is open, sometimes with both a librarian (or permanent library employee) and a student assistant, at other times with just one librarian or permanent library employee, and during least busy times with just a student employee. As the semester progressed, the desk staff was increasingly becoming overwhelmed by the number of chat questions, especially when staffing both the desk and chat on their own.   But as we were monitoring for this (and even somewhat expecting it), we quickly added a back-up chat schedule for the busiest time periods in the day. For a back-up shift, librarians would log in and monitor the chat service from their offices, and be there to assist as needed.

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Resulting Changes for Jerome Library Reference Services

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Staffing Changes

 To handle the increasing number of complex chat questions, we now staff the chat service in our offices, away from the Research and Information desk, Monday – Thursday, 10:00 a.m. – 6 p.m., and Friday, 10:00 a.m. – 5 p.m. During these hours, desk staff serve as chat reference back-up as needed. Librarians and experienced staff comprise the chat schedule rather than student employees, but we continue to rely on our students to staff the chat service in the evenings and on weekends. These changes have been very positive. Librarians are better able to focus on chat reference transactions without disruptions, hopefully leading to better service. The decision to make these staffing changes was also informed by the findings of a recently conducted study on the effectiveness of student employees staffing a chat reference service (Lux & Rich, 2016). The study of chat transcripts found student employees to be generally effective in answering chat reference questions, librarians as a whole were found to be more effective.   Because librarians do a better job, it is preferable to have librarians

answering the more complex chat research questions received during peak service hours. We remain comfortable having our student employees staff the service when librarians are unavailable.

Additional Proactive Chat Triggers

The examination of the web pages from where chat questions originated also led to a few changes. From our referring pages analysis above (looking at data from Table 4 and Figure 1), it seemed evident that we would reach more users by changing our static chat box within EBSCO databases to a proactive, pop-up widget. The disproportionately small number of chat questions triggered from EBSCO, in comparison to the high percent of users searching EBSCO, was overwhelming to us.   This chat box adjustment was recently approved and our web developer is currently working to make this change.

Transcript analysis

The authors believe that more can be learned from an in-depth study of the transcripts originating from proactive boxes on the library catalog pages. We plan to analyze chat transcripts to see what type of challenges our students were having that prompted their chat questions. Perhaps we could identify changes that could be made within the catalog to lessen user confusion or lack of success in finding the needed information.

Conclusion

Students still have complex reference questions, and a proactive chat reference service can facilitate connecting librarians with these students. Proactive chat reference offers assistance to students at their point of need, reminding them that librarians are available to help them wherever they are.   The chat format is effective and convenient for students who are working away from the library, including distance students, but users need to know about the service before they can make use of it. This is where proactive chat can help.   Though it is always challenging to meet increased demand, we believe

that engaging with more students and their research questions at their point of need, is a challenge

worth embracing for academic librarians.

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