

Proactive Chat in a Discovery Service: What Users Are Asking

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This study investigates questions users asked via both a proactive chat widget and a static “Ask Us” link in an academic library’s discovery service. Chat transcripts were coded according to four question categories: Reference, Borrowing, Technology Help, and Directional. Chat transcripts were also coded into more specific question types within each of the categories. Results showed that a high proportion of library users asked reference questions in the discovery service, regardless of whether they used a proactive invitation or a static link. Results also showed that library users were less likely to ask borrowing, technology help, and directional questions via the discovery service. Within the Reference category, a higher proportion of users tended to ask for help finding known items when they clicked on the “Ask Us” link. Conversely, a higher proportion of the proactive chat questions involved searching on a topic. These findings support the inclusion of proactive chat in search interfaces and provide valuable information about knowledge and skills that chat staff should possess.

Keywords: virtual reference; proactive chat; discovery service

Introduction

In 2015, the University of Alberta Libraries introduced a proactive feature to their LibraryH3lp chat service. Most chat services are “reactive”: a chat box is embedded on a library website, and a user must take the initiative to navigate to it and ask a question. With proactive chat, a pop-up invitation appears after a user is on a webpage for a designated amount of time. Proactive chat has become increasingly popular in libraries, and it tends to be correlated with an increase in the number of chat questions (Epstein, 2018; Kemp Ellis, & Maloney, 2015; Pyburn, 2019; Rich & Lux, 2018; Zhang & Mayer, 2014). At UAL, use of the chat service doubled following the introduction of proactive chat. The pop-up invitations in the library’s discovery service have been particularly well-used.

While some existing articles have looked at the complexity of questions asked via proactive chat, none have provided an in-depth comparison of the types of questions that users are asking via proactive and reactive chat. The current study seeks to fill that gap. The present study involves qualitative analysis of two sets of chat transcripts: one set originating from a proactive chat widget, and a second set originating from a reactive chat widget. The goal of the study was to determine whether there are differences between the questions that users ask when they initiate a chat, versus when the library initiates a chat through proactive software. Analysis of such data can help to determine the efficacy of proactive chat widgets and aid in decisions regarding ideal use and placement of chat widgets on a library's website, as well as appropriate chat staffing and training.

Literature Review

Several recent articles focus on the use of proactive chat in academic libraries, and they explore many aspects of virtual reference. Multiple authors have noted a decline in the overall number of questions that library users ask staff, both in person and online (Kemp et al., 2015; Maloney & Kemp, 2015; Rich & Lux, 2018). Proactive chat is perceived as a means of reaching out to users who may have questions that they are not asking (Imler, Garcia, & Clements, 2016; Kemp et al., 2015; Maloney & Kemp, 2015; Zhang & Mayer, 2014).

While some users may find pop-up windows annoying, many find it helpful (Epstein, 2018; Imler et al., 2016). Imler, Garcia, and Clements (2016) found that 83% of their study participants would be more likely to use the chat service if it included a proactive widget. The implementation of proactive chat is often correlated with a significant increase in overall chat questions (Epstein, 2018; Kemp et al., 2015; Pyburn, 2019; Rich & Lux, 2018; Zhang & Mayer,

2014). Remarkably, Epstein (2018) reported a 600% increase in chats following the introduction of proactive chat.

Studies have shown that questions asked via proactive chat tend to be more complex than those asked via reactive widgets (Kemp et al., 2015; Zhang & Mayer, 2014). Kemp et al. (2015) found that 81% of proactive chats were complex, compared with only 63% of reactive chats.

Articles on proactive chat have tended to focus more on question complexity than on the types of questions being asked, although some articles have mentioned question types. Epstein (2018) noted that after the implementation of proactive chat, research assistance questions represented more than 70% of chats. Zhang and Mayer (2014) reported that proactive chats tended to be more research-focused than reactive chats, which were more directional. Fan, Fought, and Gahn (2017) found that the chat widget on an Electronic Resources page generated questions about electronic resources. Though these studies touch on question types, there has not yet been a detailed exploration of the questions users tend to ask using proactive and reactive widgets.

Methodology

The sample for this study was UAL chat transcripts from October 1-31, 2017, which are stored on LibraryH3lp's server. This time period represents typical use of the library's chat service by students, faculty, and staff. The most common referring page during this period was the library's "Ask Us" page, which includes a reactive widget. The second most common referring page was the library's Blacklight discovery service, which includes a proactive widget. The proactive widget appears in the top, right-hand corner of results pages after 30 seconds. In the discovery service, there is also a link prompting users to "Ask Us" if they have questions; during the study period, 4% of chats came from this link. Proactive widgets in LibGuides generated 8% of chats;

Other proactive referring pages, MyAccount, Hours, and Borrowing Policies, generated lower proportions of chats (see Figure 1).

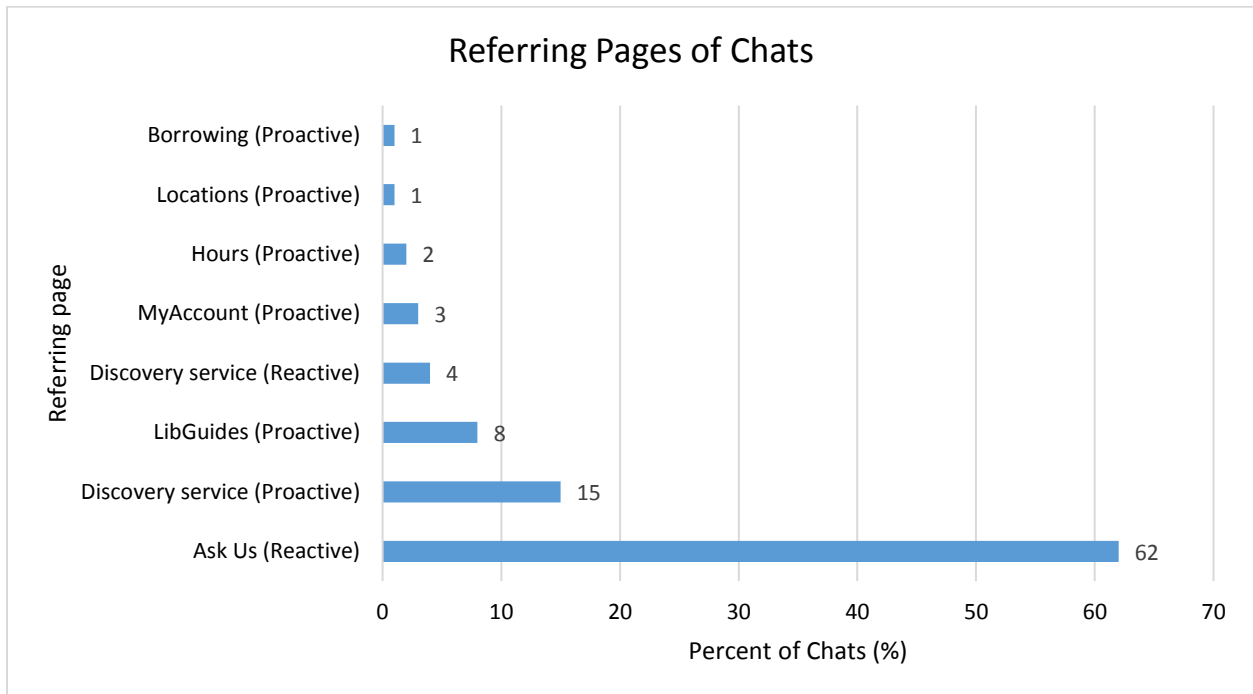


Figure 1. Referring pages of chats during the same period.

This study used chats originating from the discovery service in order to investigate how users engage with a proactive, pop-up widget within a search interface, and how they engage with a static, reactive “Ask Us” link on the same page. 15% of all chats during this period originated from the proactive widget in the discovery service, and 4% of chats originated from the reactive “Ask Us” link in the discovery service. The sample included 348 proactive chats and 84 reactive chats, for a total sample size of 432 chats. Additionally, the study included consultation of data from UAL’s internal reports on the chat service, which are completed each Fall and Winter term using a 3-week sample period. These reports include both quantitative and qualitative data on chat service usage.

There are several common methods of categorizing reference questions, including the READ Scale, the Warner Scale, and the Katz Scale (LeMire, Rutledge, & Brunvand, 2016).

These scales tend to focus on question complexity and privilege more advanced questions, and, as LeMire et al. (2016) argue, “even ‘simple’ question types can give patrons valuable help and can turn into complex information searches” (231). For this study, chats were coded according to the four categories that [Library] staff use to record questions asked in person, on the phone, and online: reference, borrower services, directional, and technology help (see Table 1). These categories focus on question topics rather than complexity. The categories were not mutually exclusive; a single chat could include multiple questions, and one chat could be coded into multiple categories. Recording brief notes about each chat transcript allowed the creation of subcategories within each category. For example, a Reference question could involve asking about searching for a specific item or how to cite information sources; a Directional question could involve asking about topics such as such as library hours or study spaces.

Table 1. Categories used for coding chat transcripts.

Category	Examples
Reference	Known-item searches Open-ended research questions Citation help
Borrower services	Circulation (including holds, renewals, fines) Borrowing policies Interlibrary loan
Directional	Hours Facilities Geographic directions
Technology help	Troubleshooting “How-to” questions Access to electronic resources Computers, printers, and other hardware Software such as Microsoft Office or Google Docs

Results

Question Categories

For both proactive and reactive chats, Reference was the most common category in the sample (see Figure 2). A slightly higher proportion of reactive chat questions were reference: 80%, compared with 75% of proactive questions. 13% of proactive questions related to Borrower

Services, while only 7% of reactive questions fell into this category. Slightly more reactive than proactive questions were related to Tech Help; very few questions were Directional. Overall, library users asked similar proportions of Reference, Borrower Services, Tech Help, and Directional questions, regardless of whether they used the proactive widget or the reactive Ask Us link.

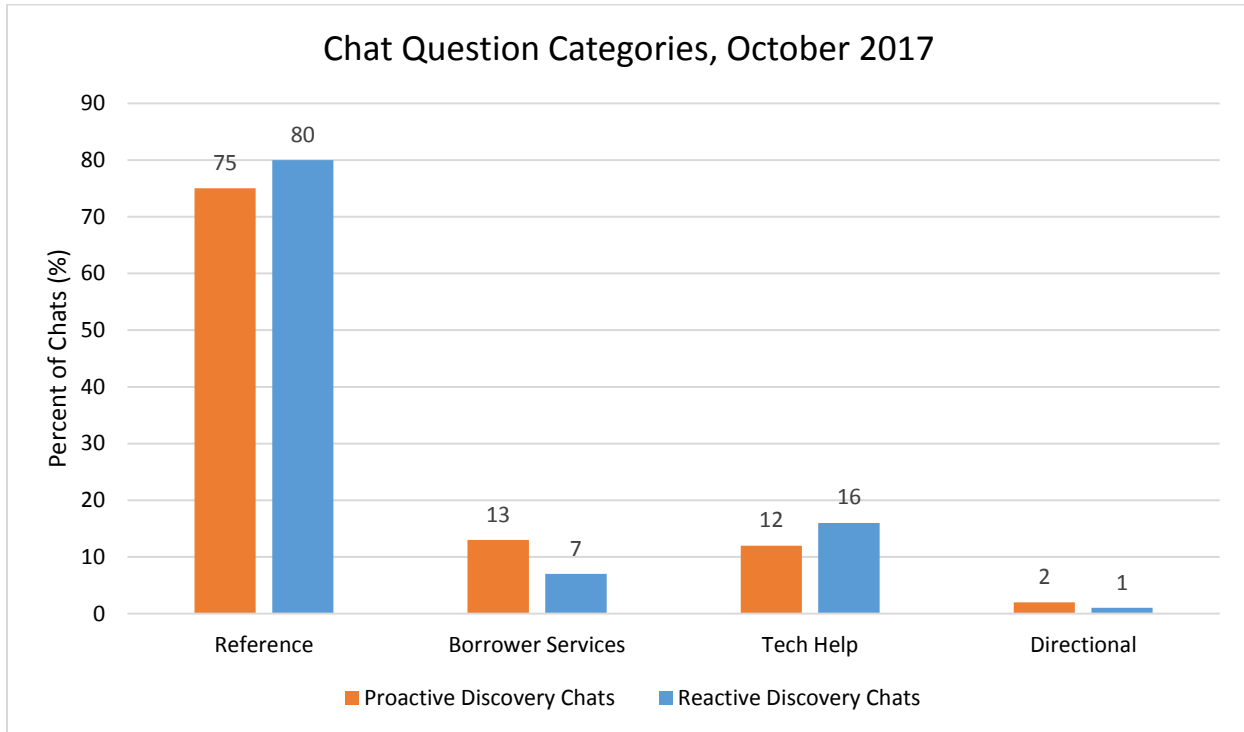


Figure 2. Proportion of chats in each of the four question categories.

The Fall 2017 internal chat service report found that 54% of chat questions during the three-week sample period were Reference, 20% were related to Borrower Services, 15% involved Tech Help, and 10% were Directional (see Figure 3). These proportions, which represent chat questions from all referring pages, vary significantly from the current study; far more discovery service questions were Reference, and far fewer were Directional or Borrower Services.

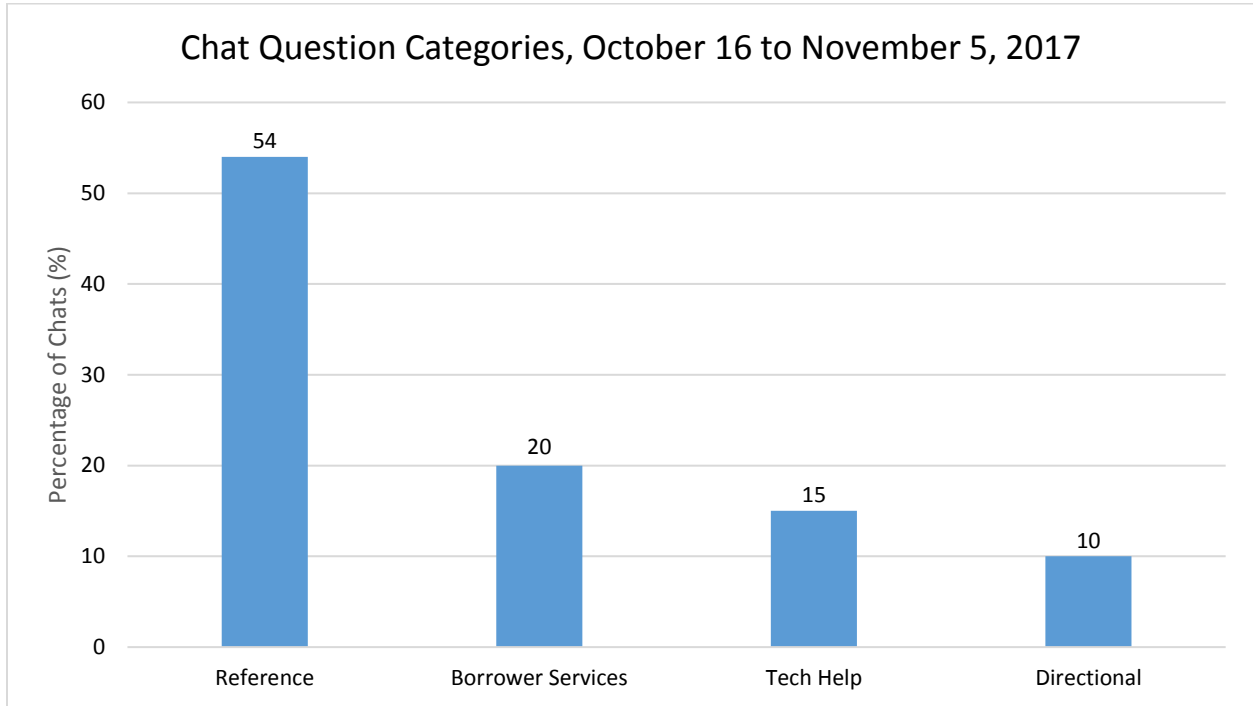


Figure 3. Proportion of chats in each of the four question categories during the 3-week sample period of the library’s internal chat service report.

Reference Questions

Within the Reference category, many users asked questions related to searching for known items; for example: “I was wondering if you have the textbook for sport and exercise psychology: a canadian perspective?”. 49% of reactive questions involved known-item searching, compared with only 31% of proactive questions (see Figure 4). Users also asked for help with research topics. One user said, “I am trying to find articles that deal with antibiotics that are no longer effective because of bacteria resistance. I looked at PubMed and cannot find anything.” 32% of proactive chat questions were about searching on a topic, and 24% of reactive chats were in this subcategory. While more proactive questions were about searching, the difference is relatively small. Questions related to searching for known items and searching for information on a topic were more frequent than citation questions in both proactive and reactive chats. Based on these data, users were more likely to click on the Ask Us link when they needed help looking for a specific title; they were more likely to use proactive chat invitations for help researching a topic.

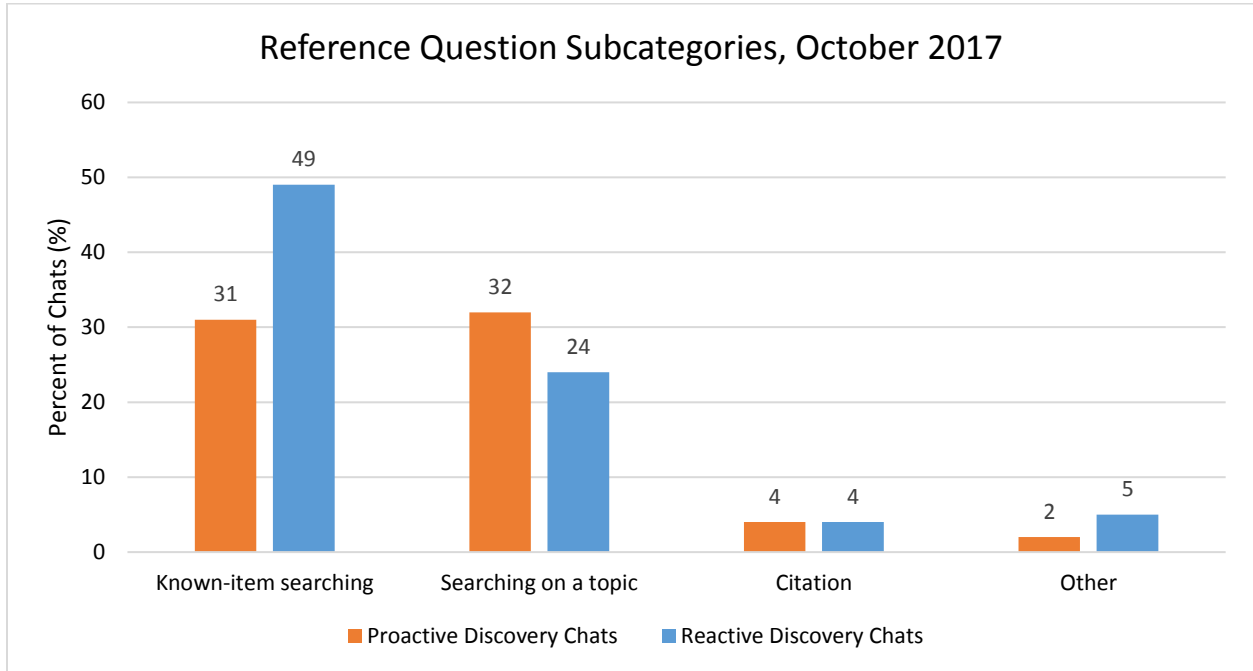


Figure 4. Proportion of chats in each of the reference question subcategories.

Borrower Services, Technology Help, and Directional Questions

Because the numbers of Borrower Services, Tech Help, and Directional questions were so low, detailed analysis of these data were not included in the study. The results showed that very few users asked Directional questions via the discovery service, whether they used the proactive invitation or the Ask Us link.

Limitations

This study includes a few limitations. The sample included only one month of chat transcripts; a different time period may have produced different results. Additionally, the sample included almost four times as many proactive chats as reactive chats. The low number of reactive chats limits the strength of the findings. Finally, this study focused only on chats originating from UAL's discovery service. If the study had incorporated all proactive and reactive chats across the system, the results may have been different. However, focusing on the discovery service allowed for the investigation of proactive chat use in a specific search interface.

Discussion

The results of this study show that within a discovery service, library users asked almost as many reference questions when a pop-up widget appeared as when they intentionally clicked on a link to seek help. The detailed analysis of question types suggests that including proactive invitations in search interfaces is worthwhile; users often employ these pop-ups to ask questions about how to search for information on a particular topic. The fact that only 54% of total chat questions from the Fall 2017 internal chat service report were Reference further supports this argument. Based on this study, library users tended not to ask many Borrower Services, Tech Help, or Directional questions via the discovery service; the internal report showed that there are higher proportions of these questions on other pages of the library website.

Despite the fact that UAL's chat traffic doubled after the introduction of proactive chat, the majority of chats during the study period still originated from the reactive widget on the Ask Us page. One reason for this may simply be that proactive chat is an effective marketing tool; it alerts library users to the existence of the chat service, and even if they do not accept a proactive invitation, they may later seek out the service via the Ask Us page. Proactive chat therefore supplements, but does not replace, embedded chat widgets.

The overall variety of questions suggests that it is important for chat service staff to possess both strong research skills and in-depth knowledge of library services and policies. This helps to ensure that they can effectively respond to reference questions, as well as borrower services, technology, and directional questions.

Future Directions

This study presents one comparison of the types of questions that users ask via proactive chat and reactive chat; there are still more areas to explore. Future research could involve use of

proactive chat in specific databases, or on particular pages of a library website. Additional research could investigate specific reference questions that users tend to ask via proactive chat. For example, they may struggle with certain aspects of the research process, such as identifying key terms or using an appropriate database. Such research could help to influence the types of tutorials, instruction, and other support that libraries provide for users.

Conclusion

Previous studies have shown that proactive chat increases awareness and use of a library's chat service. As the current study shows, it can also have the effect of encouraging research-oriented questions, particularly when it is placed in a search interface such as a discovery service.

Proactive chat is a key tool that libraries can use to initiate connections with users who may be stuck in some aspect of the research process. It provides a uniquely effective way to engage with library users at their point of need.

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