prevailing attitude among academic librarians toward reference is that this service is in a numerical decline and is not worth maintaining at previous staffing levels. So, those of us who work at the University of Oregon’s Knight Library research/information desk were pleasantly surprised when the number of reference interactions increased from Fall term 2008 to Fall term 2009 (see table 1). A major reason for this increase was the rise of chat reference interactions.

Table 1
Knight Library Reference Interactions

<table>
<thead>
<tr>
<th></th>
<th>Fall term 2008*</th>
<th>Fall term 2009*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interactions</td>
<td>3,889</td>
<td>4,397</td>
</tr>
<tr>
<td>by Chat</td>
<td>288</td>
<td>1,482</td>
</tr>
<tr>
<td>(using Meebo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>chat software)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Fall term totals do not include directional or computer-related questions.

What accounted for the rise in chat interactions? We don’t attribute the increase to switching from Meebo to LibraryH3lp. Both employ similar widgets; we doubt that patrons were aware of any difference in chat look or performance.

We believe the increase occurred because we placed chat widgets in more locations on library Web pages, especially those with the highest traffic. In Fall term 2008, patrons could only ask a chat question from the Ask a Librarian page or from a search result in the local library catalog (see fig. 1).

Fig. 1. Ask a Librarian page
By Fall term 2009, we had added chat widgets to the library’s FindText and OneSearch Web pages. FindText is an oft-used service that enables patrons to locate print or online full text articles from citations they find in database searches (see fig. 2).

Likewise, OneSearch, a federated search service, allows patrons to search for articles in several databases simultaneously, and we added chat widgets to both the search and results pages of this service (see fig. 3).
We believe the placement of the LibraryH3lp chat widget on Web pages for these two highly-used services of our Library resulted in the more than 500 percent increase in our chat interactions. The chat widgets provide assistance to the patron at the point of need when the patron may be experiencing difficulty interpreting what is appearing on the screen. This strategic location of the chat widget is designed to anticipate problems that patrons may face. For an early analysis of the effect of the placement of chat widgets, see: Wells, Catherine. “Location, Location, Location.” *Reference & User Services Quarterly*, 43.2 (2003): 133–137.

There are also societal and technological reasons for the increase in chat reference: the virtual use of our library resources, rather than the traditional in-person use; and the continued adoption of chat as a form of communication among college students (although chat would probably rank below texting and tweeting among these same students). But if we had relied on a chat widget only on our main library portal Web page, we believe we would not have seen the exponential increase.

The logs and chat transcripts that the LibraryH3lp software generates have a number of uses. One is for training purposes, where reference staff can review chat transcripts for purposes of establishing best practices. Equally useful is that chat logs provide a record of the pages that patrons were on when they initiated a chat. From these logs we can determine
if chat interactions are coming from our “Ask a Librarian” link on the main library portal, or if they are coming from our catalog, FindText, or OneSearch pages.

The table below shows the wide variety of source pages that our chat interactions came from, for 2009 and 2010 (January–May), as expressed in chats per week (see fig. 4). For the purposes of this article, all variants for a particular page were combined. For instance, the OneSearch numbers are a compilation of all chat interactions that were initiated from any of a large number of individual OneSearch pages. In particular, it is worth noting the large number of chats that came from WorldCat Local pages, once the chat widget was enabled in that resource in December 2009. When chat became possible from WorldCat Local, it also became a primary starting point for chat questions.

Fig. 4. Sources of Chats Per Week
Note: The chat widget for Worldcat Local was activated at the end of 2009. “Referer N/A” represents chat interactions where no source can be determined.
We are getting all kinds of questions on chat: reference, directional (“This book has x call number. Where is that!”), and service questions (“Are you open this weekend?” or “How do I reserve a study room?”). We are getting chat questions from patrons off-campus, on-campus, or even within the library (from patrons who would rather ask a chat question than walk to a service desk). The heaviest days for chat questions are Mondays and Tuesdays; the heaviest time period for chat questions is 2–5 pm (see fig. 5) The Knight Library offers chat service weekdays from 8 am–9 pm; Saturday from noon–6 pm; Sunday from noon–9 pm.

The placement of the chat widget on FindText, OneSearch, and WorldCat Local pages has meant that our most common chat reference question are from patrons who get lost within these systems. Questions such as the following dominate our chat interactions: “I would like the online version of x article from x journal. FindText says it’s available online, but I can’t get it. Can you help?”

Ironically, although patrons are using chat to ask questions about FindText, OneSearch, and authentication problems, the difficulties in conveying the context surrounding these questions makes chat an awkward tool for handling these interactions, as compared to in-person or even telephone communication. Authentication problems, for instance, involve so many variables, that dealing with it through chat can become an online guessing game.

Chat interactions have also become a numerically significant part of our total reference service. During Fall term 2009, the Knight research/information desk received 2,915 reference questions that were not chat-generated but were in-person or by telephone. So the 1,482 chat interactions accounted for approximately 34 percent of the total reference questions received; a percentage that we expect will only increase.

During the Christmas 2009 intersession, the number of in-person reference questions dropped to almost none. But we continued to receive reference questions through our chat service. This indicates that our patrons are continuing to work during the intersession on their research and teaching, are still in need of reference service, and find chat a convenient way to get that service.

<table>
<thead>
<tr>
<th>Chat Interactions by hour and day: Sep 20, 2009 - May 25, 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="chart.png" alt="Fig. 5. Chat Interactions by Hour and Day" /></td>
</tr>
</tbody>
</table>

Shaded for peak times for each day
In 2010, we added chat widgets to the result pages of the EBSCO databases. It will be interesting to see if fall term 2011 chat statistics show a further increase.

One might ask: Is chat reference going to be the dominant form of online reference in the future? Probably not. We have already had chat patrons ask us, “Why can’t I do this from my Blackberry or iPhone?” It may be that as we put more energy into chat reference, increasing the number of library Web pages that offer chat and increasing the number of service desks with chat queues, we may find that our patrons have shifted—are already shifting—their preferred form of communication to mobile devices, texting, and social media.

The fluid nature of social computing applications and information technology doesn’t mean we should throw up our hands and say it’s impossible to keep up with our patrons. We can monitor the research that libraries are conducting with mobile devices and other media, such as the use of WolfWidgets at North Carolina State University Libraries (http://www.lib.ncsu.edu/wolfwidgets/). Some tools require less technology investment, making it possible to test and adopt new approaches to reference. We can also try to avoid becoming too attached to any one technology.

Some final thoughts on the future of reference services:

1. Traditional reference services involving in-person and telephone interactions are numerically in decline.

2. The need for quality reference services will always remain, especially if electronic library resources remain bound to authentication, labyrinthine in the choices we ask our patrons to make, and prone to navigational complexity, frustration, and dead ends. Reference services may truly die when we reduce resource discovery and access to one, magic Google-like box. That day is not here yet.

3. Our initial experience with chat reference shows that previous traditional reference service is now being “redirected” to media that are more convenient for our patrons to use.

4. These new media—chat, texting, mobile devices, Twitter, etc.—may not be ideal in answering complex questions, but they will often be the media that our patrons prefer.

5. These forms of virtual reference, as convenient as they are, do not supplant but are complemented by the in-depth, in-person consultations that we also offer our library patrons.