Virtual Reference in UK Academic Libraries The Virtual Enquiry Project 2008-09

Authors:

Eithne Barry, Jaclyn Bedoya, Carolyn Groom and Laurence Patterson

Abstract:

Purpose – To present a snapshot of virtual reference services (the use of instant messaging or chat for enquiries) in UK academic libraries, and provide information about software for libraries considering providing a virtual reference service.

Design/Methodology/Approach - Summarises the results of a 2008 UK-wide survey of academic libraries. Gives a brief overview and comparison matrix of top virtual reference software products as tested by the Virtual Enquiry Project.

Findings – Virtual reference services are not widespread in UK academic libraries. However, current service providers are planning to continue or expand services and a majority of academic libraries surveyed are considering starting a service.

Originality/value – The first survey of its kind among UK academic libraries.

Keywords – Virtual reference, digital reference, instant messaging (IM), chat, academic libraries.

Paper type – Research paper

1. Purpose and background

The Virtual Enquiry Project was a collaborative project looking at virtual reference in academic libraries in 2008/09. Research was split into two strands:

- To investigate the current situation in the UK, including numbers of academic libraries using instant messaging (IM) and chat, and usage of existing services.
- To produce information that would be useful to academic libraries considering implementing a virtual reference service.

The words 'virtual reference' mean different things to difference people. For the purposes of this project, virtual reference was defined as using instant messaging or chat software to allow users to interact with library staff in real time. This definition excludes contact via email or web forms.

1.1 Why virtual reference?

Why would libraries be interested in using instant messaging or chat to communicate with users? Students in the UK are generally familiar with online interactions for non-academic purposes, and are beginning to expect instant online access to standard library services. Instant messaging or chat is a popular communication tool for many sectors of society. The JISC Student Expectations Study (2007) showed instant messaging as being highly popular among pre-tertiary education students, with 90% of respondents regularly or sometimes using it. The Oxford Internet Institute reported research showing that 60% of all UK internet users said they engaged in instant messaging (Dutton & Helpser 2007).

So instant messaging is a popular personal communication tool for many academic library users. Providing instant answers to questions online can also help to improve equity of access to library services, regardless of whether the user is physically in the library or in Hong Kong. This is relevant to the move towards online and blended

learning and support in UK academic institutions, particularly in terms of providing a complete online educational experience to fee-paying international students.

1.2 Situation in the United Kingdom

A UK-specific literature search revealed a limited amount of academic content on this topic, particularly as compared to the US, where virtual reference services appear more widespread and embedded in academic libraries and there is an abundance of published discussion and evaluation.

With a few notable exceptions, such as the Open University (who were trialling real-time reference software in 2001 and now have 'Librarians on call') (Payne and Bradbury, 2002), the majority of virtual reference services in the UK are relatively new.

An early adopter for obvious reasons, as the only university in the UK dedicated to distance learning, the Open University uses LivePerson to provide a virtual reference service. A 2003 article (Payne and Perrott) reviewed their successful pilot and looks at some of the issues they encountered while setting up the service. Student response to the service was overwhelmingly positive, although a major benefit at the time was considered to be that students could obtain "instant help from a librarian, without the need to disconnect from the internet to use the telephone."

Chowdury and Margariti, looking at digital reference services in Scottish libraries in 2004, were still predominantly writing about asynchronous services (ie. which don't reply at the same time, like email), although they listed Strathclyde, Glasgow University Library and the Mitchell Libraries as planning live chat services at the time.

Much of the literature available consists of case studies of individual libraries' experiences. These are often positive about their experiences with setting up a service.

For example, Hvass and Myer (2008) detailed their experiences of setting up a virtual reference service using MSN Messenger and Meebo at the University of Teeside, offering a service for four hours per weekday. Staff responded positively to the idea initially, but had to adjust to a new way of communicating, and sometimes found this difficult. Students using the service were very appreciative. Apparently the service has received a 'relatively small number of queries', but the authors comment that 'at the end of the day, instant messaging, like the phone and email, is another way for users to get in touch with us. Anything that increases communication should always be encouraged.'

The University of Wolverhampton started a virtual reference service in late 2006. Their experiences are discussed online in a Questionpoint (commercial software providerhosted) webinar (Haynes, 2008). Haynes describes virtual reference in UK academic libraries as 'still very much in its infancy' with only 2 or 3 universities offering services in 2006, details their well-developed marketing strategy (with a range of promotional materials including 'logobugs'), and usage statistics. They were receiving on average 30–40 enquires a week, with peaks and flows for the academic year. She commented that deaf students have made good use of this service.

What of those libraries which have decided against virtual reference services? A number of articles detail the experiences of Strathclyde University with virtual reference (Davis and Scholfield, 2004; Joint, 2008 and forthcoming). Strathclyde University worked with two libraries in Australia to offer a 24/7 virtual reference service using a commercial (but not library-specific) product, eGain.

They decided against continuing the service for a number of reasons. They found running the service fairly onerous, had significant difficulties using co-browsing with proprietary information systems, and found that ultimately the demand for the new service was not great enough to support the work required to sustain it (one thousand enquiries in a year via virtual reference, as compared to 50,000 enquiries per year overall).

Another example of academic libraries deciding against virtual reference services was detailed in an article by Bains (2003). This article described the experience of a group of beta-testers of the virtual reference software product QuestionPoint, made up of members of the Consortium of University Research Libraries in the UK (CURL), including: Birmingham University, Edinburgh University, Glasgow University, Liverpool University, The National Library of Scotland, Newcastle University and Nottingham University. They worked collaboratively and questions were routed between institutions using an automatic algorithm. The general feeling at the end of the test was that more research was required. The chat section was considered 'unstable and difficult to use' at the time. At the end of the test, only Edinburgh University continued to use QuestionPoint as a live service (OCLC withdrew the chat section of the system at time). The author also raises some questions about collaborative reference services (collaborations where libraries work together to provide services have been more popular in the US) – particularly the possibility of questions being often trivial and institution-specific.

For those who would like to find out more about other libraries' experiences with virtual reference, the project has also produced a number of case studies. These are available online at www.virtualenquiry.net.

Case studies of the following institutions are currently available:

- King's College, London
- Heriot Watt University
- University of St Andrews
- Wolverhampton University
- Queen Margaret University.

Much more has been written about virtual reference in academic libraries in the US. This is not discussed here, as it has been well summarised elsewhere. For example, a recent selected bibliography on this topic is Bicknell-Holmes' (2008). Her comment on the literature was "...[from] much of the literature that has been written, you might get the impression that offering reference services via chat/im is a "no-brainer"...However, using these technologies for reference is not a foregone conclusion. As modes for offering reference services, they seem to have some pesky problems such as low traffic, longer transaction times, and staffing cost issues that have not been easily resolved."

2. Methodology of survey

The project team undertook a survey of UK academic libraries via email, during the period August to October 2008. A survey was complied online using the survey software SurveyMonkey. The survey was split into five sections for:

- Institutions currently offering a virtual reference service.
- Institutions offering a virtual reference service that is in trial.
- Institutions with a service in the past, but who do not currently offer a service.
- Institutions that have never offered a virtual reference service, but are considering it.

• Institutions that had never offered a virtual reference service and had no intention to do so.

The questions asked were designed to provide insight for other academic institutions including 'what did students think?' and 'what advice would you give to academic libraries that might be considering starting a virtual reference service?'

Enquiry respondents were asked to name and to identify their institution as lying within the further or higher education sectors. Duplicate answers from the same institution were removed. To increase response numbers, prizes of an iPod Touch and Amazon.co.uk vouchers were offered, and reminder emails were sent.

The survey was distributed via the following UK email discussion lists:

- COFHE Colleges of FE/HE Group of CILIP
- COFHE-SCOTLAND News and discussion list to support members of the CoFHE Group in Scotland
- ELEARNING List to share ideas and best practice in e-learning projects in museums, libraries, archives, galleries and HE/FE organisations.
- ELEARNING WALES List for the discussion of e-learning activity across Wales
- LIS-INFOLITERACY Information literacy and information skills teaching discussion list
- LIS-INTERNATIONAL International Student Support in Libraries
- LIS-LINK A general Library and Information Science list for news and discussion.
- LIS-UKEIG UKEIG: the UK eInformation Group
- LIS-BLOGGERS Discussion list for library and information services bloggers
- SCOT-FE-LIBNET Librarians Network
- SCOT-LIB-TECH-FORUM

The survey was also advertised in the JISC Regional Support Centre (RSC) Scotland North & East online newsletter, and on the news page of the Slainte (Information and Libraries Scotland) website, www.slainte.org.uk.

The majority of early respondents came from the Higher Education sector, so the project team also contacted all JISC regional support centres in England, Wales and Northern Ireland and asked if they could include the project details and survey link in newsletters, website news or mailing lists.

Respondents and sample bias

82 institutional responses were from Higher Education (HE) institutions, 42 from Further Education (FE) institutions, and 6 defined themselves as 'other' (with the most common response being that the institution was both HE and FE.

The *Education and Training Statistics for the United Kingdom* (Department for Children, Schools and Families, 2008) states that 'there were 120 universities, 49 other higher education institutions and 444 further education colleges (of which 95 were 6th form colleges) in the UK in 2007/08.'

This would indicate a response rate of approximately:

- 49% of Higher Education institutions in the UK
- 10% of Further Education institutions in the UK

The survey had a significantly higher response rate from HE institutions. A few respondents from FE institutions stated that their institution offered a virtual reference service, but did not supply further details or give permission to contact them.

3. Survey Results

There were 193 valid responses to the survey. A number of responses were invalidated because they came from outside the UK or not from HE/FE institutions.

Some survey questions asked for a personal viewpoint, and some asked about the activities of the academic institution of the enquiry respondent. For analysis of the latter, responses from individuals at the same institutions were averaged and removed, leaving 130 responses from individual institutions.

Overall situation in the UK

Of these, 32 institutions (or 25%) stated that they currently offered a virtual reference service (with 7 of those services currently in a trial period). Three institutions stated that they had offered a virtual reference service in the past. 25 institutions answered that they had never offered a virtual reference service, and had no intention to do so. However, 70 institutions, or the majority, answered that they had never offered a virtual reference service but are considering doing so.

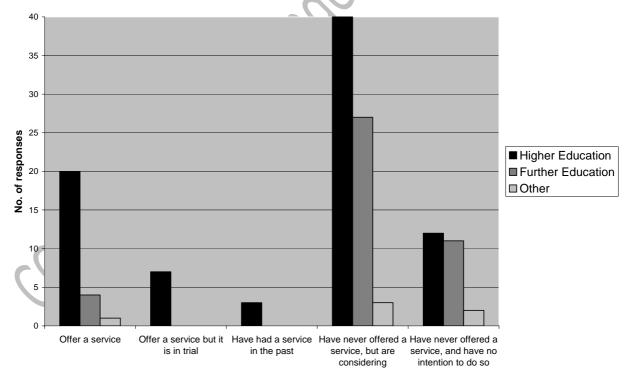


Figure 1. Institutions offering a virtual reference service in the UK

It is possible that the number of institutions offering a virtual reference service is slightly overstated in the results received. The survey included a definition of virtual reference, but it may be the case that some survey respondents misunderstood the difference between this and offering an email reference service.

The survey also asked library staff members about personal use of instant messaging or chat software. The majority used it, but not regularly. Answers to the question 'Have you, personally, used instant messaging or chat software?' were as follows:

- Yes, I use it regularly (26%)
- Yes, but I don't use it regularly (53%)
- No (22%)

This is somewhat higher than the Oxford Internet Institute figure of 60% of all UK internet users engaging in instant messaging (Dutton & Helpser 2007). Perhaps this reflects a tech-savvy library world, or simply self selection by those who would be interested in answering the survey.

The survey team was interested in whether libraries and information services where staff use IM more regularly are more likely to offer virtual reference services. From our survey responses, this was the case and there was a statistically significant relationship between the extent of use of IM and the services offered by the library (Spearman's Correlation coefficient of 0.20, p-value = 0.005).

However, this is a chicken and egg scenario. Library staff who use instant messaging at work are likely to be competent users and therefore more likely to use it at home, and library staff who are competent personal users are presumably more likely to consider this an important service for a library to offer.

Plans for the future

The majority (77%) of respondents with services had offered a virtual reference for less than two years. Of the 32 institutions with services, seven were still in trial.

In answering the question 'What are the future plans for your library's service?' most institutions were either planning to continue the service or expand. Those still in trial were often looking to evaluate the service before rolling out more widely. No respondents were planning to remove or cut services.

Answers included:

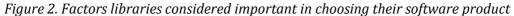
- 'expand usage by promoting during enrolment and induction.'
- 'extend service hours and publicise more widely we deliberately took it gently to begin with!'
- 'continue to evaluate demand continue to check that [this software product] remains the best available service for our needs.'
- 'we will continue to offer it as an additional method of communication, and are planning to experiment with automated query answering as well.'

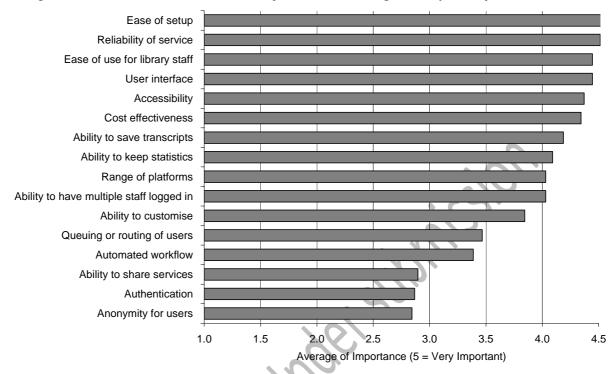
What factors did libraries consider in choosing their software?

Respondents were asked to rate on a Likert scale the factors they considered the most important in choosing the software they use to offer a service, where one was very unimportant and five was very important.

Not surprisingly, library staff considered ease of setup the most important factor in choosing a service, with an average rating of 4.53. Ease of use for library staff was also a top scorer, with an average rating of 4.44. Lest we start to consider library staff members a self-serving group, the other factors in the top five were reliability of service, user interface and accessibility.

The ability to share services with other institutions (as in a co-operative), (that users must log in to use the service), and the possibility of for users hovered around the middle point, meaning that they were considered neither unimportant nor important.





What software products are institutions using, and what do they think of them?

For libraries considering implementing a virtual reference service, the single biggest question is probably which software to use. There are a number of paid and free products, with a wide range of capabilities and restrictions. The top products are summarised in the section *Overview of Software Available*, and a software comparison matrix is available in *Appendix A*.

The survey asked which software product institutions used and how satisfied they were with the software across a range of criteria. Unfortunately, this part of the survey had fewer than 30 responses, meaning that results are purely indicative.

Institutions said they were using these software products:

- Questionpoint (commercial)
- Meebo (free)
- LivePerson (commercial)
- LiveHelp (commercial)

Questionpoint and Meebo were the most commonly used products, both being used by five institutions. LivePerson was being used by two institutions, and LiveHelp by only one.

Although this section of the survey only had a small number of responses, these would appear to be highly indicative of the wider population. The project team has continued research, talked to vendors, and visited universities with a virtual reference service in order to produce case studies. During that time, few new institutions providing services were uncovered.

The criteria respondents were asked to rate how satisfied they were with the software across were:

- User interface
- Ease of use for library staff
- Ability to save transcripts
- Reliability of service
- Ability to keep statistics
- Ability to have multiple staff logged in simultaneously
- Queuing or routing of users
- Automated workflow for follow up
- Ability to customise
- Can be used across a range of platforms (webpages, Virtual Learning Environments, etc)
- Authentication (users must log in to use)
- Anonymity for users
- Cost effectiveness
- Ease of setup (e.g. whether users need to download software or have specific computer requirements)
- Ability to share services with other institutions (e.g. out of hours coverage)
- Accessibility

They were asked to rate their satisfaction on a Likert scale, ranging from 1=very unsatisfied to 5=very satisfied. The average satisfaction for each product can be seen in *Appendix B*.

Some of the most highly scoring satisfaction ratings across all products were ease of setup, reliability of service, ease of use for library staff, and user interface. This would seem to indicate that respondents were generally satisfied with their software choice, and had found it to work well enough for their needs.

To fully understand the comparison in the graph in Appendix B, it must be noted that the two paid services, Questionpoint and LivePerson, have functionality such as the queuing of users or ability to share services that the free service, Meebo, doesn't have.

As a free service, it is not surprising that Meebo was rated most highly for cost effectiveness.

Factors contributing to success

The project team also wanted to know what contributes to making a virtual reference service successful. There were a few questions in the survey which could contribute to an idea of 'perceived success' of the service, including:.

- How would you rate feedback about the service from: Users, Library staff?
- How well used do you think your virtual reference service is in comparison to your library's other enquiry services? In person, telephone, email.
- What percentage of your library's total enquiries are received via virtual reference?

There were very few responses to the last two questions, so we could only correlate the feedback questions with questions about other factors which may contribute to success. Anecdotally, we have heard that enquiries via virtual reference are unlikely to make up more than 10% of total enquiries.

Respondents were asked 'How would you rate feedback about the service from users and library staff', where one was very negative and five was very positive. Overall, the average feedback for Users was 4.15, and Library staff was 3.77. Bearing in mind that this reflects library staff giving a rating to what they think user feedback has been, it appears that they think that users view the virtual reference service slightly more positively than themselves, but that they themselves are generally positive about the service.

We tested whether there was a correlation between a range of factors and perceived success in terms of positive feedback. There was no statistically significant correlation between feedback ratings and:

- Length of time spent planning the service before implementation
- Training time allocated for each staff member to learn about the software
- Having a policy
- Using paid or free software.

The correlations may not exist, or the lack of statistical significance may be due to the small sample size of individual questions.

Respondents with services were asked 'what advice would you give to academic libraries that might be considering starting a virtual reference service?' A number of responses urged the need to think about publicity and promotion, and a large number were very positive telling others to 'just do it!', while being aware of planning for flexibility, knowing your users and thinking about how to get staff on board.

Some representative comments from this section:

'Get your staff on board with a description of the benefits to them, and to the users. Don't promise too much at the beginning - better to offer fewer hours that you know you can fully staff, rather than more hours where the service becomes unreliable because of lack of staff.' 'Do it! We need to take our services where our students are - more and more students are familiar and comfortable with IM and chat.'

'Go for it. It's been a fantastic service and opens up lots of new ways of helping students and opportunities for collaboration between librarians and between institutions. It's great for getting alongside students who don't come into libraries very often - distance learners, placement students, carers etc. Good for deaf students too! Make sure you get your librarians involved and enthusiastic from the start, so it is something they want to do, rather than another job imposed on them. '

'The technical side is pretty straightforward - there has been no additional cost in software. The cost is in staff time, so before you begin, consider whether you can afford to have staff sitting in an office waiting for reference enquiries. How would that fit in with your existing services? Consider who will staff the service.'

'Try it first on a small scale and make it clear it is a trial, so you are not committed to it long term if it doesn't prove viable/popular.'

What stops institutions from developing a service?

So what is it that stops an academic library from developing a virtual reference service? This survey found a significant difference between the HE and FE sectors, with a much larger number of HE institutions offering services.

Respondents who had never offered a virtual reference service were asked why they had not offered a service up to this point, checking all points that applied from a list. Of these, the most commonly chosen answers were lack of resourcing, no time to investigate, and no staff time to run a new service.

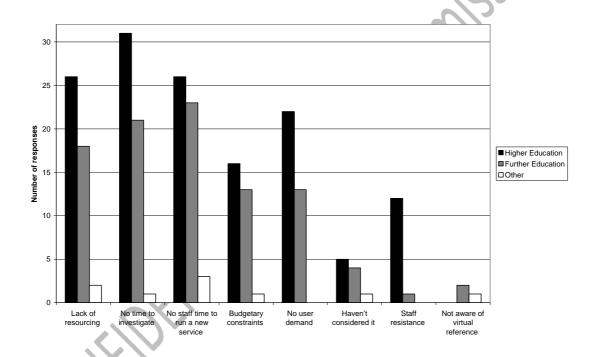
For HE institutions, 'no time to investigate' was the most important factor, closely followed by 'lack of resourcing' and 'no staff time to run a new service',

For FE institutions, 'no staff time to run a new service' was the most important factor, followed by 'no time to investigate', and 'lack of resourcing'.

Anecdotally, this could reflect the smaller staff numbers of many FE libraries. It has also been reported that a number of FE colleges block the use of chat services on their networks.

On the other hand, staff resistance was listed as more of an issue for HE institutions. This could be related to having more staff members to get involved in a new initiative.

Figure 3. Reasons why institutions haven't offered a virtual reference service up to this point.



Some 'other' comments from this section:

'It's not just a case of no staff time, but rather staff not being available at the time that our users would most need the service. 99% of our students are part-time, and taught in the evenings and at weekends, when our staffing levels currently don't allow for additions to services offered.'

'Technology - chat services are blocked to stop students messing around in class and LRC' (FE college).

'We are not convinced of the value of chat reference over email reference which we already offer. There seems to be no indication that chat reference offers superior service to email and in light of the time commitments of a chat service benefits would have to be more evident.'

4. Overview of software available

The project also sought to identify and test a range of the virtual reference 'chat' software currently in use by academic libraries in the UK. The goal was to create a matrix of features of the software – mostly objective, but some to do with ease of use and overall "look and feel" – so that libraries could see at a glance where software differed. For example, libraries may only consider free software for pilot projects, or libraries with large demand or a special need might want fully-featured commercial software.

To create the matrix, the project team downloaded freely-available software, used trial versions of some services, and contacted vendors for free trials of commercial software that was not easily available. Two people tested each software product from both patron and library staff perspectives, sometimes using other library staff for a "beginner" perspective on the software.

Finally, a matrix was created that lists as much information as possible about features in several categories – overall impressions from both patron and library staff viewpoints, which were necessarily subjective; pricing; technical issues; user support, such as co-browsing functionality, or ability to have more than one staff member logged in at one time; and a catchall "Additional considerations," which included such features as audio-visual or file sharing functionality.

In all, 11 software packages were tested, although as there is a plethora of free software from a variety of vendors that has similar functionality, some of them are grouped into one category. For ease of use, only a small sample has been included with this paper.

Software evaluated were: PIDGIN, Trillian, Meebo, AIM, Yahoo Messenger, MSN Messenger, Elluminate Live!, Libraryh3lp, QuestionPoint, VRLPlus, and LiveHelp.

Tested software could usefully be categorised into 'free' and 'commercial'. Typically the interface of software which bore little or no cost – like Meebo and Libraryh3lp - was more familiar to those who had used popular instant messaging packages – MSN and Yahoo Messenger - on a regular basis, but in some cases these products required setup and installation on local machines. This could be a problem for institutions with stringent information technology policies or for library teams that were unfamiliar with such a setup. Free software tended to be accompanied less well by direct developer support – in some cases informal communities of users would act as a guide for new patrons. With the exception of Libraryh3lp, much software was not library-specific, and so did not support functionality like the ability to generate statistics automatically that some institutions might find useful.

As might be expected, paid commercial services, like LivePerson and QuestionPoint, services tended to offer a much greater number of features and user support, such as queuing, routing of patrons, ability to have more than one staff member logged in at once, etc. Other library staff sometimes found the more complicated software confusing and overwhelming, and so the commercial packages may require extra training – some of which can be provided by the vendors themselves. This is an important consideration, as we knew from the initial literature review that staff reluctance or acceptance can play a major role in the success or failure of a project.

These are necessarily vague generalities – each piece of software is different, and libraries would be wise to investigate several, in the process deciding which features are essential, which might be nice, and which are not necessary. Meebo may be attractive to teams wishing to efficiently set up a simple virtual enquiry service without purchase

cost, but offers a reduced set of features when compared to commercial software like QuestionPoint.

As each library has its own unique circumstances, this matrix aims to give as much information as possible in a simple-to-read format to help with making informed choices. See *Appendix A* for an abbreviated matrix. The full matrix is available online at: www.virtualenguiry.net.

5. Conclusion

At the beginning of this project, the question asked was how many virtual reference or chat services there were in academic libraries in the UK.

The project survey results showed that:

- A quarter of institutions stated that they currently offer a virtual reference service (with a fifth of those services currently in a trial period).
- The vast majority (77%) of respondents with services had offered a virtual reference service for less than two years.
- Over half of the respondents had never offered a virtual reference service but said that they are considering doing so.

This would seem to imply that virtual reference services, while not uncommon, are still far from widespread in UK academic libraries. Provision of virtual reference services is still new to many libraries, and a large number of libraries are considering providing a service in the future.

This research suggests that we are at the beginning of a period of growth for virtual reference services in academic libraries in the UK. We look forward with interest to finding out more.

More details about the Virtual Enquiry Project can be found online at: http://www.virtualenquiry.net

This was a collaborative project between Edinburgh Napier University and Carnegie College. Thanks to the Scottish Library and Information Council (SLIC) for funding this project. Thanks to Dr Judy Goldfinch for her statistical help.

References

Bains, S. (2003), "The OCLC QuestionPoint electronic reference service: experiences of a group of CURL libraries." *SCONUL Newsletter* 29, pp.21-26, available at: http://www.sconul.ac.uk/publications/newsletter/27/ARTICLE6.RTF (accessed 16 June 2008).

Bicknell-Holmes, T. (2008), "Chat and Instant Messaging for Reference Services: a Selected Bilbiography." *Faculty Publications, UNL Libraries*, available at: http://digitalcommons.unl.edu/libraryscience/151 (accessed 28 February 2009).

Chowdhury, G and Margariti, S, "Digital reference services: a snapshot of the current practices in Scottish libraries." *Library Review* Vol 53 No. 1, pp. 50-60. DOI: 10.1108/00242530410514793

Davis, K and Scholfield, S. (2004), "Beyond the virtual shore: an Australian digital reference initiative with a global dimension." *Library Review* Vol. 53 No. 1, pp. 61 – 65. DOI: 10.1108/00242530410514801.

Department for Children, Schools and Families, (2008). *Education and Training Statistics for the United Kingdom*. DCSF Reference ID: V01/2008, available at: http://www.dcsf.gov.uk/rsgateway/DB/VOL/v000823/index.shtml (accessed 12 February 2009).

Dutton, W., & Helpser, E. J. (2007) The Internet in Britain – 2007. Oxford, UK: Oxford Internet Institute. Available at: http://www.oii.ox.ac.uk/microsites/oxis (retrieved 6 November 2008).

Haynes, W. (2008). "Promoting Virtual Reference in a UK University", Question point webinar and powerpoint, available at:

http://www.wlv.ac.uk/Default.aspx?page=17551 (accessed 1 March 2009). (case study at:

http://www.oclc.org/services/brochures/213206ukc questionpoint ASSISTs.pdf)

Hvass, A. and Myer, S. (2008), "Can I help you? Implementing an IM service". *Electronic Library*, Vol. 26 No. 4, pp.530-544. DOI: 10.1108/02640470810893774

JISC, (2007). "Student Expectations Study", available at: http://www.jisc.ac.uk/publications/publications/studentexpectations.aspx (accessed 6 November 2008).

Joint, N. (2008) "Virtual reference, Second Life and traditional library enquiry services: ANTAEUS" *Library Review*. Vol 57 No. 6, pp. 416 – 423. DOI: 10.1108/00242530810886689.

Payne, G. and Bradbury, D. (2002), "An automated approach to online digital reference: the Open University Library OPAL project", *Electronic Library and Information Systems*, Vol 36 No. 1, pp.5-12.

DOI: 10.1108/00330330210426076

Payne, G. and Perrott, M., (2003) "Librarians On Call: an instant messaging enquiry service for Open University distance learners." *Library and Information Research*, vol. 27, n. 85, pp. 11-21. Available at:

http://www.cilip.org.uk/specialinterestgroups/bysubject/research_old/publications/journal/archive/lir85/lir85.htm (accessed 29 February 2009).

Appendix A: Software matrix

Software Tested	Meebo/ Plugoo	AIM/Yahoo /MSN Messenger etc	Libraryh3lp	QuestionPoint	VRLplus	LiveHelp
User impressions	Easy to use - just type into widget.	Must already have an IM account. Must manually add library username to account. Relatively simple after that.	Easy to use. Can leave a message if no one is available. Lets you automatically email a transcript.	Relatively simple interface but has both widget and fully featured viewing options. Cobrowsing is available but limited.	Simple interface. No setup required.	Simple to use, no setup required. Can leave a message if no one is available.
Library staff impressions	Semi-advanced setup. Requires HTML to add widget to webpages. As it's on a page, requires frequent checking, otherwise 'calls' can be missed. Good for quick user support.	Simple sign up process. Simple interface but identical to user's. May require download but some have web interface. Easy to integrate into other software such as Pidgin/Trillian/ Meebo.	Aimed specifically at library use, although offers very similar features to other software overall. Good for quick user support. Limited customisation unless you have HTML skills.	Initial setup and interface could be confusing. Possibly requires more training time to begin with. Many features. Librarian can support both patron interfaces in one space. Customisable knowledge base available to staff and patrons.	Initial setup and interface could be confusing. Possibly requires more training time to begin with. Many features. Customisable knowledge base available to staff and patrons.	Setup may require some advanced server knowledge, although instructions are clear. Customisable, and includes an impressive array of options.
Pricing	Free (install HTML and download)	Free (download)	Annual subscription. http://libraryh3lp.com/static/payment.html	On request	On request	On request
User Authentication Process/Anonym ity	Anonymous	Library will see their personal usernames	With widget, users can be totally anonymous. If they use one of the IM clients, library will see their personal usernames.	Patrons can both login or remain anonymous but if patron provides email address transcript will automatically be emailed to them at the end of the session.	Patrons can both login or remain anonymous but if patron provides email address transcript will automatically be emailed to them at the end of the session.	Patrons can both login or remain anonymous, but if patron provides email address transcript will automatically be emailed to them at the end of session.
Admin Panel	Can do limited customisation of widget.	N/A	Allows limited customisation of widget. Shows queue, allows routing of calls.	Offers many options, and is customisable for different levels of staff. Customisation and localisation possible.	Offers many options, and is customisable for different levels of staff. Customisation and localisation possible.	Offers many options, and is customisable for different levels of staff. Customisation and localisation possible.

Appendix B: Comparison of satisfaction with software products

(0 = N/A), so a low average generally means product doesn't have this functionality)

