You can lead a horse to water… Are clinical students getting the message about the library and information skills support that is available?

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Abstract:

Cambridge University Library is the recipient of a grant from the Arcadia Trust to investigate issues and challenges in delivering academic library services in the digital era. One project under this auspice has been IRIS: Induction, Research and Information Skills, which attempted to map the information skills and needs of students at Cambridge University. We aim to use this information in planning future services and facilities for students. Students were invited to complete an online survey asking about which online information resources they use most frequently, from whom they hear about new resources, and where they go for help with information-seeking. Librarians across the tripartite Cambridge system, in 60 college, department and University libraries, were also surveyed with regard to what training, induction and support they offered and to whom.
This article will focus on the responses of 115 medical students who participated in the survey, accounting for 6.5% of the total survey responses. Whilst acknowledging that student respondents were self-selecting, the results raise questions about how well the librarians' message is getting across and how librarians can better serve students in the digital age.

Keywords: information literacy; undergraduates; medical students

Introduction

IRIS - "Induction, Research and Information Skills" - was part of the Arcadia Fellowship Programme http://arcadiaproject.lib.cam.ac.uk/ a three-year project funded by a generous grant from the Arcadia Fund to Cambridge University Library. The grant enables exploration of the role of academic libraries in a digital age.

From January to March 2009 the IRIS project set out to "map" information skills training and support provided by libraries at Cambridge University against the information-seeking strategies and

perceptions of students. It should be noted that data was collected for the IRIS Project over a ten week time frame and accordingly the results provide a 'snapshot' of experiences, rather than a detailed longitudinal study.

Information was collected from 1771 students across 27 subject areas, including medicine. Medicine at Cambridge is a 2 stage degree - 3 years of undergraduate pre-clinical study following the Natural Sciences and Veterinary Science Tripos, followed by 3 years of clinical study. Whenever "clinical students" are referred to in this paper, the means those in their final 3 years of study. This paper will explore the range of information skills and habits which Cambridge students have, highlighting any differences apparent between the undergraduate student population as a whole and the clinical medicine student. We will also consider whether the message about support available from libraries is really getting through.

Information Skills

The skills associated with finding, evaluating and effectively using information have been the topic of extensive research and debate. However, the terminology used to describe these skills varies between countries and, within the UK, between institutions. The Big Blue project on Information Skills for Students (2002) noted that the term "information skills" and the more-widespread concept of "information literacy" can, in many instances be used interchangeably.

Perhaps the most effective way to envisage information skills is as core competencies which enable students to 'achieve' information literacy, defined by CILIP (2007) as: "knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner". Many of these competencies (e.g. the effective use of resources and critical analysis of material) are featured on the University of Cambridge Skills Portal (http://www.skills.cam.ac.uk/) as

“research skills” for undergraduate students. Within this report, these competencies are referred to as “information skills” for consistency.

Measuring a student’s information skills, or assessing their level of information literacy, is a difficult process; however, as Town (2003) notes “measurement is key to the usefulness of information literacy as a concept”. Walsh (2009) considers a range of methods employed by librarians within the UK and USA, including quizzes, analysis of bibliographies and self-assessment tools. It is noted that self-assessment can be particularly problematic as students will often “think they know more” than they practically do (Maughan, 2001), and the implications of this are discussed.

How are libraries getting their message across?

Libraries were asked how they communicated with students - of the 60 libraries who replied the majority (70-80% of respondents) used email, posters/flyers, talks/lectures, website/blog as their primary way of contacting students. Virtual learning environments were next (20% of respondents used them), and 15% of respondents used social networking sites (eg Facebook). Microblogging (eg using Twitter) was being considered by several libraries, but had not been implemented yet.

Connell (2009) studied student responses to library social networking profiles, and discovered that "most would be accepting of library contact through those websites, but a sizeable minority reacted negatively to the concept". This is encouraging news for those libraries who have, or are thinking about having, a Facebook presence.

Library Inductions

Library inductions and information sessions can take many different forms, such as guided tours, welcome talks, online and printed guides, quizzes, virtual tours and presentations, with varying

degrees of interactivity. As Wolf (2007) notes “approaches to induction must take local institutional contexts into consideration”. This is particularly true for the University of Cambridge which has a tripartite library system, consisting of college, department and faculty libraries and the central University Library (UL), which is itself made up of five libraries. Accordingly, all undergraduate students, including clinical students, will have the opportunity to utilise several different facilities, each with their own approach to collection management, the arrangement of material and access policies, and with different capacities to offer specialised subject support.

Current Undergraduate Students

The CIBER Report (2008) notes that “a bewildering array of titles has attached itself to a younger generation that is growing up in an internet-dominated, media-rich culture”. Of the 1167 undergraduate and clinical student participants in the IRIS online survey, 1143 (97.9%) registered their age as between 16-31. Accordingly, these students fall into the “net generation”, defined by Don Tapscott (2009) as anyone born 1977-1997 inclusive. None of the participants was under 16 years old and therefore the survey population does not include representatives of the “Google generation”, defined by the CIBER Report as those born after 1993. Regardless of the name applied, these students are the researchers of today; this report seeks to identify their experiences to illustrate the current situation.

Research Methods

The IRIS Project used a web-based survey created within Survey Monkey (www.surveymonkey.com), to collect quantitative and qualitative data sets from students. It was distributed via library email lists, the student union, and via websites and blogs. The survey featured 13 questions on a range of issues including:

- Use and awareness of databases and search engines

- Sources of information
- Levels of satisfaction with information seeking
- Attendance at, and use of, library inductions and guides
- Who, if anyone, students would consult for help

The use of an online survey allowed for extensive data collection within a restricted time period: a pilot version was pre-tested for five days whilst the modified survey was live for a three week period in total. This was deemed a suitable collection tool for a target population known to have internet access. The subject matter of the questions was deemed not to be highly sensitive and no participants expressed concerns about the online survey format, which allowed for anonymous participation. All survey participants providing a valid Cambridge University e-mail identifier were entered into a prize draw, providing an incentive to complete the survey.

In total, 1812 survey responses were received. Of these, 15 were responses to the pilot survey, which were not included in data analysis but entered into the prize draw. A further 26 responses were removed as the participants either did not identify as current students or did not provide any answers beyond the demographic questions. Accordingly, 1771 responses were retained for data analysis.

Of these 1771 responses, 57.5% were from undergraduates (n=1019) and 42.5% were from postgraduates (n=752). Responses from clinical medicine students (n=115) account for 6.5% of total responses received, and for 27% of the total number of clinical students (n=414). Responses were received from student members of all 31 colleges. Based on a full-time student population for 2008-09 of 12,015 undergraduate students, the IRIS survey achieved an overall response of 9.7% from undergraduates.

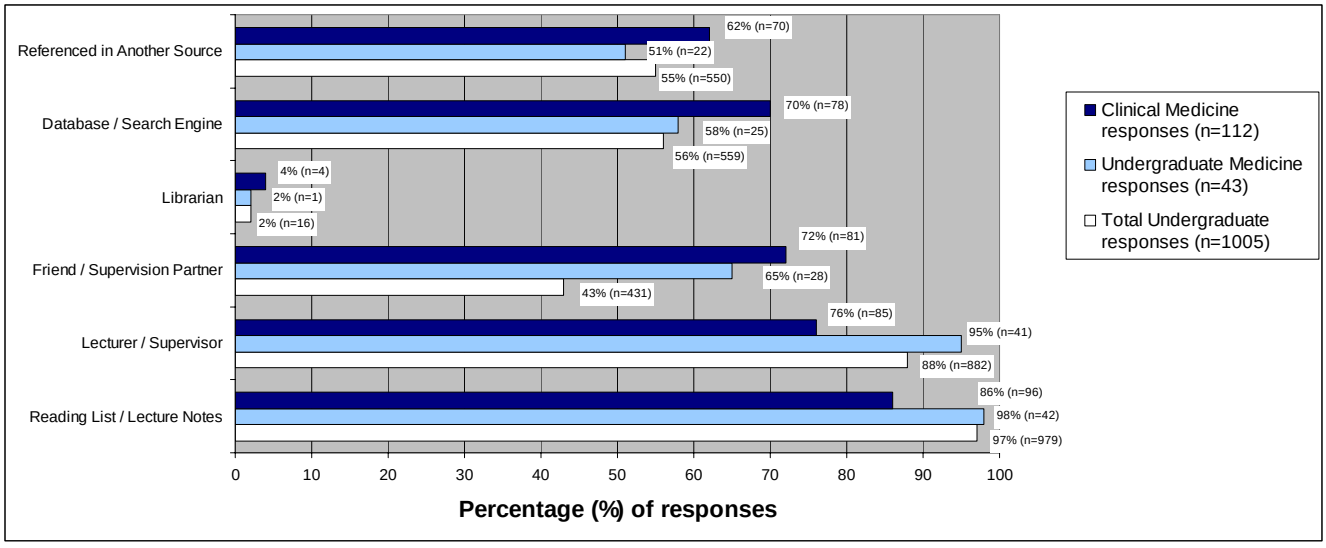
Questionnaire

An e-mail questionnaire was used to gather information about the format and content of library guides and inductions and the communication tools used to promote these to students. Seventy five libraries were contacted, with the questionnaire either sent to the librarian or, where appropriate, other library staff member responsible for inductions and training. Reminder e-mails were sent to all participants, and all completed questionnaires returned within a two week period were entered into a prize draw. 60 completed forms were returned, representing an 80% response rate. These included 26 from college libraries, 30 from department and faculty libraries and 4 from the UL / dependent libraries (of which the Medical Library is one).

In all data tables below the number of complete responses received per student category is indicated. All percentage figures given are rounded up or down to the nearest whole percentage.

Survey Question 1: How do you find out about books, journal articles, reports or other sourcess of information relevant to your course?

Table 1: Results to Survey Question 1



The level of co-operation between clinical students in comparison with the student population as a whole is interesting - in the age of social networking, there is a strong emphasis on peer recommendation. Clinical students, at least, contradict the findings of the CIBER report, which concludes that it was "on balance.. a myth" (CIBER, 2008) that young people find their peers to be more credible than authority figures.

That the Clinical Students are relying less on reading lists, and support from lecturers/supervisors, is perhaps a reflection of their relative maturity, or that the type of work they are being set requires broader reading than just the items on a reading list.

Survey Question 2: Have you used the following databases or search engines to help you find books, articles, reports or other sources of information for your course?

All participants were asked about their use of Web of Knoweledge, Google and Google Scholar, and were then asked about their use of subject specific databases or search engines. The subject specific set were chosen in consultation with the relevant subject librarian. Accordingly, data sets for Scopus, PubMed and Embase only reflect the responses of students studying medicine. The graphs reflect the combined percentage of respondents who registered as having used the databases for study *this week, this month or at some point.*

Table 2a: Results to Survey Question 2 – use of Web of Knowledge, Google, Google Scholar this week, this month or at some point

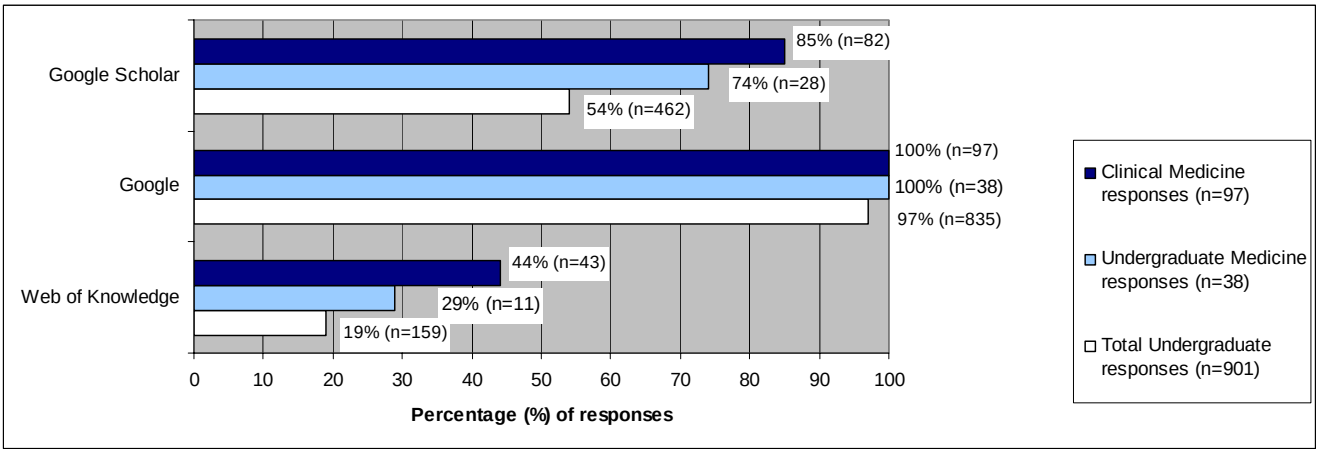
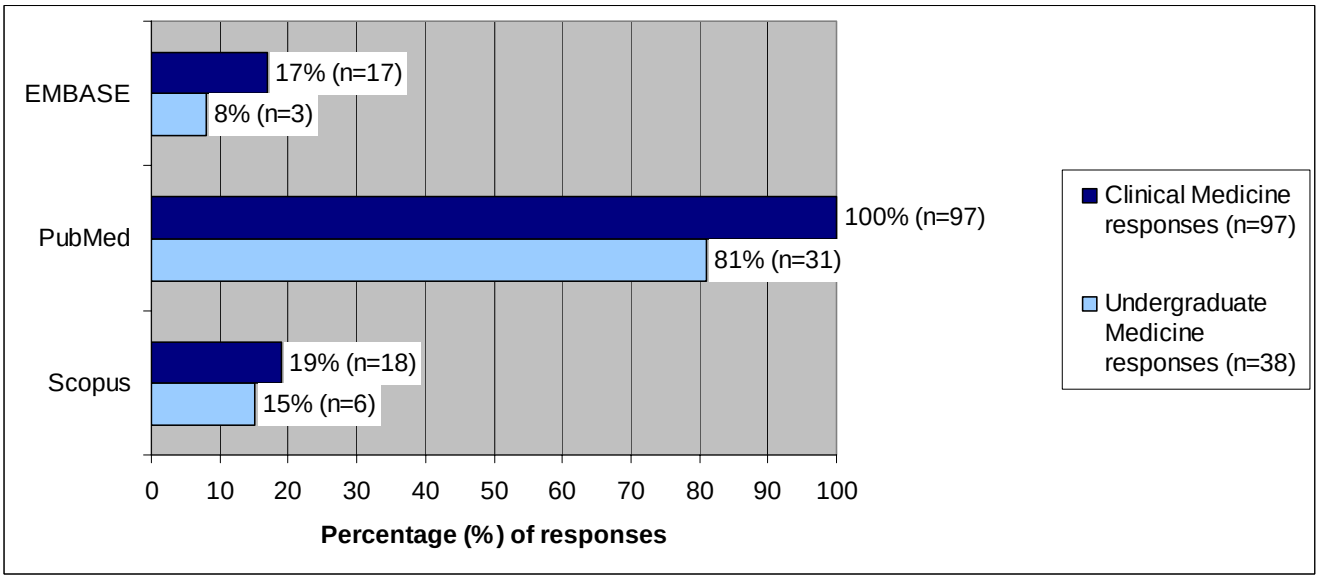


Table 2b: Results to Survey Question 2 – use of Pubmed, Embase, Scopus this week, this month or at some point



While undergraduates had a relatively low level of awareness of Web of Knowledege, clinical students have a much higher awareness. Their awareness and use of Google and Google scholar is high too. This may suggest that librarians should offer training in how to get the best from Google, increasing awareness of its strengths and weaknesses, as well as continuing to offer training in Web of Knowledge, Pubmed, Cochrane Library etc.

From the free-text comments provided, clinical students most often supplemented their information sources with Cochrane Library, National Library for Health, Wikipedia and emedicine.com. Pre-clinical students were most likely to look to supplement their information from JSTOR, Science Direct, library catalogue and National Library for Health (now NHS Evidence).

Conceptualising online content

Students seem generally confused by the differentiation between subscription resources (eg databases, e-journals, e-books) and other online material (eg Wikipedia).This has led to students purchasing online articles which they could have access for free, or accessing subscription resources via Google Scholar which would have not otherwise been available. There was a mixed reaction to the use of multiple "gateways" to online resources (e.g. library catalogue versus list of databases versus links from department website versus department library). Clearly this is an ongoing issue for the education of students by their supervisors/lecturers and by library staff.

Confusing IT Skills with Information Skills

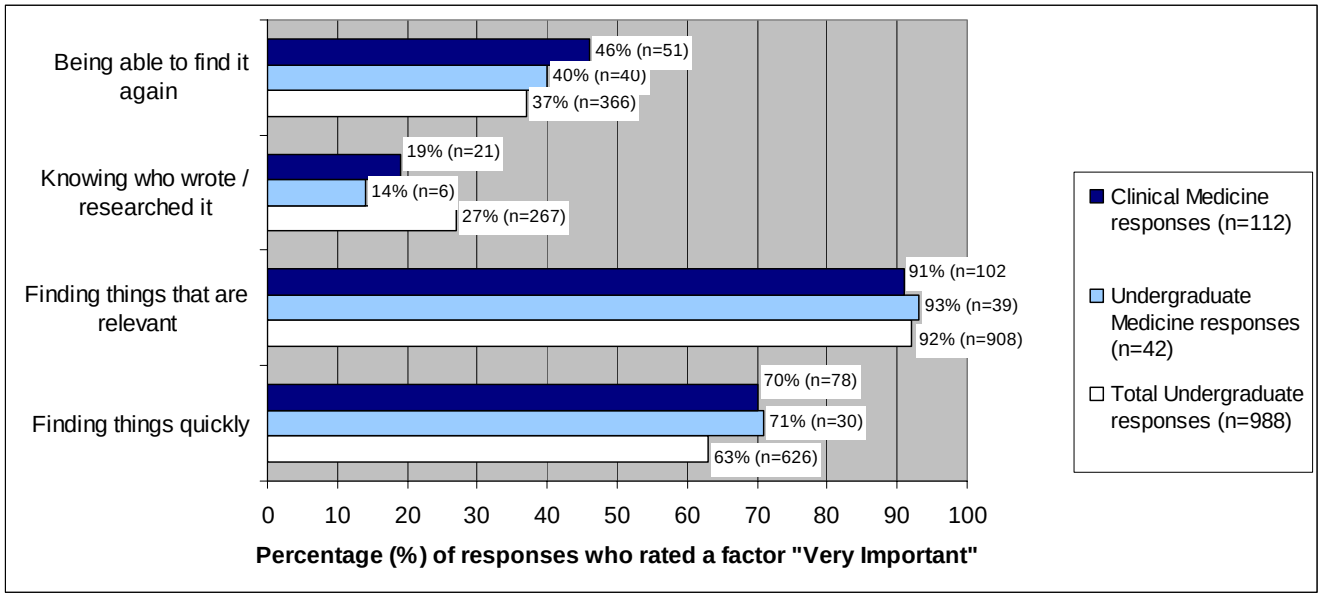
Most students participating in the study reported that they felt confident in using online material. Brown, Murphy and Nanny (2003) note that “college students…perceive their facility with technology to be so thorough that they tend not be interested in learning the information literacy skills necessary”. However, participants noted that the different interfaces presented by search engines and databases presented some barriers in accessing information quickly, and some students experienced issues with re-tracing searches they had successfully performed earlier. General IT problems also become intertwined with information search failure:

Reffell (2003) notes that IT skills are based around subject-specific information needs: “for many students the most important skills they require are not centred around the leading Microsoft

packages, but in the use of applications and technologies relevant to their discipline". However, providing these skills to students in a relevant, tailored format presents some difficulties

Survey Question 3: How important are the following to you when finding books, journal articles, reports or other sources of information?

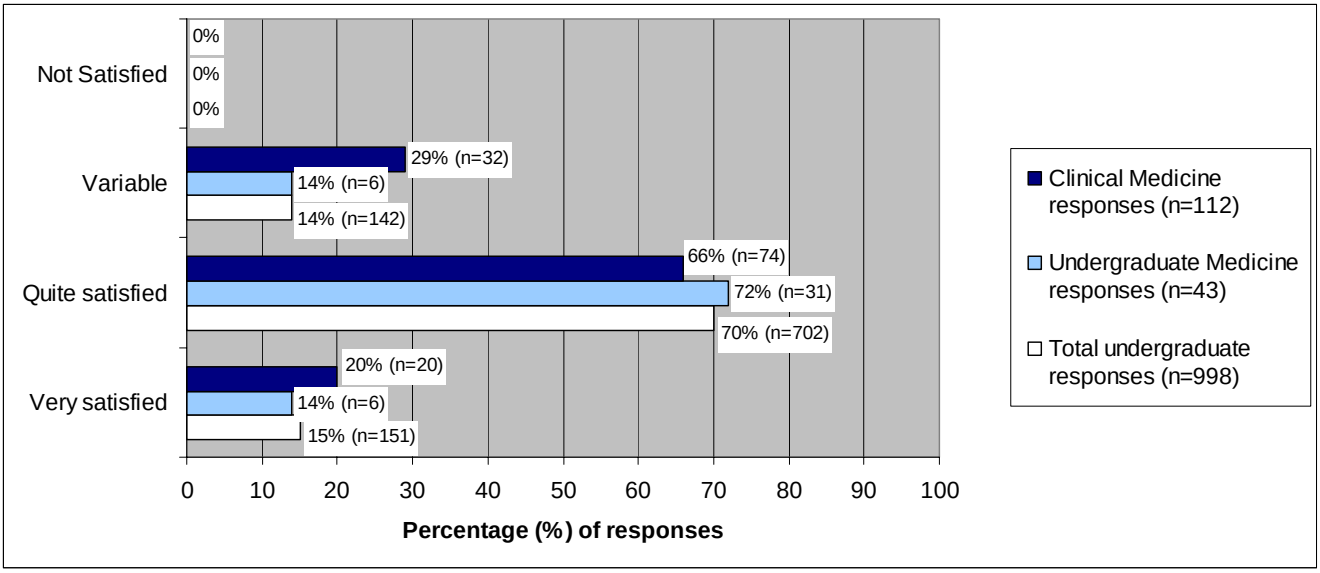
Table 3: Results of Survey Question 3 – "Very important"



The responses for those factors which were considered "very important" have been illustrated. Both clinical and pre-clinical students responses are broadly comparable to the total undergraduate student population with 2 exceptions: Fewer respondants in both groups gave a weighting of "very important" to "knowing who wrote/researched it" than the general population, and a higher proportion considered it very important to be able to "find things quickly".

Survey Question 4: How satisfied are you with information that you end up finding for your course?

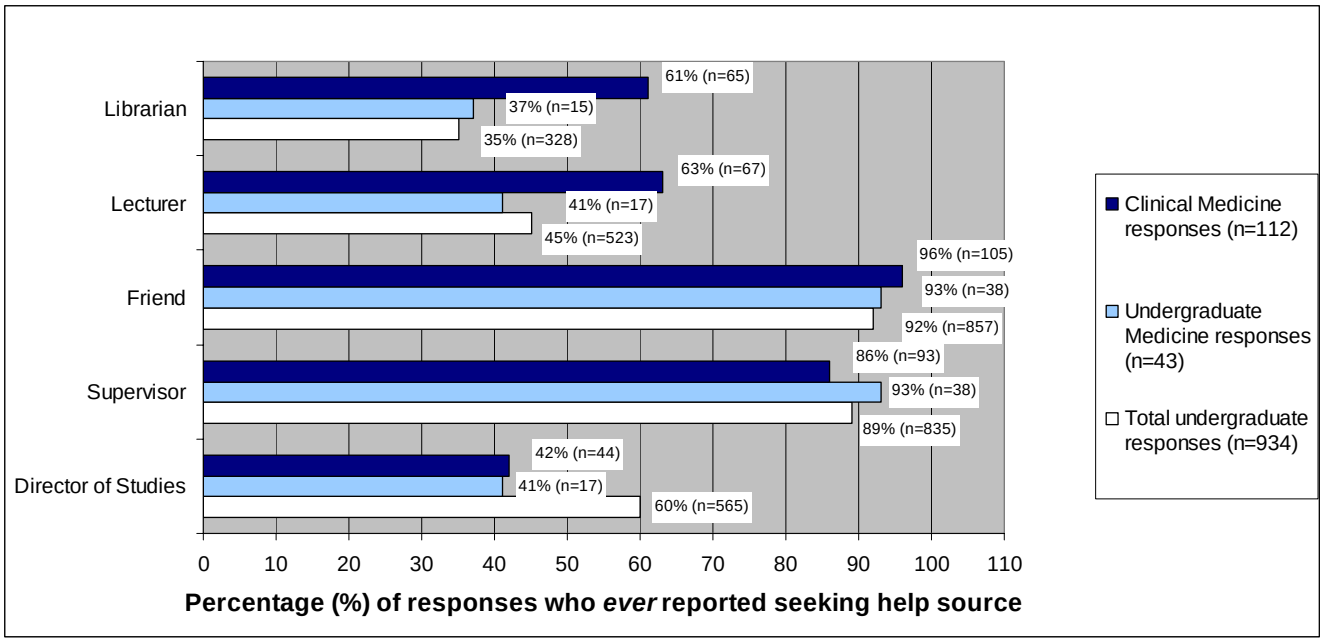
Table 4: Results of Survey Question 4



Several studies characterise members of the net generation as over-estimating their information skill levels. Gross and Lehman (2007) note that "competency theory predicts a miscalibration between students' self-assessments of their information literacy skills and their actual skill level". It's interesting that while more clinical students are very satisfied with the information they find, a greater proportion are wavering in the "variable" response. Older students are likely to acknowledge what they do not know, and accordingly mark themselves down. Given that these are self-reported levels of satisfaction there's only so much that can be read into these responses, and inevitably more questions are raised than are answered.

Survey Question 5: Have you asked any of these people for help or advice about finding books, journal articles, reports or other sources of information for your course?

Table 5: Results of Survey Question 5 – have you *ever* used on of the following for support or advice?

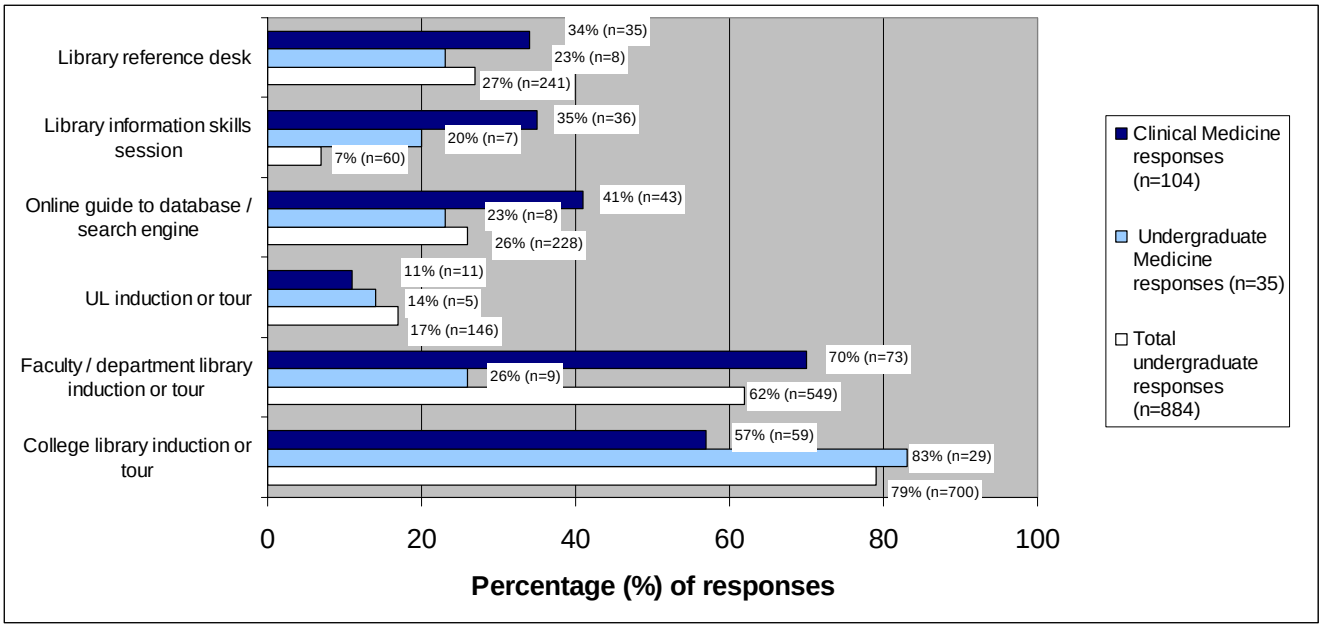


Clinical students distinguish themselves by being prepared to consult a librarian more often than either their pre-clinical colleagues, or the undergraduate population as a whole. Clinical students also gave honourable mention to the consultant who was leading the attachment on a particular specialism as a source of help and information. The benefits of online recommendations, e.g. from Amazon, are also recognised.

Some students from other disciplines suggested that peer-led introductions to library facilities had benefited them, or would have been beneficial. Whilst informal introductions occur between friends and through the 'college parent' scheme in Fresher's Week it is unclear how many colleges, faculties and departments use student guides in a more structured context, but perhaps this is worth exploring further.

Survey Question 6: Have you used or attended any of the following to help you find books, articles, reports or other sources of information for your course?

Table 6: Results of Survey Question 6



N.B. This was a multiple-choice question, which unfortunately did not contain a "none" or "n/a" option - so the drop in number of respondants may be because they skipped the question, or may be because they did not use any of the induction/guides/support available.

The clinical students make much greater use of library resources and support than either the pre-clinical students, or the undergraduate student population and are more likely to attend a departmental library induction or tour. This perhaps reflects the more specialised support that the Medical Library can give in comparison with multi-disciplinary college libraries. It may also reflect the clinical students relative experience, being in their 4th, 5th or 6th year of study.

Some of the college tours and inductions are compulsory before using library facilities. While the induction at departmental libraries are less likely to be compulsory students further into their study seem more likely to attend voluntarily or actively seek out support from the library.

A significant benefit of attending induction seemed to be that it removed the fear of the unknown in using the library, but the timing of inductions is tricky - Freshers Week is when all other orientations take place, but this could lead to "information overload" as students are inundated with

new experiences and information. Trying to integrate relevant library support into the course seems to work best, as comments from the clinical students suggest "*the librarian came to give us a lecture on how to find information for our course".*

Key Findings and Conclusions

The co-operative spirit demonstrated by clinical students' willingness to to accept and share recommendations on reading material was interesting and could be useful. This was in comparison to the majority of undergraduates who preferred recommendations from teaching staff. "Word of mouth" promotion of the value of library support or the benefit of using a particular electronic resource shared between students is very important to libraries, but almost impossible to manufacture or control. This

Many students expressed low levels of awareness of electronic resources, combined with a high use of Google. Whilst some resources were registered as being frequently used, these were not necessarily regarded as being the most effective or comprehensive for that subject. Students from some subjects showed a much higher use of course-specific resources. Since the use of Google cannot be ignored, perhaps we need to be pragmatic in the support we offer – for example, more active promotion of Library Links in GoogleScholar to ensure optimal access to full-text articles.

Raising the profile of information literacy will also be necessary to better support those undergraduate students who expressed a preference for relevant information, as compared with finding out who wrote / researched it. The fact that getting information quickly was of greater importance to both clinical and pre-clinical students perhaps reflects the time-pressure associated with information seeking. This might also go some way to explaining why clinical students were prepared to contact the librarian as a source of support – they didn't have time to "waste". This was in direct comparison with the very few undergraduate students who identified librarians as a source of either recommendations, or of help in searching for information.

The majority of libraries in the University of Cambridge system have not started to communicate with students via new media, such as social networking or microblogging, preferring to maintain more traditional routes - email, poster, websites/blogs. But this may need to change with each new cohort of students being more skilled in “web 2.0” communication. While the level of 2-way communication may be relatively low, hopefully the fact that clinical students do consider the library as a source of support suggests that the message is getting through. While we should not be complacent it's a relief to know that, for the most part, the clinical students are at least aware that support is available. However, the proverb "you can lead a horse to water, but you can't make it drink" might still be relevant.

Communication with Students Prior to arriving in Cambridge Isla started her professional life in the Cairns Library, as was, in Oxford’s John Radcliffe Hospital before moving to Leicester to deliver an outreach library service to general practice, community and mental healthcare NHS staff. She became Reader Services Librarian at Cambridge University Library Medical Library in 2005, and delivers information skills training to NHS staff as well as staff and students of the University. As well as information literacy she’s interested in the use of Web 2.0 technologies in libraries, and in delivering best service to library users.

After studying geography at Girton College, Cambridge, Lizz joined the Albert Sloman Library at Essex University as a graduate trainee, where she worked in cataloguing, inter-library loan and reader services departments. Since 2007 Lizz has worked in the Entrance Hall team at Cambridge University library and has recently obtained her Diploma in Information and Library Studies at Robert Gordon University. The focus of her studies has been the expansion of reader services within academic libraries. The Arcadia Fellowship gave her the opportunity to researching information literacy skills. She is also interested in promoting library services to prospective students and exploring new means of user education

References

Big Blue Project Group. *The Big Blue: information skills for students. Final Report* 2002.Available from: http://www.library.mmu.ac.uk/bigblue/finalreport.html Web. 27 May 2009

Brown, C., Murphy, T. and Nanny, M.. “Turning Techno-Savvy into Info-Savvy: authentically integrating information literacy into the college curriculum.” *The Journal of Academic Librarianship* 29.6 (2003): 386-398. Print

CIBER Group. *Information Behaviour of the Researcher of the Future: a CIBER briefing paper*. 2008. Available from: http://www.ucl.ac.uk/infostudies/research/ciber/downloads/ Web. 27 May 2009

CILIP. *A short introduction to information literacy*. 2007. Available from http://www.cilip.org.uk/policyadvocacy/learning/informationliteracy/definition/introduction.htm Web. 27th May 2009

Connell, R. "Academic Libraries, Facebook and MySpace, and Student Outreach: a survey of student opinion." *portal: Libraries and the Academy* 9.1 (2009): 25-36. Available from: http://muse.jhu.edu/journals/portal_libraries_and_the_academy/v009/9.1.connell.pdf Web 27 May 2009

Gross, M. and Latham, D. "Attaining Information Literacy: an investigation of the relationship between skill level, self-estimates of skill, and library anxiety." *Library & Information Science Research* 29 (2007): 332-353. Print

Maughan, P. "Assessing information literacy among undergraduates : a discussion of the literature and the University of California-Berkeley Assessment experience." *College and Research Libraries* 62.1 (2001): 71-83. Print

Reffell, P. "IT Skills Are Not Enough". *Information and IT Literacy: enabling learning in the 21st century*. Ed. A.Martin and H.Rader. London: Facet. 2003. 120-131. Print

Tapscott, D. *Grown Up Digital: how the net generation is changing your world*. New York: McGraw-Hill 2009. Print

Town, J.S.. "Information literacy: definition, measurement, impact." *Information and IT Literacy: enabling learning in the 21st century*. Ed. A. Martin and H. Rader. London: Facet. 2003. 53-65. Print.

Walsh, A. “Information Literacy Assessment: where do we start?” *Journal of Librarianship and Information Science* 41.1 (2009): 19-28. Print

Wolf, M. “Introduction to a Snapshot Overview of Library Induction Methods.” *SCONUL Focus* 40.Spring (2007): 57-62. http://www.sconul.ac.uk/publications/newsletter/40/21.pdf Web 27 May 2009