Article

Drop-in sessions as an effective format for teaching information literacy: a case study in the Medical and Dental Libraries at Queen Mary University of London

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Abstract

Information literacy (IL) skills are increasingly becoming acknowledged as vital lifelong skills, necessary to thrive in education, research and the workplace. IL is taught in a variety of formats in higher education. The purpose of this study is to examine the use of drop-in sessions as an effective format to meet the need for ongoing IL teaching. Although research has previously been carried out on various formats of IL teaching, there is little research specifically investigating the effectiveness of drop-in sessions. This study aims to add to the current body of knowledge by examining the experience of providing drop-in IL sessions at the Medical and Dental Libraries at Queen Mary University of London. These sessions have now been running for five years and data has been gathered from attendance statistics, evaluation forms and follow-up questionnaires in order to evaluate their effectiveness for teaching IL skills. The study shows that drop-in sessions can provide the desired one-to-one, personalised, hands-on teaching, delivered in an informal environment. Good attendance figures, high levels of satisfaction and the perceived positive impact on IL skills demonstrate that drop-in sessions can be used as an effective format for IL teaching. The study provides evidence of good practice for those looking at how best to provide ongoing IL teaching.

Keywords

information literacy; drop-in sessions; medicine; dentistry; higher education; academic libraries; health libraries; UK

1. Introduction

Information literacy (IL) teaching provides a vital set of skills essential to study, research and work. The Chartered Institute of Library and Information Professionals (CILIP) define IL as "knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner" (CILIP 2004). In an increasingly information-rich environment the necessity to be able to handle information effectively is rapidly becoming seen as a vital lifelong competence, developing skills for future work and enhancing independent learning (Mokhtar et al. 2008b). As such, IL skills regularly appear within universities' graduate attributes. Queen Mary University of London (QMUL) maintains that its graduates "will be able to use information constructively and critically" including the ability to identify information needs and access, evaluate and use information effectively (Queen Mary University of London 2010).

Within healthcare, IL has added importance as a pre-requisite for Evidence Based Practice (EBP). Health professionals must be competent in retrieving good quality research evidence, evaluating it, and effectively incorporating it into clinical decision making (Brettle and Raynor 2013). IL skills are vital in allowing health professionals to actively engage in EBP (Boruff and

Thomas 2011) and the need for effective teaching of these skills is therefore important both for students and existing practitioners.

IL teaching can be delivered in a number of formats. This study aims to consider drop-in sessions as a way to meet the need for continuing provision of IL teaching, to supplement that provided as part of taught courses. It examines the implementation of regular drop-ins in the Medical and Dental Libraries at QMUL, the effectiveness of these as a teaching format, and the long term impact on the IL skills of those who attend.

2. Background

2.1 Information literacy teaching

The SCONUL seven pillars model provides a framework outlining the fundamental principles around which much IL teaching in the UK is based. The non-linear nature of IL skills is depicted by the model's circular structure (Figure 1), reflecting the fact that IL competencies can be developed across several pillars simultaneously (SCONUL 2011). In order to become fully information literate individuals must achieve proficiency within each pillar.

Figure 1: The SCONUL seven pillars (based on SCONUL, 2011)
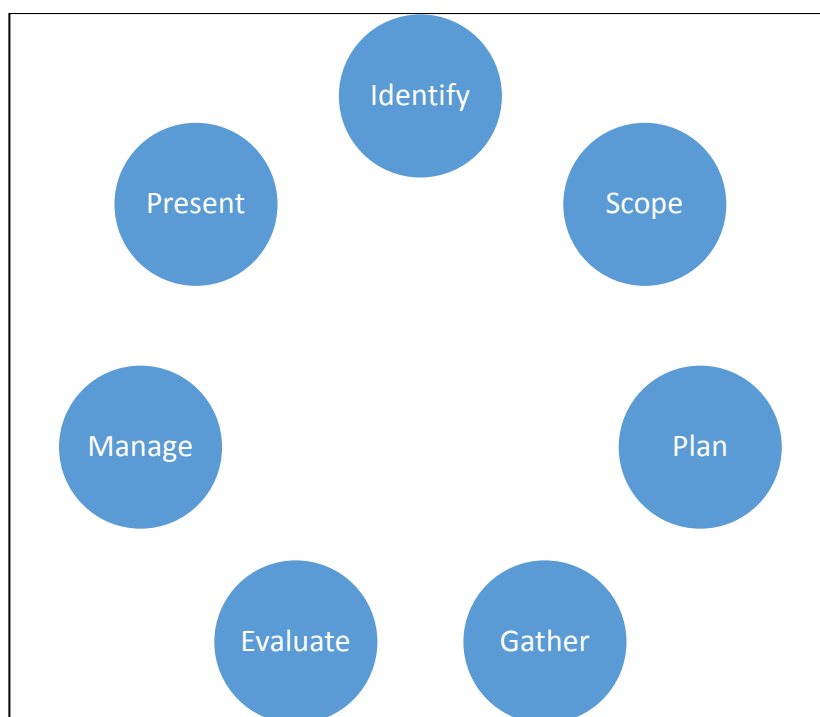
IL is taught in a variety of ways in higher education, covering a range of topics incorporating the core IL skills, including developing search strategies, searching catalogues and databases, and reference management (Franke and Suhl-Strohmenger 2014). With IL now being seen as an important graduate attribute there is a strong desire to integrate this teaching within academic disciplines (Mullins 2014). Research shows that students find IL teaching more useful and relevant when it is embedded within their courses, and particularly where there is an assessment element (Ford and Hibberd 2010). Lange et al. (2011) describe how embedding IL skills into curricula at McGill University proved to be particularly successful, as librarians can

tailor the teaching to the needs of the groups. This has also been borne out by the success of IL teaching for first year dental students at QMUL, which is integrated within their Evidence Based Dentistry curriculum and forms a large part of the module's assessment. Although the ideal amongst librarians is IL teaching fully integrated within curricula, this takes time and close co-operation with faculties (Clairoux et al. 2013). Sadly, despite moves in the right direction, IL teaching is still by no means universally seen as a curriculum priority (Salisbury and Sheridan 2011).

Within institutions or courses where embedded IL teaching is not the norm, librarians are often asked to deliver one off sessions to students, usually at the start of their course. Unfortunately, this is often before the students fully understand the need for these skills, meaning that they perhaps don't come or take it seriously, or otherwise quickly forget what they've learnt. They can then struggle once they have a real need to find information effectively, for example for a project or dissertation. The problem of lack of engagement amongst first years can be minimised by encouraging academic staff to talk about IL classes in the same way as other lectures, rather than as separate library classes (Kavanagh 2011). This helps students to see these as integral to their course, rather than an independent entity, which again is clear amongst first year dental students at QMUL. Asking senior students to talk to first years about the importance of IL is another strategy found to be successful (Kavanagh 2011).

As a result of limited time availability within packed timetables IL teaching for students on taught programmes is often limited to very large groups, and sometimes within a lecture theatre. Effective teaching of active skills within such environments is problematic, and so these lectures are often used merely to make students aware of available resources. Verlander and Scutt (2009) examined ways to make lecture teaching more interactive, including using group discussions, quizzes, props and personal response systems. Hands-on teaching is clearly advantageous when teaching IL skills, but even when this is possible the numbers can be very large. Skill levels, learning styles and current knowledge can vary dramatically in the group. Lange et al. (2011), in a study looking at tailoring IL for continuing education, identify particular challenges for those who have not studied for a while or for whom English is not their first language. Despite the best efforts of librarians to reach diverse groups of users, it is not always possible to meet the needs of all participants in large sessions, with some possibly missing fundamental skills, and others not having the opportunity to develop more advanced skills (Lange et al. 2011).

To supplement embedded IL teaching, and to ensure that the IL needs of all library users are addressed, librarians use a number of approaches to provide ongoing IL teaching. Many libraries offer some kind of regular training programme, with sessions repeated at intervals. These can be very generic, delivering sessions on literature and web searching tips and techniques relevant across academic disciplines (LSE Library 2014). Others provide workshops for staff and students in specific disciplines (Radcliffe Science Library 2015). IL teaching is sometimes targeted to particular groups, for example as part of a training programme for researchers (University of Surrey Library 2015b). Other libraries offer a combination of different types of IL sessions (King's College London Library 2015). Sessions run as part of these programmes usually have to be booked in advance.

Librarians often also offer one-to-one teaching, although due to staffing and time constraints these are not always available to all users, particularly undergraduates. Libraries are also increasingly offering some kind of drop-in provision to meet IL needs, although some of these also require students to book a place (Cardiff University Information Services 2015). Other services are targeted very much at those with quick questions, rather than providing an

opportunity for in-depth teaching (University of Surrey Library 2015a; The University of Manchester Library 2014). Some drop-ins are targeted at particular groups, for example postgraduate students (Giannini 1999).

Another way of providing continuing IL support is through online learning, which enables librarians to provide a broader range of materials than in a single teaching session. These tools also provide a mechanism for teaching IL skills to those unable to attend face-to-face teaching, like distance learners or part-time students (Thornes 2012). QMUL provides an IL module on the university's online learning environment, using a range of multimedia tools and activities to guide users through the basics of finding, using and referencing information (Queen Mary Library 2015). However, research carried out at Oakland University Library, comparing online, face-to-face and blended learning, found that students failed to grasp difficult concepts when delivered electronically. The authors suggested that a hybrid model was the best way to engage with the online environment, whilst maintaining the intangible benefits of face-to-face teaching (Kraemer et al. 2007)

Some research has been carried out to try and compare different pedagogical approaches to IL teaching, but the conclusions have been far from conclusive and in some cases resulted in contradictory evidence (Ross and Furno 2011). A number of studies have tried to compare various active learning approaches to more traditional, lecture-based IL teaching (Hsieh et al. 2014; Walker and Pearce 2014; Ross and Furno 2011). Despite the authors' hypotheses, the results of these studies have not favoured any one teaching method. Instead they conclude that, whatever the format, IL teaching should be targeted and at the point of need, and that single sessions are often not effective (Walker and Pearce 2014; Hsieh et al. 2014). Mokhtar (2008a) highlights the need to experiment with different pedagogical approaches and use a method, or combination of methods, that work best for the students concerned.

2.2 The context

At QMUL, even within the School of Medicine and Dentistry (SMD), the integration of IL teaching within courses is mixed. It is fully integrated into some taught programmes; for other courses the librarian is asked to provide a one-off session; and in some cases the students get no formal face-to-face IL teaching. Even when formal teaching is provided this does not always fully meet the needs of all the students, particularly when delivered in large groups of up to 85 students in an IT lab. Every effort is made to ensure that different learning styles and skill levels are catered for, but some students may still need further help. Also, research has shown that where one-off sessions are provided, these are often insufficient to meet the IL needs of students (Hsieh et al. 2014; Walker and Pearce 2014). The library also provides services to university staff, researchers and NHS staff, who all need IL skills for their jobs, but do not always have opportunities to learn these. For these reasons it is necessary to provide ongoing IL provision based on appropriate pedagogy. This will ensure that learners develop a high standard of IL skills which can be applied both to study and work (Mokhtar et al. 2008a).

Ongoing IL teaching was previously provided in the Medical and Dental Libraries at QMUL by means of a programme of scheduled sessions, including workshops on web searching, using databases, Evidence Based Medicine resources etc. These were open to any library user on a sign-up basis, but sometimes nobody signed up, and often people would sign up and not turn up, meaning a lot of staff time wasted in preparation and set up. At the same time the number of requests for one-to-one sessions was increasing and becoming unmanageable. This demonstrated a need for IL teaching, outside of organised sessions, which was obviously not being met by existing provision. It was therefore decided that a different approach was needed.

Lack of attendance at scheduled sessions, coupled with the apparent need for one-to-one help, suggested that something should be offered enabling users to get help at the time of need, and something beyond what was offered by general library enquiry services. An informal survey was carried out amongst library users, which suggested that people wanted shorter, targeted sessions, with the possibility to address several topics.

2.3 The solution

Parker and Urquhart (2007) emphasised the importance of focusing training on the needs of the users, rather than giving them what the library thinks they should have. Research shows that preferences tend to be for targeted learning when it is most needed (Walker and Pearce 2014), in bite-sized chunks and at a pace suiting the individual (Armstrong and Sadler-Smith 2008). There is also considerable evidence for the effectiveness of one-to-one teaching (Cooper 2010). This alone was not workable with the staffing levels and expertise in the Medical and Dental Libraries, but there was a desire to offer teaching that would provide some of the same benefits.

Drop-in sessions were considered as a means of providing individual, targeted teaching at the time of need. Back in 2010 few libraries provided drop-in teaching for IL skills, and although this has become more popular, there is little research investigating the effectiveness of this type of teaching on IL skills. Verlander and Scutt (2009) briefly discuss drop-in sessions provided at Liverpool Hope University. Likewise, librarians at Georgia State University run research labs, which work on a drop-in format. These allow librarians to manage a number of students, whilst still giving individual attention (Anderson and Puckett 2014). In both cases these are scheduled sessions for particular groups as a follow-up to formal teaching, rather than regular sessions open to all. A librarian at Brock University in St. Catharines, Ontario provides drop-in clinics, which are seen as providing a powerful alternative to the single teaching sessions that tend to be offered by librarians (Jacklin and Bordonaro 2008). Again these are offered to students on a particular programme to coincide with assignment deadlines. Although the desire at QMUL was to provide the service to all users, these examples are still relevant in demonstrating that drop-in sessions can be used effectively within IL programmes.

A similar concept to drop-in sessions, more common in North America than the UK, is librarian office hours. Orchanian-Cheff (2005), looking to establish office hours in a hospital setting, suggests that users find these preferable to scheduled training sessions. It was found that attendees preferred to wait to see a librarian in this format than sign up for an appointment. The provision of office hours led to an increase in training provided to this group, but it was questioned whether they provided sufficient return on investment (Orchanian-Cheff 2005). A similar initiative at the University of Michigan Health Science library did not lead to high walk-in rates, but they were felt to be a positive experience in terms of exposure (MacEachern et al. 2011). Much of the literature relating to librarian office hours originates from health libraries (Orchanian-Cheff 2005; Handler et al. 2009; MacEachern et al. 2011) and, although not necessarily restricted to IL skills, is relevant when considering drop-in provision in a medical library.

Regular drop-in sessions are more common for writing and maths skills (University of Wolverhampton 2015; Queen Mary Learning Development 2015; University of Bath 2015), but even in these areas there is limited analysis of the success of such initiatives. Despite little evidence demonstrating their effectiveness, and some negativity amongst colleagues, it was decided to trial IL drop-in sessions as a pilot project at QMUL Medical and Dental Libraries.

The new service was to offer weekly two-hour drop-in sessions at the largest of the Medical and Dental Libraries at Whitechapel campus. These would be held on Wednesday afternoons, when no formal teaching takes place in the university, with an additional monthly drop-in at the smaller West Smithfield Library. Users would be able to come and go during the two hours, with staff on hand to deal with any IL enquiries they presented with. It was decided to hold the sessions in small teaching rooms with PCs, enabling students to sit down with a member of staff for hands-on teaching. A printed pack would be offered to all attendees, containing useful tips and guidance. The new service was heavily publicised through posters and leaflets, items in relevant bulletins, emails to administrators, and emails to NHS users through Athens. It was also advertised at any organised teaching sessions that took place.

The first session took place on 17 February 2010 and initial analysis was carried out at the end of May 2010. In just over three months nineteen sessions were held and a total of 59 attended. This equated to an average of more than three attendees per session and was double the number of users who had attended the scheduled sessions within the previous year. Participants were asked to complete a short evaluation form at the end of each session asking them to rate a number of aspects on a scale of 1 to 5, with 5 being the best, and 99% of responses were 4s or 5s. Initial attendance and feedback was extremely positive and based on this it was decided to continue running the drop-in sessions.

The sessions are, as far as possible, staffed by two members of the library's Teaching & Learning Support team. At the start of the session those present are asked what their needs are, and are grouped if appropriate. For example, if two people want an introduction to literature searching then one member of staff will go through the basics with them together. There is then the opportunity to try out searches on their own topics, or ask specific questions. If further attendees arrive during the session they are asked to take a seat if both members of staff are busy. Generally no-one has to wait more than about ten minutes before receiving some initial help. Once a member of staff becomes free they will move on to the next person. If the session is busy, or there are a number of differing needs, members of staff will begin with one attendee, give them some initial teaching and then get them to try things out on their own whilst starting with the next person. Staff will then move between the individuals or groups as necessary. Attendees often stay in the room and continue to practise on their own and take the opportunity to ask any further questions while staff are present.

3. Results

The drop-in sessions have now been running at Whitechapel for five years. In April 2013 the decision was taken to stop the monthly sessions at West Smithfield following changes in the service provision which led to lower attendance. It was therefore decided to offer one-to-one sessions to those based at West Smithfield and Charterhouse Square campuses as required.

Statistics and feedback have been gathered throughout, but the last year's data has been used here as a representative sample, with further analysis being undertaken to evaluate the effectiveness of the drop-in sessions.

## 3.1 Attendance statistics

Over the five years attendance figures have been maintained. This has been done to ensure effective resourcing of the service, as well as providing an indication of the perceived effectiveness of the sessions across staff and students. The statistics also enable an analysis of who is attending, which is useful in identifying target audiences, or any groups for which

additional teaching might be advantageous. They are also a mechanism to identify any patterns in attendance.

Attendance has averaged 130 per year. In the last year 159 people attended the sessions, equating to an average of just over three per week. Every attendance is recorded and so repeat attendees are included on each occasion they attend. The largest number of attendees in a single session was 24. Most people stay for between thirty minutes and an hour and a half, with the average duration of around fifty minutes. Although some weeks no-one attended, there do not seem to be any clear patterns in attendance throughout the year (Figure 2).

Figure 2: Attendance patterns
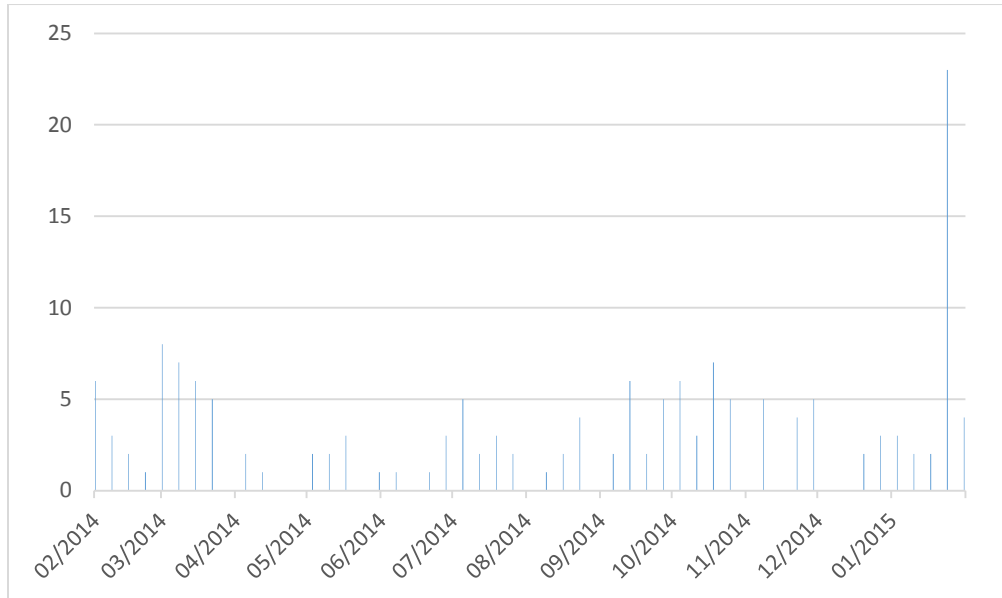
The biggest group of attendees was taught postgraduate students. NHS staff also made up a large percentage of those attending, but there was attendance from all user groups (Figure 3).

Figure 3: Attendance by group
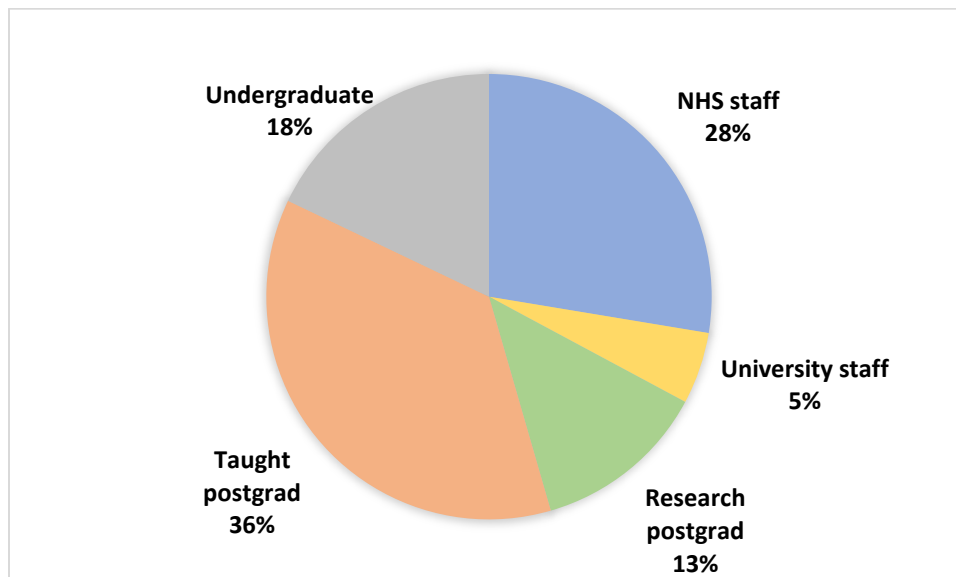
The steady attendance at the drop-ins suggests that they are perceived by all user groups as an effective way to meet their IL needs, particularly for postgraduate students and NHS staff. This is in contrast with the extremely poor uptake of scheduled sessions and demonstrates that drop-ins are perceived as a more effective way of learning or refreshing IL skills.

In order to effectively target publicity, attendees are asked how they found out about the sessions (Figure 4). 20 per cent said they found out in the library, but did not specify by what means, whereas large numbers identified leaflets and posters in the library, or the recommendation of library staff. In total over half the attendees found out about the sessions in the library. Almost a third attend based on the recommendation of friends, colleagues or tutors, which is an extremely positive reflection of the value placed on the drop-in sessions.

Figure 4: How attendees found out about the sessions
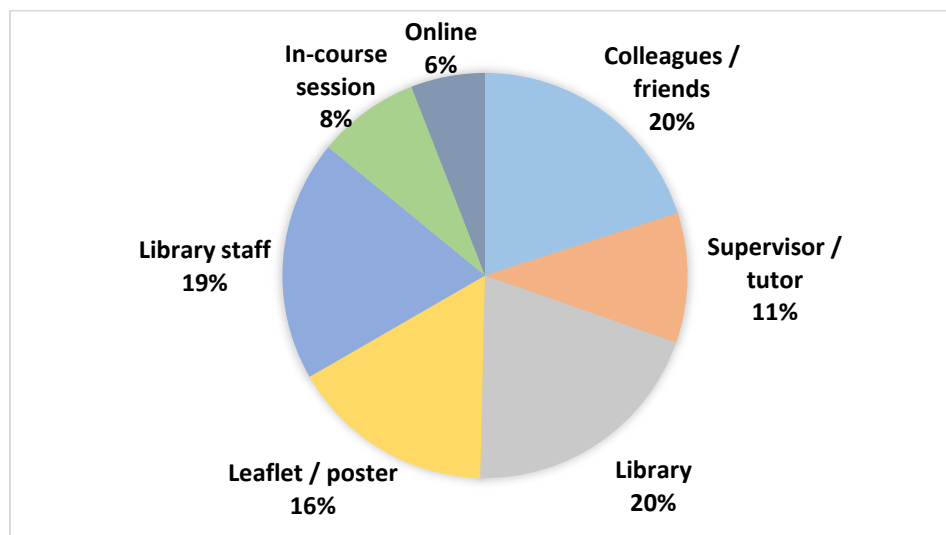
3.2 Session content

The types of enquiries presented are recorded to give an overview of the nature of IL needs handled at the drop-ins. There is a range of differing needs, but these have been broadly grouped for the purposes of this study. Almost half of attendees want help with searching for information. This is split almost equally between basic searching, including advice on where to search, identifying keywords, basic techniques, and how to use specific databases; and more advanced searching skills, such as developing complex search strategies for systematic reviews (Figure 5). Some attendees have quite specific enquiries, needing help with a particular search, whereas others want to learn general skills. Some have just seen the sessions advertised and are keen to learn skills that might be useful during their studies.

Many users want advice on referencing or managing references using software like EndNote. Queries about evaluating information are also dealt with, particularly critical appraisal, a key part of the Evidence Based Healthcare process. Over a quarter of participants come to the drop-in sessions to address more than one need.

Figure 5: Types of enquiries
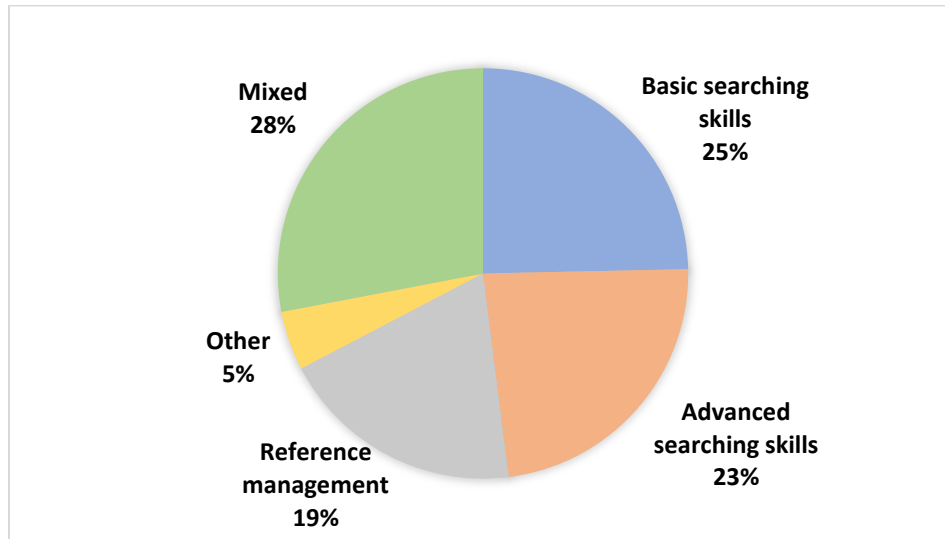
3.3 Session evaluation

All attendees are asked to fill in evaluation forms at the end of the session (Appendix A). These do not measure long term impact, but are designed to get some initial feedback on the teaching given. Feedback is collected on whether attendees' needs are met, if they feel confident putting what they learnt into practice, what they found useful about the session, and suggestions for improvement. The form has been modified since the pilot project to match the generic forms used for teaching across QMUL libraries. Attendees are now asked to rank responses to five statements on a scale from strongly agree to strongly disagree, in order to measure the levels of satisfaction with the session. In the past year 111 attendees completed an evaluation form, and feedback has remained extremely positive (Figure 6).

Figure 6: Responses to evaluation questionnaire

	Session addressed my needs % (n)		Presentation was clear % (n)		Session was well organised % (n)		Venue / facilities were adequate % (n)		Overall experien-ce was positive % (n)	
5: Strongly agree	80.18%	(89)	82.73%	(91)	75.68%	(84)	82.88%	(92)	85.45%	(94)
4: Agree	19.82%	(22)	17.27%	(19)	23.42%	(26)	16.22%	(18)	14.55%	(16)
3: Neither	0.00%	(0)	0.00%	(0)	0.90%	(1)	0.00%	(0)	0.00%	(0)
2: Disagree	0.00%	(0)	0.00%	(0)	0.00%	(0)	0.90%	(1)	0.00%	(0)
1: Strongly disagree	0.00%	(0)	0.00%	(0)	0.00%	(0)	0.00%	(0)	0.00%	(0)
Total responses	100%	(111)	100%	(110)	100%	(111)	100%	(111)	100%	(110)
Rating average 1-5	4.80		4.83		4.75		4.81		4.85	

Based on strongly agree equating to a score of 5, and strongly disagree a score of 1, the average rating across the five elements was 4.8. As a comparison, the overall average for all other teaching within the Medical and Dental Libraries over the same period was 4.4.

All but one attendee in the past year felt that their needs had been met in the drop-in, and that person felt that their needs had been met to some extent. All respondents answered positively

that they felt confident putting into practice what they learnt in the session, with just one clarifying their answer with "*a bit*".

Respondents are also asked some free text questions designed to gain more insight into what people found particularly valuable about the session, and how it could be improved. A number of themes can be identified from the data gathered from the free text comments:

- One-to-one

  The provision of one-to-one teaching, or being part of a very small group, was the most consistent theme to emerge from the data. One attendee highlighted the *"Fantastic 1:1 teaching approach".* Nearly a third of respondents mentioned this as one of the best things about the session.

- Tailored

  Tailored or personalised teaching was a major positive to emerge from the feedback. Respondents commented that they appreciated the fact the session was *"tailored to the aims of my project"* and was *"very helpful, tailored to my needs".* This echoes one of the original desires, for targeted sessions. The fact that the teaching could be at a level and pace suited to the individuals was often highlighted, with a number of respondents appreciating a basic, step by step approach.

  The personalised nature of the sessions corresponds to a high level of satisfaction that their needs were successfully met, with one respondent saying that the session was *"really helpful and addressed all of my queries".*

- Staff approach

  The attitude and approach of the staff was another theme identified as one of the best things about the sessions. Many respondents highlighted the clarity of explanation, enabling them to understand the skills being taught. *"An excellent trainer. Easy to follow and understand".*

  They also appreciated that the staff were helpful, patient and approachable, putting them at ease and able to ask questions without feeling stupid. One person commented that *"I turned up with no idea what I was doing and the session leader didn't make me feel embarrassed by my lack of knowledge".*

- Interactive

  The interactive and practical nature of the sessions was highlighted by a number of attendees. They appreciated that the sessions were hands-on and they were *"given the opportunity to practice doing searches and using new learned skills whilst the trainer watched".*

Other positive points include the desire to recommend the session to others, the fact that no appointment is necessary, and the usefulness of the printed material provided.

In terms of improvements that could be made the only theme that can be drawn out of the data is a desire for more sessions, or sessions at different times. Six respondents highlighted this as an idea for improvement.

The high level of satisfaction demonstrated by the analysis of the evaluation forms shows that attending an IL drop-in session is a very positive experience. It is pleasing to see that attendees feel that the sessions are meeting their needs, and the fact that all go away feeling confident to put into practice the skills they have learnt is a very positive sign. The themes identified from the free text comments reflect the nature of teaching which is achievable in the drop-in environment by providing one-to-one, tailored teaching in an informal environment. The data gathered from the session evaluation forms suggests that in terms of meeting the needs of the attendees in a way that they find helpful, the drop-ins are an effective format for teaching IL.

3.4 Long term impact

There has always been a desire to measure the long term impact of the drop-in sessions. A previous attempt to introduce a follow-up questionnaire three months after the session resulted in an extremely low response rate. However, for the purposes of this study it was decided to again send out follow-up questionnaires, by means of an online survey, to people three months after attending a session. As the attendees come from a range of user groups, and from different areas within the SMD, it was felt that this was the only realistic way to measure the long term impact of the drop-ins on IL skills. This was done over a six month period for those who provided email addresses on their original evaluation form. 51 questionnaires were distributed and 16 returned, a response rate of 31 per cent. Although a relatively small sample, this was felt to be enough to provide some useful data in terms of evaluating impact. Attendees were asked questions about the teaching received, including the most useful thing they remembered, the extent they had used the skills learnt, and the ways these skills had impacted on their work, study or research (Appendix B).

The data gathered from this follow-up questionnaire showed that the impact of the drop-in sessions had been positive. All the participants were using the skills they had learnt, with 50 per cent doing so on a regular basis. Half the respondents felt that the skills learnt had enabled them to complete a project effectively, whether it was a dissertation or systematic review. *"I did a systematic review for my BSc dissertation, so skills learnt in session were vital".* The others highlighted a more general impact on their ongoing work and research. One respondent suggested that the session *"enabled me to locate appropriate literature for assignments and teaching sessions. Saved me time and stress from ineffective searching of data."*

Several people mentioned that they can now effectively search for information independently, for example the session "*helped me understand how to do a literature search, and I have used these skills independently since then".* A number of respondents said that the teaching received had improved confidence in their work. One respondent commented that:

> *I finally know what I'm doing when I have to search a database! I was clueless before and I would submit my papers with a lack of confidence, knowing I probably didn't find a substantial quantity of articles on my topic and the ones I found weren't perfectly catered to it.*

Although based on a small sample, this data strongly suggests that drop-in teaching can have a positive long term effect. Participants feel that they have learnt vital IL skills and that these have had an impact on their work and study.

4. Discussion

4.1 Benefits

The previous scheduled programme of IL sessions did not prove to be successful. Possible reasons for this were that sessions were too generic, or there wasn't a suitable session when someone realised they needed to improve their skills on a certain aspect of IL. The drop-in format means that users don't have to wait for a scheduled session on a topic which may not be exactly relevant, but can access teaching more or less at the point of need, a benefit demonstrated in previous research (Armstrong and Sadler-Smith 2008; Walker and Pearce 2014). The drop-ins allow a certain amount of freedom, with users spending anything from fifteen minutes to two hours at the session. Users previously asked for shorter sessions, and this format allows them this in that they can ask a quick question or get reassurance, but can also receive more detailed teaching if necessary. The help provided can be fairly generic, or more specific to a particular project.

The help and advice can be somewhat tailored to the individual's need, at their level, and at a pace suitable for them, which has been shown to be a major positive of the format, as indicated in the existing literature (Armstrong and Sadler-Smith 2008; Hsieh et al. 2014). Attendees can come for help with one thing, or get advice on a range of topics. In fact almost a third of participants came to the drop-ins to address multiple needs, demonstrating the non-linear approach to IL described by the SCONUL seven pillars model (SCONUL 2011). This also reflects the original desires of the users for targeted sessions, in which several topics could be addressed.

The drop-ins enable staff to give users a certain amount of one-to-one teaching, which research has shown to be effective (Cooper 2010), and participants clearly see this as beneficial to their learning. This kind of teaching is impossible in larger, more structured teaching sessions. The drop-in format provides this one-to-one teaching, whilst still allowing staff to deal with a number of simultaneous enquiries, thereby proving far less time intensive than seeing everyone individually.

Feedback has also shown that users appreciate the informal nature of the session, and the friendliness of staff. The fact that some individuals feel intimidated in large groups, not wanting to look stupid in front of others, must be considered when providing teaching. The drop-in format allows them to feel comfortable and confident enough to ask questions, therefore enabling them to gain maximum benefit from the session and significantly improve their IL skills.

The drop-in sessions are used by people from across the QMUL community at Whitechapel, but are particularly popular with postgraduate students. This is probably because they are required to write dissertations and need to be able to locate and use information effectively. An interesting observation is that many of the postgraduate students who attend are international students. This could be because they are faced with different resources, tools and databases from what is familiar, or it may be because IL is not taught so pro-actively in some countries and they haven't previously been introduced to the necessary skills. It could be that they have attended group sessions, but found these difficult because of language barriers, which reflects the challenges identified by Lange et al. (2011) for students for whom English is a second language. In this case drop-in sessions may be more suited to their needs. This raises questions about the IL needs of international students in particular, and whether more should be done to target this group.

Patterns in attendance are sometimes identified amongst those on specific courses. This can act as a trigger to further developing IL teaching within a particular course, either by introducing new sessions, or modifying the timing or content of existing teaching to better meet the students' needs. For example, a large number of first year dental students attending a week before their Evidence Based Dentistry exam suggested that a revision session should be planned for them in future years. A large number of NHS staff also attend the drop-ins. Unlike most students, many NHS staff may not have formal IL teaching sessions open to them. Also, some are faced with doing research for the first time in many years and need to update or refresh their skills. Again their attendance affirms the fact identified by Lange et al. (2011) that those who have not studied for some time often struggle with IL skills.

Choice of venue is an interesting consideration. It was decided to hold the drop-ins in a small library teaching room with PCs, rather than in the Help Zone. This means that the sessions are not immediately visible, but provides a quieter environment more conducive to teaching, and colleagues holding drop-ins in the Help Zone at another library have not found these to be particularly successful. Up to eight people can use computers simultaneously with staff able to teach a small group where appropriate, to sit down with individuals, or a combination of the two. This allows for the hands-on, interactive experience which was highlighted as valuable in the feedback. Participants also appreciated the fact that they can stay and practise their new skills with staff on hand to answer further questions.

One reason why the drop-in sessions have worked well is that they are regular, taking place every week throughout the year except during the Christmas closed period. This is perhaps a reason for the success of these sessions compared to drop-ins which only take place at certain times, for example to support revision or dissertations. Library users know that Wednesday afternoon is the time to come to the library for help and advice on any aspect of IL. Their regular, weekly nature means that the sessions have very much become self-publicising. The fact that many attend on the recommendation of friends, colleagues or tutors demonstrates the perceived value of the sessions. If people recommend the sessions to others after attending themselves, this suggests that they found the teaching effective. It could also be an indication that the skills learnt have had a positive impact on their own work, study or research. Posters and leaflets in the library are also an easy and effective method of ongoing publicity. Another big reason for attendance is recommendation of library staff when users ask questions at enquiry points or through web-based enquiry systems. This demonstrates the need for all staff to be engaged in any such initiative. It also highlights the importance of a good understanding of IL, and the experience to recognise a need, for all staff answering enquiries.

A number of students come to the drop-ins after attending a session as part of their course. The problem of providing formal IL teaching at the beginning of courses has already been discussed, and the fact that the IL needs of students are not always adequately met in a single session (Hsieh et al. 2014). Therefore some students come to the drop-ins for a follow-up later in their course when they have a real need for IL skills. On occasions it might be because their needs are not met effectively in large group sessions, as has been shown in existing research (Lange et al. 2011). Whatever the reason, it reiterates the importance of the ongoing provision of IL teaching (Mokhtar et al. 2008a), even in situations where such teaching is provided to students within their course.

The drop-ins are generally a positive experience for library staff conducting the sessions. They are considered to be a much better use of staff time than the previous scheduled teaching sessions, which often resulted in time being spent preparing and setting up a session, only for no-one to turn up. The drop-ins require no preparation and the only real time commitment is the

time spent in the session itself. The provision of drop-ins has also meant that less staff time is dedicated to providing one-to-ones. Dealing with students in an informal environment and being able to tailor the teaching to meet their needs makes it a rewarding experience for the staff, a feeling reinforced by the positive feedback and appreciation of the attendees.

4.2 Challenges

Despite the success of the drop-in sessions, there are some elements that present challenges. Timing is crucial to ensure the success of such an initiative. Wednesday afternoon was chosen as an appropriate time, as this is reserved for sporting activities within the university and no formal teaching should take place. Obviously this time is not suitable for everyone, including those who play sports, those with clinical commitments, and part-timers. It would be impossible to find a time to suit everyone and therefore there is still provision for one-to-ones for those unable to attend.

Running the session every week throughout the year is important in terms of consistency, but maintaining staffing levels can be difficult. It is important to ensure that sufficient resource is available to maintain the sessions, as cancellations would have a negative impact on how the service is perceived. Ideally two members of staff are available, although if numbers are low one can get on with other work. However, due to leave and other commitments it is not always possible to have two members of staff present. This is one reason why there has been no concerted attempt to widen publicity for the sessions. There is a fear that they could become victims of their own success. If there are a lot of participants, and not enough staff, this could negate the positive benefits of the format, meaning that the experience of the attendees on these occasions can be compromised.

The uncertainty presented by the drop-in sessions is probably the hardest aspect to deal with for the staff. Users come along with a wide variety of questions and there is no option to prepare beforehand, as there would be for a scheduled session or one-to-one. Therefore it is important to have experienced staff available, who are confident in dealing with a range of IL questions. Occasionally there may be questions which cannot be answered fully in the session, or need to be referred elsewhere. There is also uncertainty regarding numbers. Some weeks nobody turns up, which can be frustrating for staff, and on other occasions the sessions can be quite busy, with attendees all wanting help with different aspects of IL. The largest ever number of attendees in a single session was 24, which was difficult to manage and rather stressful for the members of staff running the session. It was almost impossible to ensure that everyone was adequately attended to and lack of space was also a problem. Obviously if a session is busy those participating cannot be given the level of individual attention that is desired. This is reflected in the feedback, which is often less positive when the sessions are busier. Despite these issues, people are generally very understanding of the limitations of the format, especially as these tend to be outweighed by the positive aspects that this type of teaching provides.

4.3 Moving forward

The drop-in sessions are generally working well in their current format. However, one suggestion that often comes up in the feedback is to offer further sessions at other times during the week. Currently it would not be possible to maintain this level of resource on a regular basis, and would probably result in low numbers at all sessions, perhaps making them unsustainable. Offering additional sessions at peak times is something that could be considered. However, identifying peak times has proved problematic, as there are no clear patterns indicated in attendance levels. The autumn term is probably the busiest, but this is also when staff are tied

up with other teaching commitments. Providing alternative provision is something that remains a consideration.

Online learning has been identified as an effective way to provide IL teaching to those not able to attend face-to-face sessions (Thornes 2012). Although the library currently provides this in the form of an online module and various online materials, these do not offer many of the benefits that have been identified with the drop-in teaching. Something that could be considered in the future is providing drop-in sessions through tools such as Skype or Lync, particularly to support distance learners.

The drop-in sessions continue to be used to inform practice in terms of effective IL teaching across the SMD. Feedback and attendance figures can provide a mechanism to engage further with academics to ensure that the library provides teaching which meets the IL needs of their students. Needs identified through drop-ins are sometimes addressed by providing e-learning objects, or by arranging more or improved embedded sessions. Several new sessions are planned for next academic year based on large numbers of attendees or repeated enquiries from students on particular courses at drop-ins within the last year. One issue that has been identified by drop-in attendance is that the timing of IL teaching sessions is not always best for the students. Academics are increasingly being encouraged to move in-depth IL teaching sessions away from the beginning of the academic year to a time at which the skills are more pertinent to the students, for example when they start work on dissertations.

The key consideration when determining how best to deliver IL teaching is that the methods used are effective for the students concerned (Mokhtar et al. 2008a). Previous studies comparing different pedagogies have not shown any one method to be most effective for IL teaching (Ross and Furno 2011; Walker and Pearce 2014; Hsieh et al. 2014). The drop-in sessions at QMUL are clearly seen as useful by a large number of students and so will continue to run in combination with other teaching formats to provide effective IL teaching across the university.

4.4 Limitations

The current statistics do not account for repeat attendees and so the data presented does not show the number of unique individuals attending the sessions. Although the numbers are felt to be relatively small, a question on the feedback form asking whether the participant has attended before would allow some exploration of repeat attendance.

There have been some limitations identified with feedback mechanisms. Attendees might feel reluctant to give negative feedback on the session evaluation forms if they feel it can easily be traced to them. Although they are given the opportunity to leave the forms at the library desk, rather than hand them in at the session, it is often easy to identify who has given the feedback. This might have resulted in artificially inflated levels of satisfaction.

The feedback mechanisms focus very much on Level 1 of the Kirkpatrick Training Evaluation Model (Kirkpatrick Partners 2015), measuring the attendees' reaction to the training in terms of quality and relevance. The follow-up questionnaire (Appendix B) makes some effort to address Level 3 of the model, in terms of application on the job, but this questionnaire could perhaps be expanded to better measure the learning, application and outcomes in line with the framework provided by the Kirkpatrick Model (Bates 2004).

Although some attempt was made in this study to measure long term impact of drop-in sessions on IL skills, this has been difficult to do effectively. Because participants come from different

users groups, and have very differing needs, there is no way to measure impact by looking at grades etc., and therefore what has been measured is perhaps the attendees' perception of impact, rather than actual impact. Further work on measuring long term impact of drop-in sessions as a format for teaching IL would be interesting if an effective method could be identified.

The data in this study is limited to one school at a single university. The effectiveness of drop-in IL teaching across other disciplines and user groups would need to be investigated further.

5. Conclusion

The provision of drop-in sessions to provide IL teaching has proved to be extremely successful in the Medical and Dental Libraries at QMUL. The sessions have a reasonable level of attendance, which makes them sustainable without losing the positive benefits of the format. The fact that sessions are attended by those to whom no formal, organised IL teaching is available, as well as many students who attend in addition to teaching offered as part of their course, shows that the drop-ins are meeting a perceived need for ongoing IL teaching.

Satisfaction with the sessions is extremely high and greater than for other teaching formats offered. Attendees particularly appreciate the one-to-one, personalised and hands-on nature of the teaching, delivered in an informal environment. The perceived value of the drop-in sessions can be seen by the large numbers who attend based on recommendations of friends, colleagues or tutors. Those who completed a follow-up questionnaire also suggested that the drop-in teaching had had a positive impact on future work and research. The success of the sessions at Whitechapel has inspired other colleagues in the library to adopt similar formats, and drop-ins are increasingly being used across the university.

Whilst lots of research has been done on IL teaching, the use of drop-in sessions had not previously been widely evaluated, and there was little research on their use as a teaching format in any context. This study has examined the use and effectiveness of drop-in sessions as a format for providing continuing IL teaching, as well as touching on the long term impact on IL skills. It has shown that drop-ins can be an effective model to provide ongoing IL teaching, and it is hoped that this study will be of value to other librarians when considering good practice in providing IL teaching.

Acknowledgements

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Appendix A: Evaluation questionnaire

What did you hope to achieve from this session?

Did the session address your needs? If not, why not?

Do you feel confident to put what you have learnt into practice?   YES / NO

	Strongly agree	Agree	Neither	Disagree	Strongly disagree
The session addressed my needs					
The presentations were clear					
The session was well organised					
The venue and facilities were adequate					
The overall experience was positive					

What was the best thing about the session?

Please suggest how the session could have been improved?

Please feel free to make any further comments or suggestions.

If you are happy to be contacted about future information skills sessions please enter your email address:

Where did you find out about our sessions?

Thank you very much for your time.

Appendix B: Follow-up questionnaire

What was the most useful thing you remembered from the session?

To what extent have you used the skills learnt during the session?

On a regular basis ☐   Occasionally ☐   Not at all ☐

If you have not used the skills learnt, why is this?

In what ways have the skills learnt had an impact on your work, study or research?

Looking back, is there anything that we could have done differently which would have made the sessions more useful?