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## Live Online Information Literacy Teaching and Learning – Challenges and Opportunities

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## CHAPTER 7

# LIVE ONLINE INFORMATION LITERACY TEACHING AND LEARNING – CHALLENGES AND OPPORTUNITIES

Ute Manecke

### ABSTRACT

*This chapter explores the challenges and opportunities that teaching and learning in a synchronous online environment pose by examining information literacy (IL) provision at the Open University (OU), which will serve as a case study.*

*The OU provides distance education. While its flexibility offers more individuals an opportunity to start a course, it can be more challenging to ensure students develop their skills and knowledge and calls for innovative and engaging teaching methods.*

*The OU Library's Live Engagement Team runs a program of digital information literacy (DIL) sessions. The team's online pedagogy is built on retention and success and involves the careful planning, designing and delivering of DIL sessions, creating numerous interactive moments to increase teaching effectiveness.*

*The virtual enquiry desk allows students to consult library staff synchronously via the library helpdesk's webchat service, which is delivered 24 hours a day. One of the advantages of this service is that students interact directly by having a dialogue with library staff in which they can ask further questions.*

*Both services carry out continuous reviews of the ways they operate, innovate and intervene. The chapter provides first-hand experiences of what has worked well in information literacy teaching in synchronous online spaces.*

**Keywords:** Digital spaces; virtual spaces; information literacy; digital information literacy; digital and information literacy framework (DIL); teaching; training sessions; learning; distance education; higher education; synchronous online teaching; The Open University; pedagogy; technology; interactivity; transactional distance; assessment; learning outcomes; feedback; webchat

## INTRODUCTION

The importance of information literacy (IL) has been widely recognized, especially but not exclusively, in higher education (HE). The onus is on librarians to ensure students develop their IL skills, which need to be increasingly used in a digital context.

Delivering live tutorials to a group of students and advising on a one-to-one, direct basis are well-established methods of teaching. They become, however, more difficult to employ in a distance learning environment, which requires librarians to be innovative in how they use technology and simultaneously apply best pedagogical principles for successful outcomes. The goal is to provide an IL service to students, that is, at least as effective as face-to-face instruction. Such a virtual library learning space should meet user needs just as well as the face-to-face teaching context.

This chapter explores how this can be achieved by discussing two services that are run by the Open University (OU) Library that focus on technology-mediated, interactive moments of instruction. Both the benefits and the challenges are investigated and possible solutions to the latter are suggested.

## DISTANCE EDUCATION, SYNCHRONOUS ONLINE TEACHING AND THE OU

Distance education (DE) has evolved over time as a way of offering more flexible ways of learning. It is this flexibility which has attracted students over the decades, as it enabled them to study (part-time) largely at a time of their choosing while juggling family and professional commitments without necessitating them to relocate or spend money on commuting to work (Lowe, Mestel, & Williams, 2016; Malarkodi, Indumathi, & Praveena, 2018; O'Shea, Stone, & Delahunty, 2015).

DE has taken on many forms. Their common denominator is that teaching is delivered off-campus (Krämer, Neugebauer, Magenheimer, & Huppertz, 2015), but this is where commonalities end. It is therefore hardly surprising that the term "distance education" is associated with different meanings.

At the very beginning, DE was associated with correspondence teaching (Courtney & Wilhoute-Mathews, 2015). Print-based material was sent out to students to be studied wherever these students were based. A second generation of DE was born in the mid-to-late 1960s that was characterized by the inclusion of broadcast media. It is noteworthy that:

in spite of the technological shift, the second generation, much like the first, focused almost solely on the production and distribution of teaching (and learning) materials, with little or no facility for direct communication between the teacher and learner or communication between learners. (Courtney & Wilhoute-Mathews, 2015, p. 263)

This lack of direct communication can lead to what Moore (2013, chapter 5) defines as an increase in “transactional distance,” which is a function between course structure, dialogue and learner autonomy. If a course is rigidly structured and leaves little room for dialogue or communication, more autonomy is required of the learner. As not every learner who enrolls on a DE program of study is automatically a highly autonomous learner, it is hardly surprising that “attrition from the university online environment can be up to 20% higher than that of face-to-face programs” (O’Shea et al., 2015, p. 41). Students can easily feel isolated in such an environment (Pamuk, 2012a; Todhunter, 2013).

In later generations of DE, asynchronous and synchronous modes of teaching were employed that increasingly moved away from didactic methods and focused on interaction, recognizing the need for it and emphasizing the “social construction of knowledge” (Anderson & Simpson, 2012, p. 4). Lowe et al. (2016) emphasized that such increased levels of learner – trainer interaction can reduce the sense of separateness learners feel and decrease transactional distance.

As there are, even within the current generation of DE, many different approaches, it is probably not surprising that “the language of off-campus teaching and learning... is inconsistently used” (Todhunter, 2013, p. 233). Sometimes it is simply equated with online teaching. This is only one way of how DE is delivered though. In addition, the term “online teaching” does not distinguish between its different modes. It is therefore paramount to define the specific mode of DE that is under investigation. As synchronous online education has by its very nature the potential to accommodate direct, immediate interactions, which in turn lead to higher learner involvement and efficacy (Fita, Monserrat, Molto, Mestre, & Rodriguez-Burruezo, 2016; Strang, 2012), the focus of the current and future generations of DE needs to be on that.

While it seems to simulate a face-to-face environment to some extent, it is crucial to bear in mind that the medium of synchronous, online delivery is different in nature and therefore requires new pedagogies of teaching to fully exploit its potential. As Anderson and Simpson (2012) observed, technology in itself does not lead to change. Pamuk (2012b) points out that technology integration is “a complex, multidimensional process requiring understanding of the reciprocal, dynamic relationships between three knowledge bases pedagogy, content and technology” (p. 426). Some of the challenges of technology

integration can be that some students do not feel confident in the use of technologies (O'Shea et al., 2015) and that technical problems are bound to occur, which can have a disruptive effect (Todhunter, 2013). It is therefore imperative that the trainer addresses such technological barriers in the preparation and the execution of their teaching.

Another study, which looked into pedagogical factors that were linked to students' understanding of content in an online program identified the need to communicate with the trainer at the time of teaching so that questions are answered as they arise (Pamuk, 2012a). In addition, students wanted activities that allowed them to test their understanding of the subject matter and reinforced it. Such activities were considered to have a motivational effect on their continued studies and highlight the significance of feedback mechanisms. Learning outcomes and assessment have to be an integral part of technology-mediated instruction (Rogerson-Revell, 2015). Depending on the kinds of assessments, different cognitive skills are tested: Twomey (2015) differentiates between lower-order cognitive skills, which are characterized by simple recall and higher order cognitive skills, which are process-focused and involve the evaluation, analysis and the application of information in a certain context. As a result of implementing such pedagogical strategies, students are less likely to feel a disconnect from their studies and their educational institution and feel more engaged in the learning process (O'Shea et al., 2015; Rogerson-Revell, 2015).

It should be noted that an increasing number of higher education institutions (HEIs) start taking up synchronous, online training – sometimes as part of a blended learning approach (Todhunter, 2013). Most of them are not predominantly DE providers like the OU but actively choose to vary and enhance their teaching in that way by offering the aforementioned benefits such as convenience to their student population. We can see a process at work that involves “breaking down the boundaries between distance- and face-to-face institutions, and distance and face-to-face teaching within institutions” (Anderson & Simpson, 2012, p. 5). The relevance of the following two OU Library teaching-centered services is therefore – while most apparent with – not restricted to HEIs that are mainly distance educators but applies to any HEIs that run or consider running online, synchronous IL training.

The OU, which celebrates its 50th anniversary at the time of writing, reflects the history of distance learning: from initially sending out course packs en masse by post to making extensive use of the broadcasting medium (Anderson & Simpson, 2012; Henry, 2019), which manifested itself most profoundly in its co-operation with the BBC, it went on to embrace emerging computing technologies, utilizing them in a variety of ways to best effect. Caird and Lane (2015) explain how OU teaching pedagogies now encompass the provision of guidance, activities, assessment and communication and collaboration while harnessing different information and communication technologies (ICTs).

In the following, a close look will be taken at how the OU Library's Live Engagement and Enquiries Teams have used appropriate pedagogies in their ICT-mediated, synchronous, online IL teaching.

## IL TEACHING AT THE OU

OU Library staff are acutely aware of IL being key to student success and acknowledges the essential educational role it therefore plays.

The OU Library offers a range of services for students to enhance their digital information literacy (DIL) skills. At the heart of them is the DIL Framework, which shapes the nature of these services and any IL-related interventions. Within the context of the DIL framework, “digital literacy refers to the skills, competences, and dispositions of OU students using digital technologies to achieve personal, study, and work-related goals” (see <https://www.open.ac.uk/library/services/pages/dilframework/>, para. 2).

The framework covers five competencies that students need to develop in order to be considered information literate in a digital environment. These are

- understanding and engaging in digital practices;
- finding information;
- critically evaluating information, online interactions and online tools;
- managing and communicating information; and
- collaborating and sharing digital content.

These competencies are expected to manifest themselves in different ways depending on the level of study a student is at. It means that students are expected to demonstrate a specific set of skills for each competency, which will become more demanding as they progress in their study. The DIL Framework is therefore a progressive and developmental tool.

The way this framework, which has also been linked to the Jisc’s Digital Capabilities Framework (JISC, 2017) and the OU’s Employability Framework (OU, 2018b), is used within different library services can be best understood against the background of the OU librarians’ functional roles in a matrix: The matrix covers the four different areas and associated teams of Academic Liaison, Authoring, Live Engagement and Enquiries. The Academic Liaison Team ensures that DIL skills are firmly embedded in the curriculum by making certain that activities that advance these skills and relevant (library) resources are integrated into modules, which are a series of units or lessons in a particular subject, during their production process. Thus, the team works very closely with faculty, a collaboration that has proven to be successful not only at the OU but also elsewhere with regard to students’ DIL skills development (Easter, Bailey, & Klages, 2014; Figa, Bone, & Macpherson, 2009; Knight & Loftis, 2012; Owens & Bozeman, 2009). The Academic Liaison Team, in turn, liaises closely with the Authoring Team about activities it wants them to write for skills development in modules. This is being done on the Digital Skills for Study (DiSS) platform whose structure mimics the DIL framework. Activities are both listed by skills area or competency and by subject. The Academic Liaison Librarians see to it that the modules’ virtual learning environment links out to appropriate activities on DiSS. Moreover, they raise the module teams’ awareness of the Live Engagement Team’s efforts of teaching students IL skills in a variety of ways, frequently in a live online environment, as well as the Enquiry Services Team’s advisory function.

It is these synchronous teaching and learning environments that will be looked at in more detail and analyzed with regard to their potential for learning and the challenges they bring.

### **THE LIVE ENGAGEMENT TEAM'S GENERIC TRAINING PROGRAM**

The OU Library's Live Engagement Team, which in 2019 won an OU Teaching Award (see <http://www.open.ac.uk/library/news/the-ou-s-double-award-winning-library>) as well as the prestigious LILAC Information Literacy Award for its innovative approach to teaching and learning (LILAC, 2019), reaches out to students (and staff) and develops their DIL skills in a variety of ways. It has contributed, together with other library teams, to the creation of subject showcases that highlight some useful resources to find and use information in particular subject areas (see <https://www.youtube.com/user/OULibrary/videos>), delivered short teaching sessions on Facebook Live (see <http://www.open.ac.uk/library/training-and-events/facebook-live-events>) and has appeared on Student Hub Live (see <http://studenthublive.open.ac.uk>), which is a series of live, interactive web-broadcast programs. It has also recently started creating podcasts (see <http://www.open.ac.uk/library/news/completely-shelfless-a-podcast-from-the-ou-library>).

It is the team's regular training program though that is at the very center of its synchronous teaching channels. One major part of this training program is the development and delivery of generic training sessions throughout the year. Generic training sessions are designed with students from any faculty or subject area in mind. They are advertised on the Library's Training and Events page and the frequency with which they are run depends on the time of the year. At the beginning of the academic year, the team runs several sessions a week. They are short, half-hour sessions that fit easily into students' lunch breaks even if they work full time during the day. Many of them are held in the evenings when students are back from work. The students do not need to sign up for these sessions and can just turn up by following a series of hyperlinks on the Training and Events page.

The sessions, like the Authoring Team's DiSS activities, focus on the competencies of the DIL Framework. They are open to students on any level of study.

Although the sessions are stand-alone sessions and can be done in any order, the session many students start with is unsurprisingly the "Introduction to Library Services" session. The session provides an overview of the OU Library's services and resources and shows students via screen sharing how to navigate the library website. Another session, "Using Library Search for your assignment," focuses on the use of our discovery tool. "Smarter Searching with Library Databases" introduces students to search techniques and gives them an overview of how a literature search on a database should be carried out. "Assessing the reliability of information for your assignment" logically follows on from these training sessions on searching, as students must ensure that they pick the most appropriate results for their assignment. The "Why and How of Referencing" session explains

the rationale of referencing at the beginning of the session, followed by the way references are constructed. “Exploring e-books” highlights common features of e-books and how to make best use of them. “Improving your experience accessing online resources” is concerned with accessibility matters and informs students of the adjustments that are available to them to optimize their learning experience.

## **THE LIVE ENGAGEMENT TEAM’S TARGETED TRAINING SESSIONS**

Targeted training sessions are the other main part of the Live Engagement Team’s training program. Like the generic sessions, they teach students DIL skills, but unlike the generic sessions, they are not open to all students. Instead, students on a particular module or program are targeted (hence its name) and sessions are tailored to their particular skills and subject level. In addition, they are frequently run in preparation for an assignment. Most of the targeted sessions concentrate on advanced literature searching, referencing and plagiarism. The examples as well as the activities in the sessions reflect topics the students have been taught in their module and tasks they are expected to carry out. Resources for their subject area take center stage particularly in literature search training sessions.

Targeted sessions are usually hour-long sessions and are predominantly taught in the evenings. The exact timing is arranged between the librarian and the module team. Students have to sign up for these sessions, which allows the trainer to organize another trainer for backup if high student numbers are expected. They are requested by module teams when they feel that their students would highly benefit from a targeted library intervention for their upcoming assignments. Not all module teams request such a session, but they are being told by their assigned Academic Liaison Librarian as early as during module production that this option is available. Once a targeted session has been designed and run, it tends to become a regular feature in the calendar and is re-run for the next cohort of students on that module in the new and sometimes even in the same academic year. The latter occurs when a module has several start dates during one academic year. It is not uncommon for more than one targeted session to be held per student cohort within one academic year. Sometimes, if the student cohort is substantial, the same library session is run on different days and at different times so that the trainer(s) deals with a more manageable class size. At other times, sessions covering different DIL skills are taught to students such as literature searching on one day and referencing or evaluating sources on another day.

## **IMPLEMENTING THE TRAINING SESSIONS**

The way online training sessions are implemented is largely contingent on the digital platform that is available to trainers. Simultaneously, sound pedagogical teaching and learning approaches are used that are built on retention and success when using the platform in the OU’s distance learning context. Continuous



student feedback is therefore sought to ensure students benefit from the training. Challenges that the trainers experience are addressed, and improvements are made.

### *The Process*

Adobe Connect is the digital platform that is used for the delivery of the OU Library's training sessions. As it is also employed in module teaching, many students have already some familiarity with the platform when they attend their first online library training sessions although there are always some students who are completely new and have not used the platform much. As a result, all the generic sessions show initially some rolling slides on how to make the best use of Adobe Connect from aspects such as using the chat box to setting up audio and navigating the available interactive features. These slides are displayed from about 15 minutes before the start of the session when the trainer enters the online room and should help students to use the technology more easily and confidently so that they can get the most out of a session. Usually, polls are used to engage with students who come in early and to make them feel welcome and settle in. These polls tend to ask students what they study and how confident they feel about the DIL skill that will be covered by the session. The students' answers inform the trainer's approach with regard to the pace and length of explanations and what resources or collections they will point out during the course of the session. During this time, students are already encouraged to use the chat box, which gives them the opportunity to interact with not only the trainer but also with other students, which is likely to increase their involvement in the session.

All the sessions state their aims and learning outcomes, which are revisited during and at the end of a session. Variation in delivery methods is a key feature of the training sessions and tends to keep students focused: PowerPoint slides, which are used to make certain theoretical points such as how a database operates or how to develop a literature search strategy, are interspersed with live screen sharing, which allows for the practical application of what students have just been taught, for example, by a demonstration of a search on one or more of the library databases.

The library sessions have in-built assessment points and interactivity as well. As the library training sessions are not formally assessed or even compulsory to attend, the assessment is informal. The challenge is to make it still meaningful. As mentioned earlier, students are asked to perform a self-assessment of the particular skill area the library session will teach them at the beginning. During the session, assessment points frequently take the form of polls that test the students' knowledge and understanding of the teaching content that has just been covered and gives the students feedback. The polls tend to focus more on simple recall and therefore lower order cognitive skills. However, this is not exclusively the case. Higher-order cognitive skills are assessed through polls and the use of chat boxes as well, especially in a session like "Assessing the reliability of information for your assignment" during which students have to apply the PROMPT framework (see <http://www.open.ac.uk/libraryservices/beingdigital/objects/87/index.htm>) to an article to critically evaluate it.

The trainers recognize the importance of interactivity in their teaching to keep students' attention and reduce transactional distance and have developed effective ways of building interactivity into the online sessions by asking students to carry out a task online and then report back on their findings or by prompting students to use the chat box or polls to engage with the respective topic. Students are encouraged to ask questions at any point and there is time set aside for further questions at the end to make sure that students' understanding of the teaching content has improved. The platform allows students to raise a hand when they want to ask a question and use their microphones unless the trainer decides to turn them off, which they might choose to do for the duration of the session to silence any background noise.

The feedback form students are requested to fill in before they leave the online room is an opportunity for them to reflect on their learning during the session, the trainer's perceived competence and the delivery of the session. Students are asked to spell out the advantages of having attended the session and propose how a session could be developed and enhanced.

#### *Evidence of Benefits*

There are proven benefits of running these live training sessions, which OU student feedback on both the generic and the targeted sessions has overwhelmingly highlighted.

Demonstrations of applied IL skills such as searching combine visual and aural teaching approaches and are therefore more likely to suit a greater range of learners compared to a merely text-based method and augment understanding and skill acquisition as one of the OU students who attended a targeted session articulated succinctly:

I needed some actual spoken words to reaffirm what I had been reading in the guide. (Student, March 5, 2019)

The synchronous nature of the sessions allows students to ask questions and get clarification on aspects of the taught topic that they do not understand. This is an advantage over just doing some of the IL activities that students can access on the OU's library website and complements these:

This was a great insight into referencing. The tutors answered all questions and were very happy to help. (Student, February 5, 2019)

This is a comment on how the "The Why and How of Referencing" session both consolidated and created students' knowledge:

I am completely new to academic referencing, so the session was helpful to consolidate the reading and learning I had done. I'm hoping it will get easier with practice. (Student, January 23, 2019)

Much student feedback centered on the students' improved ability to come to grips with the library website and to access, navigate and search the library resources more confidently:

I can now navigate easily through the library. (Student, January 30, 2019)

I will be able to access a lot more than before and will be able to join a library to borrow books. (Student, January 30, 2019)

I wasn't sure how to search correctly and how to narrow down the search. I feel more confident in using it now. (Student, February 14, 2019)

I tried to look for theorists last week but couldn't quite manage to access what I was looking for. Tonight, I learned how to use filters more effectively. (Student, February 14, 2019)

Sometimes it came down to having had the core principles explained and demonstrated and the trainers getting down to basics with resource terminology:

Before this session started i [*sic.*] had no idea how to access the relevant books, to be totally honest didn't realize E book meant electronic book. I now understand how to navigate the library page confidently. (Student, April 3, 2019)

Showing the students how to evaluate information and giving them some practice to develop this skill during the "Assessing the reliability of information for your assignment" session also proved successful insofar as it enabled students to sharpen their critical faculties:

As I am in my third year I am needing to be more critical within my studies and this has helped me to consider how I can look at articles with a critical view. (Student, March 7, 2019)

Students also appreciated the focused and more in-depth training approach the targeted online synchronous sessions took. Once again, the demonstration of a DIL skill such as advanced searching in a live session was considered effective:

We where [*sic.*] shown new ways of searching that I did not know about, which I found very helpful. (Student, February 12, 2019)

Very well focused and relevant. (Student, February 12, 2019)

The success of running live IL sessions is not solely reflected in such direct student feedback obtained from the feedback forms and the comments in the chat at the end of a session. There is also statistical evidence available that the OU has gathered for the different schools and subject areas that closely links student attainment and progression to having attended one or more of these sessions.

These data are displayed in the OU's Annual School Reports (OU, 2018a) where student engagement with live or recorded generic sessions for the academic year 2017–2018 has been split by end of module result. The findings are that 31% of students who attended at least one live session and viewed at least one session recording attained a distinction, the highest grading category, which is juxtaposed by 17% of students who gained a distinction without attending any generic live session or viewing any recordings. In total, 29% of students who attended at least one live session gained a distinction compared to 24% of students who viewed at least one recording.

Moreover, 17% of students who did not attend a session or watched a recording failed their module compared with only 5% of students who attended at least one live session and viewed at least one recording, 7% of students who attended at least one live session and 8% of students who viewed at least one recording.

These data demonstrate how student success is closely connected to the attendance of the OU Library's generic sessions. While students also benefited from the recordings with regard to their results, the by far greatest benefit was reaped by students who participated in a (or several) synchronous training session(s).

The many advantages of running these live sessions have therefore been shown. Not only do they favorably compare to instances where students were only provided with recordings or online activities and resources; live online sessions do have the edge over face-to-face sessions as well in at least one respect: They have the potential to accommodate a far higher number of students than face-to-face training sessions. Student numbers can go into the hundreds if the trainer does not decide to put a cap on them. This results in less staffing and time expenditure.

Benefits of synchronous online teaching have been emphasized in other studies as well. Fita et al. (2016) and Murphy, Rodriguez-Manzanares, and Barbour (2011) also highlight the absence of spatial constraints in the digital learning environment. Arias-Masa, Alonso-Díaz, Cubo-Delgado, Gutierrez-Esteban, and Yuste-Tosina (2014, p. 223) observed how these digital learning spaces have enhanced "students' creativity, favour virtual collaborative work, promote critical and independent thought, and create alternative channels to stimulate students' active participation by means of flexible and attractive inter-faces." Fita et al. (2016) and Wang, Jaeger, Liu, Guo, and Xie (2013) similarly emphasize the richness of these digital spaces that allow students to receive instant feedback and increase motivation, which leads to improved online learning.

### *Challenges and Possible Solutions*

Despite all these benefits, synchronous online training is certainly not without its pitfalls. The OU's Live Engagement Team has tackled these after having come across them.

One of the issues is that trainers have no way of knowing how many students will attend a generic session in advance. If the trainer is then faced with a larger than anticipated number of students, this can be challenging, especially if students have many questions throughout the session. Higher number of students raise the likelihood of more questions being asked, which in turn can prolong the session duration or might result in the planned teaching content being curtailed.

One way of managing this scenario is for the trainer to ask the students to make a note of their questions and deal with them at the end. This gives those students who require more explanations the opportunity to get them by staying a little longer but simultaneously allows the trainer to deliver the session as intended and let the other students leave on time.

In addition, during times that are known to be busy such as the beginning of the autumn term, the team often arranges for a second trainer to be present whose main task is to monitor the chat. If students have questions, they can be answered straightaway in this case by the additional trainer responding in the chat box.

The session and the main trainer will not be interrupted in this way. Students can continue listening to the session while the student who needs further clarification on a particular point will receive it.

One of the biggest challenges in synchronous online teaching is dealing with unforeseen technological issues. Members of the Live Engagement Team have experienced their fair share of such issues. At one point, during a particularly busy teaching period, an issue with the Adobe Connect platform was identified that affected both delivery speed and the ability to switch between different layouts in a session, for example, between slides and the screen share layout. During this time, some of the trainers worked with just one layout by finding new ways of doing this most effectively.

Other issues can be specific laptop or browser issues and Wi-Fi, broadband speed, and network connectivity. If the network connection is completely lost, there are limits to what the trainer can do. If there is only one trainer who is listed as presenter or host on Adobe Connect and who then loses the network connection, students will automatically be evicted from the online room. They can only enter it again if a presenter is in that room. For the most part, members of the Live Engagement Team have been able to get the connection back, sometimes by using an alternative network cable, opening another browser or using a different laptop altogether. Experience has shown that most but not all students return to the online room after such a technological mishap.

Having another laptop or network cable – where Wi-Fi isn't available – at hand can minimize the length of disruption. Testing different equipment out before using it for a session makes it less likely albeit not impossible that technological problems occur.

There is also a need to manage students' expectations with regard to technological performance. If technology malfunctions during a session it is vital to communicate with the students if this is still possible and suggest ways of working around this issue.

For example, during a targeted session, students could not see the chat box the trainer had brought up. Despite the trainer's best efforts to rectify this by presenting alternative chat boxes instead, the issue persisted throughout the session. This was a session that was taught in tandem with a member of the module team and together the trainers suggested to the students to raise their hands, that is, use the respective icon on Adobe Connect, whenever the students wanted to say something about the topic and then use their microphones when the trainers gave them permission to speak. This worked very well and numerous students made use of this opportunity to speak directly.

The Live Engagement Team's experience has been that the majority of students are very understanding when it comes to technological problems. They frequently experience such difficulties on their side, which makes them more sympathetic when it happens to the trainer.

Other studies have shown that time has to be factored in to learn the specific online tool that is used for teaching and learning and that teaching pedagogy has to be adapted in order to get the benefits of these digital spaces (Arias-Masa et al., 2014; Ernest et al., 2013; Fita et al., 2016; Murphy et al., 2011).

*Continuous Review, Interventions and Improvements*

Not only does the OU's Live Engagement Team identify and address challenges such as the ones described above, it is also continuously engaged in reviewing and improving its training program. This is done throughout the year and is based on both the trainers' observations of what has worked well and what has not and student feedback. If issues are identified that can easily be rectified, this is done straightaway, but any non-urgent suggestions and ideas that require more time to implement or put into practice are tackled in an annual review and rewrite of training sessions, which takes place every summer.

Last year, the team did a particularly thorough job, making use of new team members who brought new perspectives to the training sessions. As a result, best pedagogical practice in (online) teaching was highlighted and a list of recommendations of what the training sessions should look like was drawn up. Team members then amended and updated the sessions against this background as appropriate. Some of the changes were minor, some required a complete rewrite. The amendments were then carefully reviewed again by the whole team before the sessions in their new version were rolled out to the students at the start of the academic year. Many of the improvements concerned aforementioned pedagogical aspects such as creating increased opportunities of interactivity through polls and a consistent approach in all the sessions to defining learning outcomes and addressing them not just at the end but also throughout each session.

The team also used the OU Library Services Student Panel, which consists of a group of students who have been invited to be members of the panel for one year and commit themselves to take part in up to four pieces of research during this time (see <http://www.open.ac.uk/library/library-information/library-services-student-panel>). The research includes different types of data collection such as telephone interviews, online surveys and forums. This is a chance for students to influence the library services and resources.

In this context, research with the Library Student Panel has shown that many students would like to attend training sessions early in the morning or late in the evening in order to fit in with their work schedule and other commitments they have. As a result, the Live Engagement Team piloted a few generic training sessions that were held at 6.30 a.m. and 9.00 p.m. or 9.30 p.m. in November 2018. The uptake of the "night owl" sessions was equivalent to the number of students that attend the regular lunchtime or evening sessions, the "early bird" sessions attracted a smaller number of attendees.

Feedback on running the sessions at these new times was extremely positive:

The later time worked very well for me, I work in an environment that is relatively secure and as such am unable to attend the lunchtime training sessions. (Student, November 2018)

I liked the later time for the session as it allowed me to do some study in the evening and dinner. (Student, November 2018)

Fantastic, early and fresh. (Student, November 2018)

This is an example of a timely response to a need that students expressed. Since the pilot took place, the night owl sessions have become a regular feature of the Live Engagement Team's training offer and have continued to have good attendance figures. The early bird sessions are currently suspended but will be run again at the beginning of the new academic year when a higher number of students attend library training.

While the above interventions were improvements to the Live Engagement Team's generic training program as a whole, the team also intervenes in a timely fashion whenever a need is identified to support students on a particular module in their IL skills. The first presentation of a level one law module in 2014 was a case in point (OU, 2016). After the first assignment, the module chair approached library staff, informing them of the students' poor referencing skills and requested some help. Consequently, a new targeted referencing session was designed for students on this module and delivered to them by a librarian and two members of the module team, which once again draws attention to the longstanding, close collaboration between faculty and library staff at the OU. In addition, a referencing forum was run on the module website. The result of these interventions was a decrease of 95% in referrals to study skills support compared to the previous year when these specific forms of assistance had not been in place.

The team is currently enlarging its generic training session program to develop more digital capabilities. A Digital Footprint session has just been created, which will introduce students to the responsible use of social media and the concept of e-professionalism by using the same pedagogical approaches that have been proven successful as discussed above.

### **THE ENQUIRIES TEAM'S WEBCHAT SERVICE**

The OU Library's Enquiries Service is another crucial service in IL instruction. In many ways, it complements the training program delivered by the Live Engagement Team and the two teams frequently refer students to each other.

The Enquiries Service is a virtual helpdesk service that allows students to receive individual advice on and support with IL-related questions. Part of the service encompasses assistance via email and telephone, which is standard at university libraries. However, information exchanges via email have their limitations. They are of little value if a student needs an immediate response and misunderstandings can easily occur, which then further delay the transmission of relevant information. The telephone is not every student's preferred means of communication. Besides, this element of the service is only delivered during the work hours of 9.00 a.m. and 5.00 p.m. and if students require urgent help, they will have to wait for an answer until the next day.

The OU Library recognized that many students want to have a synchronous communication channel other than the telephone that allows them to get answers to their questions promptly. This is where the Enquiries Team's webchat service comes in: The library assistants initially take an online chat from a student and try to answer the student's specific question. If it is a complex enquiry, they will



transfer the chat to the librarian who is on duty. Some of the students who contact the helpdesk via webchat have attended training sessions but find that they have further questions once it comes to implementing what they have learned on a greater scale. Two of the most frequently made types of enquiry via webchat are about database searching and referencing. Library staff then guide the student through the process of searching or referencing or direct them to the information (resource) they need.

### *The Process*

As webchat is a live interaction, library staff are in a position to clarify with the student what exactly they want to find out. They therefore establish the learning need and, crucially, the learning outcome of the webchat interaction and do so right at the beginning of a chat.

Rather than providing students with results or even answers to their assignment questions, staff enable the students to find answers for themselves by giving them the tools such as techniques to do so. Links to webpages can easily be copied and pasted into a webchat so that the student knows where to go first. As the interaction is completely focused on a 1:1 interaction between the enquirer and library staff, the latter can tailor the pace and the complexity of their explanations to the needs of the individual student. In order to do this successfully, it is crucial to regularly check in with the student and encourage them to ask questions. Moreover, unless it is an enquiry that focuses on a long IL process such as advanced literature searching, Enquiries Staff often ask the student to replicate what they have just explained to them such as how to locate a particular journal article and then access full text. Not only does this reinforce the student's learning, it also assesses it when the student reports back on whether they have successfully carried out this action, thus following aforementioned effective pedagogies in a synchronous, online teaching and learning environment. In this way, interactivity is high, the student will remain engaged in their learning process and transactional distance is minimized.

### *Evidence of Benefits*

Feedback from students who have used this service has been overwhelmingly positive and the benefits of webchat interactions is apparent in the statistics: Between January 2018 and April 2019, 95.34% of students who used and completed the online post-chat survey on the Comm100 system after a webchat with a member of library staff said that they would use webchat again to communicate with the OU. In addition, 39.44% of respondents pointed out that they would not have contacted the library helpdesk if webchat was unavailable. This is a significant number of students who have indicated in this way that webchat delivers a service that offers additional value to the other existing helpdesk communication channels. This demand for a webchat service has been stated in other studies (Cote, Kochkina, & Mawhinney, 2016; Nicol & Crook, 2013). During the interval mentioned previously, Enquiries Staff accepted 3,133 chats from 3,513 chat requests that were received, which amounts to a chat acceptance rate of 89.18% in total.



OU students also often commented on the service they had received at the end of a webchat to express how they rated the service delivered and whether it had been useful to them:

Thanks a lot. This webchat function is so great. It does help me a lot. (Student, March 28, 2019)

By the way, this is the first time I have used the “chat to a librarian” facility and it is brilliant! Thanks so much to both yourself and Rachel :-). (Student, March 26, 2019)

Some students were more specific with regard to what they felt they were now able to do as a result of library helpdesk staff interventions via webchat:

Okay that should be fine to begin with thank you for refocusing me I was going off in a tangent and getting stuck but I have an area now where I can hopefully get to grips with thanks. (Student, March 27, 2019)

Thank you so much for your help and advice, and for the link. ... Yes certainly I can continue independently from here. (Student, January 9, 2019)

Although other institutions present a mixed picture of the efficacy of an online webchat service, many of them consider the service successful (Arif, Ameen, & Rafiq, 2017; Hervieux & Tummon, 2018; Kimbrough, 2018; Mckewan & Richmond, 2017; Yang & Dalal, 2015). This assessment was mainly based on transcript analysis and the number of questions that were correctly answered, which is a different way of evaluating the utility of webchat interactions.

The OU Library webchat service is available 24 hours a day, which is a huge benefit, as students who work full time and mainly find time to study in the evenings and at the weekends can use the service when questions arise during their study time even if this happens to be in the middle of the night. This is made possible because the helpdesk service has teamed up with QuestionPoint, a cooperative network of librarians who take over when the OU library helpdesk staff finish for the day. Many of these librarians are in the United States. While they have limited access to our resources, which means they cannot test whether a particular resource works, for example, they are often still able to advise on referencing and general search enquiries. Any questions they have not been able to answer are marked for the attention of the OU helpdesk librarians who will follow up on the initial communication.

### *Challenges and Possible Solutions*

Some of the challenges the Enquiries Team faces during a webchat are the same as those the Live Engagement Team encounters in their training sessions such as technological issues, which sometimes interrupt the communication altogether. There is unfortunately no way to prevent such incidents from happening. As a rule, students realize that they have just experienced a technological glitch and restart another webchat.

One of the difficulties that has to be managed are the pauses that can occur in an online webchat conversation. If a student does not respond to a question or an explanation it might be because they have gone away to do something else or followed the guidance they have been given by accessing a resource or searching

for information in the way suggested to them. Enquiries staff prompt them to continue to engage in the webchat. If there is still no response after repeated prompting and waiting, Enquiries Staff will tell the student that they will close the chat now but that the student is welcome to get back to them if and when required. Staff should also inform the student if they intend to look something up or test something so that the student knows that there will be a short pause in the conversation but that they are still there and will try to provide the student with more information shortly.

Another challenge Enquiries Staff encounter is when a student does not seem to be able to follow the guidance and cannot see on their screen what staff have in front of them. Staff might then have to backtrack and provide more detailed guidance or adjust the pace of their explanations. The importance is to keep the dialogue with the student going to understand what they have done and what they can see on their screen if they try to execute recommended steps to locate information or resolve a problem. In this context, it is helpful to ask a student at the outset how much experience they have in carrying out a particular activity such as doing a database search so that it is easier for staff to pitch their guidance appropriately to the student's level of understanding. Moreover, it can be helpful to look up student details at the beginning of a webchat not only with regard to level of study and module information but also with respect to a student's disability status, which is listed on the helpdesk system VOICE. Information about a student's disability allows staff to understand their needs and how to best work with them. The OU is progressive in matters of accessibility, which is crucial when considering the high number of disabled OU students. Enquiries Staff are trained on understanding accessibility issues and how screen readers can be used. This knowledge has been used in instances of dealing with a blind student and other visually impaired students during webchats.

Dealing with a number of webchats simultaneously is another test for Enquiries Staff during busy times, an issue that has also been raised by Greenberg and Bar-Ilan (2015). As the service has set itself a target to answer chat requests within seven minutes of them coming in, this means that some webchats that arrive at about the same time will have to be answered concurrently. This does require a certain amount of skill. Even if the library assistant passes on some webchats to the librarian, it often still means managing multiple webchats at a particular point in time by one person, which involves switching between these active chats. This is usually feasible if the enquiries are brief and of limited scope but can be tricky to achieve in the case of more complex enquiries. In order to keep constructive webchat communication feasible, staff need to ascertain the nature of the enquiry quickly and assess the viability of taking it on. It is crucial to manage students' expectations. Enquiries Staff inform students in these situations that they are handling a number of webchats and give them the options right at the beginning of a chat to either wait or come back later. If students are happy to wait, staff attempt to get back to them quickly and then explain to all the students they engage in chats with that their responses might be a little slower providing them with the reason why that is the case. As long as the students know

that their enquiries are being dealt with, they are usually patient and happy to accept a slower pace of communication.

### *Continuous Review and Improvements*

The webchat service is continuously reviewed. Not only does this take the form of discussing aspects of webchat handling in monthly held Enquiries Team meetings, it is also reflected in the peer review process the Enquiries Service is about to undergo at the time of writing. The team has carried out a peer review of its service before. The way this has been done was reexamined and amendments to the process were suggested and implemented. The review process involves small groups of Enquiries staff members from the OU Library looking at a number of webchats (and email enquiries) and assessing how well and satisfactorily they have been handled by staff based on peer review assessment criteria that had previously been agreed on by the team. Recommendations for improvement are made and learning points are subsequently being shared among the whole Enquiries Team while anonymity regarding the identity of the staff member who handled a particular enquiry that is assessed is maintained.

In the future, the team intends to analyze and utilize student feedback retrieved in the post chat survey to plan and implement further changes where their usefulness is indicated to attain additional improvements. A strategic analysis of the out-of-hours webchat service could also be beneficial for service improvement as has been described by Jolly and White (2016).

## **CONCLUSION**

This chapter has demonstrated how the OU Library's Live Engagement and Enquiries Teams deliver IL instruction via synchronous online learning spaces by aligning technology and pedagogy.

OU student feedback and achievements have shown that these services are highly valued and effective. The direct interaction between librarian and student – but also between students – during DIL instruction, adds a dimension to students' IL learning that they would not otherwise experience in the distance-learning context. Students appreciate receiving an immediate answer to their questions, which ties in with research findings that emphasize the importance of interactive elements in online teaching to engage students, reduce transactional distance and build a community.

Challenges such as technological issues exist but can often be mitigated by making prior back-up plans and lack of confidence in using digital spaces can be addressed by providing guidance and advice. A high number of student enquiries during an online training session can be managed by utilizing another librarian who might want to completely focus on the chat. Conversation gaps in the course of a webchat can be tackled by repeated prompting on the part of the librarian.

The case study of these two OU library services has also indicated that a regular review of the DIL services the teams deliver in a virtual environment ensures

their ongoing relevance and student-centeredness and enables innovation and best outcomes.

## NOTE

1. Module teams are the members of staff who are responsible for the production and eventually the smooth running of a module. A major part of that is the planning and writing of content.

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