Foreword by Janet Peters

“Information Literacy encompasses knowledge of one’s information concerns and needs, and the ability to identify, locate, evaluate, organize and effectively create, use and communicate information to address issues or problems at hand; it is a prerequisite for participating effectively in the Information Society, and is part of the basic human right of life long learning”. ¹

Information Literacy has been a key topic in academic library circles for many years, building on the User Education and Information Skills which went before it. The challenge has been to persuade colleagues in academia and education in general that the sacrifice of some teaching hours to demonstrate the importance of being able to identify, locate, retrieve, evaluate and use information effectively is well worth while in developing learning techniques which can be used throughout life. Although this is still not universally achieved, Cardiff University is at the forefront of UK Universities in promoting the value of information literacy to the academic community in various ways. The University has adopted an information literacy Guidance Note for display on its web site; several innovative learning and teaching projects which promote the use of information literacy have won University funding; and this year the Higher Education Academy (HEA) subject centre for Computing and Information Science awarded one of the team the prize for Teaching Excellence.

Naturally, if such a high profile approach is to be taken, the quality of the teaching of information literacy must be excellent by everyone involved. This handbook has been tried and tested by staff both in Cardiff University and now internationally in countries such as Finland, where a locally adapted version has been written in Finnish. It has proved its worth already in providing a consistent and pedagogically sound foundation both for teaching sessions and for one-to-one advice and guidance, and it is extensively updated regularly to include new developments such as Web 2.0. As the product of the work of many experts among the Subject Librarians at Cardiff University, who are acclaimed nationally and internationally for the development of innovative techniques such as the Cephalonian Method, a resource bank of learning objects on Information Literacy and in their involvement in peer review of their own teaching, I commend this handbook to you in the strongest terms. You will wonder how you ever managed without it.

Janet Peters, Director of Libraries and University Librarian, Cardiff University

Contents

Section 3: Lesson Planning ................................................................. 19

STARTING TO PLAN YOUR TEACHING SESSION ................................................................. 19
WRITING LEARNING OUTCOMES ................................................................................... 19
CREATING LESSON PLANS ......................................................................................... 20
Lesson Plans: Items for Inclusion – Checklist ............................................................. 20
PREPARING INSTRUCTOR NOTES .................................................................................. 21
Instructor Notes: Items for Inclusion – Checklist ............................................................ 22
HANDOUTS .................................................................................................................. 22
Preparing Handouts ........................................................................................................ 23
Accessible Handouts – Checklist .................................................................................... 24
Testing ............................................................................................................................ 24
Creative use of Handouts ............................................................................................... 24
SHARING TRAINING MATERIALS: THE TRAINING MATERIALS REPOSITORY .............. 26
CONSIDERING YOUR LEARNERS .................................................................................. 26
BEING FLEXIBLE .......................................................................................................... 28
PLANNING AND REFLECTION .................................................................................... 30
TEACHING OVERSEAS STUDENTS ............................................................................ 30

Section 4: Lesson Formats ......................................................................................... 33

PLANNING A LECTURE ................................................................................................. 33
PLANNING A WORKSHOP ............................................................................................. 34
Planning Small Group Discussions ............................................................................... 36
PLANNING ONE-TO-ONE TEACHING ....................................................................... 37

Section 5: Teaching Technologies ............................................................................... 39

PRESENTATION TECHNOLOGY .................................................................................... 46
Prezi ............................................................................................................................... 46
PowerPoint Revisited .................................................................................................... 47
Top 10 PowerPoint Tips ............................................................................................... 47
Adding Speaker Notes to PowerPoint .......................................................................... 48
Creating Handouts ....................................................................................................... 49
Raising Your Game: Advanced Tips ............................................................................ 49
Slideshare ..................................................................................................................... 50
OTHER TECHNOLOGIES: An A-Z ................................................................................ 51
Assessment and Feedback Tools .................................................................................. 51
Audience Response Technology (ART) ....................................................................... 52
‘Clickers’ ....................................................................................................................... 52
Online Polling ............................................................................................................... 52

This is intended to be a work of reference, dipped into as the need arises, rather than read from cover to cover! You are encouraged to use it as a practical tool - feel free to annotate or attach your own notes.

We hope that you find the information useful and inspiring.

**Good luck with your teaching in the coming session!**

**July 2009**

Acknowledgements

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Section 3: Lesson Planning

Summary

The lesson planning process is discussed. Key features of this section include:

- Writing learning outcomes
- Creating lesson plans
- Preparing instructor notes
- Handouts
- Sharing training materials
- Considering your learners
- Being flexible
- Planning and reflection

plan your session:

- **Allow enough time.** The time involved in the preparation of a new session will be several times the amount spent delivering the training. Even when a session has been run previously, experience suggests the ratio will be at least 2:1.

- **Avoid making your session too content-heavy.** Think about how much your students can learn rather than how much you can teach. You can actually teach at least three times as much as they can learn!

- **Think innovatively.** If you are running a session which has been delivered previously by colleagues, it is tempting to leave the content and format as it is. Instead, take a fresh look and see if you can find a better approach.

**Writing learning outcomes**

Your first step is to identify learning outcomes for the session. Learning outcomes are clear, precise statements of what the learner will know or be able to do as a result of attending your session.

Ideally, your session will be embedded in a module. Each module or course of study will have a set of learning outcomes so use these as a basis for developing learning outcomes for your session. Discuss with the module leader.

Learning outcomes can be aimed at different learning levels. For example, a learning outcome beginning with the word ‘evaluate’ will involve a higher level of learning than one beginning with the word ‘identify’. They can be:
Section Five: Teaching Technologies

- Task-based e.g. ‘at the end of this session students will be able to make efficient use of Voyager to find journal articles from reading lists’
- Generic e.g. ‘at the end of this session students will be able to perform effectively in small-group work’.

Ensure the learning outcomes are stated in student-centred terms. They should focus on what the student will be able to do rather than what you will have taught them. In theory, there are three parts to a learning outcome:

- **task:** an observable action stated in active terms such as to ‘list, identify, state, select, solve, calculate, write, demonstrate, match, translate or distinguish between’. Avoid passive terms such as ‘understand’ or ‘appreciate’.
- **standards:** indicate the proficiencies which the student must achieve; they should be measurable. They can be of three main types: accuracy, speed, quality, e.g. ‘without error’, ‘within ten minutes’, ‘in a coherent and well-organised fashion’.
- **conditions:** describe how the task will be carried out, such as the range of problems to solve, the tools or equipment to be used, any special aids or manuals provided, environmental conditions, special physical demands, e.g. ‘without reference to a manual’, ‘by checking the provided chart’, ‘by using the evaluation checklist’.

In practice, while it is important to set the *task* and the *standards* in your learning outcomes, you may find that in the context of IL teaching it may not always be appropriate to set *conditions* for the activities.

**Creating lesson plans**

Lesson plans set out the learning outcomes, content and structure of a session. They are intended for the benefit of the learner. They provide a useful tool to manage the expectations of learners and can help them prepare for the session. Together with instructor notes, they should help a colleague deliver a session in your place should the need arise.

<table>
<thead>
<tr>
<th>Lesson plans: items for inclusion – checklist</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Course title (e.g. MBA, Year 1 Medicine), session title, and date and time of session and your name</td>
</tr>
<tr>
<td>• The learning outcomes of the session</td>
</tr>
<tr>
<td>• Details of the session content including a description of any activities indicating if these will be assessed</td>
</tr>
<tr>
<td>• Details of any required preparation such as pre-session reading or the completion of online tutorials</td>
</tr>
<tr>
<td>• Sources of help outside the session</td>
</tr>
</tbody>
</table>

Lesson plans can be in different formats:

- If you are distributing the lesson plan to learners and the sessions are embedded within a module, you may be required to use the School’s template.
Whichever format you use, your lesson plan will need to be clear and accessible. The recommendations for the preparation of handouts on pp. 23-24 and the guidelines in Supporting Document 6 pp. 96-97 are also applicable to lesson plans.

Where possible, distribute lesson plans prior to the session; this will be essential if any advance preparation is required of learners. There are a number of options:

- Hand them out at the start of an IL programme
- Hand out plans at the start of each session
- Ask academic staff to distribute them at an appropriate lecture before the session.

As an alternative to a lesson plan handout, you may wish to use the first few slides of your PowerPoint presentations for the purposes outlined above. It is good practice to distribute a handout of the presentation.

**Preparing instructor notes**

Preparing good instructor notes is an important element of your planning. They should provide a practical framework for the session and will assist you during delivery. They can also enable a colleague to deliver a session in your absence.

Instructor notes should include two elements:

- **Information on the session content**: i.e. the core points including examples to be used in demonstrations
- **Information on the process by which that content is to be delivered**: for example, whether the content is to be delivered only by the instructor (instructor-led learning) or through the instructor asking the group questions and developing the content through the responses (student-focused learning). Will the questions be put to the whole group (global questioning) or to named individuals in turn (specific questioning)?

**Instructor notes: items for inclusion - checklist**

- Course title (e.g. MBA, Year 1 Medicine), session title, and date and time of session (if applicable)
- Checklist of items to bring or things to set up at the start of the session, including:
  - Handouts to be distributed
  - Evaluation sheets
  - Equipment that needs to be set up
  - Any other special instructions
- Sub-headings together with timing guidelines
- Details of example searches or demonstrations
- Details of activities / how the students will learn
- Your initials, filename given to the document and date of last revision. These should be at the end of the document.
Section Five: Teaching Technologies

The precise format and design of instructor notes inevitably depend on the nature of the session and your own preferences. When using PowerPoint, instructor notes may be added to each individual slide and printed off using the Notes Pages output format.

To assess whether your notes are sufficiently clear, you may wish to ask a colleague to read them and consider whether he/she would be able to use them to deliver the session.

**Handouts**

Handouts are useful:

- as a memory aid - students will have information to refer to after the lesson
- to encourage good note-taking practice - students are more likely to be engaged in the presentation when not preoccupied with taking down the main points
- to allow students to recap on key points during a presentation.

They may take various forms:

- **Directly related to session content**, e.g. a PowerPoint-generated handout of a slide presentation.
- **As an information sheet or permanent source of reference**.
- **As a worksheet / workbook to be completed by the students as a session progresses**.
- **As a combined workbook and permanent source of reference**.
- **As an activity sheet to spark discussion amongst students**.
- **As an evaluation aid / checklist**.

**Preparing handouts**

Consider identification and layout:

- Include your name or initials, your library and the date of preparation, and also the course of study, the module and the title of the session.
- When sessions are embedded within a teaching module the School may require the handout to follow its house style.

Bear in mind the requirements of the Disability Discrimination Act (DDA).² This places a duty on all educational institutions to make reasonable adjustments so that disabled learners are not put at a substantial disadvantage. Learners who are dyslexic, have concentration difficulties, or are visually impaired will benefit from the following measures:

---

Testing

Whichever type of handout is used, it should be well-structured, well-designed and checked rigorously for errors. It is good practice to ask a colleague to check it, to ensure that the information and any instructions given are clear and correct.

Creative use of handouts

Handouts can be used to provide opportunities for active learning during the lesson by, for instance, leaving blanks for students to fill in or by inserting a ‘question’ slide and asking them to make appropriate notes on the handout. This helps students engage with the material and encourages critical thinking.

If you are distributing copies of your slides at the start of the session, don’t necessarily include them all. You may hold students’ attention more effectively if you include a few surprise elements in your delivery!

HILT Pick

Use word clouds to liven up your teaching materials. Word clouds are visual representations of text giving greater or lesser prominence to words depending on how often they appear in the source text. They can be produced in a wide variety of styles and colours. An example word cloud (based on text from this section) is shown below. Free software for creating word clouds is available at http://www.wordle.net/

Accessible handouts – checklist

✓ Prepare handouts using at least 12pt Arial font
✓ Use bold text for headings and avoid feint text at all times
✓ Avoid excessive use of capitalisation, underlining and italicisation
✓ Leave plenty of space between blocks of text
✓ Left justify text and leave the right margin jagged
✓ Use matt finished paper in cream or pastel colours
✓ Keep an up-to-date electronic copy for advance circulation, if requested
Considering your learners

Learners will already have developed strategies for finding information, for example, using a search engine. You will need to design lessons which build on existing experience but create opportunities to assimilate or accommodate new techniques to old understanding.

HILT Pick

Challenge existing practice by using an activity which asks students to evaluate resources they rely on such as Google and Wikipedia.

Also think about the following issues:
Section Five: Teaching Technologies

- **Skill levels.** Within any group, skill levels will vary. Your planning will need to recognise and accommodate the variations in skill levels across the group. Consider auditing skills through a pre-session questionnaire.

- **Motivation.** The most effective learning takes place when it is based on real needs and placed within authentic contexts. Try to optimise relevance and timeliness, for example by basing the session on a forthcoming assignment.

- **Learning preferences.**
  - People learn in different ways. Some learners like to look at the big picture then fill in the details later; others prefer to learn in a logical sequence achieving a complete overview at a later stage. Try to appeal to different preferences by offering a choice of activities.
  - Different formats such as worksheets or online tutorials can also cater for different preferences
  - You can cater for a number of learning preferences within the same session. For example, if you are defining ‘plagiarism’, you could use more than one of the following methods:

<table>
<thead>
<tr>
<th>Method</th>
<th>For students who prefer to learn by...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use a PowerPoint slide with a text definition</td>
<td>reading the detail themselves</td>
</tr>
<tr>
<td>Verbalise the concept using alternative words to the slide</td>
<td>hearing a concept explained</td>
</tr>
<tr>
<td>Give an example of plagiarism</td>
<td>applying a concept to real life</td>
</tr>
<tr>
<td>Ask the learners to suggest definitions of plagiarism themselves</td>
<td>exploring a concept in an open-ended way and taking part in discussions</td>
</tr>
<tr>
<td>Use a PowerPoint slide featuring a cartoon about plagiarism</td>
<td>engaging with visuals and humour</td>
</tr>
<tr>
<td>Give a personal account of a plagiarism incident</td>
<td>relating to concepts in a personal way</td>
</tr>
</tbody>
</table>

- **Support needs.**
  - Check with the School’s disability contact to find out if there are learners with additional support needs and, if necessary, seek advice on how best to include them
  - The Disability Discrimination Act places a duty on all educational institutions to make reasonable adjustments so that disabled learners are not put at a substantial disadvantage
  - When designing activities, consider the demands on all learners’ capacities such as vision and hearing, concentration and stamina, social skills and awareness

  - General principles for planning accessible teaching sessions include:
    - Creating a logical structure
Section Five: Teaching Technologies

- Making handouts available in advance, either electronically or in paper form
- Using multiple modes of communication
- Varying methods of presentation
- Planning mini-breaks or changing activity types
- Incorporating checks on learner understanding so you can monitor the effectiveness of your communication
- Ensuring your plan is flexible so you can offer options to learners.

Being flexible

Your learning outcomes can be achieved in a variety of ways. Build some flexibility into your plan so that you can react to the situation on the day.

- **Allocate free time.** If your session is 90 minutes long, plan for 70 minutes of lesson content. Allow 5 minutes at either end for students to arrive/leave and save the remaining 10 minutes to be used elsewhere in the session. This might be used to:
  - Give the students a break if necessary
  - Review progress with the class: are you meeting the learning outcomes?

- **Prepare extra material**
  - To have further activities available for quick learners if they complete the scheduled work
  - To be able to choose appropriate material in response to the way in which the lesson is unfolding. If you take this approach, ensure that you are still able to cover the learning outcomes.

- **Put yourself ’on the spot’.** Instead of demonstrating a model search example, ask learners for a topic during the session. This takes confidence as you will have to think on your feet. However, students will see you work through an authentic search and get a flavour of the kinds of problems they may encounter. Avoid putting yourself under too much pressure by having an example search prepared as a backup, and do not be afraid to amend any search suggestion to suit your purposes.
Using a flexible approach

A small group of research postgraduates is likely to have a diverse range of subject interests. How can you cater for this? A good way to start is to let them introduce themselves and say a bit about their research. This acts as an ice-breaker. It also offers you the opportunity to use some of their topics in your demonstrations rather than preparing your own topics in advance.

Question the group to check for prior familiarity with a database. You can then adjust your demonstration if needed. A PowerPoint presentation with links to the sources you are demonstrating usually works well. It gives your sessions structure but still allows you to vary the depth of coverage and time spent on individual sources.

For the hands-on part of the session, allow them to explore their own research subjects, using a variety of information resources. Use an exercise sheet with a variety of topics which will give them a chance to pick and choose according to their own interests. Mark at least one of the exercises 'Research topic of your choice'.

Our feedback indicates that postgraduate research students welcome the opportunity to try out their own research subject using the sources you are demonstrating. Your lesson will still need to be mapped out in advance, but its structure and content will be sufficiently flexible to cater for their individual interests.

Jane Sparks, Science Library

Planning and reflection

It is important that students become reflective learners. A fuller appreciation of the learning process will enable them to learn more effectively. Reflection can take a variety of forms:

- Reflecting on past experiences. Allow time in your lesson plan for learners to reflect on their previous experiences when searching for information. Alternatively, ask them to search for information on their current topic using their preferred methods, then get them to discuss in pairs the validity of their results.

- Reflecting on what they have learned in the session. Towards the end of a session, ask learners to engage in some reflective thinking. This could involve writing down three things they will do differently as a result of attending the session or three questions which have been raised in their minds.
Section Five: Teaching Technologies

Section 4: Lesson Formats

Summary
Different lesson formats are discussed and planning tips are given for each. This section includes:

- Planning a lecture
- Planning a workshop, including small group discussions
- Planning one-to-one teaching

Planning a lecture

Circumstances may require you to deliver a session to a large number of students in a lecture hall, offering you little choice of teaching method. The lecture format is popular and widely used but it can be a challenge to retain interest and enable learning. When starting to plan a lecture ask yourself:

- Can I try a team approach? Short contributions by a number of lecturers can help sustain student interest.
- Am I using PowerPoint effectively?
  - Ensure the slides are supporting your lecture rather than leading it. Decide on content first and then create your slides.
- How should I pace my lecture? Try and change pace frequently. Don’t dwell too long on drier sections and insert something light-hearted from time to time. Another way of changing pace is to move from talking to showing a video, or from demonstrating a database to playing an audio clip.
- How can I make the lecture more interactive? Techniques such as quiz formats can be used to involve learners.
- Other techniques include getting students to discuss something in pairs followed by feedback to the group or asking them individually to write down a question related to the content of the lecture. You could then respond to these questions. Consider adopting these approaches for orientation sessions.
- How should I plan the timing of my lecture? If your slot is 50 minutes, plan for 40 minutes of content. Remember that it will take a while for a large cohort to file in and out of the lecture hall.
- How can I maintain interest right to the end of the lecture?
  - Plan to end with an activity rather than inviting questions, which can be a cue for students to start packing up. Try to incorporate opportunities for questions throughout your lecture.
  - The closing activity could involve asking each student to write down the three most important points from the lecture and then share them with their neighbour. This helps students reflect on what they have learned.
Structuring a lecture in a quiz format

This is a simple and effective method of introducing variety and interaction into this traditionally passive format. Students are handed an engaging multiple choice quiz sheet at the start and have a few minutes to complete this. About eight or nine questions are sufficient. The lecture is structured in such a way that the answers are revealed at appropriate points and act as catalysts for the presentation of related material.

In the accompanying PowerPoint presentation the correct response to the question “How important is it to use the World Wide Web for your academic research?” is C. When the answer is revealed (a few PowerPoint tricks can be used to increase suspense!) the lecturer can move on to explore quality issues on the web and evaluation criteria. This format is great for providing opportunities to interact with the audience (“which option did you go for?” or “why did you choose that answer?”). Also, students can tot up their score at the end to gauge their success – a fun way to finish!

Nigel Morgan, Science Library

Planning a workshop

Small-group teaching commonly takes place in IT training rooms. This offers greater opportunity for incorporating ‘hands-on’ activities, peer learning and discussions than a lecture. When starting to plan a workshop ask yourself:

- **How can I engage learners from the start?** Consider planning an activity for the beginning of the session rather than starting with a conventional introduction. For example, try asking students to make a list of resources which they normally use when searching for information and then to discuss these with their neighbour.

- **How do I ensure students find the session relevant?** Where possible, link the research topic to a forthcoming assignment,

- **How should I allocate PCs?** The allocation of PCs can affect the dynamics of a session. Generally, students prefer working at their own PC. However, you can encourage discussion and interaction by getting pairs of students to share a machine.

- **When teaching a particular resource, how much teacher input do students need before getting ‘hands-on’ practice?**
  - Try getting students to tackle databases with little prior instruction. Students will experiment with different approaches and learn in a way that is authentic and transferable to tackling new databases in the future. You could then follow this with a demonstration to consolidate their learning.
  - A more conventional (though often less effective) method is to set a structured exercise prefaced by a five minute introduction / demonstration.
HILT Pick

Describing keywords

Put this in the context of students’ day-to-day lives by asking the whole group to shout out keywords which describe, say, a can of coke. Use this as a warm-up before asking them to tackle keywords for their essay topic.

(Courtesy of Sarah Faye Cohen, Janet R. Cottrell and Cinse Bonino, Champlain College, Vermont, USA).

It is a challenge to keep learners engaged. Remember that evidence suggests that a student’s attention span drops markedly after twenty minutes so ensure you plan a session which incorporates a good range of learning experiences. Two useful methods of engaging learners within workshops are mind maps and small group discussions.

Mind maps can be a very visual way of illustrating links between keywords and topics. A concept is put in the middle of a piece of paper, then lines radiate out and related keywords, ideas or even pictures can be added. Links can then be drawn to show relationships between keywords and to suggest how they could be combined.

Mind mapping can work as an individual or group activity. To encourage collaboration and brainstorming you could divide a class into groups of four, each being given an essay question and some guidelines on how to produce a mind map, using a flipchart and coloured pens.

I have found that, by using mind maps, students tend to produce a wider range of keywords than if they’d made a quick list and gone straight to a database. Working in this way also encourages more reticent students to contribute to the discussion.

Mind mapping doesn’t have to be a large component of a session as it doesn’t suit everyone. However, students haven’t necessarily seen it before and it can be a good exercise away from computers. One of my students said he was going to use this method to plan out other essays!

Ruth Thornton, Trevithick Library

For more information about mind maps see:

Planning small group discussions

Discussions can be a useful way of getting learners to communicate with each other and to explore ideas. When starting to plan a discussion ask yourself:

- **Will a whole-group discussion be possible?** The size of your group will affect the success of the discussion. Numbers may be determined by the School, but if you have the option of choosing, the following table will assist in determining the most appropriate group size for the session:

<table>
<thead>
<tr>
<th>Group Size</th>
<th>Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-6 people</td>
<td>everyone speaks</td>
</tr>
<tr>
<td>7-10 people</td>
<td>almost everyone speaks. Quieter people say less. One or two may not speak at all.</td>
</tr>
<tr>
<td>11-18 people</td>
<td>5 or 6 speak a lot, 3 or 4 join in occasionally</td>
</tr>
<tr>
<td>19-30 people</td>
<td>3 or 4 people dominate</td>
</tr>
<tr>
<td>30+ people</td>
<td>difficult to have a whole-group discussion</td>
</tr>
</tbody>
</table>

- **Should I split my class into smaller groups?**
  
  o The conventional approach is to split the class into pairs or groups of three or four and ask each group to discuss a topic before feeding back to the whole class.
  
  o Consider ‘snowballing’ or ‘pyramiding’. Students begin by working individually on a simple task such as making a list. They then join in pairs to prioritise the list. Then, working in small groups they complete the complex task of producing a set of guidelines from the list and are required to feed back to the whole group.

Small group activity of this kind encourages active and collaborative learning.

**Socratic dialogue in class discussions**

Case study 6

This technique consists of the tutor asking a question, getting a response from one audience member and then if the answer is perhaps not absolutely correct, bouncing the answer back to the audience in the form of a question: ‘Mm, what is your view of that?’ ‘Do you think that is right?’ Move the topic forward by asking questions and getting the audience to think about whether the answers given are right or wrong. Note the tutor merely asks questions and bounces the replies back to the group to consider. It is best if the tutor comments as little as possible.

Use the technique sparingly – do not toss every answer back, but use it only where the answer opens up possibilities to challenge the group’s understanding of the topic. It can help if the tutor poses a question which suggests the wrong answer; a very simple example would be: ‘Is Hansard a summary of what happens in Parliament?’

This technique works especially well with mature students or people who have some grasp of the topic area. It may not work so well with first year undergraduates. The method is suited to small groups of no more than 12 students.
Planning one-to-one teaching

Although the emphasis in academic institutions is on group teaching, you will inevitably be asked to provide one-to-one sessions. These could be requested by:

- Undergraduates who missed a group session
- New researchers / lecturers
- Lecturers wanting a refresher course or to learn a new resource
- Clinicians needing information for patient care.

You may be able to book a time, or you may have to respond to an immediate request. In either case, you will need to ensure that you identify the needs of the learner and tailor the session accordingly. The case study below illustrates a thorough and practical approach to delivering one-to-one training.

One-to-one teaching

I offer one-to-one teaching in my hospital-based library, where it is particularly appreciated by learners whose experience of electronic resources is negligible, or rusty. Our learners are mainly training grade doctors, nurses taking courses, or other health professionals. They can book a time for their session, but I am also happy to teach on demand, which is convenient for busy clinicians.

I start by establishing the learner’s level of knowledge and the reason for their search (patient care, course work, general refresher). Then I will ask for a topic we can use, which will usually guide us to the most suitable resource. I will demonstrate the resource and then prompt the learner while they practice.

As the session progresses, I can establish a rapport with the learner, set a pace comfortable for them, encourage questions, and gauge how well they grasp the resource. The session can easily be tailored to their exact needs. Towards the end, I ask if they have learnt what they wanted or if they would like to repeat anything, and remind them that they are welcome to come back for further help.

For me, this type of teaching is particularly rewarding as I can get to know the students and they are usually very appreciative. It also enhances our reputation as a helpful library service!

Rosemary Soper, Archie Cochrane Library
Section 5: Teaching Technologies

Summary
A variety of teaching technologies may be used to promote learning and understanding in IL teaching. As well as selecting the right technologies for your session, it’s also important to make sure you get the most out of them. This chapter provides an overview of some of the recent innovations in the following areas:

- Presentation technology
- Other useful technologies (including social media developments)

1. Introduction

Chapter 5 focuses upon a range of technologies which may help you achieve your intended learning outcomes. The selection and use of technology requires careful thought; technology is a means to an end and should not be used for its own sake. Factors such as the size of the group, the proximity of your learners (many technologies are particularly suited to use with distance learners) and practicalities of the venue will strongly influence your choice.

Social media (sometimes referred to as Web 2.0) is not only having a significant impact upon our daily lives (Facebook and Twitter have become universally familiar) but also has important implications for our teaching. IL practitioners have needed to come to terms with an explosion of new web-based tools. A Higher Education Academy / JISC report, Higher Education in a Web 2.0 World, defines Web 2.0 as “technologies that enable communication, collaboration, participation and sharing”. Their immense popularity with students means that teachers ignore these new technological developments at their peril.

This chapter can do little more than scratch the surface of this increasingly diverse, complex and fast moving area. You will find a relatively small selection of tools described. Some are currently in use within the University whilst others may be unfamiliar but have the potential to enhance your teaching. Most can be implemented with relative ease.

We encourage you to embrace and experiment with these exciting new tools.

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Section Five: Teaching Technologies

2. Presentation Technology

**Prezi**

*Prezi* is a piece of presentation software which provides an exciting alternative to PowerPoint. In contrast to PowerPoint, *Prezi* allows you to illustrate concepts in a highly visual, non-linear way. Text, images and videos can be added to a large canvas and the presentation can then zoom in and out and pan around the canvas.

You can sign up for a free account at http://prezi.com. Create your Prezi on the web site and then download it and play it as *Flash* files. The web site also includes a showcase of Prezis and a number of videos and guides to help you use *Prezi* effectively.

The software includes innovations such as the ‘Zebra’ (see image on the right), the blue menu which appears when you click on a piece of text or an image within *Prezi*. Drag the middle circle to move the object, drag the inner ring to resize and revolve the outer ring to rotate. This is a quick and flexible way of adding elements to form a visually strong presentation.

(Prezi created by Adam Somlai-Fischer: ‘Academy: Prezi Workflow in 15 minutes’

**Tips:**

- **Be inspired by the showcase on the Prezi web site.** Invest some time looking at top-quality Prezis before taking the plunge. Understanding the potential of the software is key to creating great Prezis.
• **Sketch ideas out first.** Start with a large piece of blank paper and a pen rather than using the software straight away. Sketching helps you think about the shape and structure of your presentation and how you will use metaphor and visuals.

• **Think differently.** Begin your presentation from scratch; don’t just convert your PowerPoint into a Prezi. This software requires you to think visually while considering the overall message of the presentation and the relationship between the various elements. You will find the process quite different from that of creating slides.

• **Allow time for learning the software.** Using Prezi for the first time entails grappling using an unfamiliar interface and menus so make sure you have time available.

• **Include an overview.** Presentations work well if the canvas shows an overview of the structure of the whole presentation, which can be returned to during the presentation.

• **Use scale.** Whether zooming in on the details of a diagram or zooming out to a large image, good presentations will often use massive changes of scale both for dramatic effect and increased understanding.

• **Don’t make your audience sick!** Audience members can experience motion sickness if there are lots of quick transitions from one end of the canvas to another. Group similar ideas to avoid moving around the canvas too much.

• **Be flexible.** It is possible to create a presentation path around the canvas, but it is also possible to deviate from the path in response to your audience (e.g. zooming in on a particular section in response to a question from a student), or even not to have a path at all.

• **Sign up for an educational licence.** This will provide more space for storing Prezis and also offer the option of making a presentation private.

**PowerPoint revisited**

PowerPoint is suited to a wide range of teaching environments, but be sure to mix it up with other teaching techniques within your session to maximise variety and enhance student concentration. You could break up your presentation with buzz groups, question and answer slots or other activities.

**Top 10 PowerPoint tips:**

1. **Limit the information on your slides** to key points only. Steer clear of dense text and allow adequate spacing between points.

2. **Limit the number of slides,** e.g. to no more than eight or nine for a ten minute presentation, giving students time to absorb information on each slide.

3. **Use clip art, pictures, charts, tables, diagrams, sound and video to enhance content.** Ensure that you are complying with copyright law and generally limit to no more than two graphics per slide.

4. **Avoid ‘noisy’ distracting backgrounds,** and make sure your text is legible. If possible, try out the presentation in the room you are going to be using.

5. **Use animation sparingly** and go for variety – setting all your text to ‘fly’ in bullet by bullet can get tiresomely predictable. Consider whether you actually need every individual bullet point to be introduced separately.
Section Five: Teaching Technologies

6 Create a numerical key for your slides. If you are pressed for time, jump non-
sequentially to a slide by typing the number of that slide and pressing Enter.
Essential for Cephalonian presentations (see p. 13)!

7 Check that text is not likely to be cut-off at the edge of the projection screen – this
means you need to make sure your margins are big enough.

8 Do not apologise for any slide. If the content is hard to read, redo it. Charts or
tables should not be too dense or detailed.

9 To store a large file with lots of images, ‘compress’ pictures by choosing the Picture
tab and then clicking on the Compress Pictures button. Tick the box to ‘Apply to
selected pictures only’, or leave the box unticked to compress all pictures in the
entire presentation. Further compression settings are available by clicking the
Options button.

10 Finally, when you are giving your presentation, talk to the audience, not to the
slides on the screen behind you! Position your computer so you can see both the
monitor and the audience. You may also want to keep a printout of your slides in
your hand for easy reference.

Adding speaker notes to PowerPoint

Note that these guidelines refer to PowerPoint 2007.

You can type speaker notes into the notes panel displayed in the PowerPoint Normal view.
These are useful to enable a colleague to deliver a lesson during your absence, in
conjunction with your lesson plan and other materials.

Tips on printing out speaker notes for your presentation:

- When finalised, print out your notes as you will not be able to view them on screen
during delivery. Go to Office and choose Print, then under Print What, select Notes
Pages. Use a large font (if necessary enlarge the notes area in Notes Page view) –
you must be able to see your printout of the speaker notes clearly during delivery.

- Alternatively, export your presentation to Microsoft Word to give you more control
over layout, e.g. by including more than one slide per page. Go to Office – Publish –
Create Handouts in Microsoft Word and select an option which includes Notes. You
can then opt to delete the actual slides and retain just the Notes.

- You can also print the notes 2 or 4 pages per sheet (in the Print window) and then
cut them up to make a handy ‘stack’ of cards for use during delivery. However, be
sure to attach these together so you don’t risk losing your place if you drop them!
Creating handouts
Also consider using the Export to Microsoft Word feature to give more general control over the look and content of your handouts e.g. by going to Office – Publish – Create Handouts in Microsoft Word you can choose from several Page Layout options:
- Notes next to slides
- Blank lines next to slides
- Notes below slides
- Blank lines below slides.

As the handouts are now in Word format, you have greater editorial control to make any other changes you wish.

Raising your game: advanced tips
- On the PowerPoint Insert tab, have a look at the SmartArt options, which offer a wide range of pre-set graphical formats. There are templates for lists, hierarchies, cycles and matrices, and you can dress up your data as a series of colourful interlocking gear wheels.
- Try using Microsoft templates to make your PowerPoint presentations look a bit different. You can access them at http://office.microsoft.com/en-us/templates/CT010336615.aspx
  
  If you download a template you’ll find instructions for customising it included in the ‘Notes’ pane of the PowerPoint file. Be warned however – some are really top-notch; others may be best left where you found them!
- **Be flashy**: use a remote control USB wireless presenter to move through your presentation while away from the PC / lectern.
- If you haven’t got a remote control USB wireless presenter, there are a number of more conventional ways you can control your slides:
  - If you are not already in live presentation view, pressing F5 will start your presentation from the beginning
  - Hitting the letter ‘B’ will replace your presentation with a ‘black screen’. Use this when you want the audience to focus 100% on you, or on another task you are setting them. Pressing ‘B’ again will restore your presentation at the point where you left off. Similarly, you can use the ‘W’ key for a white screen.
  - Type the number of a specific slide to manoeuvre around a presentation out of sequence if appropriate (see previous tip 6)
  - Use the Alt and Tab keys to switch between applications, for example between PowerPoint and a web page / database, for a smoother, more professional transition.
- Use a laser pointer (sparingly) to highlight specific text or any on-screen features to which you refer during your presentation.
Section Five: Teaching Technologies

- Avoid interruptions during your presentation by disabling screensavers and powersave options (on laptops). To disable any screensavers, right-click on the Desktop, choose **Properties** and then click the **Screensaver** tab. Choose **None**. The **Power** button on this tab enables you to disable any powersaving settings.

- Wow your audience by whipping out PowerPoint’s secret weapon, the ‘highlighter pen’ function. This enables you to emphasise elements of your slide in real time while addressing your audience: move the mouse over the icons at the bottom left of the Full Screen view of your presentation to choose Highlighter, Felt Tip or Ballpoint, and select a variety of colours to annotate your slides during the presentation. Click the button again when you feel you’ve exhausted its creative potential, to de-activate this.

**Slideshare**

Why not delve into [http://www.slideshare.net](http://www.slideshare.net) for some inspiration? You can upload your own presentations or download and view presentations created by other individuals and organisations. It is a valuable source of information and is also a useful place to pick up tips on presentation techniques and design. You can create a **Slideshare** account and sign up for the regular newsletter which highlights top presentations and other news.

Take a look at the education category at [http://www.slideshare.net/category/education](http://www.slideshare.net/category/education) or try searching for presentations relating to keywords of your interest.

**Slideshare** users have the option to make their presentations public, allowing anyone to view them. Presentations can be made available for adaptation under a Creative Commons licence.

**JISC Digital Media** have provided a useful summary guide to **Slideshare** at [http://www.jiscdigitalmedia.ac.uk/crossmedia/advice/slideshare](http://www.jiscdigitalmedia.ac.uk/crossmedia/advice/slideshare)
Other Technologies: an A-Z

This section features a small selection of tools which have the potential to enhance your teaching. It is by no means exhaustive but represents an excellent starting point for experimenting with technology in IL teaching:

- Assessment and feedback tools
- Audience Response Technology (ART)
- Classroom management software
- Image websites
- Interactive whiteboards
- Podcasts
- QR codes
- Social bookmarking
- Tutorials and quizzes
- Twitter in the IL classroom
- Videos, movies, screencasts and vodcasts
- Web conferencing
- Wikis.

Assessment and Feedback Tools

E-assessment allows students to get feedback on their skills and progress at a time and place that suits them, without additional burden on staff time. While not replacing face-to-face contact, it helps to put the student in control of their own learning and develops their autonomy in this area.

Turnitin is an online service which analyses written text for matches with other sources. Once uploaded, Turnitin detects whether elements of written work – for example, a student essay – match against text from websites, other student papers or electronic journals. It then returns a colour-coded “Originality Report” which highlights the text matches it has found and their sources. These can then be read side-by-side with the student work to establish whether a student has properly referenced their sources, paraphrased appropriately or used good quality resources.

Available to all staff and students through Learning Central (and used regularly by around half of Cardiff’s Schools), Turnitin can be a useful tool in teaching sessions on referencing technique and avoiding plagiarism. Students can submit examples of their own work and be guided in the interpretation of the reports and how to correct citation errors. The Grademark facility built into Turnitin also allows staff to annotate student work onscreen and provide electronic feedback that can be accessed from any PC.
It can be helpful if student sessions on plagiarism, referencing and Turnitin make time to explain:

- that a text match identified by Turnitin does not automatically equate to plagiarism: well-researched work will inevitably contain many legitimate matches to other sources.

- Students should not try anxiously to minimize their Turnitin ‘score’ if they have referenced correctly; there is no universal threshold Turnitin percentage that they should aim to get under.

- Turnitin is not ‘marking’ their work: academic judgement remains paramount.

Note that it is essential that Subject Librarians discuss with the School its policy regarding the use of Turnitin prior to utilising this resource.

There are guides to using the software at: http://www.cardiff.ac.uk/learning/turnitinquick and https://submit.ac.uk/en_gb/support-services

(Sample Turnitin “Originality Report”)
Other online assessment and feedback tools  Case study 8

Marking over one hundred Year One Induction assessments can be oppressively time-consuming during an already busy period. Analysing hundreds of feedback forms can be even more daunting. By creating online quizzes and surveys that students can take either at the end of your session, or soon after, you don't have to mark a thing, and everyone gets immediate feedback. The only outlay is in the set-up time. Learning Central provides tools for both tests and surveys with a good choice of formats. Creating an assessment is fairly self-explanatory, though you may need some assistance in publishing the test to the relevant module. Questionmark Perception is slightly more complicated but is highly flexible, allowing you to host the assessment on Learning Central, or on any other webpage. As the questions are created separately from the assessments, you can mix and match questions to your heart's content.

Charity Dove, Music Library

Audience Response Technology (ART)

Audience response technology provides a popular and attractive option for incorporating interactivity into your teaching. It has been available for many years in the form of the well-known handsets (‘clickers’) systems. However, the latest ART innovations include online polling software.

1. ‘Clickers’

The two most widely used software packages at Cardiff are: InterWrite PRS and TurningPoint. The latter is now available on the network, accessible via the Start menu: Networked Applications – General Software – Trial Applications – Turning Point Installer. The standard setup involves the use of wireless keypads; audience members use these to select an answer from a given range of options shown on a PowerPoint slide. Each selection is sent to a receiver attached to the presenter’s PC and results are displayed as percentages and/or graphic illustrations. ‘Clickers’ can be used with large groups in lecture theatres or smaller groups in workshop settings.

Benefits may include:

- added variety and interest
- ensuring engagement with content
- enabling participants to contribute anonymously
- improved knowledge retention
- opportunity to gauge understanding of particular points, so you can recap on any parts of the lesson which have not been understood
- an effective and time-efficient method of assessment
- providing feedback on a session
- rendering an otherwise passive session active.

However, ‘clickers’ technology is best used sparingly; it is good practice to limit the number of questions used since a session should not be driven by the technology!
Section Six: Lesson Delivery

### Audience Response Technology (‘clickers’) Case study

I was looking for a way to liven up my citing references workshops, and after familiarising myself with the ‘clickers’ InterWrite PRS software I created six quiz questions to test student understanding of what constitutes plagiarism, as well as their ability to apply their School’s chosen citation method. These retained students’ interest as they could never be sure when they were about to be tested! Students were polled anonymously, though some expressed anxiety at having their answers found out. Workshops were limited to groups of twelve, so this wasn’t inconceivable, but would be easily avoidable with larger classes.

The most surprising outcome of using ‘clickers’ was the extent to which questions were incorrectly answered, despite students claiming understanding; this allowed me to review certain points that would otherwise have been passed over. Crucially, a colleague was present to ensure the technology worked so I avoided distractions.

I will certainly use ‘clickers’ again but will confine its use to small groups to minimise the impact of any technical problems. I’ll start with a control question to test understanding of the process.

*Sarah Nicholas, Architecture Library*

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### 2. Online polling

Online polling software is an alternative to ‘clickers’, and has a great advantage: you do not need to bother distributing handsets or worry about them disappearing. A useful tool we have tried at Cardiff is *Poll Everywhere*.

**Poll Everywhere** - [http://www.polleverywhere.com](http://www.polleverywhere.com)

- *Poll Everywhere* allows you to set up survey questions quickly and easily, and is free for use with audiences of 30 and under
- Although no sign up is required this is recommended as this enables you to keep track of your polls easily
- Options include a multiple choice poll, a free text poll or a ‘goal’ poll (donation polls for raising money)
- Responses can be made using texting, *Twitter* or via a web link
- If asking participants to respond by texting, the instructions for doing so are clearly displayed with the poll (see below). The poll can be shown on the *Poll Everywhere* site or embedded into a PowerPoint slide, which updates the results live (n.b. a number of questions can be downloaded from PowerPoint at the same time).
- If using the web link option, poll questions can be collected together as a series on one webpage (see below)
- Quantitative results are presented in bar charts or tables, with qualitative responses from free text polls listed singly
Section Six: Lesson Delivery

- Results can also be downloaded to blogs or webpages.

![](image1.png)

(PowerPoint slide for poll)

### Plagiarism

**Is it plagiarism if you use the ideas of another author without providing a reference, if you write them in your own words?**

- Yes
- No
- Don't know

**Is it plagiarism if you copy and paste a paragraph of text from a web site without enclosing it in quotation marks and referencing the source?**

- Yes
- No
- Don't know

(Poll Everywhere questionnaire (web link))

### Issues to consider

- Students may need to be provided with the web link to vote, as they may not be signed up to Twitter or be willing to use their mobile phones (they may incur a charge by texting using their own phone). The web link can be shortened at http://tinyurl.com to make it easier for students to access the poll.

- If you intend to use the same question for different classes you need to set up a different poll for each to ensure you get the unique results from that class.
Classroom Management Software

Once installed in an IT room, this software connects the teacher’s computer to all the students’ PCs. It can be used to:

- **Remove distractions.** To prevent students using Facebook or email during the session, you can allow access only to the specific web site(s) relevant to the lesson. Access to applications and to printing can also be limited as needed.

- **Improve display.** The software can relay the image from your monitor to those of the students. This provides a clear, close-up image if students are having trouble viewing the projector screen or reading small fonts.

- **Facilitate learning between students.** You can relay the image from a particular student’s PC to all student monitors. For example, effective search terms chosen by a student could be shared with the rest of the class.

- **Monitor students.** You can view all the students’ PCs images via your own PC, to monitor the progress of each learner.

- **Help an individual student.** You can connect to a single PC to help with a specific problem.

- **Assess student understanding.** Features of the software include electronic testing and voting whereby a true/false or multiple choice question could be used for a quick assessment of students’ understanding.

You will need to ensure the students are aware of how the software is being used during the session. The classroom management software used by the University is LanSchool. This is available in selected IT rooms across the University including training rooms in the Julian Hodge Study Centre and the Brian Cooke, Trevithick and Science libraries. If you are interested in obtaining more details or obtaining a licence for your site, the LanSchool contact at the University is Sharon Magill from the Cardiff School of Journalism, Media and Cultural Studies (MagillSE@cardiff.ac.uk).

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Classroom Management Software  
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I started to use LanSchool in September 2008. I particularly wanted to use the software during three of my large group teaching sessions at the beginning of term. LanSchool was an ideal solution for focusing such a large group. I was able to take control of the screens, disable computer mice and keyboards and carry out demonstrations with the full attention of the group. I gave the students prior warning of this, so they had a minute or two to finish whatever tasks they were performing.

I would recommend LanSchool to any member of staff who carries out teaching in an IT Training Room environment. It is an excellent tool for effective teaching, as emailing and surfing the web are major temptations for students; cutting out these distractions is good both for learner and teacher.

*Clare Davies, School of Dentistry*

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Image Websites

Images can be a good way of enlivening a presentation, and there are many freely available images on the internet. Licences and copyright vary widely, and so it is key to check details for each image.

MorgueFile http://www.morguefile.com
MorgueFile provides a stock of high quality images. The free photos section allows you to download photos and states that you may ‘copy, distribute, transmit the work and to adapt the work. Attribution is not required. You are prohibited from using this work in a stand alone manner’. The full licence conditions are set out at: http://www.morguefile.com/license/morguefile

Flickr http://www.flickr.com/search
Flickr is a photo-sharing web site and the quality of the images varies widely, as do the licence regulations. To find photographs held under a ‘Creative Commons’ licence click on ‘advanced search’ to the right of the search box then scroll down to click on ‘Only search within Creative Commons-licensed content’. Some photos may have certain rights reserved, so make sure you read the licence details carefully. Many photos require you to ‘give the original author credit’ - this can be easily done by providing an author acknowledgement in small text beside the photograph used.

British Library Images http://www.imagesonline.bl.uk/britishlibrary
These images, mainly historical, are drawn from the British Library’s numerous print and photograph collections. Images need to be acknowledged and in some cases permission must be sought.
In addition to these sites there are image search tabs on search engines such as Google Images (http://www.google.co.uk/imghp) and Yahoo Images (http://images.search.yahoo.com).

Interactive Whiteboards

Interactive whiteboards can be found in some seminar rooms and IT training rooms on the Cathays Park campus. The screen image from the presenter’s computer is projected onto a touch-sensitive wall-mounted whiteboard. The teacher controls the whiteboard using their finger, a stylus, a pen or other pointer, rather than using the computer’s mouse (although this option is still available). Additionally he/she can treat the device as an electronic whiteboard to annotate the on-screen display and write notes. In some lecture theatres whiteboards are replaced by small touch-sensitive screens at the front of the room, as an alternative means of manipulating the display being projected.
Section Six: Lesson Delivery

Uses for interactive whiteboards include:

- Operating any computer software, for example a web browser, database applications or PowerPoint presentations
- Annotating the on-screen display and capturing the notes for use at a later date (e.g. publication to the web in a Learning Central module)
- Brainstorming and concept mapping: to capture traditional whiteboard or flipchart style notes. Interactive whiteboards allow freeform writing and drawing. This is ideal for getting students actively involved. This information can be saved electronically for future use.
- Seamless presentations: the teacher can fully engage with the audience rather than needing to stand by the computer to use the mouse.

Podcasts

“Podcasts [are] digital audio programs that can be subscribed to and downloaded by listeners via RSS”. 

Having subscribed to the podcast, the listener will automatically receive each new episode, which can be heard or viewed via mobile devices such as smartphones, tablets, MP3 players and laptops as well as on a PC. However, whilst the original concept of the podcast was that they were episodic and required subscription, many podcasts are ‘stand alone’; the "click to listen" / "Podcast on-demand" approach is perhaps now the most common model.

Podcasts are a great way to supplement your face-to-face teaching, helping you to reach your students beyond the classroom. For example, you could create an audio tour of the library or record some quick tips on information literacy topics.

Benefits of podcasts:

- Students can learn anywhere or at any time freeing them to carry out other activities as they learn such as commuting, exercising or household chores!
- They can help students with visual disabilities, dyslexia, or those who prefer to learn by listening
- They can be re-played so are ideal for non-native English speakers and can act as memory aids.

Creating podcasts:

- When deciding on the content, aim to keep your listener’s attention by making the podcast entertaining and not too complex, using a variety of voices and keeping the time span short
- Record your content using a digital recorder capable of creating MP3 or use one of the many free audio editing software tools such as Audacity (http://audacity.sourceforge.net) and a microphone connected to your PC
- They can be distributed to your audience via Learning Central’s podcast tool (see the podcast guides in the ‘Wikis, blogs, journals and podcasts portlet’ in the Staff Help section of Learning Central).

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xxxii Handbook for Information Literacy Teaching: July 2009
Section Six: Lesson Delivery

Alternatively, Cardiff University’s *Student Survival Guide to Writing a Good Essay* podcast series created by ULS is available in the Information Literacy Resource Bank at https://ilrb.cf.ac.uk/multisubject/podcast/index.html and on the Learning Central home page.

**QR Codes**

QR (quick response) codes are a complex type of barcode which connect the user via smart technology to data or text. In order to access the information a smartphone with QR code reader software installed is required. (Netbooks, laptops and tablets can also be used, as long as they have a camera and the QR code reader software.) Walsh (2009) identifies four applications for QR codes: they can contain a URL; contain a few lines of text; ring a phone number; or start a text message. The first of these (encoded URL) is probably the most popular. It is becoming more common to see ‘mobile tagging’, where a QR code might be displayed on an object or advertisement which, when scanned, takes the user to a URL giving more information.

Potential uses for QR codes in IL teaching:

- Adding them to worksheets to allow interactivity in responding to questions via text message during the session
- Adding them to handouts, relying on the novelty value to increase the likelihood of students accessing follow-up resources via URLs after the session
- Displaying them around the library to direct users to learning resources via URLs as and when they need them, thereby offering IL support outside formal sessions. For example, a QR code could be displayed next to the law section of the Library which links the student to a web page which displays a video on finding law reports.

Barriers to using QR codes:

- Some students do not have smartphones
- Low awareness amongst students (and often library staff too) of what QR codes are
- Low numbers of students installing QR code reader software on their phones
- Students may be deterred by mobile phone data charges.

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Section Six: Lesson Delivery

Questions to ask before implementing QR codes:

- Are the web sites to which you direct your users designed to be mobile-friendly?
- If the QR codes are displayed within the Library, do your noise policies allow for users making a phone call (if the QR code gives a phone number) or watching a video with sound (if the QR code links to an instructional video)?
- If you are using QR codes within your IL sessions, do you need to ensure that students work in groups that contain at least one student who is willing and able to use their phone for the activity?

How to create a QR code:

- Use a search engine to find a free QR code generator, e.g. http://qrcode.kaywa.com
- Enter the content you require and generate the QR code
- Save the QR code as a picture
- If you are using a long URL you might find it is best to use a free URL redirection service (e.g. http://tinyurl.com) to shorten it before you convert it to a QR code.

How to read a QR code:

- Go to the app marketplace for your phone to find and download free QR code reader software
- Select the app, which will then display a viewfinder rectangle on your phone screen
- Scan the code by placing it inside the rectangle and the app will do the rest!

QR codes are worth experimenting with because they can:

- **Capture student interest.** The current low awareness of QR codes can have a positive effect if it means students are intrigued enough by the codes to try and find out more.
- **Encourage student participation.** Students often enjoy additional opportunities to use their phones.
- **Minimise visual clutter.** QR codes can look more attractive in handouts and on posters than text or URLs.
- **Enhance IL teaching.** Most importantly, QR codes offer huge potential for extending IL support beyond formal sessions and for providing links between the physical and the electronic.
Social Bookmarking

Social bookmarking tools such as Diigo http://www.diigo.com and Delicious http://www.delicious.com are a convenient way of bringing together websites in an easily accessible place. Bookmarks are classified by “tags” (subject terms), and can be annotated with explanatory text. There is no charge to register for these tools and they are simple to use. Most social bookmarking sites offer a downloadable toolbar enabling you to conveniently bookmark websites.

These tools can be useful

- as a way of promoting useful websites to students e.g. providing links to supporting materials or further reading
- to provide a hyperlinked list of websites used in a teaching session, thus allowing students to access multiple websites from one location without having to type in multiple URLs.

For a comprehensive list of social bookmarking tools see Phil Bradley’s list at http://www.philb.com/iwanto/web2pagebookmarking.htm

Social Bookmarking in the Classroom

I use the social bookmarking site Diigo for two courses run for the Graduate Centre Research Students Skills and Development programme, ‘Intelligent Web Searching’ and ‘The Connected Researcher’. Both courses cover a large number of websites, and previously paper handouts of the URLs had been provided. Participants in an ‘Intelligent Web Searching’ session run last year had expressed a wish for a hyperlinked list of the websites rather than having to type in all the URLs and I decided to use Diigo for this. It is very easy to set up a group on Diigo, and websites can be annotated and tagged with subject terms to categorise them.
Online tutorials and quizzes can be incorporated into teaching sessions, used within toolkits or as standalone units to reinforce and refresh IL concepts. If you wish to create your own, Udutu and Glomaker are examples of free online software.

**Udutu**

*Udutu* has been used to create some of the tutorials in the ILRB, e.g. ‘Planning your search’ ([https://ilrb.cf.ac.uk/searchtech/planning_your_search/course/course9105.html](https://ilrb.cf.ac.uk/searchtech/planning_your_search/course/course9105.html)). You can sign up for an account at: [http://www.myudutu.com](http://www.myudutu.com)

No technical expertise is required; follow a step by step process to create your tutorial then download and host on your own server. The tutorial can be hosted on the ILRB; contact Rebecca Mogg (MoggR2@cf.ac.uk) for instructions.

**What can you do in Udutu?**

- Create quizzes and assessments including multiple choice questions (MCQs), matching labels to images/text and placing images/text in order. Insert images, videos, PowerPoint presentations and audio files.
- Create advanced screens such as image rollovers and scenarios
- Add a glossary of terms used.
Twitter in the IL Classroom
The backchannel – using Twitter
A backchannel is defined as ‘a line of communication created by people in an audience to connect with others inside or outside the room, with or without the knowledge of the speaker at the front of the room’. 7 Twitter is one of the main ways the backchannel is used. This is now a familiar feature in conferences and to a lesser extent in teaching. Typically, conference organisers will assign a hashtag for tweeters to use, thus enabling tweets to be searchable and easily located (e.g. Cardiff University’s Technology-Enhanced Education Conference 2011 used #cdftee). In some cases, the stream of tweets containing the hashtag will be displayed on a screen behind the presenters throughout a conference. There are tools to collect tweets with a particular hashtag such as Twitterfall (http://www.twitterfall.com). Bruff (2010)8 suggests that the backchannel can be used in teaching in the following ways:

- Asking questions – students can ask questions during a teaching session, which the presenter can then answer, either during the session or at the end
- Sharing resources – useful resources can be shared with the rest of the class
- Offering suggestions – students can suggest topics they would like to be addressed by the presenter.

The backchannel can be an effective way of improving interactivity in a teaching session.

Issues to consider
There have been many instances of the backchannel ‘biting back’, with rude, critical and in some cases offensive comments made via Twitter (Atkinson 2010). Think carefully about whether this is an appropriate method to use with your audience: the backchannel may work well with a small class of postgraduates or staff but not necessarily as well with a large class of undergraduates. Additionally, not all students will use Twitter and those who do not may be reluctant or opposed to signing up.


Section Six: Lesson Delivery

**Videos, Movies, Screencasts and Vodcasts**

Ever thought of using original videos or streamed video clips from the web in your IL sessions? There are numerous benefits to this method:

- A short video can help focus attention and provide variety within a presentation/workshop
- A video will give students a welcome break from the presenter and give you some breathing space too
- A well chosen video will help make more memorable the points which you have presented in your session. Note: video clips should be used to reinforce the content of your session not merely to deliver information.

Three methods for obtaining IL videos are:

1. **Use a video which has been prepared externally**

   Video sharing web sites such as YouTube offer an increasing number of videos on IL themes such as identifying source types, referencing, the research process etc. The search facility on YouTube is limited, so performing an Advanced search on Google with Youtube.com specified as the domain may be the best strategy. The quality of production and content varies considerably. Many videos are of US origin so may not necessarily be appropriate within a UK context. It is advisable to seek permission from the copyright owner to use them. This is particularly important in cases where the video includes 3rd party copyright content which the creator does not own.

2. **Use a video which has been prepared internally**

   Check out the Information Literacy Resource Bank (ILRB) http://ilrb.cf.ac.uk. The 4 entertaining and highly informative movies cover key areas of the information research process:
   1. Information research: the initial steps
   2. Exploring the journal literature
   3. Evaluating online information
   4. Taking the frights out of your cites.

3. **Engage experts to help create professional videos**

   If you have complex requirements, you will need to engage experts who can assemble a video in a professional manner. This can be time consuming and expensive, requiring meticulous planning and lengthy discussion. However, IL videos such as “Taking the Frights out of your Cites” (see p. 43), which were created by ULS with the help of the Media Resources Centre, illustrate that the end result can make the effort worthwhile.

4. **Create your own simple IL movies**

   You don’t need a film crew and a lot of equipment to create some effective IL movies quickly and easily. Vodcasts can be created with just a webcam with a microphone. Below are some tips on how you can create your own IL movies.
Screencasts

A screencast is a recording of a desktop demonstration with either a voiceover or captions. Numerous screencasting software packages are available. Camtasia and Captivate offer features such as editing options, zooming and automatic captioning. Captivate would need to be purchased from an external supplier. However, Camtasia has been purchased and installed on two INSRV laptops. Contact Cathie Jackson (JacksonCM@cardiff.ac.uk) for details.

Using free software such as Screenr entails recording the screencast with sound in one take; if you make a mistake you have to begin again. One benefit of using Screenr is that your screencasts are hosted on your Screenr page and you can link to them quickly and easily.

You can upload your screencasts to video hosting/sharing services such as YouTube and Vimeo.

To record a voiceover with any of the screencasting software you will need a microphone on your computer, a headset or a webcam. Tip: write out your script and time it before you start recording.
**Xtranormal**

*Xtranormal* is an online movie maker that allows you to create animated movies by typing in text. You can set up a free account at http://www.xtranormal.com. All new accounts come with 300xp (xtranormal points) which allows you to purchase sets and “actors” to perform in your movie. Educator accounts are available and anyone with an active account can request to have it converted to educator status which provides an extra 5000xp.9

The process of making a movie is simple: choose a set, one or two actors and pick their voices, then type in (or copy and paste) your script. You can also add sound effects, background music and gestures for no extra points. Once you have edited your movie you can publish it on the Xtranormal site with its own URL. You are also provided with a code should you want to embed the movie into a tutorial or learning object. There is also an option to publish directly to YouTube.

![Xtranormal movie](http://www.xtranormal.com/watch/6768643/mwe-test)

It is important to think about your target audience when using a tool like *Xtranormal*; the animations are probably more suited to year one undergraduates than to researchers.

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Web Conferencing

Web conferencing provides another means of delivering IL teaching to students who are unable to attend sessions on campus, e.g. distance learners and part-time students. There are numerous web conferencing software packages available: Eluminate and Webex require payment, while Yugma and Vyew are free online. Staff at the Health Library have been using Vyew to provide IL training for distance learning students.

Vyew

To sign up for a free account go to http://vyew.com

- Vyew allows the presenter to share their computer screen, an interactive whiteboard or a file such as a Word document or PowerPoint presentation, with up to ten students (the maximum number of attendees allowed for free accounts)
- Students access the web conference in Vyew by clicking on the URL to your “Vyew Room” which can be emailed to the students once they have signed up for a session
- Students do not need to install any software but they do need Adobe Flash Player enabled and sound on their computer
- Up to five attendees (including the presenter) can share a webcam within the meeting or all attendees can use the public chat (in the bottom right corner in the screenshot) to communicate with one another and ask questions
- You will need a webcam and a headset (depending on the quality of the microphone in your webcam) installed on your PC.

Tips:
Section Six: Lesson Delivery

- Advertise the sessions one week in advance on a blog and in Learning Central
- Tie in the sessions with assignment dates
- Allow 5-10 minutes settling-in time to let the students get used to the learning environment; have some patter prepared to keep them entertained whilst they’re waiting for the other students to join; check pronunciation of names
- Be aware of time zones when scheduling the sessions
- Keep the students’ attention by asking direct questions.

Video Conferencing software to support library users

Video conferencing software enables us to provide support in using the University’s electronic resources to distance learners. The software enables you to share your desktop remotely with the participants of the session allowing you to give sophisticated demonstrations and take questions via voice or instant chat messages. We have been using BigBlueButton hosted by JISC. To run one of these sessions you will need a headset with microphone, the latest version of Adobe Flash and a webcam. Participants will need a headset with microphone and the latest version of Adobe Flash. We hope that the functionality of the software will soon be extended to record sessions and to share participant’s desktops.

Mari Ann Hilliar, Health Library

Wikis

A wiki is a tool that allows users to add and edit content freely on a website. The main goal of wiki communities is to create free, reliable, up-to-date reference sources. Wiki is a Hawaiian word meaning “fast”.

Wikis can be used as online IL collaborative working tools in the following ways:

1. Collaboration between learners
2. Collaboration between teachers
3. Collaboration between learners and teachers

A great example of a wiki is Library Success: A Best Practices Wiki (http://www.libsuccess.org). This has a similar layout and design to Wikipedia because it uses Media Wiki http://www.mediawiki.org - a free open source software originally written for Wikipedia. The following are further examples of free open source software sites you may use for creating your wiki:

- Wiki Spaces (http://www.wikispaces.com)
- Wet Paint (http://www.wetpaintcentral.com).

However, bear in mind that Learning Central incorporates a wiki tool which has been used with great success.
Creative use of a wiki

Using the wiki tool on Learning Central allowed me to create a virtual repository for most of the content in my handouts and lectures. Unlike a simple collection of links, the material is searchable through tags and the hierarchical index. Embedded links within the articles facilitate browsing throughout the wiki, connecting topics together. I was also able to embed links to external web pages in and out of Cardiff University, providing both contextual information and further in-depth resources.

By placing most of my IL content in a secure location accessible to all School of Music students and staff, I was able to take a more relaxed approach to my IL sessions. In the inductions and introductory research skills sessions, I focused on enabling autonomous information seeking, rather than simply force-feeding the information to the students directly. The wiki is just one of the tools we used in developing our own Library module on Learning Central. Creating a hub of relevant information helped strengthen the School's Learning Central presence, which also reinforced our own relevance in the School. A nice side effect was that putting so much content online also significantly reduced paper output and staff time by eliminating the need for mass-photocopied handouts!

Although I have focused initially on using the wiki as a repository, I hope in future to expand its use for collaborative engagement with the School. I'd like to develop - either as part of the existing wiki, or as a separate wiki - a "by-genre" resource review where students and staff can share useful weblinks and recommend relevant materials. The idea is to create social bookmarks within a wiki article format. The trick will be convincing our School that sharing resources will enhance not replace traditional research.

Charity Dove, Music Library
Summary
This section examines good practice in three important components of lesson delivery:

- Presentation techniques
- Managing the teaching environment
- Facilitation skills (for workshops)

Presentation techniques
Delivering a presentation for the first time, whether in the form of a lecture or part of a workshop, is not an easy task. Presentations have much in common with live theatre; after all, you will be giving a performance! Very few people are born presenters. However, the good news is that presentation skills can be learned / acquired with practice and everyone improves with experience. Entire books have been written on effective presentation techniques so it is impossible to go into great detail here. The following five point plan will stand you in good stead:

1. Be confident
   - Good planning is the key to good delivery. If you have correctly identified the learning outcomes, have a good structure and have chosen appropriate teaching aids you are off to an excellent start.
   - Know your material inside-out. If you have a knowledge of the material beyond what you are covering within the lesson, you will be less likely to be fazed by difficult questions.
   - Practise your delivery and any demonstrations beforehand
   - Use instructor notes as a prompt (see Section 3: Lesson Planning, pp. 21-22) but don’t read them out word for word!
   - Don’t be fazed by mistakes – they happen to us all. In most cases your audience will not notice.
   - Try to relax. It is inevitable that you will be nervous but the extra adrenaline will keep you alert and help you get through it.
   - Be keen, be enthusiastic! It is impossible to enthuse an audience if you are not enthused.
Section Six: Lesson Delivery

2. Be clear and coherent

- **Make your opening effective** and unhurried. Gain attention by making your opening remarks striking and attention grabbing.
- **Let your audience know what to expect.** Outline the framework of the lesson ensuring that the learning outcomes are understood.
- **Use structuring tactics:**
  - signposts: statements which prepare the audience for what is coming next, e.g. "I will now explain how to use Voyager. Firstly, how to find textbooks, secondly, how to find journals..."
  - frames: statements which indicate the beginning and ending of sub-topics, e.g. "So that ends my introduction to journal indexing services. Now let's look at one in particular: Web of Science."
  - foci: statements which highlight the essential points of the presentation, e.g. "So the key point is..."
  - links: statements which link the different sections and relate to the learners’ experience and knowledge, e.g. "You can see that by using narrower terms the number of records retrieved is reduced. This could mean relevant material is missed. To avoid this, use the database’s thesaurus which we will look at next."
- **Look at the content from the standpoint of the audience.** Don’t leave out chunks of explanation by assuming the audience is familiar with basic points of reference.
- **Don’t use technical language** without explaining the meaning first. Learners will be confused by references to “OPAC”, “Boolean” etc.
- **Repetition of key points and phrases** can be useful to get essential information across.
- **Make your ending conclusive** and effective:
  - Provide a summary drawing together all your key points
  - Be brief and say nothing new at this stage
  - Finish with a key observation or quote
  - Don’t tell your audience that this will be a concluding summary as they are likely to switch off and start packing up!

3. Be inclusive and involving

- **Use questioning** to encourage alertness and maintain interest. With large groups use global questioning: encourage contributions but bear in mind that, within large groups, learners may feel inhibited.
- **Use activities** to break up a session and encourage active learning; these can be especially effective within lectures, which traditionally are recognised as a passive format (see Section 4: Lesson Formats, pp. 33-34).
Section Six: Lesson Delivery

- Use Audience Response Technology ('clickers') to involve your audience and to help you assess the effectiveness of your session (see Section 5: Teaching Technologies, pp. 39-40)

- Face and talk to the audience not the screen when you are using teaching technologies such as PowerPoint! Maintain eye contact throughout.

- Use pauses to allow your audience time to reflect and catch up

- Choose examples which are relevant, memorable and striking when undertaking demonstrations.

4. Be time conscious

- Rehearse in order to gauge the overall timing. This will help ensure you are not spending too long on particular sections at the expense of others

- Finish within the allotted time. Learners will not mind finishing early but they will not be happy if you overrun!

- Be alert to signs of restlessness and inattentiveness. If you are aware of this, try changing the pace of delivery or move on to the next section.

5. Be yourself!

- Your voice is one of your greatest natural assets:
  - Speak clearly and loudly enough to be heard
  - Use intonation; if you speak in a monotone your audience will find your delivery monotonous.
  - Speak at a steady pace; if you speak too quickly, learners will be unable to digest what you have said; if you speak too slowly, you run the risk of sending your audience to sleep!
  - Don’t try to hide a regional accent; just speak naturally but clearly.

- Use humour. A light touch and a witty aside can be useful for keeping the attention of your audience.

- Use expressive body language and speech rhythms but try to avoid any mannerisms which may be irritating to your audience

- Dress comfortably and appropriately – don’t arrive under or over-dressed!

Above all, Enjoy Yourself – and your audience will too!

HILT Pick
For nervous presenters!
Strike up a conversation with one or two of the students before you start the session. You could ask them about the lecture they have just come from. This will help you engage with the students as individuals and ease your nerves when you come to speak to the whole group.
Pecha Kucha

Pecha kucha (pronounced pe-chak-cha) was devised in 2003 in Japan by a group of architects, and has since spread into the business community and other fields. It takes its name from the Japanese term for “chit-chat”. It is a quick-fire technique to use with PowerPoint presentations, allowing a rapid and concentrated approach to the session. The speaker is limited to twenty slides, shown for twenty seconds each (you must set the timings using PowerPoint’s Slide Transition option), giving a total time of 6 minutes 40 seconds. Pecha kucha requires good preparation and careful thought about the key points to choose for your slides, but it does provide a lively and effective method which should maintain your audience’s attention. Text is generally kept to a minimum as the impact of the format relies heavily on images. Pecha kucha may work well if you are required to give a short presentation within a large general orientation organised by the School; a well planned, attractive pecha kucha presentation is sure to stand out and make an impression. You may also find the format useful for presenting to colleagues at professional events. For examples of pecha kucha presentations used at an IL conference see: http://www.library.unlv.edu/conferences/loexw/pechakucha.html [Accessed: 17 June 2009]

Managing the teaching environment

The teaching surroundings can have a considerable impact on the effectiveness of your session. It is worth considering the following points:

Room preparations

- Before the day, confirm the room booking either with RoomBooking@cardiff.ac.uk or check the weekly timetable on the door (for pool rooms)
- Visit the lecture theatre if it is unfamiliar to you - be prepared to visit outside academic teaching hours if the lecture theatre is booked up during the day. If necessary, take along a colleague who is already familiar with the room and who can show you how the equipment works.
- On the day, ensure lighting or blackout arrangements are satisfactory, but also that lighting in the darkened room is still sufficient for note-taking
- Decide where you will put any handouts which you want to distribute at the start of the session. Many lecture theatres have two entrances so you might want to place handouts in separate areas.
- Also ensure that you:
  - Locate the most appropriate place to position yourself
  - Get a feel for the dynamics and atmosphere of the space
  - Practice projecting your voice.
Section Six: Lesson Delivery

Equipment preparations

- If you are using a portable data projector, ensure it is set up so that cables are not a hazard to you or the learners
- Ensure that you are able to log on to the presenter’s PC:
  - Check that any web pages you wish to use display properly
  - Bookmark them in your web browser or link to them from your presentation. Run them up on the PC just before the start of your session to speed up access.
- Ensure that any sounds or images you intend to use run properly on the PC
- If you have back-up computer logins for your learners, test these out in advance
- If you are using a whiteboard or flipchart, find out how large and neat you have to make your writing for it to be legible throughout the room.

Seating arrangements

Try to ensure that learners are seated in the most appropriate arrangement for your session; for example, encourage your learners to sit en bloc near the front of the room rather than at the back or in a dispersed fashion. This should help ensure good interactivity and effective delivery.

![HILT Pick](image)

Stand at the back of the lecture theatre or classroom as learners are entering – they will then tend to gravitate towards the front!

Group work

If your session is in a seminar room with moveable furniture and involves the use of paper sources, breaking the class into smaller groups of, at the most, three or four learners, creates very good learning conditions. Students work as a team and learn from one another (see Section 4: Lesson Formats, pp. 36-37).

Working in pairs

An option for computer-based workshops is to get learners to work in pairs. Again, learners are able to support one another and the weakest learners in particular will benefit from this approach.

Room conditions

The temperature of the teaching environment can have a marked effect on performance. Unfortunately, most of the time we have very little control over heating and ventilation conditions. Where possible, every effort should be made to ensure that you and the learners are as comfortable as possible.
During the lesson

- Ensure you do not block learners' view of visual aids; stand to one side of the whiteboard / projector screen
- Give learners a chance to read on-screen information before you talk about it
- If you wish, switch the projector to a blank screen when you are not referring to a slide (press the letter B on your keyboard) in order to focus attention on you rather than the screen. Hit the same key again to switch back.
- If you have prepared a handout, suggest that learners use this for making notes.

**HILT Pick**

When using prompt cards or notes, number each sequentially, punch holes in one corner and hold them together with a treasury tag. If you then drop these, you should be able to find your place and continue without too much disruption (or embarrassment!).

Disabled learners

Every effort should be made to meet the requirements of disabled learners.

- Ensure that you know whether you will have a disabled student in a lesson. Check with the disability contact in the relevant School or the module leader.
- If you have a choice of venue ensure that it can accommodate the needs of the student(s), e.g. wheelchair access, acceptable acoustics
- Furniture should be arranged where possible to accommodate wheelchair access, and space should be made for guide dogs etc.
- If group work is to be used, consider carefully how the groups are to be formed.


**Facilitation skills (for workshops)**

When leading a workshop / hands-on training session, strong facilitation skills are needed to encourage individual learning or group interaction. These skills can be acquired with experience but it is worth bearing in mind the following points:

- Several kinds of facilitation skills are required:
  - **Attending / listening skills**: these involve active listening, maintaining eye contact, exploring and clarifying problems with a learner. Some learners are more articulate and coherent than others in how they express themselves. Focus and concentrate on what is being said to you. To ensure that you have understood, it is a good idea to paraphrase back to the student.
Section Six: Lesson Delivery

- **Observing skills**: these involve closely watching the behaviour of learners, searching for clues which indicate how the training is being received – are the learners bored, restless, confused or generally comprehending and responding to the training in a positive fashion? Be watchful – try to identify which learners are experiencing problems and respond promptly and tactfully.

- **Questioning skills**: many learners will be tense and you will need to encourage them through questioning to articulate their concerns and difficulties. You will need to use different kinds of questions in different situations: use a combination of specific (closed) and exploratory (open) questions to identify a learner’s specific needs or problems; use exploratory questions to encourage discussion within groups.

- **Get the balance right** between intervention and non-intervention. Many learners welcome general advice while others will feel intruded upon if you intervene when they have no apparent problem. You will need to be intuitive to assess each situation.

- **Anticipate problems** based on your past experience and point out potentially problematic areas before the hands-on part of the workshop begins.

- **Be sympathetic** to the needs of:
  - **Fast learners**: it is useful to have on-hand an additional worksheet to engage learners who may have completed tasks before the rest of the group.
  - **Slow learners**: be positive and encouraging but don’t allow yourself to be side-tracked as you will need to devote time and attention to other learners too! Suggest a follow-up session or if possible offer to stay behind after the session to address the problems being experienced.

- **Provide constructive feedback** whenever possible: be prepared to suggest more efficient approaches or encourage learners to reflect in order to devise alternative search strategies.

- **Don’t be negative** or destructively critical as this can de-motivate learners; instead, look for opportunities to praise good practice.

### Latecomers and difficult learners

Students arriving late can disturb the whole class, and may miss some important information. Try to minimise the disruption by:

- Continuing the session without repeating what you have already said
- Starting or continuing an exercise with the main cohort and helping the latecomer afterwards
- Speaking to the learner after the session; if they have a genuine reason for being late, try to offer another time when you can help them catch up.

Remember that lateness is sometimes unavoidable e.g. if a previous lecture over-ran.

Learners using *Hotmail*, booking train tickets online, arranging an Interflora delivery for Mum’s birthday or completing coursework unrelated to your session can demoralise both you and other learners. You will need to consider each situation.
Section Six: Lesson Delivery

carefully, as the learner may simply not understand what they should be doing. However, you must avoid a confrontation in front of the group.

Tips for trouble-free sessions:

- At the beginning, set ground rules about participation and interaction
- Make a friendly but firm remark to divert a distracted student back to the task in hand
- When giving out feedback questionnaires, ask learners who may not have taken a session seriously or worked through the content to write down the reason
- Focus attention on a demonstration or ensure that students fully engage in discussion activities, by asking them to switch off their computer screens.

In exceptional circumstances and only as a last resort, ask the student politely to leave the session.

Don’t forget – your role as a facilitator is to Encourage, to Motivate and to Support!

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Facilitating workshops

Case study 11

I've been helping with first year IL sessions for a couple of years and it's a really good way of getting to know both the students and the resources they will be using. I find it helps me deal with IL queries when I staff the information desk as I can refer back to things we covered in the student’s session.

It’s essential to run through all the tasks the students will be doing before your first session so you are familiar with any problems they may encounter. It can be a bit scary speaking in front of a group for the first time but I found it helped to begin by talking about house-keeping issues, e.g. checking that everyone had signed in.

Each group we teach is different: a lively group can lead to a more interactive session. With quieter groups we need to be more proactive as they are less likely to ask questions. Occasionally, groups of students start chatting and they may need a few reminders to focus on the session; asking “how are you getting on?” and looking at their PC screen usually helps. I think the most important part of facilitating IL sessions is trying to help the students appreciate how important IL is to their course. I really enjoy assisting with IL sessions and we often get positive feedback from the students which is very rewarding.
Summary
The importance of adopting a reflective / evaluative approach to your teaching is explored. The key areas are:

- Reflective practice (pp. 69-70)
- Feedback from students including questionnaires (pp. 70-72)
- Key performance indicator (KPI) for IL (p. 73)
- Feedback from tutors (pp. 73-74)
- Peer Review of Learning and Teaching (PRLT) (pp. 74-75).

Section 8: Evaluating your Teaching

Why evaluate your teaching?
It is essential to gather information which will enable you to assess the effectiveness of your teaching and the learning achieved. This will help you identify your successes and failures and provide evidence to inform your future practice.

Reflective practice
“Reflective practice is a means by which practitioners can develop a greater self-awareness about the nature and impact of their performance, an awareness that creates opportunities for professional growth and development”. 10

Reflective practice is regarded as an essential element of continuing professional development. The definitions of reflection indicate that this is an active rather than a passive process; Reid (1993) defines reflection as “a process of reviewing an experience of practice in order to describe, analyse, evaluate and so inform learning about practice.” 11

Some key points to think about:

- The purpose of reflection is to improve and enhance your teaching. It is a means of evaluating an experience leading to a positive change in behaviour in future.
- Reflection is more than just ‘thinking’; it requires the ability to critically assess, analyse and review all aspects of your teaching

Section Six: Lesson Delivery

- It is a highly personal process requiring discipline and honesty; you will need to confront your disappointments and mistakes as well as your successes.

There are several ways to reflect on the success (or otherwise!) of a session and on your own performance. You can initiate the process by making brief personal notes during or immediately after a session. You might want to ask yourself:

- What was the purpose of the session?
- Did I have any concerns about the session beforehand?
- Which parts of the session went well and why?
- Which parts of the session did not go well and why?
- Were the learning outcomes achieved?
- What have I learned that can help me improve my performance?

Set aside some time soon after your session to address these issues. If possible, keep a diary to record your reflection and refer to this in future. It’s also a good idea to take into account the opinions of others. For example, you could encourage colleagues to offer observations on your performance. This is particularly appropriate when you are teaching as part of a team. Feedback from students can also give an indication of your effectiveness.

Feedback from students

This can be obtained by direct and indirect means. Direct means include:

- Feedback questionnaires
- Group discussions at the end of sessions
- Comments boards
- Focus groups

Indirect means include:

- Feedback given to the School when sessions are embedded
- Noting non-verbal behaviour during the session, e.g.:
  - eye contact (or lack of)
  - background chatter (or lack of)
  - excessive rustling or coughing (signs that students are not successfully engaged)
  - interest in asking or answering questions
  - are they responding to humour?
  - are they yawning or asleep?
  - are they engaging in the activities - or are they booking their train tickets for the weekend? (Remember - this may not necessarily be a reflection on your performance!)
  - are they packing up and wishing to leave the session early?
- Evaluating student performance in exercises and assessed work.
Section Six: Lesson Delivery

Questionnaires

Questionnaires are widely used for collecting feedback and can cover all aspects of the design, delivery and assessment of the course of instruction.

Ideally, your session will be part of a module, so you may need to use a questionnaire designed by the School. Alternatively, there may already be a question(s) relating to your sessions on the course feedback questionnaire administered by the School and you may feel that this is adequate.

Designing questionnaires

Sometimes it will be necessary to design your own questionnaire, for example if you:

- wish to obtain feedback on a specific aspect(s) of a session
- are running a session for the first time
- are incorporating new content in an established session
- are using new materials, methods or technology
- wish to carry out a pre-session audit to gauge the expectations / prior knowledge of students.

Questionnaire design can be complex and is a topic of study in its own right. However, here are some tips:

- Make the aims of the questionnaire clear from the outset, e.g. “to identify student preference for online tutorials or printed worksheets at database training sessions” or “to gauge student reaction to a new interactive library orientation session”
- Questions should be relevant and appropriate to the aim(s) of the questionnaire - keep it tightly focussed
- Only ask about aspects of your teaching you are in a position to act on as a result of the responses received
- Make the questions short, precise and simple to answer. Avoid ambiguity and use straightforward language.
- If possible, use a combination of ‘closed’ and ‘open’ questions
  - Closed questions provide ‘quantitative’ data by offering a choice of answers using tick boxes or requiring responses using a scale or number rating. They are quick to answer and the data is easy to collate.
    E.g. Which of the two exercise formats used in this session did you prefer?
    
    | Format                  |   |
    |-------------------------|--|
    | Online tutorials        |   |
    | Printed worksheets      |   |
    | No preference           |   |
  
  - Open questions are used for obtaining ‘qualitative’ feedback in the form of stated opinions and comments. Keep these to a minimum as they will take more time to complete and are likely to be ignored by some students:
    E.g. Why (if you specified a preference) did you prefer this format?
- Keep it short - one or two sides of A4. Long questionnaires look off-putting and take up too much time to complete at the end of a session.
Section Six: Lesson Delivery

- The layout should be clear and uncluttered. Use lots of white space and a generously sized Arial font.

Draw attention to the questionnaire at the end of the session and collect completed forms before students leave. This will help ensure a high response rate and thus a reliable picture of opinion.

Other suggestions

- Initiate a group discussion at the end of the session using open questions (How, What, When, Why)? For consistency, put the same questions to every group following the course of instruction.
- Give students a coloured post-it note to comment on an aspect of the session which they liked, and a different colour to highlight an aspect of the session which they didn’t. Ask students to stick these on a board as they leave.
- Ask the module tutor to elicit feedback in their next class. You could also seek feedback at any staff / student panels which you attend.
- For a new session you could (with permission of the School) set up a small focus group to receive a more in-depth response
- Monitor student use of, or enquiries relating to the sources in which you have provided instruction in order to gauge changes in behaviour following your session, over a period of time. If this indicates that some students are experiencing difficulties take remedial action by, for example, offering ‘follow up’ sessions.

**Key performance indicator (KPI) for IL**

A KPI is a meaningful measure of success which can assist in assessing progress towards the achievement of a specific goal. INSRV Board has requested a KPI to measure the impact of IL teaching. After consultation at a ULS Briefing, the IL Group has agreed that the best measure of impact is one which takes into account students’ perceptions of the effectiveness of the IL teaching they experience. The following KPI has been formulated to enable teachers to quickly and conveniently elicit a response:

"As a result of the [information literacy] training, I feel better prepared to research and complete my academic work"

Teachers may replace ‘information literacy’ with their preferred terminology e.g. ‘legal research’, ‘library skills’ etc. The question should be addressed to each student at the end of an IL session or the final session of a series. The Likert scale should be adopted for students to specify their level of agreement i.e. Strongly agree, Agree, Maybe, Disagree, Strongly disagree.

Responses may be collected via a number of means

- If you are using clickers you may set-up a vote and record the results
- If you are using a feedback form, include the question at a prominent point
- Display the question and response options on a PowerPoint slide. Issue post-it notes and get the students to attach to a wall as they leave the room
- Set up a quick online response survey using a free online voting tool such as Doodle (http:www.doodle.com)
Section Six: Lesson Delivery

Make sure you impress upon the students the importance of responding and, whichever method you use, try to ensure they respond before leaving the room rather than relying on them to respond at a later date. Having compiled the results for a whole cohort, send them to Cathie Jackson who will produce the overall figure for the KPI.

Feedback from tutors

The quality of student work will be formally and informally assessed by tutors. As a result, they will have views on how effectively the learning outcomes incorporating elements of IL have been met. Key indicators might be how well students have developed their research strategies, uncovered the depth and breadth of appropriate material and avoided plagiarism.

Develop relations with tutors by:

- discussing outcomes and appropriateness of lesson content beforehand
- sending copies of the documentation you will be handing out
- providing a report / feedback after the session(s)
- seeking feedback on how successfully the IL elements of assessed work were handled by students.

Peer Review of Learning and Teaching (PRLT)

PRLT is designed to help you reflect on your teaching with support from a colleague. In February 2006, Senate endorsed the Peer Review of Learning and Teaching Policy Framework. The central tenets of the scheme are reflection, development and enhancement.

All INSRV staff with teaching responsibilities are expected to undertake PRLT at least once a year. This will be a confidential and non-judgemental experience based on mutual trust and respect. A supportive colleague will attend your session to help you reflect on all aspects of your teaching. As part of the process, you too will be expected to offer similar support to an INSRV colleague. The intention is that both parties will learn and benefit.

To date, INSRV staff have found this a positive and worthwhile experience (see Case Study 14, p. 75). PRLT can prove inspirational as you may get to see alternative teaching methods and styles in action. It can also help build confidence by confirming your strengths, and helping you improve in those areas in which your teaching is less developed. Moreover, the process will encourage you to think critically about your teaching as you will need to discuss your approaches in depth and detail with your colleague.

Your initial peer discussion should help set the context of your session for your partner. It is important to discuss what you expect to get out of the process. You will need to

- Flag the areas of concern, those aspects of your teaching upon which you would particularly value the opinion of your partner (though ideally, your post-session discussion should be as wide-ranging as possible)
- Agree upon the form in which the data / evidence will be collected and presented at the discussion.

Section Six: Lesson Delivery

For further information see the INSRV Peer Review of Learning and Teaching Framework on the shared drive at:
WorkingGroups\Informationliteracy\Staff development

Finally, remember that reflection is an ongoing process – it does not stop after your PRLT has been completed for the current year. Time set aside for reflection is time well spent. It is a sound professional practice from which you and your students will benefit immeasurably.

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**PRLT: a subject librarian’s perspective**

I’m one of the lucky ones. It wasn’t that long ago that I received my MLIS, and in my final semester I even had a class on using technology in IL education. Granted, between all of the role-playing, new tools, methodology, and of course our final exam (designing and delivering an instruction session to our very critical peers), I suspect that in some ways the training I received did me more harm than good. I came away from the experience with outrageously high expectations, and now that I was faced with creating my own curriculum and presenting it in an academic setting, I felt completely overwhelmed. And on top of this, I had to face peer review... again?!

I can’t say the idea of PRLT filled me with joy. But the experience was nothing like I had imagined. There was no criticism - only offers of assistance. Even the emails trying to coordinate the observations were friendly reminders that I wasn’t alone. Sitting in on a colleague’s class gave me additional parameters for evaluating my own classes and shook loose ideas that had been stuck in the back of my brain. Going through her handouts showed me how I might adapt worksheets from the Training Materials Repository to meet my own needs. Most importantly, there was the act of setting aside some time to reflect, and to have the opportunity to do so with someone there to act - not as an assessor, but as a mirror.

Participating in the PRLT transformed what had been a somewhat stressful project into a satisfying and fulfilling process. By working independently alongside my peers, I received the support I needed to manage my expectations and create my own learning experience. Will I be a better teacher because of this? Undoubtedly. Will I be a calmer and more confident professional? Absolutely!

*Charity Dove, Music Library*