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Teaching information skills to large groups with limited time and resources

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Abstract

The purpose of this article is to discuss the various interactive teaching methods used during large group information literacy sessions at Liverpool Hope University during the academic year 2008-2009. Based on the practical experience of piloting a range of methods with students at Liverpool Hope University during the current academic year, this article analyses the benefits of using various interactive teaching techniques to assist in the delivery of information literacy skills when large group teaching is the only available option. This includes an outline of a variety of aides to interactive teaching within the lecture. Also discussed is the use of post-session follow up actions to ensure that students receive hands-on practice using resources through the use of quizzes and worksheets, while drop-in sessions and online tutorials enable further support for those students who require it. Evaluation to date indicates that interactive teaching methods improve student understanding although different methods may be more successful than others and with different groups of students. The article recommends using a variety of different interactive methods during a lecture, as well as ensuring there are opportunities for hands on practice after the lecture. This will cater for different learning styles and also the teaching styles of the presenters.

This analysis contributes to the literature on teaching information literacy in higher education settings through a focus on aides to facilitate information literacy with large groups. The discussion of the relative merits of various teaching methods will help formulate practical solutions to the common problem of how to teach information skills to large groups with limited staff time and numbers.

Keywords

Information literacy, interactive teaching methods, learning theory, active learning, large group teaching

1. Introduction: the problem

My students need to know how to use the library. There are 80 in the group; you can have an hour with them.

The above encapsulates a familiar scenario for academic librarians involved in teaching information literacy. Effective teaching of information skills would ideally be undertaken in small groups in an environment where students get hands-on practice using library resources (Birks and Hunt 2003). However, the combined limitations of few available staff and limited time in an already packed teaching curriculum means that often the only opportunity for librarians to engage with students will be to large groups in lecture theatres.

The traditional academic lecture is now widely acknowledged as flawed as a means of effective teaching (Bligh 2000). "Most people tire of lectures in ten minutes; clever people can do it in five.

Sensible people never go to lectures at all” (Stephen Leacock in Exley and Dennick 2004, p. 3). The limitations of the lecture are even more apparent when the material taught requires the practical use of online resources to successfully retrieve information.

Like many institutions this was the case at Liverpool Hope University. Often the only available opportunity for subject librarians to see students would be in scheduled lectures sometimes containing over 200 students. Such sessions seemed to achieve little beyond very basic awareness of resources. Evidence from the Library enquiry desk indicated that despite the fact information literacy provision has reached most of the subject groups, some students failed to develop appropriate information skills. This is shown by their queries about accessing online journals, after attending the information literacy sessions, demonstrating that they did not understand the basic rudiments of how to access resources and the differences between various databases. Despite having attended library skills sessions during their first year, feedback to librarians seeing students at the start of the second year of their degree indicated that many of these students were not familiar with resources covered in the first year and as a result valuable time was often wasted explaining material that had been previously covered.

The problems of delivering information literacy through lecture-based sessions to large groups are explained in this paper together with the strategies employed at Liverpool Hope to promote the students’ active engagement with information literacy in line with the pedagogical tenets of learning theory.

1.1 The theory

Learning theory distinguishes between ‘active learning’ and ‘passive learning’. Active learning includes activities such as discussion, questioning, problem solving, and other forms of interactivity that do not tend to occur during a traditional lecture. Because of the interaction that it fosters, active learning is considered more effective as students take in the information more deeply (Bonwell & Eison 1991).

Honey and Mumford (cited in Highmore Sims 2006) suggest there are four learning styles illustrating different ways people prefer to learn. Ideally, any information literacy session should attempt to cater for all four learning styles in order to ensure all participants learn effectively.

Figure 1: Learning Styles (Honey and Mumford)

Learning styles	
Activists like: <ul style="list-style-type: none">• to think on their feet• to have short sessions• plenty of variety• the opportunity to initiate• to participate and have fun	Reflectors like: <ul style="list-style-type: none">• to think before acting• thorough preparation• to research and evaluate• to listen and observe
Pragmatists like: <ul style="list-style-type: none">• to see relevance to their work• to gain practical advantage from learning• credible role models• proven techniques• activities to be real	Theorists like: <ul style="list-style-type: none">• concepts and models• to see the overall picture• to feel intellectually stretched• structure and clear objectives• logical presentation of ideas

The Chartered Institute of Library and Information Professionals (CILIP) defines Information Literacy as: "...knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner" (CILIP 2006). The core skills of information literacy are spelt out by the SCONUL Seven Pillars model (SCONUL 1999):

1. The ability to recognise a need for information
2. The ability to distinguish ways in which the information 'gap' may be addressed
3. The ability to construct strategies for locating information
4. The ability to locate and access information
5. The ability to compare and evaluate information obtained from different sources
6. The ability to organise, apply and communicate information to others in ways appropriate
7. The ability to synthesise and build upon existing information, contributing to the creation of new knowledge

Learning such skills using the suite of library resources the university provides is the aim of user education at Liverpool Hope. Information literacy sessions are designed to develop basic competence, during library induction and undergraduate information literacy sessions for first year students focusing particularly on skills one to five. Information literacy sessions delivered at intermediate and final levels of the undergraduate degree programme involve a more advanced understanding of all the IL skills although particular attention is paid to skills four and five where the focus turns to the semantic skills of building search strategies, more sophisticated use of search language and a greater ability to critique information sources. However, teaching information literacy by means of the traditional lecture neither addresses different learning styles nor provides opportunities for practical application of the seven core skills of information literacy.

1.2 Towards a solution

In order to make a lecture delivered to a large group of students an **active learning** experience a variety of interactive elements can be introduced within the traditional lecture theatre format. This article presents a range of options for introducing interactive methods into an information literacy based lecture. Using interactive teaching methods is particularly beneficial as the aim of information literacy education is to teach a practical skill set. From this it follows that the traditional

academic lecture, with its emphasis on passive learning, is particularly unsuitable to deliver information literacy sessions. Using a variety of methods can cater for the mix of **learning styles** likely to be present within a typical group of students. Below we present a number of strategies adopted at Liverpool Hope to deliver information literacy sessions and argue that these methods can ameliorate some of the limitations of the traditional lecture when this is the only available option for library staff to engage with the students.

2. Methodology

2.1 Investigation of teaching methods

Literature searches were undertaken of the databases Library and Information Science Abstracts and Library, Information Science & Technology Abstracts to review the existing journal literature on teaching methods for information literacy instruction. Formal database searches were complemented with structured Internet searches of academic websites, Open Access sources such as the archive of the Journal of Information Literacy and key web sources such as the SCOUNL website to glean further information on existing practice within the sector. Literature searches within the library and information field sourced the Cephalonian method which is discussed in detail below. However, literature searches revealed that there was a limited amount published from within the library and information field specifically on teaching methods for information literacy which were lecture based. Therefore literature searching was broadened to include education research databases such as ERIC (Educational Resource Information Centre) and Education Research Complete. These additional searches found material on other potential interactive teaching methods such as Personal Response Systems.

The question was then raised as to how far it would be practically possible to implement such methods within information literacy instruction. Formal training courses attended by Liverpool Hope Librarians provided by various bodies, such as NoWAL (North West Academic Libraries) and CILIP, as well as networking with colleagues in comparable HE institutions provided further information on the practical application of some of the techniques. A key source of practical advice was Liverpool Hope University's Centre for Learning and Teaching. Meetings with educational specialists from the Centre provided practical solutions for the implementation of delivery methods in a cost effective manner. For example, it was through consultation with the Centre that the library was alerted to the use of the Communicube as a cost effective alternative to expensive Personal Response Systems.

Having identified options for introducing interactivity to sessions particularly appropriate to the lecture format, the literature on information literacy was revisited to ascertain the extent to which established information literacy teaching methods could be adapted for use in the lecture. Search strategy exercises such as those outlined by Birks and Hunt (2003) and the use of props such as examples of different kinds of literature were identified as potential options for adaptation from use in small groups and hands-on IT based sessions to use in large classrooms and lecture theatres.

2.2 Piloting teaching methods

Having identified a range of potential options for introducing interactivity into large group sessions, it was agreed that these methods would initially be piloted using a group of some 30 library staff not directly involved in information literacy provision. Library staff members were pre-assessed to ascertain their predominant learning style using a questionnaire based on Honey and Mumford's typology. Analysis of the questionnaires showed that there was a good degree of variance in learning styles across the staff group with all four of Honey and Mumford's 'learners' represented. In addition to comprising a good range of learning styles, the pilot group was not directly engaged in or had prior experience of teaching and training methods, comprised a mix of age ranges and

came from diverse educational backgrounds. It was felt therefore that their views could provide a useful model of the range of likely student reactions to the methods use. Details of the results of the initial pilot are discussed later in the article, including which of the piloted methods were considered suitable for delivering information skills training to students. The section below gives a detailed description of all teaching methods employed to date with students to deliver information skills training at various levels (from induction and throughout the curriculum) following the initial piloting of these methods by library staff.

2.3 Cephalonian method

The Cephalonian method is a method of active learning designed by librarians at Cardiff University in order to revitalise 'boring' library inductions by providing a degree of interactivity beyond merely communicating procedural information (Morgan, 2004; 7). Inspired by the Cephalonian method, questions were planted amongst the audience on coloured question cards, during library induction and later subject specific sessions at Liverpool Hope.

These question cards served to engage the audience and guided the progress of the lecture through the accompanying PowerPoint presentation which prompted the asking of the questions and used relevant screen shots to illustrate the answers.

Those with Activist learning styles enjoyed the opportunity to initiate their learning by asking questions, and participating rather than passively receiving information. Questions provided structure to the lecture, appealing to those with a Theorist learning style, and the style of the questions was designed to be practically relevant so as to meet the needs of the Pragmatist learners.

Morgan and Davies (2004, p. 6) argue that "even when used in a large lecture theatre, this informal format was an excellent ice-breaker, helping us to establish a good rapport with the students ... Most students appeared to enjoy the different presentation style of the Cephalonian Method".

Our experience at Hope concurs with this view and was substantiated by post-evaluation questionnaires completed by librarians delivering inductions who observed a marked improvement in the students' levels of concentration and participation compared with the previous years' inductions.

To provide spatial orientation of the library the lecture theatre session was followed by a tour of the library building. Students were given a quiz to complete in order to increase engagement with the tour and evaluate the extent to which information was embedded. More information about evaluative quizzes is given in section 3.2.

2.4 Personal response systems

Personal response systems (PRS) are an excellent means of gleaning information and opinion from students and for evaluating understanding. Although there are technological solutions on the market, these do not necessarily have to be expensive pieces of electronic equipment. For example, it is a simple enough task to ask students to write responses or place post-it responses onto a flipchart or whiteboard. If the group proves too large, responses can be requested from small groups rather than individuals. In some sessions immediately on entering a lecture theatre, students are asked to mark off on a list which sources of information they are familiar with. Students are asked to indicate which resources they regularly use for their research by selecting from options such as the Library Catalogue, Google and a subject relevant online journals database. Equally students can anonymously write opinions on post-its to stick on a board at the end of the lecture.

A cheap PRS solution is the Communicube. Developed by and available from Keele University (Bostock, Hulme and Davys 2006), Communicubes are multi-coloured cubes that are used where each colour represents a different response to a question. Communicubes were used at Hope as a means of assessing current levels of knowledge about library resources. Communicubes were successfully used with various large lecture groups of 80-100 students. The coloured cubes were handed out to students at the start of the lecture, and then were used to answer questions at appropriate points within the lecture. For example, before beginning to explain how to search for journal articles online, students were asked to respond to questions about how confident they were in their use of databases. In order to answer the question, students were each given a Communicube and the presenter indicated the different colours on the cube that represented different potential responses. The sea of colour displayed in response to the questions enabled the presenter to quickly gauge the level of confidence felt by the majority of the group. Material could then be repeated or explained differently as required by the responses the presenter received. The same questions could also be repeated at the end to see if the session has fulfilled its objectives by increasing students' confidence in using the information sources.

Communicubes are ideal when funds are limited as this resource is available for purchase for a nominal fee per cube. However, there are also more sophisticated automated personal response systems on the market which involve students using individual handsets to indicate their answers (Philipp and Schmidt, 2004). These operate in a similar manner to the audience responses on the quiz game show "Who Wants to be a Millionaire". Answers are automatically collated and displayed on screen in graphical format so that both audience and presenter can gauge the majority response. Whilst these are a more sophisticated solution there are inevitable financial drawbacks of purchasing enough PRS systems for large lecture groups. The benefits of PRS systems are therefore:

- assess current levels of knowledge
- respond and modify focus of the teaching session according to audience responses (i.e. which information sources to focus on, or how advanced to pitch the session)
- act as an icebreaker to get the students engaged in the learning opportunity
- provide a nearly anonymous way for the student to honestly answer the question (as compared to a show of hands)

2.5 Group work exercises (keyword search strategy)

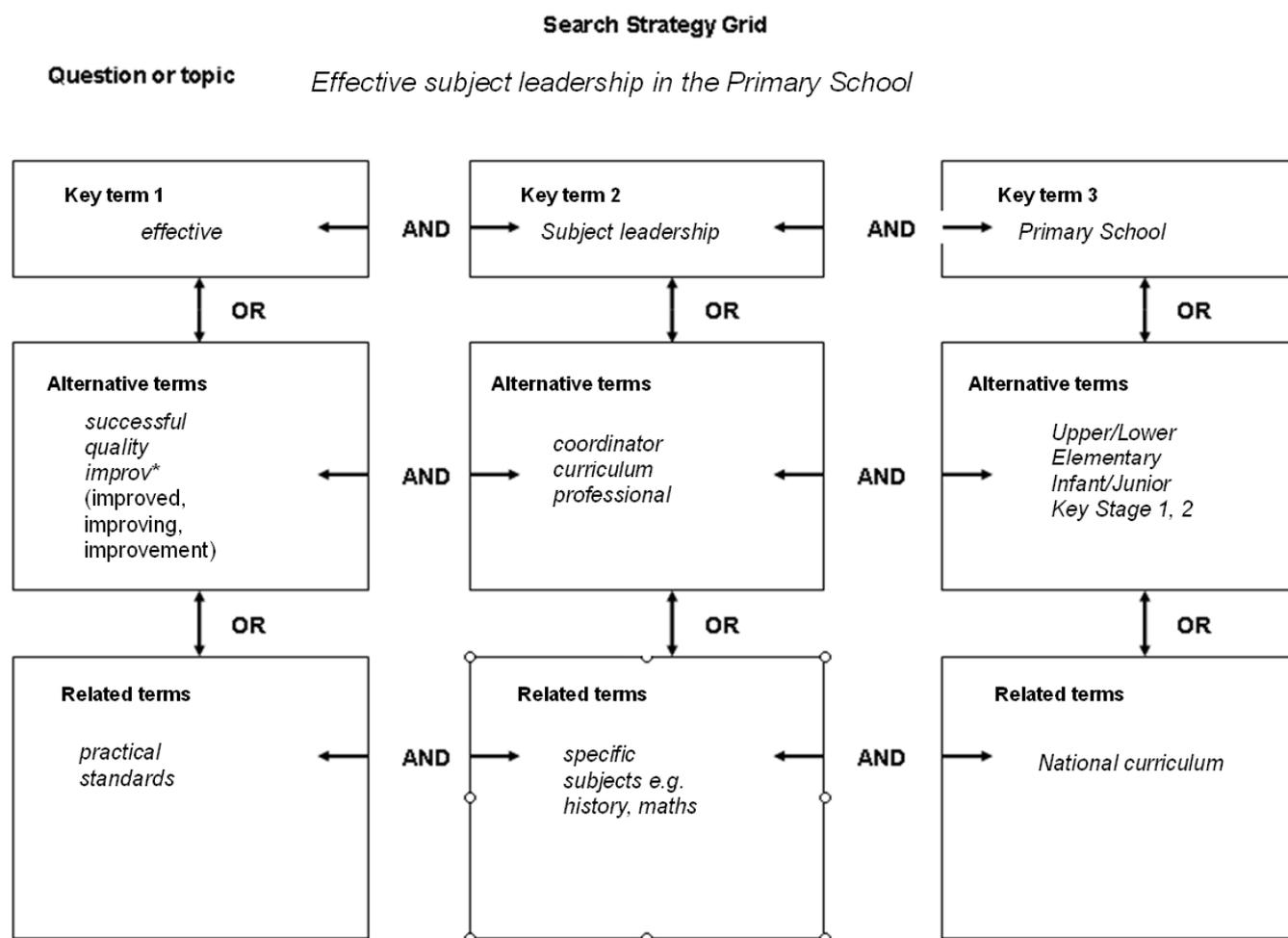
Group work exercises are an effective means of introducing active learning into a lecture theatre setting. Exercises to be carried out in pairs or small groups also break up the monotony of continuous verbal lecture presentation. An easy to employ group-based task in an information literacy lecture is the formulation of a search strategy. A key learning outcome of a literature searching session is to illustrate the semantic skills in identifying a range of keywords and linking them together. Teaching this skill is therefore not necessarily dependent on hands on use of online resources and thus can be employed in lecture theatres and large classrooms where IT equipment is not available.

This is taught at Liverpool Hope using a search topic relevant to the current lecture programme or upcoming assignment. Students are asked to work together in groups to complete a search strategy grid which encourages them to discuss and explore possible keywords they could use to effectively search for information on that topic. The search strategy grids used at Liverpool Hope were based on training materials developed by the information literacy team at Edge Hill University. This group-based exercise appeals to activist learners as it offers variety and a chance to participate. Pragmatists will immediately see the relevance to their work if the topic chosen is relevant to the lecture programme in the module. The time out working on the grid gives Reflectors a chance to research and evaluate the information and skills imparted.

This exercise carries the additional benefit of allowing students to actively prepare for upcoming written work by completing the first stage of the online research for their assignment. It therefore has an immediate practical application of the skills we are imparting.

Completing search strategy exercises, particularly if they can be linked to the module's written work assignment, is not only of practical benefit to the students but has been particularly well received by academic staff. Academics recognise the potential positive impact on assessed work that good planning of the information gathering aspect of students' research will have.

Figure 2: The search strategy grid – a completed example



2.6 Props

The benefits of spending time looking at physical examples of academic texts and written work during sessions should not be underestimated. For example, new undergraduates are unlikely to have ever seen an academic journal before and are not clear as to what it contains and how it differs from text books and other material. The best way of introducing students to the concept of academic research publications and to enable them to understand the value of journal articles to successful academic writing, is to let them browse journals. This can be done in the context of lecture material on how journal publishing works and how it differs from both text books and standard magazine publishing. During 1st year undergraduate information literacy lectures delivered within subject groups, relevant journals were passed around the group of students. In addition to browsing the material and contrasting the content to their text books, students were asked to identify key referencing information within the journal issues such as volume and issue

number. Examining the journals enables students to gain an understanding of the content of peer-reviewed journals and their differences to conventional periodical publishing and differentiate between the respective benefits of using journal articles and text books. This method appeals particularly to Activist and Pragmatist learning styles.

In summary examining the journal enables students to gain an understanding of the content of peer-reviewed journals and their differences to conventional periodical publishing and differentiate between the respective benefits of using journal articles and text books. This activity has been used successfully with groups of up to 200 students. With the aid of a digital imager the entire group was shown details from a journal cover such as the volume and issue numbers, the contents page, an abstract, the editorial board, and a typical article. Later in the session various print journals were passed around the group as samples and students asked to note these typical features. However, when handing out props to larger groups it is beneficial if more than one member of staff is present at the session to ensure that disruption is minimised and order is maintained.

3. Evaluation of interactive teaching methods

3.1 Initial pilot with library staff

The initial pilot of interactive teaching methods conducted with library staff assessed the usability of 3 methods: the Cephalonian method, Communicubes and bingo cards. A brief explanation of the bingo cards is given below as they have not been discussed elsewhere in this paper. Those attending the session were asked to complete an extensive evaluative questionnaire. Although the questionnaire incorporated some quantitative elements, in addition the library staff which were involved in the pilot were asked to provide more in-depth reflective responses to questions including:

- What was good about your favourite method?
- Why do you think that method worked?
- What was it about the method you liked least that you didn't like?

In terms of quantitative feedback, 85% of those attending felt that the interactive methods piloted would improve levels of understanding and were preferable to a regular lecture presentation. The narrative responses indicated that the Cephalonian method:

- involved the audience, made it a group experience and lightened the mood
- made it more likely to remember what was talked about
- made structure clearer
- answered basic questions, that some people might not feel comfortable asking
- it broke up the presentation, signified when a new topic was being introduced and people paid more attention

The narrative responses on Communicubes also highlighted the positive aspects of this resource:

- suitable for quieter/shyer students allowing them to interact without having to stand out from the crowd.
- simple yet effective way to engage the audience, and to make the session a group experience
- felt it helped presenter build rapport with students
- feedback can be gathered quantitatively

The bingo cards was the least successful teaching method piloted. The premise of this exercise was that attendees were presented with bingo cards listing key terms that were discussed within

the presentation. For the purposes of the session this was an introduction to electronic books and a demonstration of the e-books database. The evaluative questionnaires revealed that attendees felt that the bingo cards method was too distracting and made it difficult to concentrate on the presentation. Therefore this method was not employed with students as part of information literacy sessions taught during this academic year.

3.2 Student feedback

New students attending library inductions were asked to complete a short quiz answering questions on the use of the library catalogue, which had already been introduced to the students, and on the navigation of the library building. A prize draw was used as an incentive to complete the evaluation exercise. The quizzes were marked by librarians and the results showed a good degree of overall understanding with 75% of students completing all of the answers correctly. Although these results would seem to indicate that the induction session had delivered some success in improving understanding, it was not clear the extent to which this was directly attributable to the use of the interactive teaching methods.

Therefore further feedback on use of the lecture based interactive teaching methods was gleaned from a lecture group of 55 trainee secondary school teachers who attended a subject session on library resources. Students attending this information literacy session which used the interactive teaching methods were asked to write anonymous comments on the use of the teaching methods at the end of the session, and this feedback was reviewed by the presenter after the lecture. The trainee teachers were selected for evaluation because it was assumed that, given their chosen discipline, they could offer a deeper insight into the use of different teaching methods and their potential benefits.

Feedback from the student group was largely congruent to the narrative feedback provided by library staff on the potential benefits to the learning experience. It was felt in particular that the Communicubes were a valuable teaching aid allowing the presenter to assess the level and progress of the group. 18 out of the 26 students submitting feedback indicated that the ability to assess student understanding was a key benefit. Rather surprisingly an issue that arose from this feedback that had not been raised by library staff was that the Communicubes might be distracting. It should be acknowledged that a possible drawback of using Communicubes is the potential for disruption that is caused by handing out large numbers of coloured cardboard cubes.

3.3 How do you know what will work for you?

Road testing different methods with staff from your own department and particular student groups will assist in making decisions as to which methods are most appropriate in which circumstances. Inevitably a degree of trial and error is required. Not all methods are appropriate for all groups at all levels. Librarians have found different methods more suited both to their own learning and teaching styles and to the learning preferences of the groups of students they support, and so have adopted the ideas presented here to fit their requirements. For instance, anecdotal feedback from librarians delivering subject-based information literacy sessions at different levels of study would seem to suggest that students training to be teachers are more receptive to the lecture based interactive teaching methods than students studying Arts and Humanities subjects. It is unclear whether it is because of their interest in, and knowledge of teaching methods that trainee teachers have so far been more positive towards non-traditional lecture sessions and further evaluation of the methods with students in different subjects is required in future.

Different methods may be more or less appropriate for use at the different stages of the curriculum. For instance, the Cephalonian-style question cards were deemed useful for embedding the initial information literacy skills in the library induction sessions and in the initial information skills sessions delivered to subject groups of first year undergraduates. However, the group-based tasks

where students were asked to participate in search strategy exercises were more popular with students in their second or third year of study. At Hope, narrative feedback from library staff in the pilot group assisted the decision making process as to which methods should be used at which level. For example, it was felt that the Cephalonian method was a good ice breaker for induction sessions but may be considered patronising for established students at a later stage of their studies.

If the interactive methods are to be successful, the confidence of the presenter in using the methods is a critical factor, so only those methods that can be delivered in an assured manner should be chosen. It may also be found that interactive exercises develop organically and are refined over time. This was particularly the case with Hope's experience of developing search strategy group exercises and use of props.

4. Post lecture independent learning and follow up support

Whilst it is felt that introducing interactive teaching methods to the lecture can improve the learning experience of students when teaching information literacy, the need for students to apply practical skills and practice using resources necessitates that such teaching methods should be complemented with post lecture independent learning activities.

4.1 Quizzes and worksheets

Quizzes and worksheets of differing complexity levels have been utilised to actively engage students in learning library skills and improving their information literacy. Students also completed library quizzes after the library induction. At later subject sessions worksheets were incorporated as a task to complete after the lecture session. Worksheets are versatile because they cover a range of resources including the library catalogue, the e-book database, and online journal collections, while individual worksheets can be customised through examples specifically chosen by the subject librarian and the tutor to be of particular relevance to each class. Post session worksheets ensure that students get hands-on practice using resources outside of the class-based information literacy provision. Information literacy is actively developed as students need to access specific resources, demonstrate understanding of their functionality and demonstrate effective searching skills in order to answer the questions on the worksheet. Where possible, worksheets are collected for analysis by library staff. This allows subject librarians to evaluate how effectively skills have been embedded, and if necessary to provide further teaching input to cover the areas that a particular class may have struggled with.

The inclusion of worksheets as part of the learning experience has generated positive feedback from academic staff. All tutors are happy to encourage, and in many cases ensure, that students complete the worksheets, recognising the benefits of encouraging the continued development of information literacy skills via hands-on practice following lectures. Some departments (such as Psychology and Theology) have included these exercises as part of mandatory assessed work. It is our intention to capitalise on this success and the general good feeling towards the Library's information literacy provision by ensuring that more departments include assessed information skills exercises in their curricular activities in future. Early Childhood Studies, Applied Social Sciences and Health have already indicated their intention to incorporate such tasks into assessment in the new academic year.

4.2 Follow up support

In tandem with the worksheets offered after lectures to subject groups, the subject librarian has offered drop-in sessions in an IT lab at a designated time to assist in worksheet completion and answer queries.

The opportunity for guided practice at a computer goes further towards the ideal teaching method of a hands-on workshop for those students who do attend. Drop-ins also ensure that there is a support opportunity for those who feel they have not understood fully what was covered during the lecture. All the learning styles addressed by the worksheets apply to this part of the method, with the added benefit that the active yet independent learning is facilitated by a librarian available to offer guidance if needed.

The voluntary nature of the drop-in sessions has meant that attendance has thus far been relatively low. For instance, from a group of 170 first year undergraduate Education Studies students, 3 attended the follow up session. This could be compounded by the fact that it is not always possible to schedule drop-in sessions at times when all students can attend. Unfortunately due to space restrictions it has been necessary to market the drop-in sessions as additional support for those who require help as opposed to a session for all students. Many students, of course, will be information literate enough to be able to tackle the worksheet exercises successfully with the information gleaned during the lecture, and by independent study and peer support, so would not require further input from their librarian.

4.3 Online tutorials

Online tutorials can be a good way of ensuring that there are opportunities for hands-on learning for all students. The continuous support offered by online tutorials is obviously also of particular benefit to groups such as distance learners and part time students who may find other forms of support difficult to access yet be in need of opportunities to increase their information literacy skills and gain confidence in using library and information resources. Developing online tutorials does not necessarily have to be overly onerous on staff resources. Intute's Informs software (www.informs.intute.ac.uk) allows the opportunity to quickly create basic online tutorials. The collaborative nature of this software also makes it easy to adapt tutorials designed by colleagues at other institutions. Liverpool Hope has a range of Informs tutorials covering different resources available via the library website.

5. Conclusions

Where hands-on sessions in IT labs are not possible, a range of interactive methods incorporated into a lecture based session can help facilitate the learning process and ensure that different learning styles are accommodated. Not all methods may be appropriate for all groups in all circumstances and a range of techniques should be considered and piloted.

In order to ensure that hands-on practice with resources is achieved, interactive lectures should be complemented by post-lecture follow up exercises such as evaluative worksheets and drop in sessions. Developing a basic online tutorial presence also ensures that there is a level of continuous student support in using information resources.

The experiences of Liverpool Hope University are a work in progress. During the next academic year it is intended that a greater degree of evaluation will be undertaken of the different teaching methods used by analysing a greater number of subject groups and students at different levels of study. It is also intended that the teaching methods employed so far will be further developed. For example, PRS systems will be used to monitor student understanding of worksheet exercises. Building on the success of customising the worksheets to suit diverse curricular requirements, in future we aim to further integrate such information skills exercises within the formal assessment process.

To conclude, where large group teaching is the only available option for information literacy interventions, using interactive teaching methods combined with follow up exercises and both staff

and online support can help minimise the disadvantages of the lecture as a method of teaching information literacy.

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