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Transform your training: practical approaches to interactive Information Literacy teaching

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Abstract

This article describes how the Manchester Metropolitan University (MMU) Library has integrated interactivity into its information literacy (IL) training. Research has shown that interactivity is an important aspect of enhancing the learning process and this has been recognised in MMU's InfoSkills training programme. This paper will consider the theory behind adult learners and preferred learning styles and will illustrate specific examples of how MMU has included interactivity into its sessions.

InfoSkills at MMU is taught through a variety of different methods, for example, lecturing, workshops and hands-on computer work. However, each of these alone is not enough and must be combined with other practical approaches in order to make training truly effective. Regardless of environment or technology available, active participation within MMU's InfoSkills sessions is key to enhancing students' independent learning. Although IL trainers at MMU have access to new technologies such as interactive whiteboards and voting pods, these are not always accessible in every teaching location and so this article also refers to low-tech alternative methods. This paper hopes to provide practical ideas for engaging students in interactive IL sessions that may inspire other IL trainers. It also gives information about future developments the InfoSkills team will be making in this area.

Keywords:

Information literacy; Higher Education; Learning styles; Teachers: librarians; Teaching methods

1. Introduction

This article describes how the Manchester Metropolitan University (MMU) Library has integrated interactivity into its information literacy (IL) training. MMU's InfoSkills team has recognised that interactivity is an important aspect of enhancing the learning process in training sessions. This paper will explain why MMU sees interaction as a crucial part of its IL training and describe the steps taken so far to incorporate interactivity into MMU's InfoSkills programme.

In June 2005 the MMU Library Service demonstrated a keen commitment to the development and progression of IL training with the creation of a dedicated MMU *InfoSkills* team. InfoSkills is the brand name given to MMU's IL training programme. One of the team's main responsibilities is to update and modify IL materials centrally for dissemination across MMU's seven site libraries. Since sessions can vary greatly in terms of venue and group size, InfoSkills materials are designed to be adapted for every environment and offer a number of interactive and participative options. A variety of supporting materials have also been designed and created to aid InfoSkills training including WebCT packages, workbooks, exercise sheets and online guides. The aim of InfoSkills training at MMU is to provide students with an understanding of the importance and relevance of IL, together with a practical knowledge of the procedure for locating, evaluating and organising information (Donnelly, 2006). Sessions focus on a five step cycle showing students how to define their topic and plan their search, locate information, evaluate it, organise and use it effectively and, finally, communicate information and review the process. This cycle was adapted and

modified from the eight key characteristics that make an information literate person, which were identified in the research of the Big Blue Project (Manchester Metropolitan University, 2002).

It has been recognised at MMU that in order to successfully impart these IL skills to students, interactivity needs to be integrated into library training sessions. Research shows that “learning is optimal when it is an active process” (Philipp and Schmidt, 2004: 1), and interactivity, a two way process that engages both the learner and teacher, is an important aspect of enhancing this learning. Therefore, the most effective means of achieving optimum comprehension is to ensure students are engaged, feel involved and to some extent have the opportunity to direct their own learning.

2. Approaches to learning and teaching at MMU

2.1 The Higher Education (HE) context

Adult learners vary greatly in HE in terms of age, experience and desire to learn. However, regardless of background, the need for involvement is paramount for all (Knowles, 1990; Thiagarajan, 2000). For example, students arriving straight from school will have been taught with an increasing amount of interactivity and therefore are likely to have high expectations for involvement in the classroom. Likewise, with students now paying for university fees, demands are high on trainers to deliver interactive and engaging sessions using techniques most conducive to learning and understanding.

Interactivity in training is also important due to the attention span of the average adult learner. Different sources place the average adult’s attention span between six and 20 minutes, but this varies greatly depending on factors such as the initial interest in the topic, the heat of the room, the time of day and the tiredness of the learner (Johnstone & Percival, 1976; Middendorf & Kalish, 1996). Injecting a change of pace at least every seven to ten minutes can give participants the chance to refocus and renew their interest in the topic. Introducing an interactive element is an excellent way to change pace and regain the audience’s attention and interest.

However, environment, such as the type or size of room, is often used as a reason for not incorporating interactivity into IL training. At MMU, tutors tend to dictate the location and length of a session and thereby determine if there is time or a suitable environment for hands-on activity. When teaching in a lecture theatre, trainers may think that the easiest approach is just talk at the students. Yet place and time constraints should not restrict them from including some form of interactive element in a session. For this reason, the materials produced by the InfoSkills team offer various options for interactivity that take into account the different environments in which local sessions are run.

2.2 Learning Styles

Another important element to consider in IL sessions is the learning styles of participants. Research into the ways people like to learn shows that individuals have different learning styles (Honey and Mumford, 2000). Although there are a number of theories on this subject, the following four styles provide a useful guide to understanding various learning preferences:

Activist

- enjoy hands-on activities and being involved as much as possible;
- move quickly from one activity to another.

Reflector

- observe other people’s actions before engaging;
- may need further guidance.

Theorist

- go through activities step-by-step;
- prefer structure.

Pragmatist

- like to try out ideas to see how they actually work in practice;
- enjoy practical activities they can use outside of the classroom.

In InfoSkills sessions at MMU, trainers contend that incorporating a variety of activities that appeal to these different kinds of learners has improved the levels of student engagement and helped to hold their interest during training. Variety is key to the effectiveness of the activities included. It may often be assumed that a session has been interactive if students have had time using computers. However, hands-on self-directed learning is only one type of interaction that suits one type of learner rather than the range that is necessary to appeal to all learners. Including a variety of interactive options will give all participants the opportunity to be involved in an activity that really appeals to them.

The team also ensures that even within activities different learners are catered for as much as possible. For example, much InfoSkills training involves database demonstrations followed by hands-on work for students. During hands-on practice, *Activist* learners prefer experimenting through trial and error. As this is one of the best ways for them to learn, these students are encouraged to do so, yet MMU trainers also make sure that they monitor that they are on the right track.

Conversely, *Reflectors* usually want more guidance. For this group, the subject librarians and InfoSkills team have produced handouts and help sheets to read that provide more detailed information prior to using the database. For *Theorist* learners the team have produced structured exercise sheets with directed searches and specific step-by-step tasks for them to carry out. There are also online guides to many databases that again give this structured approach to learning. Finally, for *Pragmatists* worksheets are provided to guide them through planning a search for their own assignment topic. Students can choose whichever method they feel will suit them best allowing them to take control of their own learning. By allowing this choice there is a greater chance that each learner will take something constructive from the session.

2.3 The Learning cycle

Another key to ensuring that the activities used in IL sessions contribute to effective learning is to follow the learning cycle. The InfoSkills team have adopted a tailored version of Kolb's learning cycle (1984) to apply to every session or to activities within a session (see **Figure 1**).

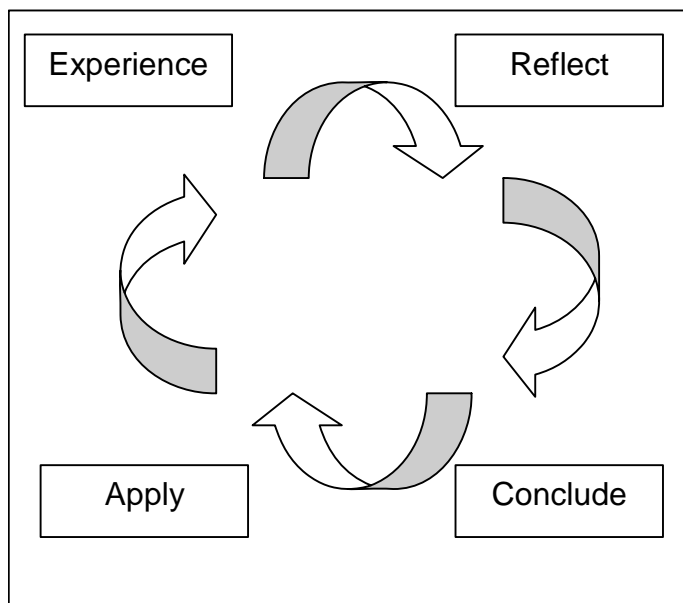
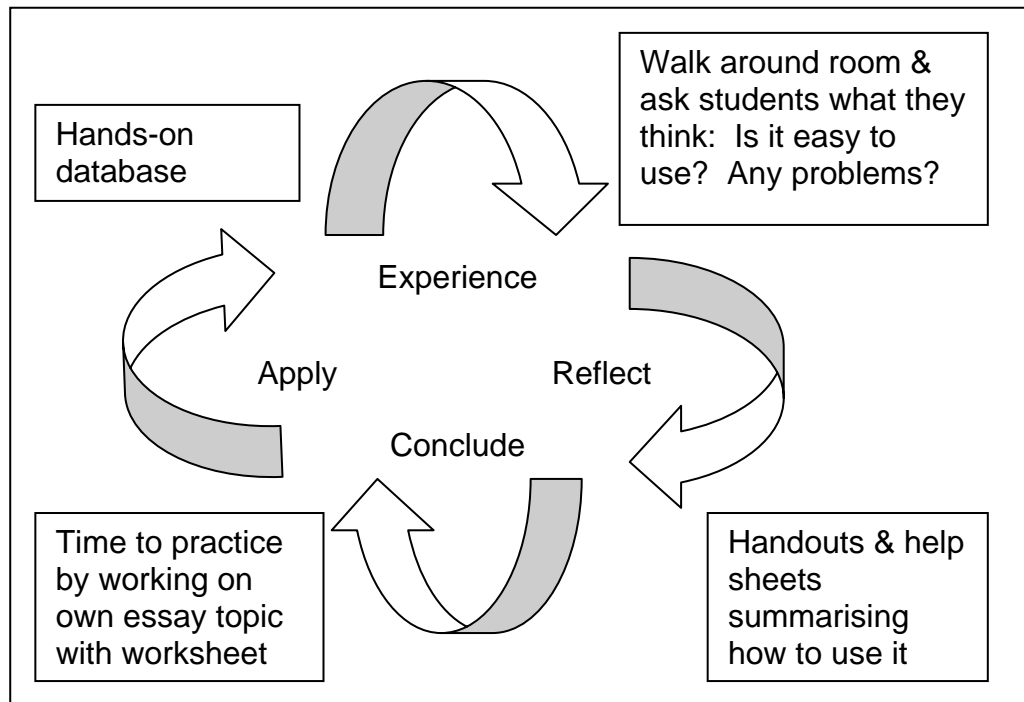


Figure 1: Learning cycle

Students are usually engaged in a new activity in IL sessions at the initial *Experience* stage of the learning cycle. In order for the learning from this experience to be processed, understood and impact upon students' future behaviour they need to be guided through and complete each subsequent stage of the learning cycle. The following stages are to: *Reflect*, where students have an opportunity to review the experience; *Conclude*, where they can summarise key points from the experience; and finally, *Apply*, where they can plan for the next steps and think about how they will relate what they have learned to their future studies. **Figure 2** illustrates how the learning cycle is used during the database training that was referred to earlier.

Figure 2: Learning cycle: Database training



2.4 Question cards: MMU induction

MMU students are introduced to the Library's interactive approach to teaching from the very start of their studies. In September 2004, Cardiff University's "Cephalonian Method" (Morgan & Davies, 2004) was adopted for library inductions and tailored to MMU's student needs. This approach uses cards with questions about the Library Service written on them. These are handed out to students at the beginning of the session and they are requested to read them out during the event when prompted by the presenter. The presenter then provides information to answer these questions throughout the induction.

Feedback from sessions where the question cards have been used has been extremely positive from both library staff and students. Staff have reported more informal, fun sessions with further questions being asked since the ice had been broken by students asking the questions on the cards. Students have commented on enjoying the interactivity of the session and the involvement of the group. The Cephalonian approach has been used with various group sizes and in different locations, from seminar room of 15 students to lecture theatres of 160, and has been received with great success in all environments.

2.5 Icebreakers

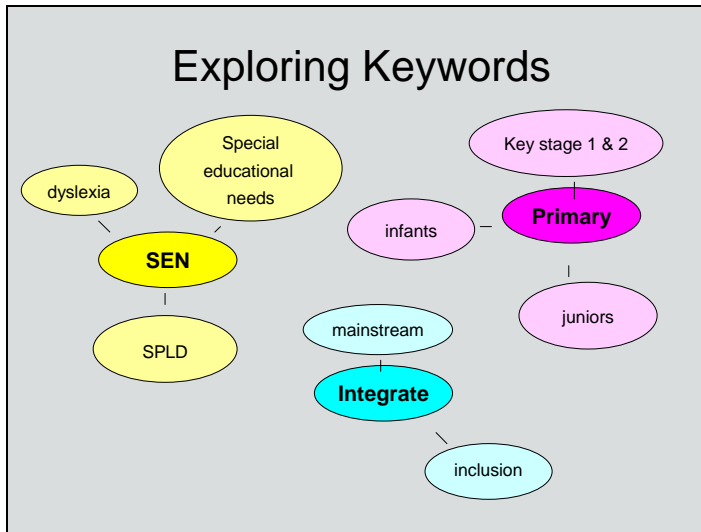
The impact of the question card approach on induction has proved that an icebreaker is an effective way to encourage participation. Despite recognising the need to engage with students and make sessions fun and lively, MMU librarians have found that actually getting students to participate is not always an easy task. Even though interactivity is conducive to learning, students do not necessarily want to be engaged. Trainers may ask for student participation only to be met by a wall of silence. This is where the importance of an icebreaker cannot be underestimated.

An icebreaker needs to be comfortable for the audience, appropriate and relevant to the session so that the trainer can refer back to it later. For example, upon entering a classroom, students could be asked to mark on a chart where they currently look for information, selecting from options such as the Library Catalogue, Google, and so on. Throughout the session, as various resources are demonstrated, the trainer can refer back to the results and ask students to reflect on their current information seeking practices. In all MMU InfoSkills sessions trainers are encouraged to include some form of icebreaker. As a result, students are more likely to participate fully and respond to and ask questions throughout the session. Icebreakers can be employed in any environment and can be as simple as a knowledge check where students are asked to raise their hands in answer to a question.

2.6 Brainstorming

One of the areas where students are asked to participate in InfoSkills sessions is when the concept of keywords is being explored. IL trainers have found that this activity is much more successful when students work in pairs rather than individually. Asking students to discuss briefly with their neighbour ideas for alternative keywords encourages responses as students have had the chance to check with a classmate that they have understood what is being asked of them and that their answers are appropriate. As with all activities, the InfoSkills team has developed a number of options for trainers to make this activity work in different environments. In a seminar or computer room the trainer can write down the answers on flipchart paper, or they can ask for feedback before showing the audience some of the keywords they have pre-prepared on PowerPoint as shown in this example (**Figure 3**)

Figure 3: Exploring keywords



In a lecture theatre, brainstorming can be problematic due to the acoustics and difficulties seeing the flipchart paper from the back of the room. An option given to those training in large rooms is to set the same discussion activity with a neighbour, but then to ask students to write answers down on a worksheet provided rather than feed back to the trainer. This is also beneficial as the student can apply this keyword planning at a later date when working on their essays.

MMU has recently invested in interactive whiteboards for all seven of its site libraries and library staff have been integrating this technology into training sessions, such as in the keywords exercise (see **Figure 4**). Instead of using flipchart paper, trainers can annotate over the PowerPoint slides to allow students' suggestions to be integrated into the presentation. One benefit to doing this electronically rather than on traditional flipchart paper is that students can be sent copies of the electronic flipchart after the session, which is a useful way to reinforce the learning from the library session.

Figure 4: Keywords exercise



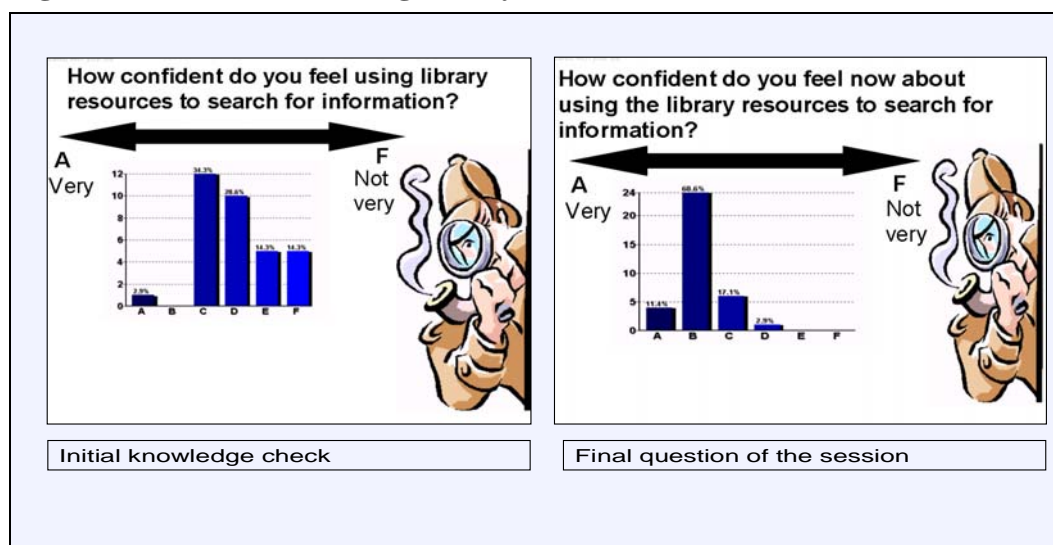
2.7 Knowledge checks

Knowledge checks are another constructive way for trainers to engage with the group and gauge comprehension and confidence levels throughout a session. One type of technology currently being piloted at a MMU site library, which can be used for this purpose, is an audience response system also known as “voting pods”. The system in use at MMU is called ACTIVote which works with ACTIVstudio software in conjunction with Promethean interactive whiteboards¹. This software allows trainers to ask the audience questions with a set of multiple choice answers and then ask them to vote. Questions and answers can be pre-prepared or made up on the spot during a session. The main advantages of this system are that responses can be anonymous, everyone in the room can respond to questions and the trainer receives instant feedback from the group which helps them ensure that everyone has understood the concepts taught. It also breaks up the lecture and gives the students some direct input into the session.

During the pilot, the voting pod system has also been used as an icebreaker. Students are asked an initial knowledge check at the beginning of the session to see how confident they feel using library resources. This lets the trainer know students’ current level of knowledge and also gives the students a chance to say honestly how they feel about using library resources. Additionally, if the vote shows that the majority of the group are very confident users then the trainer can modify the session to incorporate advanced elements for the more assured students.

The same question is repeated at the end of the session to see if the training has boosted students’ confidence in using library resources (see **Figure 5**). This allows the trainer to check that the objectives of the session have been met and gives the students a chance to complete the learning cycle by reflecting upon what they have achieved and thinking about how they will apply what they have learned to their future studies. Finally, it gives the trainer the chance to reiterate that there is further help available for anyone who still feels that they are lacking confidence.

Figure 5: Confidence in using library resources

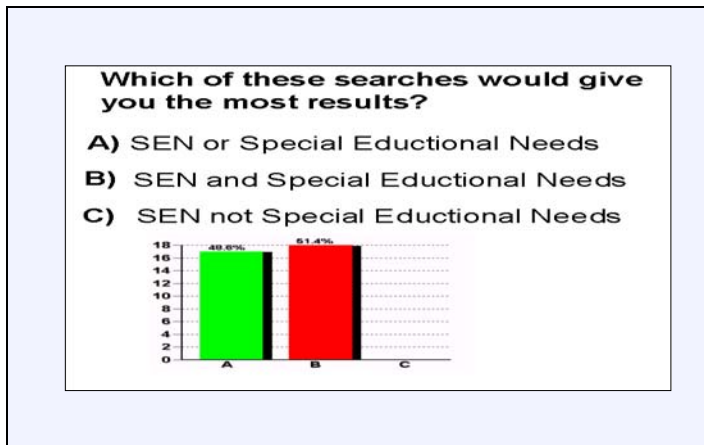


This system is also used for knowledge checking during the session after certain concepts have been explained, such as truncation, plagiarism or Boolean logic. **Figure 6** shows a typical example of students’ responses to a question on Boolean.

After the vote has been cast, the trainer can see whether students have understood the concept taught. As in this example, the trainer would explain the concept again without fear of being patronising or repetitive, as the results show that a large proportion of the audience have not understood the difference between AND and OR. The further explanation would refer back to the example that the students themselves have considered, rather than an abstract example that has merely been used to illustrate the point.

¹ For more information on ACTIVstudio, ACTIVote and Promethean interactive whiteboards see *The Promethean Centre of Excellence* at: <http://www.ioe.mmu.ac.uk/promethean/>

Figure 6: Example of student response



Inserting knowledge checks into any presentation is an easy and valuable tool both for engaging the audience and for ensuring that the session is being delivered at the appropriate level. However, it is not always possible to use an automated system like ACTIVote and MMU have also used a low-tech equivalent. Similar to the voting system used on *Ready, Steady, Cook*, participants are each given three laminated strips of different coloured paper with A, B, and C typed on them and are asked to raise them during the votes. The trainer does not need to know exact numbers to get a general feel for the majority vote.

3. Future developments

The InfoSkills team are always looking at ways to improve and add to the interactive elements in IL sessions and there are numerous developments in the planning stage. The team also keeps abreast of new technologies and other innovations for any potential they may have for improving IL training at MMU. For example, the incorporation of ACTIVslate is being considered for use with the interactive whiteboards. This acts as a remote board for students to feed back directly onto the whiteboard whilst in groups. The use of NetSupport School software is also being investigated with the potential to offer students the opportunity to complete an online quiz at the end of an InfoSkills session. This provides an opportunity for those sites without the voting pods to assess the students' understanding of concepts that have been taught in the session and also offers the individual student a chance to test their own learning at their own pace. The popularity of the voting pods with both staff and students at the pilot site has led the InfoSkills team to look at also integrating them into the MMU induction.

However, as discussed earlier, interaction is not just about technology and the InfoSkills team encourage all MMU trainers to try out a range of new techniques in their sessions. InfoSkills representatives from each site meet with the InfoSkills team every term and use a group Wiki to discuss ideas and disseminate good practice. Every InfoSkills representative also undertakes a six day course on how to run effective training sessions. All of this enhances training at local sites and helps to keep it as current and engaging as possible for students.

4. Conclusion

This article has argued that interactivity can enhance IL training sessions. It has contended that students are more attentive and motivated when they are involved and engaged and this is bound to have a positive impact on their learning. Whilst not all of the techniques described in this paper will be practical or possible for every session or environment, it is hoped that it has provided options for a variety of training situations. Environment or budget does not have to be a barrier to interaction and it can be easy and fun to integrate interactive techniques into IL teaching sessions.

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