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Journal of Information Literacy

ISSN 1750-5968

Volume 3 Issue 1

2009

Article

Borg, M. & Stretton, E. 2009. 'My students and other animals. Or a vulture, an orb weaver spider, a giant panda and 900 undergraduate business students...' *Journal of Information Literacy*. 3(1), pp. 19-30.
http://ojs.lboro.ac.uk/ojs/index.php/JIL/article/view/PRA-V3-I1-2009-2

My students and other animals. Or a vulture, an orb weaver spider, a giant panda and 900 undergraduate business students...

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Abstract

The article describes how the library team supporting the Faculty of Organisation and Management at Sheffield Hallam University (O&M Library team) developed and delivered a new information literacy initiative for the undergraduate Business and Management first year cohort.

Research has shown that although the Net Generation confidently uses technology to acquire information, little care is taken to judge the quality and accuracy of the resources they find. In addition, there is little understanding of how shallow their information seeking behaviours actually are. This causes difficulties in their academic studies and in their professional lives. Further research suggested that an active learning approach would be the most appropriate for this initiative.

Technological limitations imposed by the teaching space and time constraints imposed by the faculty led the O&M Library team to develop an initiative that comprised a modular, practical, active learning approach that could be delivered by any academic librarian, regardless of subject speciality, in any teaching space. This article details the initiative and its components, particularly the modular activities, including a Google based icebreaker, an information behaviour typology using animals, and examples of different types of business information. It also shares the positive feedback from lecturers and students and describes possible enhancements that the team will include in the next iteration of this programme.

Keywords

Information behaviour typology; action learning; business and management; information skills; information literacy; academic library.

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1. Introduction

There have been numerous publications devoted to the Net Generation's use of information and technology (CIBER, 2008; Oblinger and Oblinger 2005; Estabrook et al 2007). The overriding consensus of these is that students from this generation are generally confident with, and in many cases reliant on, technology and the Internet to discover information, but are then unable to critically analyse the information found. Furthermore, many years of experience of undergraduate information literacy teaching has shown us that they are often happy to transfer the shallow information seeking behaviours they employ for social purposes to their academic study, and believe their skills to be sufficient for this purpose.

Faced with a large influx of Net Generation students each September taking a range of undergraduate business related courses, the library team supporting the Faculty of Organisation and Management at Sheffield Hallam University (O&M Library team) decided to re-examine the

approach taken to initial information literacy provision for undergraduates. Following the basic premise that students 'must first understand and appreciate the importance of information literacy…before they will incorporate information literacy skills into their academic mindset' (Brown et al 2000, p. 387), we developed an innovative teaching session aiming to raise students' awareness of information literacy skills essential to their success in academia and transferable to their post education employment.

Initial research into the type of information literacy session indicated that an active learning approach would be instrumental in the successful delivery of this initiative. Active learning has been discussed extensively in information literacy literature (Finley et al 2005, p. 114) with general agreement that lectures are 'passive learning experiences' (Houlson 2007, p. 90) and that 'student boredom is a pedagogical obstacle to true learning' (Smith 2007, p. 276). This research led us to centre the initiative on active learning exercises, designed to appeal to a range of learning styles. These exercises aimed to demonstrate to students the limitations of their current information seeking behaviours, and the range and depth of information available to them to support their academic coursework.

A consideration of learning styles is discussed by Honey and Mumford (1992) who provided understanding into how individual students learn. Information literacy initiatives designed to provide activities and materials for each learning style involve and interest a wider range of participants (Mohktar et al 2008, p. 93). Lecture-style material has been identified as excluding certain learning styles, leading to boredom and apathy amongst those students who are not auditory or reflective learners (Smith 2007, p. 277; Keyser 2000, p. 36; Mohktar et al 2008, p. 93).

2. The teaching session

Academic librarians are often asked to provide "one shot" information literacy sessions (Finley et al 2005, p. 112) - a single practical workshop in which is crammed the entire information literacy syllabus - and this approach does indeed mirror the O&M library team's past experience with the Business and Management first year undergraduate cohort at Sheffield Hallam University.

The Faculty of Organisation and Management at Sheffield Hallam University recruited approximately 900 undergraduate students in Business and Management degrees in the 2008/9 academic year. As part of their first non-assessed academic skills module, "Academic Coaching Programme" (ACP) the O&M library team were asked to provide an hour-long information skills session for these students via 45 seminar-style groups in non PC-enabled classrooms. These sessions were scheduled to take place over one teaching week.

We quickly identified that information literacy inclusion in other parts of the First Year Business and Management programme was essential to ensure skills development, and further negotiations with the Faculty enabled us to schedule a short induction in the Faculty's induction programme and a 'hands-on' PC based workshop embedded into one of the students' research investigation assignments. The latter would allow students to consolidate some of the skills covered in the teaching session we designed. This reduced the temptation often felt by academic librarians to cram considerable amounts of pre-prepared, highly structured material into the one-shot session and overload students, as well as leave them without the necessary tools to understand the practical implications of database searching (Keyser 2000, p. 37).

3. Our objectives

The O&M library team developed a set of desirable objectives to achieve in planning and delivering the sessions, which were strongly influenced by the parameters described above. The major

restriction on the team was that there were only four full time members of the O&M library team. In order to be able to deliver 45 sessions to the 900 students, librarians from outside the O&M library team would need to deliver some of the sessions. It was therefore important that any teaching session developed would be able to be delivered by any available Sheffield Hallam University academic librarian, regardless of subject speciality.

The O&M library team agreed it was important to tackle the "techno savvy overconfidence" (Brown et al 2003, p386), demonstrated by many students entering university for the first time, and to highlight their dependence on Google. From a practical standpoint, it was important to demonstrate the limitations posed by an over-reliance on one source of information.

Introducing active learning techniques as discussed was critical. The O&M library team was particularly concerned that without the 'hands-on', practical nature of a typical workshop computer session, where the worth of academic resources is easily evident, we would not gain the students' confidence in the value and importance of Learning Centre resources and information literacy skills to their academic studies. Moreover, we decided it was important that the session did not develop into a lecture, although “using active or co-operative learning techniques does not mean you must leave out lectures entirely. Short lectures…followed by active or cooperative exercises...” (Keyser 2000, p38).

Additionally, the standard information skills, included in every basic First Year undergraduate programme that could not be neglected; these included an introduction to Sheffield Hallam University business resources, the principles of information searching, and the necessary critical analysis of a source's validity. These core components were agreed by both faculty and library staff as crucial elements to the teaching session.

We saw added benefit in producing materials that, although primarily suitable for Business and Management students, could be easily adapted and repurposed for any subject at undergraduate level. Furthermore, there was a need to not be heavily reliant on expensive technology that would not be available in all teaching venues across the university, as the rooms for these sessions were allocated centrally for all sessions in the module and not changeable. This meant that there was very little control over the teaching environment for the librarian taking each class.

4. Components of the teaching session

Initial research gave the O&M library team valuable insight into how other information literacy innovators had developed programmes to suit their particular requirements. Although there were a plethora of examples of good practice, we were unable to find a 'get-rich-quick' solution that also passed "Go" and collected £200! Teaching tools such as electronic whiteboard (Jones et al, 2007; Schroeder, 2007), voting pods (Hoffman and Goodwin 2006; Matesic and Adams 2008) and virtual reality venues such as Second Life (Rodrigues and Sedo 2008) were intriguing, but were unfortunately impractical due to technical limitations in our teaching venues and a lack of funding available to the O&M library team.

After a series of meetings, we had designed and adapted a series of active learning exercises that were cohesive and would, we hoped, prove useful, interesting and perhaps inspiring to our students.

These were interspersed throughout the teaching session amongst short demonstrations and were designed not to intimidate either the students attending the sessions, nor the academic librarian teaching the session. As this was a step away from our 'standard' teaching norms, we were concerned that staff would find “reaching outside their comfort zone and stepping away from the PowerPoint” (Finley et al 2005, p. 112) challenging, and not volunteer to assist with the sessions.

4.1 The exercises in the session included:

'The Google Game' - an icebreaker (although not billed as such during the session) designed to set the tone for the session. The students were required in pairs to assess the scope and range of Google as a search tool. We asked them: "What percentage of the number of unique URLs on the web does Google actually search?"

'St Paul's Information Behaviour Typology' - This exercise was named after the hotel where the O&M library team was first inspired by a presentation on emotional intelligence in teaching, given by Professor Alan Mortiboys (Mortiboys 2002). This presentation led us to explore opportunities where we could ask our students to analyse their existing information seeking behaviours by considering how they had searched and utilised information in the past.
The success of this exercise depended on two factors. These were:

- that students would be able to identify an example that demonstrated their existing information behaviours.
- that they could actively map these skills onto a model which could then be discussed in class.

To tackle the first point, each group of students were asked to work in pairs and to discuss a situation when they had searched for information, whether in their social life or as part of their previous academic studies. Examples offered to encourage engagement included locating resources for A-level work, finding out what time a gig started, or seeking the cheapest price for a pair of shoes.

We then gave each participant a copy of the St Pauls Information Behaviour Typology. This rather grand sounding document was, in essence, a list of eight animal typologies that corresponded to information seeking behaviours [see next page]. The St Pauls method asks them to choose one of the animals based on what information process they used for the previously discussed information search. A discussion of the pitfalls and strengths of each type followed, which also highlighted how existing information behaviours could be modified to be more appropriate to academic studies. Students were asked to work in pairs for this exercise.

'Business Information Quiz' - Students were asked to come up with as many different types of business information as they could think of, freely available or otherwise. This was designed to highlight the range and depth of materials available to explain some commonly misunderstood academic terms such as peer-reviewed journal, and led into a short demonstration on where and how to access the Learning Centre's resources. This was an exercise where students were encouraged to work in pairs or in groups of three.

'Bad Search' - Next, a short class discussion of keyword formation and search techniques with a brief demonstration led into an exercise where students were asked to identify the incorrect components of a particularly badly formed search in a common database. This reinforced the search techniques that had just been taught and was adapted from an exercise used by the information literacy team at Manchester Metropolitan University. Although this was an individual task, students were not discouraged from working in pairs if they wished.

4.2 The animal typology is below:

Information Seeking Behaviour
Which animal are you?

Magpies are easily distracted by the new and the eye-catching, ignoring other relevant material.

.

Ostriches avoid looking for information, especially if it might challenge what they already know.

Cuckoos expect others to do all the work for them.

Squirrels rely on information which they have previously found and stored away.

Vultures are scavengers, not hunters, relying on scraps of information they find lying around.

Giant Pandas rely too much on a single source of information, even if other sources are available.

Giant anteaters use several sources of information, but do not spend too long with each source.

Orb weaver spiders rely exclusively on the web!

The animal pictures were chosen from copyright-cleared sources, such as Creative Commons licensed work (http://creativecommons.org), and Microsoft's clipart collection. Sources were acknowledged in the materials.

5. Results and feedback

After developing and fine-tuning the teaching session, the O&M library team invited staff from the Learning Centre department to participate in a practice session and contribute to further development of the session. This had a two-fold purpose: it allowed the O&M library team to gather valuable feedback from other staff that work at the Learning Centre helpdesk day-to-day, and gave the opportunity for a practical demonstration of how the newly-developed session would be run for those academic librarians - non-subject specialists - who would assist with the teaching of the sessions. It also assisted the O&M library team to work out timings for the activities and session.

The exercises and demonstrations described above were designed to engage students with a range of different learning styles. Honey and Mumford's learning styles identify four types of learners: the activist, who likes to jump into activities and was stimulated by the exercises included throughout the session; the pragmatist, who engaged with the practical nature of the session and demonstrations; the theorist, who likes to think through problems logically and who found the logical sequence of the session useful; and lastly the reflector, who likes to sit back and approach information cautiously (Honey and Mumford 1992). Each student was provided with an Information Skills guide at the end of the session to take away and use further if required. The team felt that these measures and activities would ensure that the sessions were accessible for all types of learners, and that this should be reflected in the feedback.

It is important to acknowledge that the evaluation carried out so far is short term in that it focuses on the experience of academic staff and students on completion of the session, but it does not evaluate the impact of the teaching session on the students' academic practice. It is beyond the remit of this paper to examine the long term impact of this information literacy strategy, but the O&M team are looking at ways and developing links with academics to determine how this could be measured.

Feedback was collected from every student who attended the teaching session using a pro-forma evaluation. The team also solicited feedback from academic staff who were responsible for the seminar groups and who attended the Academic Coaching Practice sessions.

Academic evaluations were largely positive and showed that staff were enthusiastic about the sessions. Comments from staff included:

> *The presentation was excellent…pitched at the right level, good variety of exercises.*
> *The session went very well - getting the students active and thinking - and feedback from them this week was that they were using the ideas already for assignment work.*
> *The sessions have been positively received and were a definite success from our point of view.*

There were approximately 900 students expected to attend the teaching session; of these, approximately 600 attended and just over 400 completed evaluation forms. These evaluations indicated that 98.1% of students who attended felt the session would be useful for their studies; 98.6% now felt they knew where to look for business information; and 94.9% would recommend the session to other students. From the free text comments, approximately 22% of students who responded mentioned the fact that they could not practice the concepts discussed on a computer immediately and 15.5% specifically enjoyed the exercises and interactivity. Some examples of free text comments are given below.

What did you like about this session?

> *Really helpful and informative. Delivered very enthusiastically, gave students a lot of encouragement. Thank you.*

Took you through why it's important to search (methods). Really relevant.
I just learn the new ways to search specific information in business.
The way they get everybody involved and the way they showed us how to use the IT services.
The structure and also how tasks are involved. It makes it more than just 'listening'.
Not just slide after slide kept my attention.
I liked the way the information was presented to us. It was interesting and varied. The little activities broke it up so we weren't just sat listening.

What didn't you like about this session?

No computers to use and to follow but understand there will be a seminar where they will be available.
Some of it was too obvious.
Could be made a little clear, further understanding, by taking a little more time on each subject.
It would have been useful to have it sooner (Maybe 2 weeks ago).
The early start and it was boring.
We weren't able to go and see the library.
Couldn't physically do anything being shown.

While the negative comments are useful for informing future planning, they were considerably fewer in number than the positive comments, demonstrating an overall successful outcome. Approximately 25% of students who completed evaluation forms commented negatively when asked for free-text comments. Unfortunately this includes many comments on situational matters which are difficult to separate from constructive criticisms and therefore we decided not to include these here as they go beyond the scope of this article.

Another stream of feedback came from the academic librarians delivering the sessions. During the delivery of the sessions, an online diary was kept to record initial thoughts and feedback, and this was used to aid the completion of a reflective practice document.

The document (Appendix 1) sets out sections in relation to various aspects of preparation, learning objectives, activities and environment, assessment and feedback as well as considerations for future developments. Each of these sections gives prompts of possible considerations which allows for a thorough evaluation of components of the teaching. This proved to be a useful tool for the team, alongside feedback from students, staff and academic librarians, to consider the weaker and stronger elements of the teaching session.

It was decided that we would continue to develop two further exercises for the session, one to encourage students to utilise keywords and distil their assignment into useable concepts, and another to encourage students to consider critical evaluation of the information found for academic use.

6. Conclusion

In conclusion, the O&M library team were satisfied with the implementation of the session developed for the Academic Coaching Programme module. Quantitative and qualitative feedback gathered at the sessions indicated that they were perceived as a success by students and academic staff. We plan to continue to work with the faculty to develop the first year Business and Management undergraduate programme with the aim of providing a fully comprehensive active learning programme which includes all components of information literacy applicable for this level. The programme generally saw more participation and involvement compared to the previous IL teaching for this undergraduate intake. Students understood the purpose of developing IL skills

and were more involved in the learning process. This positive outcome can be attributed to the successful implementation of the active learning pedagogy and to the seminar format which actively contributed to the engagement of students and academics during the sessions.

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Appendix 1

Sheffield Hallam University

SHARPENS YOUR THINKING

Information skills: reflective practice

Guidelines for use:

- Document designed to be completed after individual or series of information literacy session(s) or activities
- Completed forms are only made available to individual and shared/discussed with line manager as part of CPD
- Section 2 provides a framework to promote reflective practice - complete sections as appropriate

Please fill out the following information detailed below

1) Personal information:

Name:	
Date:	

2) Background information:

Session facilitator(s):	
Faculty:	
Course(s):	
Level of study:	
Module title:	
Academic contact(s):	
Number of learners expected / attended	
Location(s):	
Date(s):	

Length of session:	
Other relevant information:	

3) Evaluative information

Preparation: - Faculty liaison - Learner entry behaviours - Lesson plan/s & titles - Timely delivery - Available on VLE **How successful were the preparation stages?**	
Learning objectives: - Linked to module/course - Transferable skills - Measurable **Were the learning objectives achieved and how do you know?**	
Learning activities: - Supporting diversity - Physical/virtual/blended - Group/individual **How successful were the learning activities?**	
Learning environment: - Student participation - Effective communication - Facilities - Attendance **Was the learning environment appropriate?**	
Assessment/feedback: - Formative, summative - Measurable impact - Analysis and dissemination	

Did assessment and feedback findings match own reflections?	
Future developments: - Changes - Contacts - Partnerships - CPD opportunities **How will you ensure development of your information skills sessions?**	