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Information Literacy Programmes and Course Curricula: the Case for Integration

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The case for integrating Information Literacy programmes into Course Curricula.

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ABSTRACT

The advent of the Internet and the profusion, complexity and haphazard nature of the information available through electronic and digital resources has highlighted the issue of information literacy in third level institutions worldwide.   How do we deal with the information explosion to which we are subjected on a daily basis? In particular how do our students learn to exploit the range of resources available to advance their studies and research? Can these students become fully independent learners as proposed by the new teaching and learning methodologies without the necessary foundation skills? The authors argue, based on international standards and benchmarking comparison, that information literacy must become an accepted goal in the teaching and learning development strategies of third level institutions and that information programmes should be an integral part of all course design. They look at some current initiatives in Irish academic institutions, including DIT, and consider ideas for future direction.

Introduction

> 'Our ability to think and to select and use the information at our disposal will be the critical determinant of the future success of the Information Society in Ireland'[1]

The quotation above acknowledges the critical importance of information skills and suggests that the very success of the concept of an 'Information Society' relies upon an information literate population.   Surveys of employers show an increasing demand for 'graduates with an ability to analyze, evaluate and process information effectively'[2] These skills are directly related to the aims and processes of higher education as a 'knowledge creation' activity'.   We need to teach our students to become independent and confident 'information consumers on their way to becoming lifelong learners'[3]. As the idea of lifelong learning and its role in future national economic prosperity is increasingly recognised, so too must the role of information literacy within this process.

What is Information Literacy?
Information literacy can be succinctly described as the ability to access, evaluate and apply information effectively. Such a brief description,

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[1] *Third Report of the Information Society Commission.* Dublin: ISC, 2000 p118

[2] *The Big Blue: information skills for students.* Section 1, p4. At: www.leeds.ac.uk/bigblue

[3] Doherty, John J., Hansen, Mary Anna and Kaya, Kathryn K. (1999) *'Teaching information skills in the Information Age: the need for critical thinking'*, Library Philosophy and Practice 1 (2) Spring; available online at http://www.webpages.uidaho.edu/~mbolin/doherty.htm.

however, belies the complexity of the concept and its full implications.   Most International standards (ALA, 2000)[4] accept that there is a link but also a clear distinction between computer skills and information skills. Computer skills enable us to access information resources. They allow us to organise these resources to make them readily accessible and this is an important beginning. Being computer literate, however, is not the same as being information literate.

Information Literacy is reached when there is an understanding and knowledge of the structure and sources of information. It involves the ability to access and retrieve quality information independently and reflectively in order to build on a personal knowledge base. The critical evaluation of these resources is regarded as a key information handling skill as is the formal communication of the information retrieved. Both computer and information skills are seen as essential components of the wider concept of Information Literacy.

The SCONUL information literacy model below, often referred to as the '7 Pillars' model, displays this concept quite clearly.
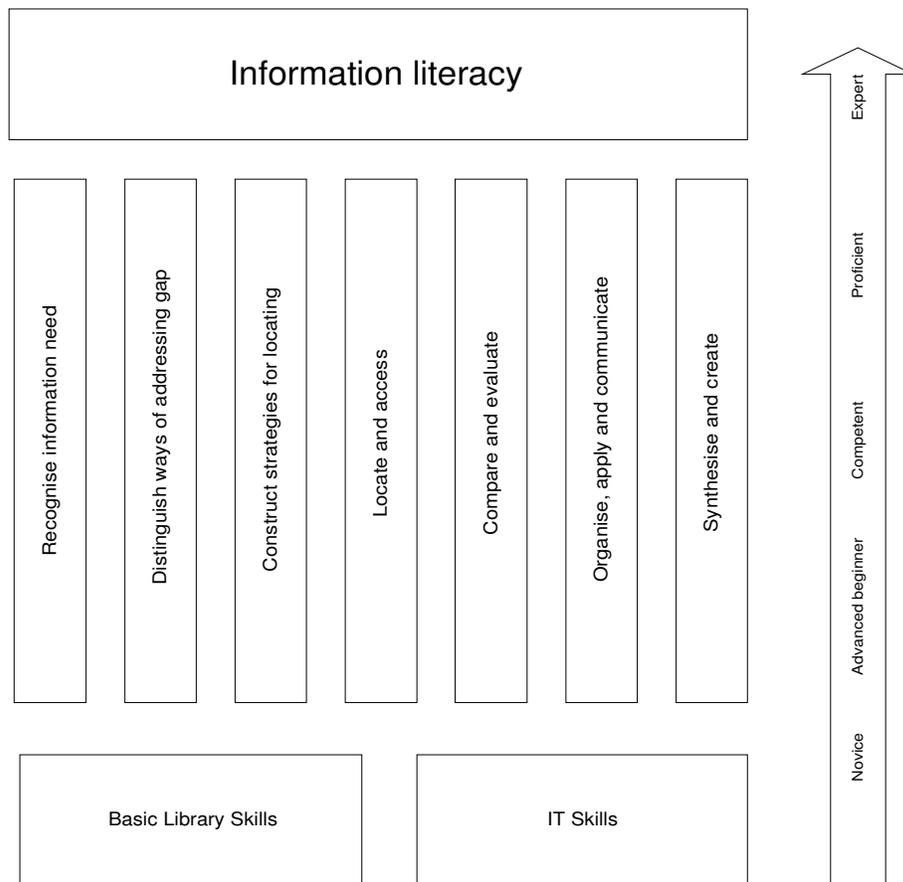

FIG 1 – The SCONUL Model of Information Literacy (SCONUL, 2000)[4]

[4] American Library Association (2000) *Information Literacy Competency Standards for Higher Education.* P1-23. ALA At www.ala.org)

Why is Information Literacy Important?
The advent of the Internet along with various other electronic and digital resources has highlighted the issue of information literacy.   How do we deal with the information explosion to which we are subjected on a daily basis? In particular how do our students learn to exploit the range of resources available to advance their studies and research?

New methods of information generation also cause problems. Traditional printed forms of information have been subject to a variety of quality assurance processes – reputable publishers, authors with academic credentials etc. None of these quality assurance mechanisms can be guaranteed with web-based information. The user must apply a critical faculty. Students need the skills to question the provenance, accuracy and reliability of the material.   Ownership of information, copyright and the potential for plagiarism are also issues that students need to be fully aware of.

New learning and teaching methodologies concentrate on the concept of student centred learning and the independent learner. Students are encouraged to become problem solvers, employ critical thinking, recognise their information needs, locate and evaluate the information required to address the issue at hand. It is unwise to expect that students, who for the main arrive in college without ever having undertaken a serious piece of research, can somehow acquire the complex set of skills by a magical process of osmosis.

 Emerging technologies are also providing new opportunities for teachers to deliver courses in more flexible formats – online delivery using WebCT and Blackboard for example. Here again the emphasis is on learning rather than teaching. It is clear that students with effective learning skills, including information skills, will have an advantage when undertaking flexibly delivered courses.

The Information Society Commission points out

> 'As access to information becomes easier and less expensive, it becomes more crucial that we have the skills and competencies relating to the selection and use of that information' (ISC, 2000)[5]

In this context, it is significant that the study by Ray and Day found that 'large numbers of students are leaving university without the necessary transferable skills to cope in an information based society' (Day & Ray, 1998) [6]

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[5] Information Society Commission. *"Building the knowledge society: 4th Report of the Information Society Commission".*   Dublin: ISC, 2002
[6] Ray,Kathryn & Day, Joan (1998*) "Student attitudes towards electronic resources"* Information Research 4 (2) October 1998. Available at: http://informationr.net/ir/4-2/papers54.htm.

Why should Information Literacy Skills be integrated into Course Curricula?

The concept of the 'teachable moment' is well documented in the literature of education – that moment when a skill is required and the student is receptive. In this context the skill is more likely to be learned. Information literacy courses need to be seen by the student as directly relevant to their course work incorporating a set of skills that will be useful to their projects, assignments and general research activities on an on-going basis. To achieve this ideal, courses should be curriculum based. Even more ideally, students should be required to participate and work should be graded or credit received.

In 2001 the Joint Information Systems Committee (JISC) commissioned a project known as the Big Blue [7] . The aim of the project was to survey current practice in information skills training in higher education and propose recommendations to ensure a coherent approach to the development of an information literate student population in the UK. Big Blue is quite clear on how this can be achieved.

"For information skills programmes to be successful, a collaborative approach by all involved in the process must be adopted. This includes library, computing and academic staff. Information skills should be integrated into the curriculum rather than be taught as a separate entity." (Big Blue, 2001)[8]

There is a body of literature in the field of information science which suggests that skills associated with the use of information are best taught as a process and in the context of a real task. This task is usually one associated with the content of the curriculum. The most effective way of delivering information skills is for all stakeholders in the process to work collaboratively and for information skills to be integrated into the curriculum. A collaborative and integrated approach to curriculum design is needed and delivery of courses must be based on close co-operation between academic, library and staff development colleagues.

Librarians need first hand knowledge of the curriculum if they are to negotiate effectively with teachers to develop information literacy skills within different courses. To this end, librarians should be members of, or observers at, relevant course boards and should be involved in all aspects of new course design.

Information Literacy Benchmarking – international.

Academic Library and Information Centres throughout the world have been evolving for some time into what is described as the 'hybrid library'. This

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[7] *The Big Blue: information skills for students.* At: www.leeds.ac.uk/bigblue

[8] ad idem - Big Blue (2001) Section 3.1.1. p4

refers to the merging of the old with the new – the books, journals and physical space of the traditional library combined with the vistas opened up by digital technologies and electronic resources. In the 'library without walls' a user can access high quality information at the drop of a click either from a library computer, their office desktop, remotely from home or anywhere else in cyberspace. Students have greater choice in how, when and where to access information. In theory it should now be easier than ever before to locate and access key learning resources. Without the necessary information handling skills, however, students are in general ill-equipped to exploit this amazing array of resources effectively and productively.   In recognition of this 'information gap' most academic libraries now regard the teaching of information skills as an integral part of their mission.

It is generally accepted in the academic library community that US and Australian colleges are the undoubted leaders in implementing information literacy courses across the board. They have also recognised the need for the embedding of these courses into curriculum design.   Course integrated instruction programmes are commonplace and fully accepted in US universities.

A great deal of work has also been done to include the concept of the information literate graduate as a key objective in institutional strategic planning.   Queensland University of Technology, for example, has aligned its library information literacy programme with overall university policy and embedded it in institutional teaching and learning plans. (Webber 2002)[9]. There is a general acceptance that the 'generic' programmes, while better than nothing at all, fail to make any real impact on students. Since 1995 Sydney Institute of Technology (SIT) library staff have moved from the delivery of traditional library education workshops to programs designed to develop information skills in students. SIT relates its programmes to specific and current student assignments. Courses are delivered 'within the framework of a real information task and are designed to answer the questions identified by the student at the time of need'.[10]

The Big Blue project in the UK identifies a number of case studies of information literacy programmes on offer in UK universities including programmes at Cardiff, Leeds, South Bank, Aston, Sunderland and the Open University[11]   This latter offers an integrated, fully online and accredited programme to all OU students called 'MOSAIC: Making Sense of Information in the Connected Age'.   While the amount of individual programmes on offer is impressive, the project report stresses the need for a coherent national policy on an information literate student population.

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[10] McLaren, Beth. *Changing paradigms, new partnerships: Information literacy programs in educational libraries*. At www.csu.edu.au/special/raiss99/papers/bmclaren.htm

[11] At www.leeds.ac.uk/bigblue

It is clear from the above that international educational institutions are increasingly accepting the importance of information literacy as a fundamental basis for academic success and lifelong learning.

Current initiatives in Irish 3rd level institutions

All Irish academic libraries, including DIT Library, offer a variety of 'user education' programmes to students and staff - ranging from the 'library tour' to more specific workshops on research in the library or on using electronic resources. These courses are traditionally stand-alone, generic and often unrelated to specific course work. They are usually not compulsory, assessed or evaluated and are very often not uniform or standard across courses or types of students. Even the most supportive academic staff member finds it difficult to allocate precious curriculum class time to library training. Consequently, librarians are often faced with the prospect of trying to cover everything from basic research skills to complex search strategies across electronic databases in one annual 60 minute session.

'The times they are a changing', however, and some interesting work is being done in several Irish academic institutions. UCD Library, in conjunction with the Student Welfare Service and the Professor of Psychology, has recently acquired HEA funding to support a research project on the teaching of study skills, information literacy skills and critical thinking skills to course tutors and demonstrators in the Departments of Physics, Chemistry and Psychology. The project aims to show that this type of intervention helps to retain students. The project team are working with the academic departments to integrate these skills into existing curricula and the methodology proposed is that tutors are trained to pass these skills on to their respective students. This is seen as possibly more effective and feasible in terms of staff/student ratios.

In TCD, the Library and the Department of Pharmacology have received funding from the Centre for Learning Technology to develop a programme 'using web-based learning to provide B.Sc (Pharm) students with the fundamental skills to solve drug-related case-based problems using optimal search strategies'.[12] The Library hopes to use the Medicines Information Retrieval (MIR) project as a template on which to model subject specific information skills courses applied to other academic disciplines.

In DCU a number of the information courses offered by the library are fully embedded in course curricula, assessed and accredited. A course entitled "Effective web searching", for example, is delivered as part of an IT module for 150 first year science students. The learning outcomes for the course were set by the librarians in collaboration with the module co-ordinator. The assessment relates directly to the outcomes and accounts for approximately 20% of the overall marks for the module. Another course on library research

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[12] Healy, Arlene and Brennan, Niamh, *New Library project scheduled for 2003*. TCD Library Newsletter (22) May 2002, p4.

databases is presented as part of a second year chemistry module entitled "Visualization & validation of laboratory data". This too is assessed and accredited.

The Library is currently reviewing its courses in collaboration with academic staff in order to identify and agree broader information skills learning outcomes.

Information Literacy and DIT

All DIT Library centres offer information skills courses. To date, however, these have generally been organised in response to specific requests from lecturing staff, are generic in nature and non-standard across courses.

In Autumn 2004, DIT Library staff will present the Information element of an Information and Communication Studies module in the newly validated B.Sc. in Accounting and Finance. This is a core module carrying 10 ECTS credits. Library and academic staff worked closely in designing the new module and clear objectives and related learning outcomes were identified. The seven SCONUL key information skills, (see Fig 1 above) were used as the applicable standard to the library component. The new course will incorporates three separate strands –

- o Information Technology Studies – the hardware and software used in the organisation of information;
- o Information Studies – the structure of information, how information is generated, its location, retrieval, evaluation and exploitation. Ethical dimensions in the use of information.
- o Communication studies – the ability to communicate the information retrieved in a variety of formats including writing skills, presentation skills etc.

This is a first for DIT Library and, quite possibly, the first time a full Information Literacy module has been introduced into an academic programme across Irish third level institutions.   It is hoped that this programme could act as an instructional pilot across the DIT campus.

More recently, in autumn 2002, a pilot Information Literacy course was presented by staff at Aungier Street Library for students on the MA in Interactive Media programme. Again clear objectives and related learning outcomes were identified and the SCONUL set of key skills provided the foundation. .   Taken in 6 one hour sessions, the course covered the
- o organisation of information;
- o recognising the need to use information;
- o characteristics of information resources;
- o defining a search strategy; locating and accessing information;
- o evaluating, organising and applying information;
- o copyright, plagiarism, currency and reflection.

Student response was enthusiastic except for the timing of 9.30 am on Monday mornings! All the evaluation sheets, without exception, included some variation on the comment " I did not know how much information was available".

Looking to the future – issues for third level institutions to consider.

- o Institutions should recognise the importance of information literacy as a key component of academic success containing a necessary set of transferable skills for life long learning in the Information Age.

- o To this end, the concept of the information literate graduate should be formally integrated into teaching and learning development strategy.

- o Academic Libraries should carry out the necessary research to evaluate the resourcing and implementation of information literacy programmes across undergraduate and post-graduate courses.   From this research should emerge a clearly defined implementation plan. Costs should be evaluated and the necessary funding identified.

- o Information literacy courses should be an integral part of all new course design. Librarians should be included in course boards and course design teams.

- o Skills mapping techniques should be used to identify the level of student competencies in information literacy skills as a basis for course design.

- o In the short term, faculties should recognise the need to allocate curriculum time to library programmes.   Academic and library staff should collaborate to ensure that the programmes on offer are course related and relevant to immediate student need.

References

American Library Association (2000). 'Information Literacy Competency Standards for Higher Education' ALA & ACRL at www.ala.org

Centre for Information Technology in Education (2000) 'Innovation in learning in the information society: a comparative international study' Dublin: CRITE; available online http://odtl.dcu.ie/mirror/crite/CRITEfinal.html.

Corrall, Sheila 'Key skills for students in higher education'. SCONUL Newsletter 15, Winter 1998, pp25-29

Doherty, John J., Hansen, Mary Anna and Kaya, Kathryn K. (1999) 'Teaching information skills in the Information Age: the need for critical thinking', *Library Philosophy And Practice 1 (2)* Spring; available online at http://www.webpages.uidaho.edu/~mbolin/doherty.htm

Information Society Commission (2000) 'Third Report'. Dublin: ISC.

Information Society Commission (2002) 'Building the knowledge society: 4th report of the Information Society Commission' Dublin: ISC

McClaren, Beth (2002) 'Changing paradigms, new partnerships: information literacy programs in educational libraries' At www.csu.edu.au/special/raiss99/papers/bmclaren.htm.

Society of National & University Libraries (**2000**) 'Information Skills in Higher Education: A SCONUL position paper' London: SCONUL.

The Big Blue: Information Skills for Students'. At www.leeds.ac.uk/bigblue

Trinity College Dublin, Library Newsletter, May 2002

Young, Rosemary M. & Harmony, Stephena (1999). 'Working with faculty to design undergraduate information literacy programs' New York: Neal Schuman.