

**THE THREE TIERS OF INFORMATION LITERACY:
A MODEL FOR DEVELOPING LIFELONG LEARNING AT A TERTIARY
INSTITUTION**

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ABSTRACT

The University of Otago Library has created a three-tiered model to develop transferable information literacy skills that support lifelong learning. These tiers are standards-based and consist of: traditional user education-based tours and classes(1), a generic information literacy competency guide(2) and the embedding of information literacy into academic curricula(3).

INTRODUCTION

The University of Otago is a multi-campus tertiary institution based in Dunedin on the east coast of New Zealand's South Island and is the most southerly of the 50¹ universities in Australasia. Founded in 1868, the university is the country's oldest and currently has approximately 18,000 students (16,000 efts²) spread across four academic divisions: Health, Business, Science and Humanities. While most students are based in the Dunedin region, approximately 3500 students, mostly studying post-graduate Health Sciences, reside elsewhere in the country and overseas. The library system includes five Dunedin-based libraries: Central, Science, Law, Hocken (NZ collection and archives), and Medical, as well as medical libraries in both Christchurch and Wellington. The Central Library is based in the heart of the Dunedin campus in the new NZ\$42 million Information Services Building that was officially opened in 2001. There is a common information and resource access management system (IRAMS) based on Voyager software that was introduced in mid-2003³.

The decentralised nature of the University of Otago Library has resulted in the development of a diverse and subject-specialised professional staff but has also presented coordination difficulties, particularly regarding the development of information literacy (IL). These problems have been exacerbated by the need to move away from traditional user education programmes and develop a more flexible learner-centred model. The complex system of IL that has developed across the Library network can be categorised into three separate but inter-related tiers: user education, an IL competency guide and embedded IL. This 'three tiered' model is proving to be very effective in the development of information literacy skills that are transferable beyond the University of Otago, and is therefore also producing lifelong learners.

LIFELONG LEARNING, USER EDUCATION AND INFORMATION LITERACY

In general terms 'lifelong learning' refers to the continuation of learning throughout the lifespan of an individual (Candy, Crebert, & O'Leary, 1994). More specifically, however, it emphasises processes of developing new skills and understanding new concepts beyond the

¹ 39 in Australia, 8 in New Zealand and 3 in Papua New Guinea.

² Equivalent full-time students.

³ The new system was implemented by LCoNZ (formally CONZULSys), a consortium of 4 New Zealand university libraries. See Hudson & Dewe (2004).

period of formal education traditionally associated with learning (Jenkins, Jones, & Ward, 2001). It is now widely accepted both as a social and economic imperative (Leader, 2003) and features prominently in both popular and academic literature. Lifelong learning, for example, is now widely cited as a 'graduate attribute' at many tertiary institutions (Down, Martin, & Hager, 1999). The importance of lifelong learning has grown dramatically in recent years as individual needs have adapted to the new demands of the emerging 'information society'⁴ and the concept is therefore intrinsically linked to that of 'information literacy' (Candy, 2002).

There are no universally accepted definitions for the terms 'user education' and 'information literacy'⁵. In general, however, user education is a process involving a situation-specific response to a particular information need and is similar to the long-established practises of 'bibliographic instruction'. In contrast IL is a learning outcome focussing on the lifelong ability to recognise the need for, locate, evaluate, and effectively use information (ALA, 1989). The origins of IL can be found in both information science and bibliographic instruction (Johnston & Webber, 2003) and the concept now features in a very wide cross-section of education related academic literature.

Issues relating to user education and IL have been widely debated for many years and over 5000 related articles have been published over the last three decades (Rader, 2002). Such debates have been associated with a worldwide shift in the philosophy of education from an emphasis on teaching styles, to one focussing more on student-centred learning (Kuh & Gonyea, 2003). During the 1980s this change was evident in the reconceptualisation of "library instructional efforts as information literacy" (Grassian & Kaplowitz, 2001). The magnitude of this transformation represents a 'paradigm shift' in educational philosophy (Thompson, 2002), and today IL represents a cornerstone of librarianship (Marcum, 2002). In an 'information society' all students need to be information literate if they are to stay up-to-date with developments in a particular subject (Breivik, 1998). Nevertheless, IL has not completely superseded practises of bibliographic instruction and user education (Bawden, 2001) and emphasis on, and resource allocation to, the more traditional approaches is likely to remain into the foreseeable future.

In relation to IL the term 'embedding' refers to the process of aligning IL objectives with the learning outcomes of an academic course or programme; "[t]he embedding of information skills into a subject integrates it into the content, learning activities and delivery modes of the subject" (Hine, Gollin, Ozols, Hill, & Scoufis, 2002). It is desirable because students are much more likely to retain IL skills and hence develop into lifelong learners if IL is presented as integrated with a subject rather than as a 'clip-on' (Bruce, 2000). In recent years the practise of embedding IL into the curriculum has become widely accepted (De Jager & Nassimbeni, 2002) and many university-based librarians are now working in conjunction with academic staff towards this goal. Such initiatives also represent a valuable opportunity for librarians to collaborate with and improve overall relationships with their faculty-based colleagues (Ivey, 2003). Such improvements are of fundamental significance, not only to the successful development of IL, but also to the "continued viability of academic libraries and librarianship" (Kotter, 1999).

⁴ The term 'information society' refers to one in which the creation, processing and consumption of information have become the most significant socio-economic activities (Johnston and Webber, 2003).

⁵ See Bawden (2001) for a detailed review of the literature relating to these definitions.

The growth in initiatives aimed at embedding IL has been closely associated with the proliferation of IL standards. Standards are important for the development of IL as they “promote agreeing about the meaning of terms” (Catts, 2002) and also facilitate the application of IL theory. In New Zealand the most widely used version are those prescribed in the ANZIIL⁶ Australian and New Zealand Information Literacy Framework 2004⁷ (hereafter referred to as the ‘ANZILF’) and their use is being actively promoted at the University of Otago and at many other tertiary education institutions throughout New Zealand.

THE THREE TIERS: AN OVERVIEW

The University of Otago has a strong commitment to lifelong learning. It is one of the ‘Six Dimensions of Quality Learning’ specified in the University of Otago Teaching and Learning Plan 2002⁸ (TLP). Furthermore, lifelong learning and IL are two of fourteen ‘Graduate Attributes’ identified in the TLP. Both lifelong learning and IL are therefore of fundamental importance to all education programmes offered by the University of Otago. This high profile recognition at senior levels of the university hierarchy therefore presents the Library with valuable opportunities to significantly extend the traditional range of services offered to the academic community.

Each of the seven University of Otago Libraries have developed a comprehensive user education programme based on tours, tutorials and (primarily) one-off lectures⁹. Inter-branch cooperation and resource sharing relating to these programmes varies although most are designed independently. These programmes range from the completely generic to the very specific targeting of individual assignments. These user education programmes make up the ‘base tier’ of IL at the University of Otago Library and are likely to continue to be the major component of the Library’s IL programme into the foreseeable future.

At the other end of the spectrum the Library also actively promotes the embedding of IL into the academic curriculum. The large number of papers offered across the university and the limited resources available, however, limit the number of new academic programmes that can join the embedding scheme to only a few each year. Therefore the decision was made to initially target specific programmes for embedding based on a variety of factors but primarily on the course coordinator’s level of interest in participating in the project. The embedding of IL into the curriculum represents the ‘top tier’ of IL at the University of Otago.

Traditional user education and curriculum embedding schemes, however, do not provide adequate support for the development of IL throughout the university. Many staff and students require more assistance than the traditional user education programmes can offer and adequate resources are simply not yet available to fully embed IL into the curriculum of every subject. A middle or ‘2nd tier’ in the form of an ‘IL Competency Guide’ has therefore also been created to act as a guide to the identification of IL skills for each academic level and also to assist academic staff with the application of the ANZILF. As shown in *Figure 1*

⁶ The Australian and New Zealand Institute for Information Literacy (www.anziil.org).

⁷ See <http://www.anziil.org/resources/Info%20lit%202nd%20edition.pdf>

⁸ See <http://www.otago.ac.nz/about/pdfs/teachinglearningplan.pdf>

⁹ The historical development of IL at the University of Otago Library is outlined by Wooliscroft (1997) and Fisher & Turner (2002).

these strategies combine to form ‘three tiers of IL’ at the University of Otago and each level is comprehensively explained below. Tier 2 is outlined last as it serves primarily to fill the gap between tiers 1 and 3. All three tiers are informed by the ANZILF.

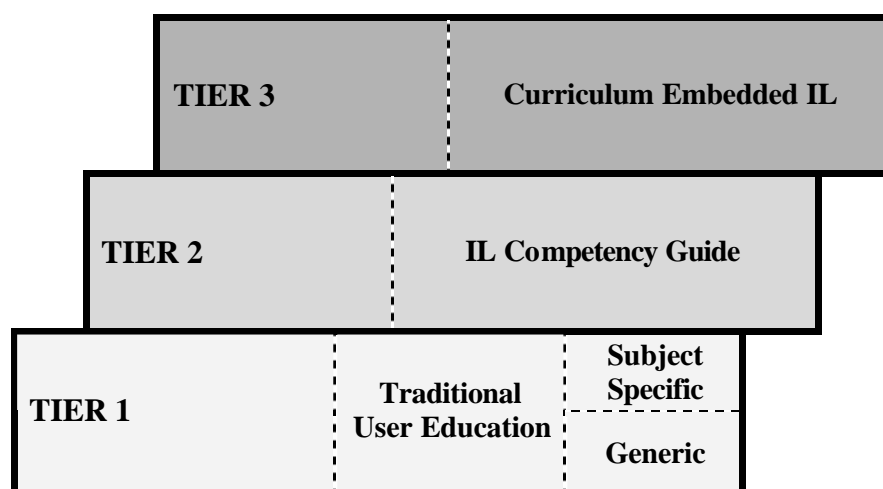


Figure 1: The three tiers of information literacy at the University of Otago

TIER 1: TRADITIONAL USER EDUCATION

The Library has provided a wide range of tours and classes for many years. In 2003 703 classes were delivered to 11,098 students; about half of these classes were based in the Central Library. These numbers have remained relatively consistent for several years and represent a relatively high commitment to the education of library users when compared to other New Zealand universities¹⁰. The user education programme takes two major forms: generic and subject specific¹¹. Unlike tiers 2 and 3, this tier is not explicitly and systematically linked to the ANZILF, but the basic principles are incorporated wherever possible. The importance of adequately recording information sources (ANZILF Learning Outcome 4.1), for example, is an important component of classes that relate to finding academic journal articles.

They are scheduled at each of the seven library branches and include both generalised sessions such as tours and catalogue classes as well as much more focussed tutorials based on such aspects as the use of specific databases. These sessions are offered throughout the academic year although the peak demand is obviously at the beginning of each semester. They are attended by a very wide cross section of the academic community from Foundation Studies (pre-1st year) to doctorate students and staff. In most instances attendance is voluntary although many are highly recommended by some academic staff. This approach to user education is flexible in terms of delivery but in some cases problems have resulted from the wide range of different levels and abilities that may be represented in a particular session. Student numbers also vary greatly and bookings are essential for some of the more popular database classes.

Each of the various subjects taught at the University of Otago has a reference librarian allocated from the relevant library. At the beginning of each semester the reference librarian contacts each academic department to promote the subject classes. Such sessions comprise of

¹⁰ Based on *New Zealand University Library Statistics 2002* edited by Mosley (2003).

¹¹ See <http://www.library.otago.ac.nz/services/tute.html>

a wide variety of formats from subject-orientated tours to the use of discipline specific academic databases. In some cases lecturers are also looking for more detailed information based on a specific assignment task. These sessions are usually held in scheduled tutorial times and therefore attendance rates are high. They are very common at the beginning of each semester but are held only irregularly throughout the rest of the year. During peak times reference librarians from throughout the library system spend the majority their time preparing and conducting these sessions.

These subject specific sessions also extend to personalised research consultations with post-graduate students and staff. They occur throughout the year and are usually most popular with new staff and students at the start of their research. Wherever possible such sessions are organised by the relevant subject reference librarian. These consultations are promoted on the www and within academic departments. The degree of uptake of these subject specific sessions varies greatly despite the fact that the Library's user education programmes are promoted equally to all academic departments. Some subjects expose nearly all their students to formal user education while others have only very limited contact with the Library. These variations result from a wide range of factors including historical involvement with the Library, attitudes of academic staff members toward IL and demand from students.

TIER 3: CURRICULUM EMBEDDED INFORMATION LITERACY

Sociology was selected as the first subject in which to embed IL as the programme has actively promoted the development of IL in the past and academic staff were very enthusiastic about the ANZILF. Work began mid-2003 on the embedding of IL into 1st, 2nd and 3rd year courses of the Sociology programme, with the aim of teaching the first paper in Semester One, 2004. The ANZILF was used as a guide for selecting appropriate IL competencies for each course. It was decided to formally align the assessment tasks objectives in each of the papers with the 19 learning outcomes specified in the six ANZILF standards. This approach was selected because "such assessment can reveal if there are areas of student performance needing improvement, if students have retained and effectively applied knowledge and skills from course to course, and if instructional strategies and learning outcomes are well aligned" (Rockman, 2002).

The initial challenge was to devise an appropriate practical framework. After much deliberation a table was developed with assessment tasks listed down the vertical axis and each of the desired learning outcomes across the horizontal. In this way individual assessment tasks are also aligned with both the 19 learning outcomes specified in the ANZILF and the relevant objectives outlined in the University of Otago TLP. Aspects of each assessment task were classified as either 'core', 'intermediate' or 'advanced' in terms of the relevant IL learning outcome¹². The second Assignment in Sociology 101 (an information gathering exercise), for example, specifically relates to the ANZILF Learning Outcome 1.1 (the information literate person defines and articulates the information need) at the 'core' level. This scheme applies to three Sociology courses at 1st, 2nd and 3rd year levels, the scheme and has been designed so that at the completion of the 3rd year course each of the learning outcomes will be met at the 'advanced' level at least once. This approach is consistent with techniques outlined in workshops at the 1st ANZIIL Symposium held at QUT in Brisbane in July 2003¹³.

¹² In the future a 'research' level will also be added to cater for post-graduate students in Sociology.

¹³ See http://www.anziil.org/resources/Alignment_of_IL_final.doc

The task involved with the embedding of IL into the Sociology Programme proved to be complex and time consuming. A successful \$8000 grant application was therefore made to the Committee for Learning and Teaching and a Research Assistant was employed to help with the project. Evaluation of the scheme will be based on the use of the CAUL Information Skills Survey¹⁴ and on information provided by focus groups. Two IL embedded Sociology courses (1st and 3rd year) were delivered on schedule in Semester 1, 2004 and a 2nd year course is scheduled for Semester 2. An unexpected bonus of the Sociology/IL embedding programme has been the forging of much closer working relationships between librarians and academic staff.

TIER 2: THE UNIVERSITY OF OTAGO INFORMATION LITERACY COMPETENCY GUIDE

As outlined above, this tier is necessary because sufficient library resources are simply not available in the short to medium term to embed IL into the curriculum of every academic subject. The University of Otago IL Competency Guide is an interdisciplinary framework that provides a range of competencies appropriate for particular academic levels. “A framework or set of guidelines should provide support and overall structure to the planning process, yet allow flexibility for individual requirements” (Orr, Appleton, & Wallin, 2001). Therefore the IL Competency Guide is designed to provide academic staff, librarians and students, from all academic disciplines at the University of Otago, with a general indication appropriate IL competencies for each level of academic study: core, intermediate, advanced and research. These terms were selected in preference to simply using the year level (1, 2, 3, 4+) because of inconsistencies across different academic programmes; in some cases, for example, students in a first year course may actually be working at the intermediate level and vice versa.

The IL Competency Guide evolved from an exercise conducted by reference staff from the Central Library in 2002 that involved the identification of generic library related skills or competencies desirable for each level of study at the University of Otago. This information was edited by reference librarians from all seven branches, collated and eventually released in April 2003 as the University of Otago IL Framework¹⁵. This guide enabled academic staff to easily identify skills appropriate for their students and has proved to be very popular across a diverse range of subjects.

The major limitation with this guide, however, was the lack of formal alignment with the ANZILF. The term ‘IL Framework’ was also substituted with ‘IL Competency Guide’ to avoid confusion the ANZILF. In late 2003 work commenced on the new version and all reference staff from the seven branches were consulted about aligning the IL Competency Guide with the ANZILF. Consultation over a four-month period occurred in the form of meetings, teleconferences and email discussions. This project proved to be very complex and the development of the new IL Competency Guide resulted in many lively debates as a degree of subjectivity is involved with deciding which ANZILF learning outcome a particular IL competency is most appropriately aligned to. In some cases this process revealed ‘gaps’ and completely new competencies were therefore devised for the new IL Competency Guide. Eventually at least one IL competency was allocated to each of the 19 learning outcomes

¹⁴ See <http://www.anu.edu.au/caul/index.html>

¹⁵ See <http://www.library.otago.ac.nz/services/tandl2.html>

specified in the ANZILF at each of the four levels (core, intermediate, advanced and research). The ability to construct and implement effective keyword searches using appropriate synonyms, for example, is aligned with ANZILF Learning Outcome 2.2 (the information literate person can construct and implement effective search strategies) and is listed as a Core Level IL competency. After considerable deliberation a preliminary version of the new 'standards aligned' IL Competency Guide was eventually made available in April 2004¹⁶ with the aim of producing a finalised version by the end of the year following consultation with the wider university community. The IL Competency Guide will also be used to assist in the embedding of IL into curricula (tier 3).

CONCLUSION

The transition from traditional user education to a more flexible IL-based approach, presents a major challenge for all academic libraries. At the University of Otago Library the response has been the development of a three tiered teaching and learning programme: traditional user education-based tours and classes (tier 1), the IL Competency Guide (tier 2) and the embedding of information literacy into academic curricula (tier 3). All three tiers are based, either implicitly (tier 1) or explicitly (tiers 2 and 3), on the ANZILF.

The long-established user education programme (tier 1) offered by the Library continues to be effective. The large investment of time and resources that has been associated with the embedding of IL (tier 3) into the Sociology programme will make similar future developments with other subjects significantly easier. Furthermore, the new University of Otago IL Competency Guide (tier 2) is assisting with the integration of IL into the curriculum at all academic levels across many different subjects. The 'three tiers of information literacy' at the University of Otago is proving to be an effective model for the development of transferable IL skills and is therefore also producing lifelong learners.

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¹⁶ See <http://www.library.otago.ac.nz/services/tandl8.html>

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