

NEEDS ANALYSIS REPORT

FOR

INFORMATION LITERACY E-LEARNING

MODULES PROJECT

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Executive Summary:

All questions in the needs analysis were answered and six recommendations have been made in the report. University, college of education and polytechnic institutions, librarians, academic staff and students at all levels of study were confirmed as potential users in the tertiary sector and as such were sampled for the needs analysis. The public were not sampled. The institutional response to the concept was favourable, and it was discovered there was a range of existing information literacy content available online already throughout New Zealand and overseas, though some samples didn't conform to ANZIIL standards. Information literacy was also offered at various institutions in the form of courses.

The needs analysis provided a snapshot of opinion from 101 users regarding content and the format for the proposed modules. The following eleven modules, in order from from 1st to 11th, were preferred overall:

1. Information, Organisation and Management
2. Effective Internet Searching
3. Search Strategies
4. Academic Databases
5. Evaluating Information
6. NZ Information Sources
7. Scholarly Communication
8. Digital Information
9. Maori / Pacific Island Information
10. & 11. Ethics and Community Information.

Modules on New Zealand Information Sources, Scholarly Communication, Digital Information and Maori and Pacific Island Information featured but were not in the top five preferences. Community Information and Ethics were selected by a minority. Digital Information was selected by a small number of users predominantly students from Foundation Studies and Teacher Education courses who placed the module in the top five. It was regarded as important by one respondent to include some ethics content in the five modules to be developed by the

project team. Community Information was also regarded as important for International students to help them integrate in to New Zealand Society. The findings of the needs analysis as well as the expert opinions of the project team will need to be considered when making a final decision about the five modules to be developed in the project, particularly in light of the gaps identified in existing resources. Existing online resources rarely covered New Zealand Information Sources, Maori and Pacific Island Information, Community Information and Digital Information, and Ethics content was only partially covered.

It was believed by participants consulted in the needs analysis that content needed to be developed carefully to cater for several levels of learners – entry level i.e. foundation, beginner IL, advanced IL, certificate, diploma, degree and post-graduate as well as lecturing staff and staff undertaking professional development. Participants in the needs analysis regarded the content proposed for each of the modules as appropriate generally, however, comments were made about threading search strategies and ethics content throughout all modules.

The ANZIIL Framework has clearly stated standards and recommendations which will inform development and evaluation of the proposed modules. It was clearly stated in the Framework, how important IL is for lifelong learning, and that the design of materials to support IL education should provide opportunities for student-directed and active learning, and be embedded in curricula rather than being discrete courses. An examination of existing online IL content revealed there was a predominance of material on searching and evaluating but little on constructing understanding.

The findings of the needs analysis are not fully comprehensive due to time constraints enabling only a small number of institutions to be sampled. Overall the findings indicate that the modules need to be dynamic, interactive, easily updated and modified, be appropriate for multiple levels and stages of education, and align with ANZIIL Framework standards and recommendations.

1. Introduction:

The report describes the background, purposes, limitations, questions, methods, sample, instrumentation, results, recommendations, summary and references for the needs analysis conducted for the *Information Literacy e-Learning Modules - Reusable and portable across a College of Education, a Polytechnic and a University* project. The data for the report has been collected and collated by members of the Analysis and Evaluation Group (AEG) and The Bill Robertson Library staff as well as University of Otago Library staff and the Concept Development Group (CDG).

The important goals and objectives for our needs analysis were to confirm who the potential users of the proposed information literacy modules would be (institutions, staff, students and public) and what they needed in the way of information literacy (IL) assistance. We wanted to find out the response of institutions, staff and students to the concept of the IL modules as well as the type of IL support currently available across the tertiary sector. To find out the latter we needed to investigate what sort of online materials were being used within tertiary institutions, for example, materials used by libraries, Learning Support centres and in foundation and bridging courses as well as across curricula. The information was sought from existing personnel, locally, at the three institutions participating in the project as well as nationally across New Zealand. This was done by contacting national networks and by searching the web sites of tertiary institutions in New Zealand for content.

The needs analysis also aimed to consult on what form the modules should take, what the content should be, and the priorities of the tertiary sector for the order in which the planned modules should be developed. It was also the intention of the needs analysis to establish the requirements of the ANZIIL Framework, and investigate whether existing resources in the sector had similar content and methods to those proposed for the modules. It was also hoped to discover what elements of module design would engage learners and sustain their interest.

Personnel involved in the needs analysis include the following: Dawn Coburn, Vicki Darling, Bronwyn Hegarty (AEG chair), Philip van Zijl, Gillian Elliot, Richard Wartho, Susan Pennock, Tanya Low, Wendy Ritson-Jones, Merrin Brewster, Rosie Vlietstra and Shiobhan Smith. This report was prepared by members of the AEG, namely, Dawn Coburn, Vicki Darling and Bronwyn Hegarty.

2. Background:

A project between the University of Otago, Dunedin College of Education and Otago Polytechnic commenced in July 2005 to develop interactive information literacy modules for the tertiary sector. Initial research indicated that there was a shortage of high, quality material across the tertiary sector. The provision of online information literacy resources, which could be reused by each institution, was regarded as essential to:

- Facilitate the development of skills essential for tertiary study.
- Achieve cost-efficiency.
- Avoid duplication of effort.
- Facilitate flexible access.

The outcomes of the project are to provide access to online information literacy resources for stand-alone use, as well as to support accredited courses. The intention is to design online modules for delivery via Blackboard or any other standards conformant learning management system (LMS) specifically so that project benefits could be disseminated across the tertiary sector.

For the first time students and staff will have access to online resources which are centrally produced and managed but reusable in the context of each individual institution. The resources produced are to be firmly grounded on the experience in information literacy which already existed in each of the participating institutions, and will be at the forefront of current thinking and practice in e-Learning with respect to portability and reuse.

The project was conceived to address four main areas in the tertiary sector associated with information literacy learning:

1. Barriers to tertiary study which can occur as a result of poor information literacy¹ skills and the diverse needs of marginalised, mature and distance students.
2. A shortage of high quality online information literacy modules which are reuseable, portable and have pedagogical flexibility.
3. A need for professional development opportunities for staff in the area of information literacy.
4. A tertiary sector requirement for centrally maintained and managed, standards conformant online resources in this important foundation field.

The needs analysis was the first step in the process, and the results will be used to inform development of the modules by confirming who the users are, and the type of content and format which will best suit target learners in the sector and adhere to ANZIIL² standards for information literacy.

3. Purposes:

The needs analysis was conducted for five main reasons:

3.1 To find out whom the users would be and what their needs are.

We believed we needed to cater for learners with the following characteristics:

- Elementary information literacy skills.
- Traditional, but non digital, information literacy skills.
- Unfamiliar with New Zealand contexts, but needing to function effectively in New Zealand Society.
- Moving into situations requiring application of IL in increasingly demanding academic contexts.
- Needing to develop their own skills in order to support and teach students.

3.2 To discover what format users prefer.

¹ Information literacy is the lifelong ability to recognise the need for, to locate, evaluate and effectively use information (ALA, 1989).

The options for the modules were that they could be used interactively, stand-alone, online, as part of a course, on a CDROM or DVD and that aspects of them be printable.

3.3 To consult with IL users and experts about the design and content of the modules.

Participants of the project believed the design of the modules should align with the ANZIIL Framework. It was also hoped to discover what elements of module design would engage learners and sustain their interest.

3.4 To clarify the requirements of the ANZIIL Framework.

This was to ensure that the proposed modules aligned with the Framework.

3.5 To find out how the proposed modules match existing resources.

If IL content already used in the sector had similar content and methods to those proposed for the modules, this would help establish appropriate content and also show where the gaps in content lay.

4. Limitations:

There was a time restriction, therefore the information gathered as part of the needs analysis was obtained by the most time efficient means possible, and as such was merely a sample and not inclusive of all tertiary providers nor as comprehensive as it might have been.

5. Questions:

The ten questions used in the needs analysis are listed in this section. The detail accompanying the list of questions can be found in Appendix B.

1. Who are the users?
2. What are the users' needs?
3. What is the response of institutions to the concept?
4. What type of information literacy support is available at present?
5. What format should these modules take?
6. What should the content be?

² Australian and New Zealand Institute for Information Literacy

7. In which order should the planned modules be developed?
8. What are the requirements of the ANZIIL Framework?
9. Do existing resources have similar content and methods to that proposed for the modules?
10. What elements of module design will engage learners and sustain their interest?

6. Methods:

A multiple methods approach was used to gather descriptive data about existing online content and also opinions about proposed content. Four main approaches were taken and these were:

1. Web searching - online resources in the tertiary sector in New Zealand were researched by Bill Robertson Library staff.
2. Consultation – opinions about proposed content were investigated via face-to-face, (one-on-one interviews, focus groups) email, telephone and an eLearning discussion forum. The groups consulted are listed in the Sample section. We needed to find out how information literacy was being used by the different groups, and also which five modules were regarded as priorities.
3. Requests for existing online material – the people contacted are listed in the Sample section.
4. Evaluation of online materials retrieved – materials collected by Bill Robertson Library staff were examined.

Data was collected slightly differently between institutions. At one institution staff members were interviewed individually and not given the questionnaire to complete about preferences for the top five modules. Staff from another institution and a library were interviewed in a focus group and also given the questionnaire to complete, and project supporters and a group of post graduate students were sent the questionnaire by email to complete. ITPNZ staff received the questionnaire via the e-Learning manager's online forum. Students from two of the institutions, and academic staff and library staff from a third institution were sampled using the questionnaire in a face-to-face session. The questions and methods used to answer the questions are displayed in Table 1 below:

Table 1: Matrix of methods used to answer the needs analysis questions.

METHODS	Web searching	Consultation	Requests for material	Evaluation of material
QUESTIONS				
Who are users?	X			
What are users' needs?		X		
What is institutional response to concept?		X		
What IL support is available at present?	X	X	X	X
What format to use for modules?	X	X		X
What should the content be?	X	X	X	X
Which order for development?		X		
What are requirements of ANZIIL Framework	X	X		
Do existing resources have similar content and methods?	X	X	X	X
What elements of module design will engage learners and sustain their interest?		X		

7. Sample:

The following groups were consulted:

- ANZIIL members – CONZUL¹, The Institution A and B Library, Institution C Library.
- Library staff - institution libraries.
- Academic staff – three participant institutions and ITPNZ².
- Head of Departments and Schools.
- Course developers – all three local tertiary institutions and ITPNZ.
- Learning Support, Foundation Studies personnel at the local tertiary institutions.
- Students - Post Graduate, undergraduate, Certificate, Diploma and foundation level.

8. Instrumentation:

A questionnaire, one-on-one and focus group interviews and email were used to gather information and view points from people in a consultation process. (See interview questions and questionnaire in Appendix E and F respectively) Existing online resources in New Zealand were searched for using the Internet, and relevant people such as librarians and course developers were asked to provide their material. An evaluation matrix was used to evaluate existing resources against (Appendix C and D).

9. Results:

Results from consultation processes are organized into subsections as follows:

- 9.1 Institution A staff and students.
- 9.2 Institution B staff and students.
- 9.3 ITPNZ staff and eLearning forum members.
- 9.4 Library staff – participant institution libraries, CONZUL.
- 9.5 Institution C Staff.
- 9.6 Supporters
- 9.7 Combined results.

¹ Council of NZ University Librarians

² Institutes of Technology and Polytechnics NZ

9.8 Requirements of the ANZIIL Framework.

9.9 Evaluation of existing online IL content.

9.1 Institution A staff and students.

This is a summary of information gathered from Institution A staff (n=5) and students (n=35). A summary of responses to a range of questions is presented as well as opinions from individual staff members and a summary of responses from students to the questionnaire.

Interviews and/or surveys were done with with holders of senior postions and/or responsibility for various programmes, and with two classes of second year students whose numbers totaled 35

9.1.1 Institution A staff

The following questions were used as a loose framework, and responses from all the individual interviews conducted with staff are summarized below the questions.

1 How is Information Literacy taught at the moment in your programmes and by whom?

Incoming students have a brief introduction to library services, run by library staff and they are all provided with guidelines to scholarly communication. There is a small but specific Information Literacy component embedded in the Secondary student teacher programme. It addresses internet search strategies, evaluation of information and ethical concerns, with a focus on how these aspects impact on practices in secondary schools. This year it was taught by an Information Literacy specialist from the library. Within 300 and 400 level research papers, 200 level curriculum Social Studies and an optional 100 level Computer Technology paper, various aspects of Information Literacy are required elements. These are taught by course lecturers.

2 Who are the users?

There has been general agreement about the categories of users identified, with an emphasis on the Information Literacy modules being of value to both staff and students. They would support

staff in their teaching as well as provide staff with a guided opportunity to increase their own knowledge.

3 Would the modules have a place within the institution's programmes and how would they be used?

As outlined below, the staff interviewed, were all supportive of the project. Each person identified places within programmes where the modules could be used. Embedding within programmes was favoured. International students, mature students returning to study, and staff were considered to be groups that would take advantage of opportunities for self directed access to the modules.

4 Which courses, levels, departments do you think they would be used in?

They could be used in

- Under graduate programmes.
- Post graduate programmes.
- Compulsory courses.
- Optional courses.
- Learning assistance programmes.
- Three departments were specifically identified.
- Staff development programmes.

5 How do you think they would be used?

Embedding within programmes was favoured. It was thought that some of those seeking learning assistance and some international students could be sufficiently motivated to select and work through modules of particular interest. Academic staff were considered likely to access the modules to assist in preparing for classes and also in order to rectify identified gaps in their knowledge. It was suggested that it could be a requirement to do some aspects as part of professional development.

6 Are there any other categories of users we should be considering?

None were identified

7 Which modules would be most important for your purposes?

This varied considerably. Staff tended to want to include so many that they had difficulty in prioritising five modules. The two classes of students were remarkably similar in their choices within classes, but there were some differences between the two groups. However, the student choices overall tended to differ from those of academic staff and librarians, with the exception of the tendency to rate New Zealand Information Sources (3) highly in both groups. More detail is provided in the following section.

Individual Staff Responses

Senior Staff Member A

If these modules were available they would be used within the programme from early in 2006. There are two research related papers; one at 300 level and one at 400 level which are well suited to integration of these modules. Many of those doing post graduate study are international students or students who have not done recent study.

All modules except Digital Information (module 9) were seen as being valuable for students and/or staff. Highest priority was given to Evaluating Information (module 8) and Effective World Wide Web Searching (module 10), with Information Organization and Management (module 1) and New Zealand Information Sources (module 2) being ranked next. The latter was seen as being of particular value to lecturers and it was also noted that it was an aspect not covered currently in courses whereas (module 1) was.

The following pertinent comments were also made in relation to the modules:

- For courses where the modules were integrated, students could have their course tutor as a contact while doing the module.
- Community Information (module 7) could be done by international students when they arrived in New Zealand. Sometimes this is in January and they could do this prior to commencing their course.
- In Module 10, Effective World Wide Web Searching, it would be valuable if material found in web searches could be entered straight into EndNote.

Senior Staff Member B

Staff member B expressed concerns about information overload and students indiscriminately copying blocks of information from anywhere. She considered that the modules would be best placed in compulsory courses in year two. Department 1 was discussed as a possible example because it already contains a web searching component in a course. Education papers were other possibilities for integration, especially research papers in year three.

It was suggested that all lecturers in the Programme Y could be required to do the Māori and Pacific Information module (module 3), as this content needs to be incorporated into all courses and lecturers say that they cannot find the material.

The modules were not seen as being suited for use for learning assistance purposes, because students went there for personal help. They were often not motivated and would not do independent study. (Note that this differs, to some extent, from views expressed by another staff member.)

Staff member B was strongly in favour of retaining a personal touch and she did not want to see the modules replace existing work done by librarians, although she was supportive of their use within the institution's programmes.

Senior Staff Member C

The modules could be helpful in addressing one of the problems with Department 1 curriculum classes. Students do not do sufficient research to gain adequate background for their planning.

Aspects of the modules could be built in to an aspect of this course and work currently done in class could be done outside of contact time. They would also have a place in other curriculum courses, Education courses and in optional courses. Staff would be likely to use them.

Preferences are for New Zealand Information Sources (module 2), followed by Maori and Pacific Information (module 3). Effective World Wide Web Searching (module 10), Evaluating Information (module 8) and Academic databases (module 5) were considered to be of roughly equal importance. Information Organisation and Management (module 1) was also mentioned. The problem faced was what to leave out in prioritizing five modules.

Staff Member D

Staff member D welcomed the concept of the modules. She had moved from developing her own support material to directing them to online sites via Blackboard. However, she thought that the modules would be a much better option. The mature students returning to study were those who would seek help with library and web searching and the evaluation module would also have relevance for them. These students were very grateful for any assistance they could get. This differs from the students who have been sent to her to do catch up courses after failure. While they work online, they would be unlikely to take on self directed study.

Her preferences were for Information Organisation and Management (module 1), Search Strategies (module 6), followed by New Zealand Information Sources (module 2). Evaluating Information (module 8) was also seen as being important and either Scholarly Communication (module 4) or Academic Databases (module 5) would complete her preferred five modules for the initial stage.

Staff Member E

The person with the Pacific Island responsibility in the institution thought that the modules were a good idea. She particularly liked the way people could choose their own pathways through modules. Collaboration across the three institutions was another aspect she supported strongly. She said the Pacific Island Students from these institutions already worked together and it was in keeping with this approach. Wholesale grabbing of web-based material was a concern.

Information Organisation and Management (module 1) was identified as a priority module, with Academic Databases (module 5), Search Strategies (module 6), Evaluation (module 8) and New Zealand Information Sources being seen as important for the first year, although they were not ranked in any order. For both Maori and Pacific Island Information (module 3) and Community Information (module 7) she thought that time was needed to develop quality modules and that they should be developed later. She also mentioned the importance of consultation and working with people in reference to module three. Names for appropriate contact people within the other two institutions were provided.

9.1.2 Institution A Student Responses

Students surveyed were all second year students, in three year programmes. One class was a 200 level, optional course. The students in the course are interested in using computers and they are likely to have more computer skills and experience than the “average” student. The other group was a second year compulsory course .

Thirty-five students in total were given a questionnaire and asked to place themselves in various categories of learners. All chose at least one category and several chose two or three. The most commonly chosen category in both classes was:

“Learners who need to develop their own skills in order to support and teach their students”.

This was initially a surprise as it had been thought that staff would choose this category, but considering these are student teachers, it is a logical choice. Two other categories of significance were:

“Moving into situations requiring application of IL in increasingly demanding academic contexts”.

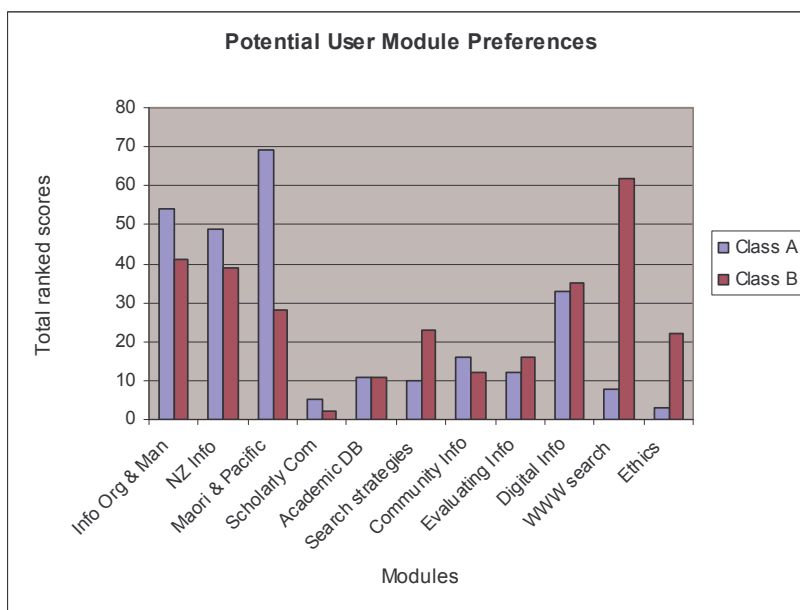
“Uncertain, and possibly anxious, in an unfamiliar learning environment”.

These categories yielded a total of eight and nine responses respectively across the two classes

(35 respondents) of second year degree students.

The graphs below clearly show student preferences. The scores were obtained by assigning five to the first choice, four to the second choice and so on. A second analysis which only considered whether the module was placed in the top five made little difference.

Figure 1: Preferences of Institution A Year Two students (n = 17, n = 18)



It can clearly be seen from Figure 1 that Maori and Pacific information was given high priority by the Class A and Effective Internet Searching was regarded as most important by Class B. Information Organization and Management was second choice for both groups with New Zealand Information a close third choice. Interestingly, Digital Information was fourth choice for both groups but not in the first five chosen by staff. The fifth choice for the student groups was Community Information and Search Strategies.

9.2 Feedback from Institution B - staff and students

Ten Institution B academic staff from the Schools of Art, Design and Occupational Therapy, the Languages department, Learning Centre and Foundation Studies were interviewed individually

or in a focus group. Foundation Studies and postgraduate health students were consulted face-to-face and by email respectively. Student responses to the questionnaire follow the summary of staff responses.

9.2.1 Staff

The following is a summary of staff responses listed beneath the focus group questions.

1 **How is Information Literacy taught at the moment in your programmes and by whom?**

- *International students*: Lecturers teach IL directly at level 4. They discuss much of this in class e.g. cultural differences for storing / retrieving information, library catalogues / databases, critical evaluation of information
- *Undergraduate*: There was a mixture of approaches, very dependent upon lecturer e.g. some were sent to the Library in Orientation week to find out what was available and from where, then students initiate their own help from Library staff. Some lecturers teach many aspects of IL in research papers, others leave students to work it out for themselves.
- *Postgraduate*: Some aspects of IL are taught e.g. evaluation of evidence. Other aspects are assumed e.g. academic databases students will either work it out or the library will help them. There have been discussions about collating various materials from nursing onto Blackboard for wider use.
- Some material is in the **Student Handbook** and only needs reinforcing (e.g. referencing – very time-consuming). “I’m not here to teach that”. Academic focus is upon teaching subject content and not academic skills such as IL, writing / communication.

2 Who are the users?

- Potential value for students and staff at both introductory (especially diploma and degree) and advanced levels.
- Otago Polytechnic staff undertaking tertiary teaching study and courses in the Certificates in Educational Technology

3 Are there any other categories of users we should be considering?

- Advanced / experienced researchers who need to review / update/ professional development

4 Would the project modules have a place in the institution's programmes?

- Participants agreed there was a place for the modules.
- A comment was made re the Community Information module: “If you were trying to look at New Zealand Information sources or Search Strategies or Evaluating Information, then wouldn’t the community be an example of it, as opposed to its own topic?”
- It was stated that search strategies go across academic databases and WWW. The focus should be an effective search strategy across a range of resources / using a range of tools rather than separate topics.
- Ethics should be at introductory level (e.g. Foundation studies) - it is important to establish good ethical practice from the outset.

5 Which courses/ levels/ departments do you think they would be used in?

The following responses were made:

- Certificate / Diploma
- Bachelor degree

- Postgraduate courses
- Off-campus students

The package should be clearly directed at a specific competency level (or levels). Many of the modules as described are too sophisticated for basic level students. Either have a range of levels, or a series of modules which increase in difficulty, or an element of base level competency

6 How do you think they would be used?

- Some postgraduate / off-campus students might want to use them as an introduction prior to beginning their course of study.
- Need to be able to start / stop.
- Lecturers would select aspects of it for embedding in their courses, if it is easy to do.
- Development of IL skills over time – student / staff select what they need as they need it.
- Develop into / contribute to a credit bearing course on particular aspects, e.g. information ethics.

7 Which modules would be most important for your purposes?

Participants were asked to rank the modules using the questionnaire. The following comments were made:

- Some 'bits' of topics are more important than other e.g. module four: referencing, citation style, plagiarism.
- All modules are important.
- NZ Information sources module equivalent not readily available.
- Undergraduate and postgraduate needs will vary.

- What about how students interpret information – infer meaning, critically analyse the information, how to identify its relevance.
- How they communicate information well is important e.g. write a good literature review.

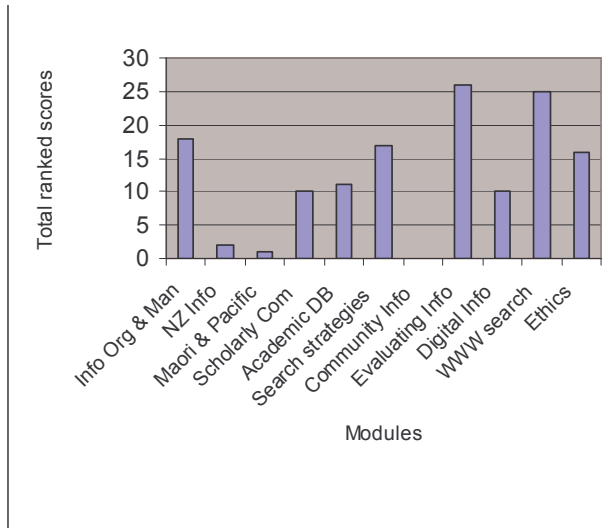
8 What other comments would you like to make about the potential use of these modules.

The following comments were made:

- Remember visual / sound / performance material – not all information is in text format.
- Need to be easy to access (e.g. band width, free access – no passwords, possibly available on CD / e-book for those with multiple simultaneous online needs i.e. phone and WWW).
- Easy to use, understand, jargon-free.
- Linkages between modules.
- Ensure modules clearly target both beginners as well as advanced.
- Publicised.

In the graph below, the first five module choices were scored in order of preference and were obtained by assigning five to the first choice, four to the second choice and so on. Scores were combined to produce the rankings.

Figure 2: Preferences of Institution B Staff for Information Literacy Modules (n= 10)



As illustrated in Figure 2, ten Institution B staff preferred the following five modules which are listed in order of choice:

- Evaluation of Information
- Effective Internet Searching
- Information, Organisation and Management
- Search Strategies
- Ethics

9.2.2 Students

Four Foundation Studies and five Postgraduate health students responded to the questionnaire (using face-to-face and email versions respectively) and made the following comments:

- “It strikes me you may only get replies in this format from those who already have a degree of competence in this area.” (That is, people familiar with using information literacy and email.)

- “Sounds good - would be a great start for people coming back into study after a long absence and I know I would benefit a lot from it”.
- “The proposed content is very extensive and will be very useful to the older student who was not taught "how to" when they were at secondary school”.
- “Are you aware of the Academic Literacy-Tertiary Study course run by Christchurch Teachers College (TL768XS1)? Students work through study guidelines to assist with learning to use the Library’s, internet, write essays, time management etc. The Course is worth 17.5 credits, not as in-depth as what you are proposing but worth a look at.”

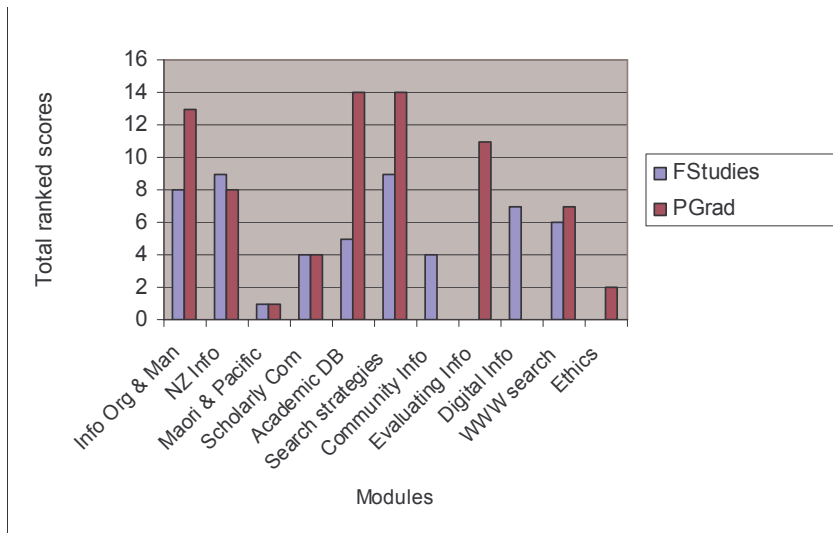
In Table 2 below, the five preferences for two groups of students are listed in order of the most favoured to the least favoured.

Table 2: First five preferences of Foundation Studies and Postgraduate Health students at Institution B

Postgraduate Health	Foundation Studies
<ul style="list-style-type: none"> • Academic Databases • Search Strategies • Information, Organisation and Management • Evaluating Information • NZ Information Sources 	<ul style="list-style-type: none"> • Search Strategies • NZ Information Sources • Information, Organisation and Management • Digital Information • Effective Internet Searching

For Figure 3 shown below, the first five module choices were scored in order of preference and were obtained by assigning five to the first choice, four to the second choice and so on. Scores were combined to produce the rankings.

Figure 3: Institution B ranked student preferences (n=9)



9.3 Feedback from ITPNZ staff and eLearning forum members

Comments were received from five staff from four ITPNZ institutions.

1 How is Information literacy taught at the moment in your programmes and by whom?

- One institution has a “basic online information literacy course or resource” which covers quite a bit of the ground, but nowhere in the same depth.
- One institution identifies that they teach the content of some of the proposed modules and a research methods course which can be contextualised according to faculty need.

2 Who are the users?

- All user categories were selected by three institutions

3 Would the project modules have a place in the institution's programmes?

- It was believed that all the modules would be useful.
- Ethics and Digital Information modules would be extremely interesting – and of growing importance. Academic databases and scholarly communication would be valued by nursing, applied arts degrees. NZ Information sources would be useful because it is a gap in our programme.
- Community Information; Digital Information (more useful for teachers) and NZ/Maori Information (not all students required specific module in this) could be considered optional.
- The overlap between a number of modules, and some stages get lost between modules. How to reference should be an explicit section (it appears as an ethical issue and in scholarly communication – not all will look at scholarly communication).

4 Which courses/ levels/ departments do you think they would be used in?

- The package should be clearly directed at a specific competency level (or levels). Many of the modules as described are too sophisticated for basic level students. Either have a range of levels, or a series of modules which increase in difficulty, or level of base level competency.
- Suggest a separate package for users who “ need to develop their own skills in order to support and teach their students”.

5 Which modules would be most important for your purposes?

They were asked to rank the modules using the questionnaire and responded as follows:

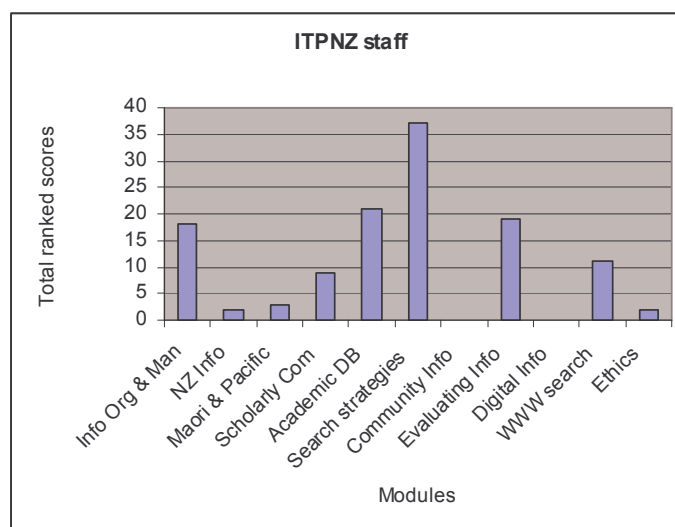
- The modules which can be seen as options would be: Community Information; Digital information (as described this would be more useful for teachers) and NZ/ Maori Information (not all students may need a specific module on this)
- Information organization and management at a basic level should include types of information (or publication), intro to databases and the internet and how information is organized in a library. The coverage given is too sophisticated and detailed for basic level users. Valuable for more advanced students/ teachers.
- There is no section on organizing information once retrieved – a vital stage of the info gathering process. Follow on from Evaluating section – evaluating what you have retrieved to see what is most relevant for your use; organizing and storing references; bibliographic management systems.

6 **What other comments would you like to make about the potential use of these modules.**

The following comments were made:

- There is no acknowledgement of the information literacy process or steps. However, the sequence is presented to ensure that there is a flow which reflects and develops the information seeking process. This can best be presented as the process of finding information for an assignment

Figure 4: ITPNZ staff preferences (n=5)



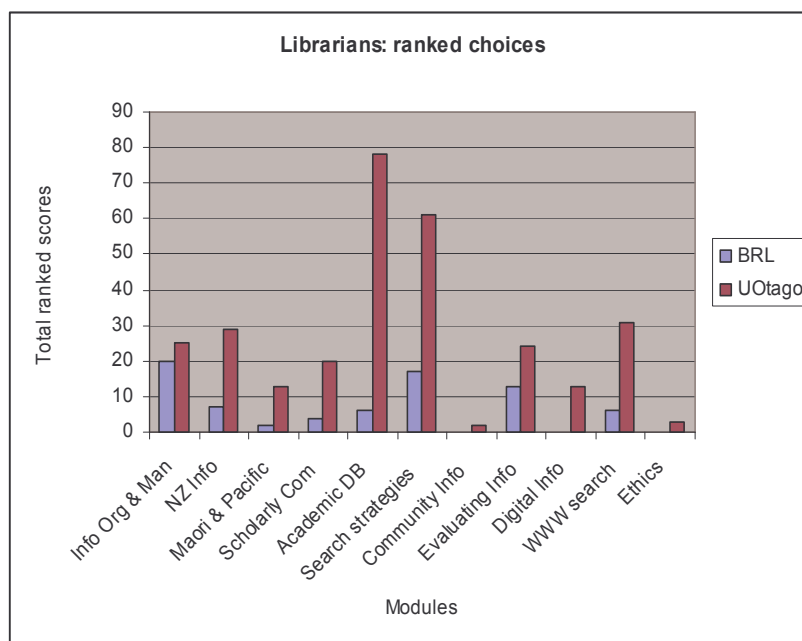
Five ITPNZ staff indicated a preference for the following five modules in the order listed:

- Search Strategies
- Academic Databases
- Evaluating Information
- Information, Organisation and Management
- Effective Internet Searching

9.4 Institution A and B Library, Institution C Library and CONZUL staff

The questionnaire was also completed by five Institution A and B Library staff, twenty Institution C Library staff and two librarians who are members of CONZUL. The results for the former two groups are illustrated in Figure 5 below:

Figure 5: Preferences of Librarians at the Institution A and B and Institution C Libraries (n=25)



It is evident that librarians at the Institution A and B and Institution C Libraries preferred the following top five modules (their fifth choices were equal for two modules in both groups), listed in order:

Table 3: Preferences of Institution A and B and Institution C Library staff librarians for Information Literacy modules

Institution C – First Five Choices	Institution A and B - First Five Choices
<ul style="list-style-type: none"> • Academic Databases • Search Strategies • Effective Internet Searching • NZ Information Sources • Information, Organisation and Management AND Evaluating Information 	<ul style="list-style-type: none"> • Information, Organisation and Management • Search Strategies • Evaluating Information • NZ Information Sources • Academic Databases AND Effective Internet Searching

Although the order of preference varied, for staff from the Institution A and B and Institution C Libraries, the same modules were ranked in the top five. This was not the case for librarians from CONZUL, however, probably because the sample was considerably smaller. In Table 4 below, it is evident that some feedback from two members of the CONZUL concurred, for example, Search Strategies, Evaluating information and Academic Databases were placed in the top five by both respondents. The New Zealand and Maori / Pacific Island modules were considered important – but not necessarily urgent. Nevertheless, a member of a North Island university did place these modules in the top five.

It's very hard to choose just 5 of the above as all are important. I think NZ information sources are vital but have placed WWW searching ahead of this as so many students use the Internet (and rightly so) but don't have a good understanding of what they will find there. It seems you have covered all relevant topics.

Table 4: Preferences of CONZUL librarians for Information Literacy modules

	CONZUL response 1	CONZUL response 2
Preferences listed 1st to 5th	<ul style="list-style-type: none"> • Information Organization and Management • Academic Databases • Search Strategies • Evaluating Information • Effective Internet Searching 	<ul style="list-style-type: none"> • Search Strategies • Scholarly Communication • Evaluating Information • Academic Databases • New Zealand Information Sources and Maori and Pacific Information
Comments	<p>It is very hard to choose just five of the above as all are important. I think NZ Information sources are vital, but have placed Effective Internet Searching ahead of this as so many students use the Internet (and rightly so) but don't have a good understanding of what they will find there. It seems you have covered all relevant topics.</p>	<p>This selection of priorities would be appropriate for the Fixed Linear Sequence model.</p> <p>A shared module would be beneficial to Auckland University of Technology staff and students. Overall the modules look appropriate and in-depth.</p>

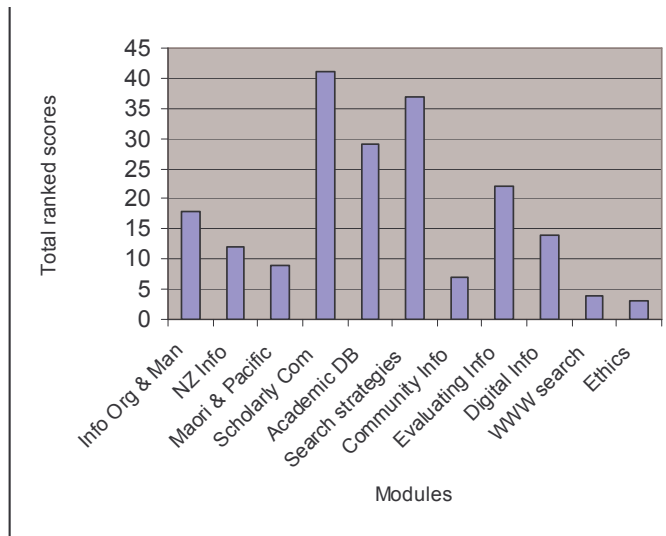
9.5 Institution C Staff

Thirteen Institution C academic staff who attended a library course on databases completed the questionnaire. Their responses were interesting for several reasons because they:

- Provided more even preferences for modules than other groups.
- Put an emphasis on Scholarly Communication, unlike other groups.
- Focused more on Digital Information which appeared as a top five selection for seven of the thirteen respondents, although it didn't rank in the top five overall from ranked scores.

- Varied in their responses to Information Management and Organization which was either not in the top five, or figured highly (for five people), hence its favourable rating overall.

Figure 6: Responses to questionnaire from Institution C academic staff who attended a library course on databases. (n=13)



As can be seen in Figure 6, for academic staff sampled at the Institution C, the top five modules in order of preference were:

- Scholarly Communication.
- Search Strategies.
- Academic Databases.
- Evaluating Information.
- Information Organization and Management.

9.6 Supporters

Responses were obtained from two supporters who used information literacy differently and had quite differing opinions about the modules, apart from their 4th choice which in both cases was Digital Information. The responses are displayed in Table 5.

Table 5: Preferences of project supporters for Information Literacy modules.

	Supporter One	Supporter Two
Use of IL	<i>Need to develop their own skills in order to support and teach their students</i>	<i>Moving into situations requiring application of IL in increasingly demanding academic contexts.</i>
Preferences listed 1st to 5th	Academic Databases Scholarly Communication Information organization and management Digital information New Zealand Information sources	Scholarly Communication Search Strategies Academic Databases Digital information Effective World Wide Web searching

9.7 Overall Module Preferences for Three Groups

Overall findings for three groups are shown separately in this section (9.6.1 and 9.6.2) and their combined preferences for five modules are presented in section 9.6.3. The two groups are:

Group One: Institution B staff and students, Institution A students, Institution A and B Library staff and Institution C Library staff.

Group Two: Institution A staff, CONZUL staff, and Institution C academic staff.

Group Three: Supporters of the project.

9.6.1 Institution B staff and students, Institution A students, Institution A and B Library staff and Institution C Library staff

Table 5 below shows modules with the highest overall priority as calculated from ranked scores taken from questionnaires for the top five modules. It should be noted that preferences of Institution A staff and CONZUL staff are not included in this calculation.

Table 6: Overall priority of Institution B staff and students, Institution A students, Institution A and B Library staff and Institution C Library staff for IL modules (n=79)

Module Priority	Module Name and Number
1	Information, Organisation and Management (1)
2	Search Strategies (6)
3	Effective Internet Searching (10)
4	Academic Databases (5)
5	NZ Information Sources (2)
6	Evaluating Information (9)
7	Digital Information (8)
8	Maori / Pacific Island Information (3)
9, 10	Community Information (7), Ethics (11)
11	*Scholarly Communication (4)

* Not ranked in top five

Summary:

- Module Four, Scholarly Communication was not ranked in top five by any of these groups.
- Module 6: Search Strategies – did not reach the top five for Institution A student groups, and the three staff groups which rated it as a high priority all had librarian input.
- Module 5: Academic Databases was rated highly by Institution C Library staff and Institution B postgraduate students and came in as the 6th ranked module.
- Module 9: Digital Information and Module 3: Maori / Pacific Island Information were voted by students as important but not by staff. This may reflect the interests and needs of "younger" *digital native* learners coming through the tertiary system.

- Institution B staff supported online formats and suggested CDROM as well, with both to include audio, visual and performance media as well as text. They also believed that the content of some modules was too sophisticated for beginning students and some levels of students, therefore, felt there was a need for beginner and advanced modules. They were also keen to see ethics introduced right at the beginning.

9.6.2 Overall preferences of Institution A staff, CONZUL staff and Institution C academic staff.

The following table lists the preferences of three groups of staff for five modules.

Table 7: Overall preferences of Institution A staff, CONZUL staff and Institution C academic staff for Information Literacy modules (n=20).

Module Priority	Module Name and Number
1	Evaluating Information (9)
2	Information, Organisation and Management (1)
3	Effective Internet Searching (10)
4	Academic Databases (5)
5	Search Strategies (6)
6	NZ Information Sources (2)
7	Scholarly Communication (4)
8	Maori / Pacific Island Information (3)
9, 10, 11	*Digital Information (8), Community Information (7), Ethics (11)

*Not ranked in the top five.

- Institution A staff felt that most modules were important and had difficulty ranking them. Overall, for Institution A staff, preferences for five modules depended on the context in which they would be used. For example, New Zealand Information Sources (module 2) and Maori / Pacific Island Information were seen as important for lecturers. Also modules where content was similar to IL already taught was not given such a high priority although recognized as being important e.g. Information Organization and Management (module 1).

- Overall, most Institution A staff believed that the modules would be best used as resources embedded in existing courses. Another interesting finding was Institution A staff opinion that the Digital Information module was not a priority for students whereas Institution A students believed it was. One staff member did not believe they would be suitable for students who required learning assistance, although another could see the merit of this format for independent study.

9.6.3 Overall Preferences of Users for Information Literacy Modules

The following eleven modules, in order from 1st to 11th, were preferred overall:

1. Information, Organisation and Management
2. Effective Internet Searching
3. Search Strategies
4. Academic Databases
5. Evaluating Information
6. NZ Information Sources
7. Scholarly Communication
8. Digital Information
9. Maori / Pacific Island Information
10. & 11. Ethics and Community Information.

9.8 Requirements of the ANZIIL Framework.

The requirements of the Australian and New Zealand Institute of Information Literacy (ANZIIL) Framework are clearly stated in the Australian and New Zealand Information Literacy Framework document and six standards are listed as follows:

- Standard One: The information literate person recognises the need for information and determines the nature and extent of the information needed.
- Standard Two: The information literate person finds needed information
- effectively and efficiently.

- Standard Three: The information literate person critically evaluates information and the information seeking process.
- Standard Four: The information literate person manages information collected or generated.
- Standard Five: The information literate person applies prior and new information to construct new concepts or create new understandings.
- Standard Six: The information literate person uses information with understanding and acknowledges cultural, ethical, economic, legal, and social issues surrounding the use of information.

Information literacy is regarded as having a central role in the lifelong learning process and as such it is very important for learners to have appropriate IL skills for the contexts in which they are working and studying. Examples provided in the Framework under each standard provide valuable detail which can inform the development of the modules. An important consideration to also inform development of the content of the proposed IL modules is that "... users of these standards in a novel context, should explore the application of each standard, rather than assume it will be relevant" (Catts, 2004).

According to the ANZIIL Framework, information literacy programme components need to enable the following types of usage:

- **Generic** - Extra curricular classes and/or self paced packages.
- **Parallel** - Extra curricular classes and/or self paced packages that complement the Curriculum.
- **Integrated** - Classes and packages that are part of the curriculum.
- **Embedded** - Curriculum design where students have ongoing interaction and reflection with information.

Additionally, the design of information literacy resources should "create opportunities for self directed and independent learning where students become engaged in using a wide variety of information sources to expand their knowledge, construct knowledge, ask informed questions, and sharpen their critical thinking" (Lupton, ANZIIL Framework, 2004).

9.9 Evaluation of existing online content.

Existing information literacy content was retrieved from web searches of tertiary institutions in New Zealand, and a small sample of overseas countries. It was conducted by Bill Robertson library staff. An evaluation of twenty online tutorials was also conducted. Criteria used for evaluation of existing material included aspects related to content i.e. the extent to which these modules covered the ANZIIL standards and the extent to which they matched the content of the proposed modules, engagement of learners and how learner interest was sustained. The criteria are outlined in Appendix C.

Tutorials were rated as covering, partially covering, or not covering the standards. While this was a subjective measure the people doing this were all librarians with in-depth knowledge of the standards and of Information Literacy. The results, displayed in graphs in Appendix G, show that coverage was strong for Standards 1, 2 and 3 (85 – 90%), and almost non-existent for Standard 5. We consider that our proposal does cover Standard 5, especially the example provided in the ANZIIL Framework for 5.2 which is specifically addressed in Module 9, Digital Communication. Other content-based modules such as Module 2, New Zealand Information also provide opportunities for this standard to be embedded.

In comparing the content of the proposed modules with that of existing online tutorials, considerable differences were noted as shown in the graphs in Appendix H. Aspects which are most fully covered in existing tutorials include search strategies and evaluating. Maori and Pacific Information (90%), Community Information (90%), Digital Information (80%) and New Zealand Information (75%) and were seldom addressed although some of the sites were New Zealand based. This points to the potential value of having relevant New Zealand contexts for learning. Additionally, ethics either was not covered (40%) or only partially covered (50%).

Aspects such as how learners were engaged and learner interest was sustained have not yet been analysed, and will be done later to provide information for the CDG group as they move from gathering content to shaping interactive elements and designing the user interface of the modules.

10. Recommendations:

The recommendations of the team who conducted the needs analysis are as follows:

- 1 Discussion between AEG, SMG and CDG Group members is needed to decide who are the priority users, which five modules of the proposed eleven modules should be developed initially and whether ethics content should be included. Decisions need to be based on the needs of users, preferences of users and gaps in the sector. This is because:
 - a. Variation in preferences exists across user groups.
 - b. Although users have indicated five top preferences overall, a gap has been identified for New Zealand Information Sources, Maori and Pacific Island Information, Digital Information and Community Information.
- 2 Modules need to be dynamic, interactive, easily updated and modified, be appropriate for multiple levels and stages of education, and align with ANZIIL Framework standards and recommendations.
- 3 CDG is advised to explore how each ANZIIL standard can be applied to each of the modules, rather than assuming they are all relevant and that all the modules must adhere to all the standards in some way, or that each module should cover a standard.
- 4 The format of the proposed information literacy modules should meet generic, parallel, integrated and embedded programme needs, be in an appropriate electronic format for target users and contain a variety of media.
- 5 A usability evaluation of the prototypes using a wide range of staff and students will help establish whether the content and presentation is appropriate.
- 6 A research evaluation study of the finished (pilot) modules will help to confirm if the content and format of the modules is appropriate for the target users, and also whether modules can be used both as embedded and stand-alone resources.

11. Summary:

All questions in the needs analysis were answered apart from finding out which elements of module design would engage learners and sustain their interest. Data collated from an evaluation of twenty online tutorials has yet to be analysed to address this question. The six recommendations in the report are based on a snap shot of opinion from 101 users as well as on an evaluation of existing resources and an investigation of the ANZIIL Framework. The findings

of the needs analysis should enable the project to move ahead with regard to making decisions about the five modules to be developed and which content will be appropriate for target users. It was reassuring to discover that the institutional response to the concept was favourable. In light of the variation in opinion regarding the most important modules, the judgement of the team along with the overall findings of the needs analysis will be paramount in deciding which modules should be developed initially and the design they should take. The needs analysis team found that although several institutions offered Information Literacy materials online, they were generally text-based and not particularly interactive.

There were some gaps identified. For example, an evaluation of the existing content revealed that adherence to ANZIIL standards was variable, for example, standards 1 to 3 (recognition, searching and evaluating) were covered reasonably well whereas standards 4 and 6 (management and understanding) not as well, and standard 5 (construct new concepts) was barely covered at all (see graphs in Appendix F and G). Also there were very few resources available covering New Zealand Information Sources, Digital Information, Community Information and Maori and Pacific Island Information. Ethics was generally only covered partially or not at all.

The ANZIIL Framework has clearly stated standards and recommendations which will inform development and evaluation of the proposed modules. It was clearly stated in the Framework, how important IL was for lifelong learning, and that the design of materials to support IL education should provide opportunities for student-directed and active learning, and be embedded in curricula rather than being discrete courses. In line with this recommendation, some of the staff sampled at one institution were quite clear about the need for IL materials which could be embedded in existing programmes.

The needs analysis has also served another purpose, that of raising awareness of the tertiary community about the modules which should make it easier to find users on which to test the modules during development and once they are piloted.

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Information Literacy online eLearning Modules

NZ Universities

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13. Appendices

Appendix A: 13.1 - Information Sheet – Background and Purpose e-Learning Collaborative Development Fund Project Information Literacy

Background:

A project between the University of Otago, Otago Polytechnic and Dunedin College of Education is underway to develop interactive information literacy modules for the tertiary sector. Our initial research indicates that there is a shortage of high, quality material across the tertiary sector. The provision of online information literacy resources, which can be reused by each institution, is essential to:

- Facilitate the development of skills which are essential for tertiary study,
- Achieve cost-efficiency,
- Avoid duplication of effort and,
- Facilitate flexible access.

This project will provide access to online information literacy resources for stand-alone use, as well as to support accredited courses. The online modules will be designed for delivery via Blackboard or any other standards conformant LMS specifically so that project benefits can be disseminated across the tertiary sector. Through the development of this project, students and staff will for the first time have access to online resources which are centrally produced and managed but reused in the context of each individual institution. The resources produced will be firmly grounded on the experience in information literacy which already exists in each of the participating institutions, and at the forefront of current thinking and practice in e-Learning with respect to portability and reuse.

The project was conceived to address four main areas in the tertiary sector associated with information literacy learning:

1. Barriers to tertiary study which can occur as a result of poor information literacy¹ skills and the diverse needs of marginalised, mature and distance students.
2. A shortage of high quality online information literacy modules which are reuseable, portable and have pedagogical flexibility.
3. A need for professional development opportunities for staff in the area of information literacy.
4. A tertiary sector requirement for centrally maintained and managed, standards conformant online resources in this important foundation field.

A needs analysis is the first step in the process, and the results will inform development of the modules by confirming the type content and format which will best suit target learners in the sector.

¹ Information literacy is the lifelong ability to recognise the need for, to locate, evaluate and effectively use information (ALA, 1989).

Purpose of the Needs Analysis

Most importantly the needs analysis is required to determine who the users are and what their needs will be. We are catering for learners who have the following characteristics:

- Elementary information literacy skills
- Traditional, but non digital, information literacy skills
- Unfamiliar with New Zealand contexts, but needing to function effectively in New Zealand Society
- Moving into situations requiring application of IL in increasingly demanding academic contexts
- Need to develop their own skills in order to support and teach their students
- Uncertain, and possibly anxious, in an unfamiliar learning environment.

13.2 Information sheet Content of Proposed e-CDF Information Literacy Modules (in no particular order)

<i>Module</i>	<i>Description</i>	<i>Coverage includes</i>
1. Information Organisation and Management	Introducing the basic concepts of data, information and knowledge. Both the theory and the application of information management systems will be emphasised and examples will be presented from a wide variety of sources	<ul style="list-style-type: none"> • Basic definitions and examples, Classification and subjects • Primary, secondary information, Information formats (e.g. oral, digital) • Historical details, Cultural factors • Politics of information, Information protocols and language • Structures for retrieval, Access (e.g. commercial, open source) • Organisation of text, Libraries
2. New Zealand Information Sources	Major challenges are faced by people trying to find and use NZ information in terms of IL. The module is appropriate for both NZ-based and overseas users. A very wide range of resources and formats will be utilised	<ul style="list-style-type: none"> • Historical context, Archival Information • Māori material, Colonial material • Government documents, Grey Literature • New Zealand world wide web and Library resources (inc. Te Puna)
3. Maori and Pacific Island Information	Resources that will assist users to develop IL skills in the specialised Māori and Pacific areas. The nature of this information, particularly the oral tradition, means that a different set of skills and concepts is appropriate. A range of resources will be created (few currently available)	<ul style="list-style-type: none"> • History, Language • Treaty of Waitangi and related information • Formats, Theses, Government • Cultural Issues, Protocols • Private and public access
4. Scholarly Communication	Specialised IL skills are required for accessing academic/scholarly information. This module features a broad range of material that can be used for a wide variety of subject areas and develop the users IL skills in this area	<ul style="list-style-type: none"> • Development of academic journals, Peer review process • Referencing, Citation styles, Plagiarism • Format: electronic/print/microform etc. • Academic databases, Theses
5. Academic Databases	Online academic databases are now the major tools for accessing literature used by students, teachers and researchers. There is a wide range of such databases available and the complexities of effective searching for academic sources are embedded in this module.	<ul style="list-style-type: none"> • Introduction: what and why, Audience • Bibliographic databases, Citation reports, Advanced search techniques • Full-text databases, Subject specific databases • Subscription/access • New Zealand academic material, Federated searching
6. Search Strategies	This module provides the user with competencies and strategies for effective information searching at all levels. Interactive examples, will guide the user through several stages of a search strategy process. Feedback options will be available, as well as an exportable document featuring key skills, concepts and examples of the process.	<ul style="list-style-type: none"> • Establishing the information query • Devising a strategy • Conducting the search • Evaluation and review • References

<i>Module</i>	<i>Description</i>	<i>Coverage includes</i>
7. Community Information	The module addresses locating, accessing, evaluating and using information for non- academic purposes. It includes some material of particular value to visitors and newly arrived migrants	<ul style="list-style-type: none"> • Legal rights and responsibilities, Financial Information • Well-being, Community groups, Democratic processes • Information for visitors and new migrants (visas, language issues, etc) • People and organisations, Consumer information • Travel and weather information, News
8. Digital Information	This module helps the user critically examine the use of digital media to handle information in ways that are different from the use of non-digital means. The focus is on e-Learning, non-linear structures, combining media, collaboration and editing techniques, and analysing large volumes of data.	<ul style="list-style-type: none"> • Time, cost and access factors • Learning Management Systems, Multimedia, Non-linear organisation • Digitising sound & images, Digital objects • Databases and spreadsheets • Collaboration and networking
9. Evaluating Information	The module will present evaluation techniques and provide opportunities for critical appraisal of digital and non-digital information and information sources. Questions that should be asked when evaluating information relate to: source, structure, function and bias	<ul style="list-style-type: none"> • Source: Who produces this resource? Where does the information come from? What are alternative sources? • Function: What is the intended purpose of this resource? Does it serve any other purpose? Who is the intended audience? • Structure: What kind of information is included? How is the information organised? What type of format is being used? • Bias: To what extent is the information objective and/or subjective? Is a particular commercial, political view being advanced?
10. Effective Internet Searching	In both everyday life and when involved in academic pursuits, information retrieval from the www is a necessity. The content of this module will inform the users how to use the www more effectively and ensure that information accessed is useful, reliable and valid. Users need to know how to save material from the Web, and the importance of acknowledging any information they retrieve.	<ul style="list-style-type: none"> • Basics of searching and information retrieval from the web • Saving information from the web, Acknowledging sources • Types of search engine and how they operate, Image searching • Advanced searching - Boolean Operators, truncation • Directories – academic, professional, general, commercial • Invisible web, HTML Links, Domain searching
11. Ethics	This module provides an introduction to information ethics. The Internet means that information is more widely available than ever before. Issues include e-storage & retrieval, protecting the rights of authors and understanding of copyright regulations. Ethical standards, associated with the use of information, whether for personal use or for educational purposes, must be considered and these are applied in many different situations, e.g. research, study, assignment writing, journals, course materials, presentations.	<ul style="list-style-type: none"> • Ethics and the Information Age, standards for information • Understanding copyright – academic, commercial, general, global • Digital copyright – caching, scanning, online journals, e-books • The role of libraries in copyright, the purpose of citation • Using and acknowledging material taken from online • Open source materials, Cultural issues • Intellectual property, Copyright alternatives • Plagiarism – definition, prevention, detection (software) • The role of ethics committees in research, academic community

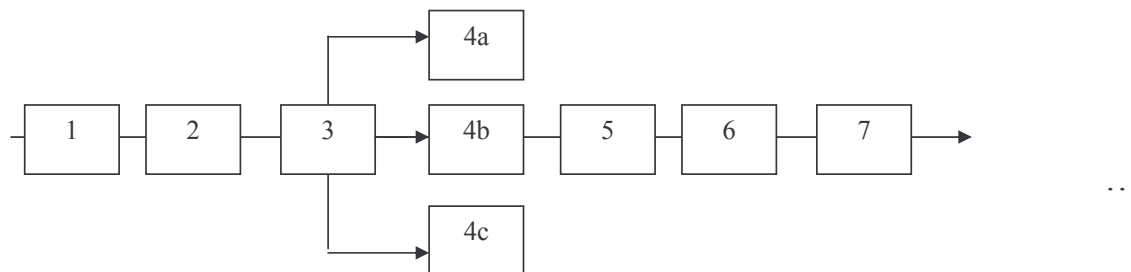
13.3 Design Diagram of Modules to accompany Information Sheet

Fixed Linear Sequence



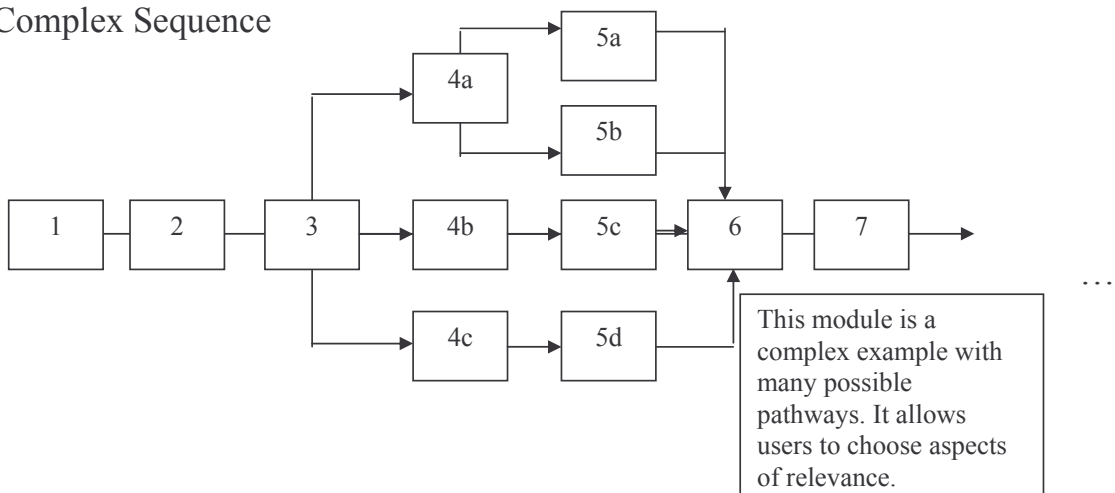
This is an example of a linear module which will lead users through a structured sequence of activities.

Limited Choice Sequence



This module offers choices to users, at one point in the sequence.

Complex Sequence



Appendix B: Questions on which the Needs Analysis was based.

- 1 Who are the users?
 - Institutions
 - Staff
 - Students
 - Public
- 2 What are the users' needs?
 - Institution
 - Staff
 - Students
 - Public
- 3 What is the response of institutions to the concept?
- 4 What type of Information Literacy support is available at present?
 - o Existing personnel and materials within our institutions e.g.:
 - Library
 - Learning Support
 - Bridging courses

This will include national and international online resources.
- 5 What format should these modules take?
 - Interactivity
 - Customisation
 - CD, DVD as well as online?
 - Printable?
- 6 What should the content be?
 - Provide content that covers the scope of recognised international information literacy guidelines.
 - Place this content in high interest New Zealand contexts, or contexts of relevance to New Zealand learners.
 - Extend this content to include aspects that have specific New Zealand dimensions.
- 7 Which of the planned modules should be developed for the first two and the following three?
 - 7a Who should be consulted about this?
 - Library staff
 - Academic staff
 - Academic staff who are studying
 - HODs, HOSs, HOF, Deans
 - Course developers
 - Learning Support, Foundation Studies personnel
 - Post Grad Students
- 8 What are the requirements of the ANZIIL Framework?
- 9 Do existing resources have similar content and methods to that proposed for the modules?
- 10 What elements of module design will engage learners and sustain their interest

Appendix C: Evaluation Criteria for Existing Resources

Information Literacy: Evaluating Online Resources												
Name:			URL:									
Source/Author(s):			Target Users:									
Aspect	+?-	Comment										
Content												
Consistent with ANZIL		1	2	3	4	5	6					
New Zealand context												
Interesting features												
Similarity with planned modules		1	2	3	4	5	6	7	8	9	10	11
		* = partial coverage.										
Engages learners through:												
Initial impact												
Visual display												
Interactivity												
Relevant content for user												
Feedback												
Graphic & dynamic material												
Can follow own path												
Self assessment												
Sustains learner interest												
Required for course												
Varied approach												
User friendliness												
Material at different levels												
Can print tasks and/or feedback												
Can return to continue												
Effective site map												
Other comments												

Comment: With reference to the six standards.

Comment: Uses New Zealand examples.

Comment: This may be content that sits alongside IL skills as in our content based modules. See list.

Comment: Compare with list of our modules.

Comment: Can the user get a response to their input?

Comment: Consider this in relation to the stated or assumed user. Refer to user list.

Comment: Positive feedback would inform the user in relation to their response, or there would be an option to communicate with a real person.

Comment: This enhances text. Not just decoration.

Comment: Branching options. Able to jump to other material, go deeper, or continue at simpler level.

Comment: Consistency of navigation
Clear instructions
Minimum use of scrolling
Constant visibility of overview.
User control of dynamic elements and sound

Comment: Able to easily continue and not have to start again. Able to save responses.

Comment: Clearly shows where user has been. Able to find where to go, if lost.

Appendix D: Information Literacy Criteria for evaluating existing resources

IL can be associated with student centred learning, problem solving approaches and critical thinking as well as with specific IL skills. The challenge is to develop this literacy through a learning environment which embodies these attributes. Student centred learning implies student control of the process; the ability to control pace, to delve deeper as and when required and to jump to aspects of interest when they are introduced, or relevant. Problem solving suggests multiple solutions, differing ways of dealing with information and the need to clarify the problem through investigation. Critical thinkers would be expected to question sources and accuracy of information, to recognise bias and to be open minded enough to sometimes change their views after considering a range of available information.

Effective online IL learning resources would be expected to:

Content

- Provide content that covers the scope of recognised international information literacy guidelines.
- Place this content in high interest New Zealand contexts, or contexts of relevance to New Zealand learners.
- Extend this content to include aspects that have specific New Zealand dimensions.

Learners

Cater for learners:

- With elementary information literacy skills
- With traditional, but non digital, information literacy skills
- Unfamiliar with New Zealand contexts, but needing to function effectively in New Zealand Society
- Moving into situations requiring application of IL in increasingly demanding academic contexts
- Who need to develop their own skills in order to support and teach their students
- Uncertain, and possibly anxious, in an unfamiliar learning environment.

Engage Learners through:

- Aesthetically pleasing screen displays
- Clean, uncluttered screens
- Relevance of content
- Interactivity that encourages thinking, not guessing.
- Feedback which informs.
 - e.g.: pretests that indicate whether this module is at a suitable level for the learner, or which parts are relevant.
- Varied learning activities catering for differing learning preferences and stimulating interest
- Graphic and dynamic material that complements text effectively.
- Opportunities to follow own trails and interests
- Opportunities for self assessment before, during and after working with the resources.

Recognition as a course or part of a course.
Attention gaining devices used sparingly and appropriately.

Sustain learner use through:

Reliability

Ease and speed of access.

Variety

User friendliness

consistency of navigation

clear instructions

minimum use of scrolling

constant visibility of overview

user control of dynamic elements where relevant

Provision of material enabling the learner to become increasingly information literate i.e.: to progress from simple to more advanced activities.

Effective site map that can re-orient learner and indicate what has been done.

Flexibility to choose what suits the learner.

Optional contact with people who will respond.

Being required for course completion.

Ability to print out, and/or archive online material, their own input and feedback.

Ability to mark work place in order to return later.

Institutions

Encourage institutional use through:

Consultative processes

Ease of customisation

Low cost

Relevance across different types of tertiary institutions

Absence of intellectual property barriers

Relevance for tutors and students

Being a “just in time” resource easily accessed within familiar systems.

Interoperability.

Quality of product, including accuracy, pedagogical appropriateness, reliability, learner satisfaction, content relevance.

Appendix E: Interview Questions for Information Literacy Focus Group Needs Analysis

- 1 How is Information literacy taught at the moment in your programmes and by whom?
- 2 Who are the users?
- 3 Would the project modules have a place in the institution's programmes?
- 4 Which courses/ levels/ departments do you think they would be used in?
- 5 How do you think they would be used?
- 6 Are there any other categories of users we should be considering?
- 7 Which modules would be most important for your purposes? Get them to rank the modules using the questionnaire.
- 8 What other comments would you like to make about the potential use of these modules.
- 9 Who else should I talk to?

(These were adapted to suit the roles of the people interviewed)

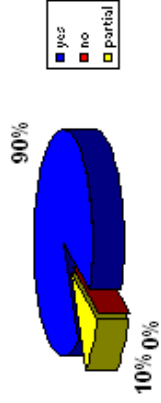
Appendix F: Questionnaire

e-Learning Collaborative Development Fund Information Literacy	
<i>It will cater for learners:</i>	<i>Please tick one or more boxes to indicate which categories you fit</i>
<ul style="list-style-type: none"> • With elementary information literacy skills 	
<ul style="list-style-type: none"> • With traditional, but non digital, information literacy skills 	
<ul style="list-style-type: none"> • Unfamiliar with New Zealand contexts, but needing to function effectively in New Zealand Society 	
<ul style="list-style-type: none"> • Moving into situations requiring application of IL in increasingly demanding academic contexts 	
<ul style="list-style-type: none"> • Who need to develop their own skills in order to support and teach their students 	
<ul style="list-style-type: none"> • Uncertain, and possibly anxious, in an unfamiliar learning environment. 	
<ul style="list-style-type: none"> • Other - 	
<i>Modules – Rank five of these in order 1= top preference to 5 = fifth preference</i>	<i>Place nos. 1 -5 in boxes to indicate first five preferences</i>
Information organization and management	
New Zealand Information sources	
Māori and Pacific Island information	
Scholarly Communication	
Academic Databases	
Search Strategies	
Community information	
Evaluating information	
Digital information	
Effective World Wide Web searching	
Ethics	
<i>Other Comments</i>	

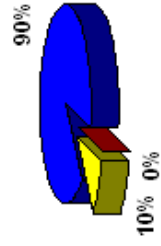
Appendix G: ANZIIL Standards Coverage in Twenty Online Tutorials



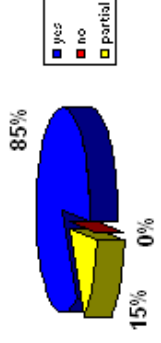
ANZIIL standard 1
Recognise need for info, and determine nature & extent of info



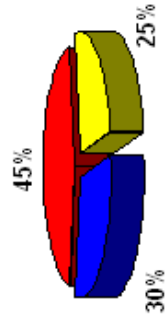
ANZIIL standard 2
Find information effectively and efficiently



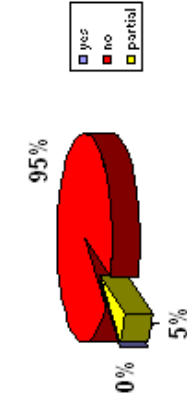
ANZIIL standard 3
Evaluate info and info seeking process



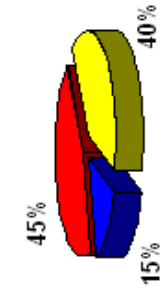
ANZIIL standard 4
Manage information collected



ANZIIL standard 5
Apply prior and new info to construct new concepts or understandings



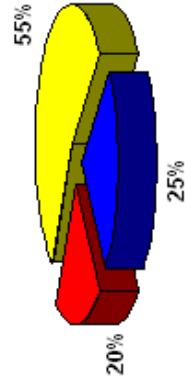
ANZIIL standard 6
Use info with understanding of cultural, ethical, economic, legal and social issues



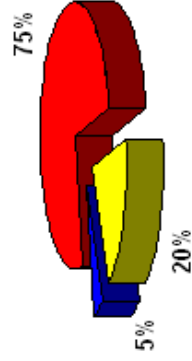
Appendix H: Proposed modules coverage in online tutorials

Key: Covered Not covered Partially covered

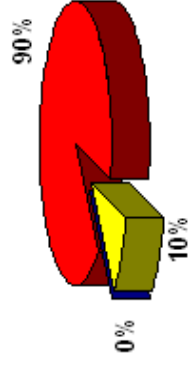
Module 1
Information organisation and management



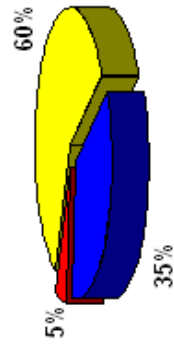
Module 2
NZ Information Sources



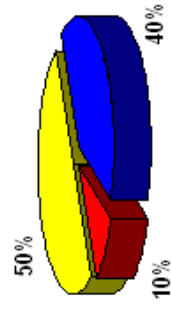
Module 3
Maori and Pacific Information



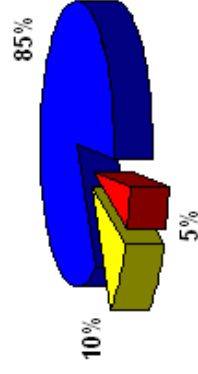
Module 4
Scholarly Information



Module 5
Academic Databases



Module 6
Search strategies



Proposed modules coverage in online tutorials cont'd

