

A National Information Literacy Framework Scotland

www.caledonian.ac.uk/ils/framework.html



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Skills for everyone



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&
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National Information Literacy Framework (Scotland)

Working Draft

Preface

The framework is currently in draft format for consultation and evaluation. The next stage is a piloting exercise 2007-8 with project partners from schools, further education colleges, universities and different workplaces plus adult literacy initiatives. The plan is to enrich the draft framework with exemplars of good practice which will demonstrate how specific competencies can be applied in practice and can demonstrate links to higher level complex thinking skills and innovation. Thus trying to avoid the difficulties which other national frameworks in Australia, New Zealand and America have encountered and not just have the skills levels but find hooks to hang on and have these mapped into course design, recognising different modes of teaching and learning for example evidence based, problem based plus target disciplines that value information and feed forward with further developments including educational development strategies such as the Curriculum for Excellence¹ within schools and initiatives within further and higher education.

In order to develop the framework, time was taken to look at other frameworks, models and definitions at home and abroad and have discussions with relevant bodies and individuals in order to learn from others and incorporate best practice but most of all not to reinvent the wheel but to incorporate what is being used by practitioners. The aim being to map the existing learning that was taking place allocating a notional level to learning outcomes utilising relevant reference points such as the Scottish Credit and Qualification Framework (SCQF) generic level descriptors with the intention of providing a general shared understanding of each level which can then be linked to academic, vocational or professional practice.

The draft framework was therefore developed using the SCQF aims, structure and key features in conjunction with the Scottish Qualifications Authority (SQA) Core Skills framework as they:

- define learning in terms of statements of skills, knowledge and understanding
- enable the notional levelling process and outcomes to become transparent and clearly understood by other learning providers, receiving organisations and or employers to meet the needs of the lifelong learner more effectively.

The starting point for developing the framework was SCQF level 5 (Intermediate 2) and the only SQA national unit qualification at that time relating to Information Literacy skills². This was then used as a template for drawing up equivalent SCQF levels 4 to 1 and 6 to 7 covering the secondary schools and further education (FE) colleges.

¹ Curriculum for Excellence <http://www.curriculumforexcellencescotland.gov.uk/index.asp>

² SQA National Unit Qualification - Information Handling Skills (Intermediate level 2) DF9J 11
From the 1st of August 2007 there will be two new SQA National Progression Awards (NPA's) including:
NPA Internet Technology (SCQF Level 4) – which consists of the following three units
PC Passport: Introduction to the Internet and On-line Communications; F0H5 10 Internet Safety and Information Literacy Skills (SCQF level 5) F1P3 11

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Higher education (HE) covers SCQF levels 8 to 12 and as HE uses the SCONUL model it was felt that the skills within the seven headline skills from the SCONUL Seven Pillars Model for Information Literacy should be used and exemplars of how two universities have adopted and modified this model to create information literacy frameworks for their own institutions added to the framework appendices.

The SCQF levels do not cover primary schools but there is good practice in this area covering the present 5 -14 curriculum within Scotland and it was felt that it was important to include this work as it forms the building blocks for other sectors and is part of lifelong learning. The work carried out by two local authority education resource services³ was considered and discussions took place regarding the use of the material they had created. An important element was that their models and toolkits:

- were being used within their authority primary schools and would be rolled out to secondary schools
- had plans to develop current material to fit the new Curriculum for Excellenceⁱ covering 3 – 18 year olds within Scotland.

To cover the world of work, the framework incorporated and highlighted the Chartered Institute's of Library and Information Profession's (CILIP) information literacy skills and competences definition⁴ as it was created to include all information-using communities. Although there are no levels this provides an area for further research.

To demonstrate common themes within the models and definitions incorporated into the draft framework a mind map was created and subsequently used to provide a visual diagram of the draft framework. By using the SCQF framework and existing models and definitions we can demonstrate a continuing learning process through identifying a learning pathway as part of an educational guidance or personal development planning process.

To set the framework in context and support advocacy⁵, additional information has been added:

- Back ground information, provenance, acknowledgements
- Information literacy – what it is
- Information literacy and lifelong learning
- Information literacy education
- Use of the Information Literacy framework
- Appendices

There is still a lot of work to be done including looking at the issues that have arisen from our dissemination activities but the initial feedback is positive and we look forward to working with our partners and interested parties.

Christine Irving and John Crawford

³ North Ayrshire– Information Literacy Toolkit and The City of Edinburgh – EXPLORE Model

⁴ CILIP Information Literacy www.cilip.org.uk/policyadvocacy/informationliteracy/definition

⁵ See also the Information Literacy Toolkit www.slainte.org.uk/cilips/infoliteracy/iltoolkit/index.htm developed by CILIPS Information Literacy Task and Finish Group.

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Overview

Back ground information and provenance

The need for the development of a national overarching framework of information literacy skills and competencies which all sectors of education can recognise and develop or which can be applied to the world of work, equipping learners with skills needed for the 21st century has arisen from research carried out by Glasgow Caledonian University.

Research undertaken by Glasgow Caledonian University Information literacy skills - the link between secondary and tertiary education⁶ has shown that students arriving at university have generally either poor or limited information literacy skills, for some these skills will be enhanced but many will leave as they arrived. The findings from a recent small based exploratory interview study into 'The role of information literacy in addressing a specific strand of lifelong learning: the work agenda'⁷ indicated that although employers do not explicitly ask for information literacy it is implicitly expected, seen as important at work but not included in workplace training. It therefore falls to education to provide future employees with the necessary information literacy skills and competencies.

The framework is seen as a key tool for the embedding of information literacy in schools, FE, HE, and lifelong learning and for life.

The framework has been developed by Glasgow Caledonian University with secondary and tertiary partners using SCQF⁸ (Scottish Credit Qualification Framework) aims, structure and key features and existing frameworks and models⁹ to:

- define information literacy learning in terms of statements of skills, knowledge and understanding
- support a continuing learning process through identifying a learning pathway within the context of SCQF as part of an educational guidance or personal development planning process
- map the existing learning that is taking place allocating a notional level to learning outcomes utilising relevant reference points such as the SCQF generic level descriptors with the intention of providing a general shared understanding of each level which can then be linked to academic, vocational or professional practice
- enable the notional levelling process and outcomes to become transparent and clearly understood by other learning providers, receiving organisations and or employers to meet the needs of the lifelong learner more effectively

⁶ <http://www.caledonian.ac.uk/ils/>

⁷ <http://www.caledonian.ac.uk/ils/workplace.html>

⁸ <http://www.scqf.org.uk/>

⁹ See Appendix C

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- incorporate¹⁰ and highlight CILIP's (Chartered Institute of Library and Information Professionals) Information literacy skills and competencies definition¹¹, SQA's Information Handling Skills Intermediate 2 qualification¹² and existing models that are currently being used in each of the sectors e.g. SCONUL Seven Pillars Model¹³ in higher education.

Acknowledgements

Glasgow Caledonian University would like to thank:

- learndirect scotland for their funding contribution to the preliminary work into the development of the framework
- the Eduserv¹⁴ Foundation for funding the development of the draft framework
- the individuals, organisations and bodies that have created / developed the definitions, models and qualifications included within the framework and
- the projects' advisory group¹⁵ and partners¹⁶ for their invaluable assistance.

eduserv



Information literacy

Information Literacy is about:

¹⁰ See Appendix C for mind map of the definitions, models and qualifications used to create the framework

¹¹ www.cilip.org.uk/policyadvocacy/informationliteracy/definition

¹² www.sqa.org.uk/files/nu/DF9J_11.pdf

¹³ www.sconul.ac.uk/groups/information_literacy/papers/Seven_pillars2.pdf

¹⁴ www.eduserv.org.uk/foundation/inflit

¹⁵ www.caledonian.ac.uk/ils/advisory.html

¹⁶ www.caledonian.ac.uk/ils/partners.html

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‘knowing when and why you need information, where to find it, and how to evaluate it, use and communicate it in an ethical manner.’

It involves several skills and competences. These are an understanding of:

- a need for information
- the resources available
- how to find information
- the need to evaluate results
- how to work with or exploit results
- ethics and responsibility of use
- how to communicate or share your findings
- how to manage your findings.¹⁷

The skills and competencies are stages in the process of undertaking an information task in personal, social, vocational, educational or occupational contexts. They are used sequentially and repeatedly in every type of context. They encompass the components of problem solving: critical thinking; planning and organising; and reviewing and evaluating. Each skill or competence can also be a major focus of activity on its own.

It encompasses all media types and formats – electronic, people and printed information sources.

Attainment levels range from:

- learning and using individual information skills with assistance to
- using some information skills to perform a simple information task with assistance if required to
- efficiently and effectively undertaking a significant piece of research.

These levels are a graduation / progression in the development of Information Literacy skills from early learner / novice to expert.

It is however important to note that whilst most models and frameworks list the required skills and competencies in a linear fashion, the process is iterative.

Iterative Process

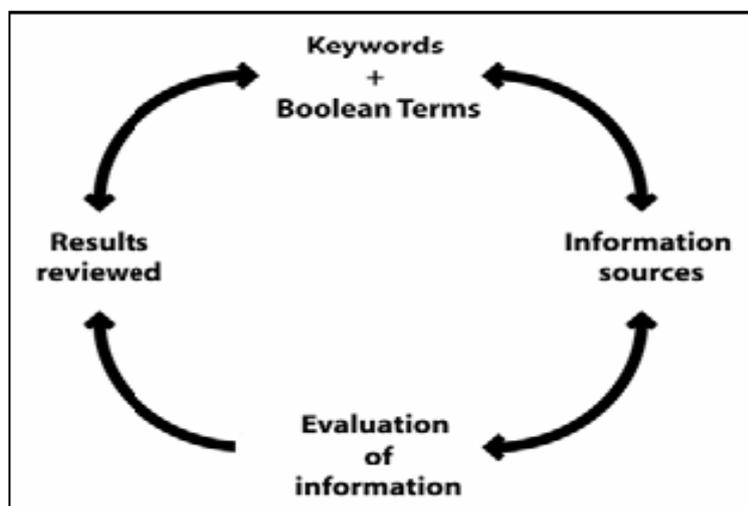
In practice information searches are often circular rather than linear with the search cycle being completed and/or restarted several times using different

¹⁷defined by the Chartered Institute of Library and Information Professionals
www.cilip.org.uk/policyadvocacy/informationliteracy/definition

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keywords, Boolean terms and/or information sources in the search for relevant information.



Information literacy and lifelong learning

In today's global economy the industrial society has been replaced by the information society and as the Prague Declaration (Anon, 2003) states

Information Literacy encompasses knowledge of one's information concerns and needs, and the ability to identify, locate, evaluate, organize and effectively create, use and communicate information to address issues or problems at hand; it is a prerequisite for participating effectively in the Information Society, and is part of the basic human right of life long learning.

Although this has been declared a basic right there are several assumptions that affect this right:

- information literacy is learnt through osmosis
- information literacy is covered by or is the same as information technology (ICT)
- as technology improves access to information will become easier and therefore negate the need for information literacy
- information literacy is an updated version of library skills and is therefore related to printed sources
- with the emergence of electronic sources and e- literacy and media literacy this negates the need for information literacy.

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These assumptions influence 'practice, including the priority attached to' information literacy and also 'constrain acceptance and uptake' of information literacy skills learning objects / material¹⁸. The reality is that any learning of these skills that has taken place has been implicit rather than explicit and either patchy or non-existent resulting in poor or inadequate levels of information literacy skills¹⁹.

Information literacy education

'Information literacy education should create opportunities for self-directed and independent learning where' learners 'become engaged in using a wide variety of information sources to expand their knowledge, construct knowledge, ask informed questions, and sharpen their critical thinking'²⁰. It can be used for cross-curricular areas such as:

- problem solving
- evidence based and problem based learning
- specific objectives, activities, and tasks involving research:
 - project work
 - inquiry work
- planning and organising
- reviewing and evaluating
- making better use of resources
- independent thinking and
- enhancing learning.

¹⁸ Bill Johnston and Tony Anderson (2005). Information literacy and study skills An overview of research for LT Scotland Available from www.ltscotland.org.uk/informationliteracy/images/overview_of_researchv2_tcm4-285566.pdf [Accessed 23 March 2007]

¹⁹ (McLelland & Crawford, 2004; Irving & Crawford, 2006; Andretta, 2005)

²⁰ Lupton, M. (2004) Australian and New Zealand Institute for Information Literacy (ANZIIL) (2004) *Australian and New Zealand Information Literacy Framework: principles, standards and practice* 2nd ed. Available from www.anziil.org/resources/Info%20lit%202nd%20edition.pdf [Accessed 23 March 2007]

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It can also help with a number of information-specific issues of concern:²¹

- problems of information overload
- inappropriate use of Internet material
- failure to evaluate and synthesise information
- neglect of non-digital sources of information

To help with the above identified cross-curricular areas and problems there is a vast array of information literacy materials available (see Appendix A) at all levels and sectors of education and lifelong learning which can be deployed for learning and teaching. The material can be used across all subject areas / themes and can be easily integrated into a particular subject matter and available resources through the collaborative efforts of educators (teachers, lecturers, learning advisors/facilitators, curriculum designers), and library and information professionals (librarians, learning resource co-ordinators).

It is however important to note that 'the level of proficiency and the amount of time spent covering these skills will vary according to the abilities of individual learners' and recognise that 'the mastery of specific competences is dictated by the nature and requirements of the discipline studied'²².

Information literacy requires sustained development throughout all levels of formal education, primary, secondary and tertiary' and on into the workplace, in other words lifelong. It requires repeated opportunities for seeking, evaluating, managing and applying information gathered from multiple sources for different tasks, subject areas, themes and disciplines. It is this cumulative experience which creates the information literate person²³.

²¹ Johnston, Bill and Anderson, Tony. Information literacy and study skills An overview of research for LT Scotland Available from www.ltscotland.org.uk/informationliteracy/images/overview_of_researchv2_tcm4-285566.pdf [Accessed 23 March 2007]

²² Andretta, Susie. *Information literacy; a practitioner's guide*. Oxford: Chandos Publishing, 2005. p.43

²³ Australian and New Zealand Institute for Information Literacy (ANZIIL) (2004) *Australian and New Zealand Information Literacy Framework: principles, standards and practice* 2nd ed. Available from www.anziil.org/resources/Info%20lit%202nd%20edition.pdf [Accessed 23 March 2007]

Use of the Information literacy framework

The *Framework* defines information literacy learning in terms of:

- skills, knowledge and understanding
- examples of an information task/s at that level
- exemplars of how the skills, knowledge and understanding at this level have been mapped into specific subjects or course design (to be added through the piloting /working with project partners)
- assessment level and criteria if the person is to be assessed

It can be used by:

- institutions such as schools, colleges and universities
- learning centres
- workplaces or professional bodies

to:

- support the embedding of information literacy in programmes of learning and teaching across the curricula
- articulate the standards that can be expected:
 - within each level of the identified educational sectors (schools, further education, higher education)
 - of new entrants to that sector whether through progressing from one sector to another or as direct entrants
 - of employees entering the workplace
- inform the development of information literacy within learning centres and workplaces workshops and training sessions.

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For ease of use the framework has been divided into the following sections:

- Schools
- Secondary Schools / Further Education Colleges
- Further / Higher Education
- Higher Education
- Lifelong learning including all information-using communities
e.g. community learning and in the workplace

The framework levels

The different sections have common skills running through them as highlighted by the mind maps of the different models and definitions used to construct / develop the framework (see the mind map on page 14). Although there are differences in the grouping and wording of these skills, the commonality enables these skills to be learnt / developed at different levels within different sectors for information tasks appropriate for that level then further developed to the level other sectors require, thus creating a learning pathway for education or personal development planning process.

Schools

Within this section the framework has used the City of Edinburgh's EXPLORE Model designed for P1 – S2 skills level A – F. The skills within this section include planning, locating, organising, representing and evaluating.

Secondary Schools / Further Education Colleges

Within this section the framework has used the learning outcomes for SQA's Information Handling Skills National Qualification²⁴ and elements of CILIP's Information Literacy definition and skills. For assessment purposes the levels within this section equate with SCQF levels 1 to 7 with the SQA Intermediate level 2 qualification at SCQF level 5. The skills within this section include planning and organising, defining the topic, identification of key words, identification of suitable information sources, effective searching, evaluating

²⁴ The new SQA Information Literacy Skills national unit qualification F1P3 11 has the same outcomes.

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information, record and acknowledge sources of information, communicate / share findings and reviewing search results.

Further / Higher Education

Within this section the framework has used SCONUL's Seven headline skills from the Seven Pillars Model for Information Literacy as this is the model used within the higher education sector and it was felt that for assessment purposes, this set of skills was appropriate for use at SCQF level 8.

The skills within this section include recognising a need for information, distinguishing ways in which the information 'gap' may be addressed, constructing strategies for locating information, locate and access information, compare and evaluate information obtained from different sources, synthesise and build upon existing information, contributing to the creation of new knowledge.

Higher Education

Within this section the framework has used SCONUL's Seven headline skills from the Seven Pillars Model for Information Literacy as this is the model used within this sector as demonstrated by the examples in the appendices D and E. For assessment purposes the levels within this section equate with SCQF levels 8 to 12.

The skills within this section include recognising a need for information, distinguishing ways in which the information 'gap' may be addressed, constructing strategies for locating information, locate and access information, compare and evaluate information obtained from different sources, synthesise and build upon existing information, contributing to the creation of new knowledge.

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Lifelong learning including all information-using communities e.g. community learning and in the workplace

Within this section the framework has used CILIP's Information Literacy definition and skills as these were defined in a way to be understood by all information-using communities in the UK with the acknowledgement that:

IL [information literacy] will mean slightly different things to different communities; it may also require a greater degree of skill or understanding by some communities than others. IL is relevant (and an important skill to be learned and used) in primary and secondary schools, in further and higher education, in business, and in leisure.²⁵

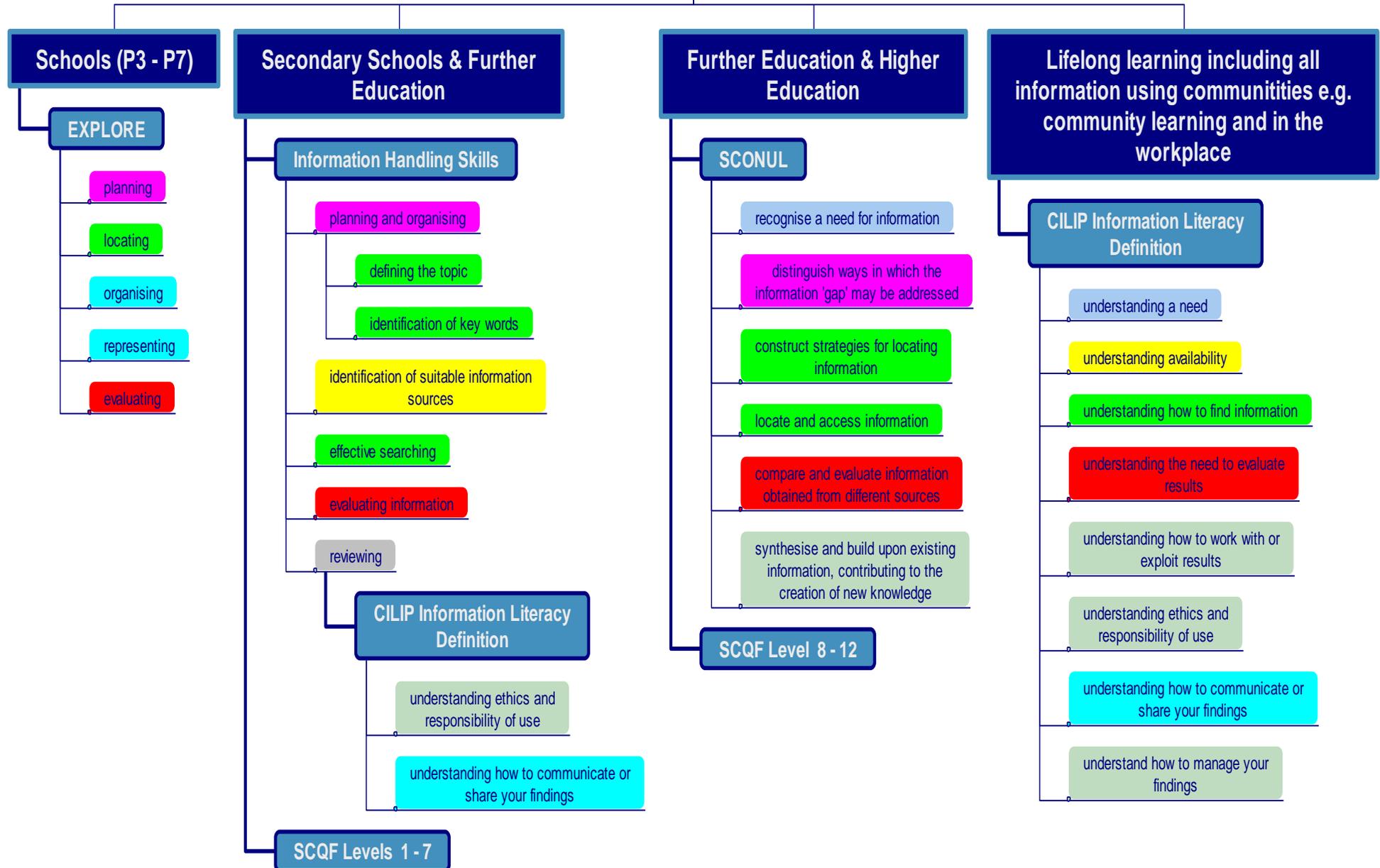
The skills within this section include understanding a need, understanding availability, understanding how to find information, understanding the need to evaluate results, understanding how to work with or exploit results, understanding ethics and responsibility of use, understanding how to communicate or share your findings and understanding how to manage your findings.

This section has no levels or depths of skills required attached to it; however those involved in adult or community learning may wish to use levels within the other sectors that they feel are appropriate.

Hopefully examples of information tasks within this section may be added in the future.

²⁵ A short introduction to information literacy (2004)
www.cilip.org.uk/policyadvocacy/informationliteracy/definition/introduction.htm

Information Literacy Framework



Information literacy and assessment

There are several reasons why you should assess²⁶:

- To support and improve the quality of learning
- To encourage the development of skills and abilities
Different forms of assessment can be used to develop a wide range of skills within learners.
- To give feedback, help and guide learners
Learners can see what they have done correctly and well, and also what they have done less well. Most importantly, feedback can change behaviour either immediately or at a later date, or both.
- To give success or failure, give a mark
Learners need to know how they are doing and tangible measurement through assessment is valuable. Assessment is the only way we can test whether the learning outcomes have been met and the most recognizable way for learners to see that they have achieved what was expected of them.
- To motivate learners
Use assessment to encourage learners to work through and complete an activity or series of activities, it helps to form and embed the learning experience
- To find out how effective teaching has been

There are a number of different assessments that can be used²⁷:

- Bibliographies
- On-line tutorial with a series of activities with a quiz / test at the End
- Case studies
- Diaries and logbooks
- Discussions
- Essays
- Mind maps
- Multiple choice questionnaires
- Portfolios
- Practical assessment
- Presentations
- Projects
- Quizzes
- Worksheets

²⁶ The list is drawn from Webb, J & Powis C. *Teaching information skills: theory and practice*. London: Facet Publishing, 2004, p131-133

²⁷ The list is drawn from Webb, J & Powis C. *Teaching information skills: theory and practice*. London: Facet Publishing, 2004, p139-143

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As you can see assessment comes in all shapes and sizes however it is important to check that you:

- Know what you want to measure
- Ensure the assessment is in the best format to do this
- Ensure that what you are measuring is important²⁸
- Ensure that the assessment is valid, reliable, efficient, fair and set assessments that the learners will value²⁹.

IFLA guidelines for information literacy assessment³⁰ reinforce the above and state that the most important question to ask is:

What am I trying to assess?

What students have learned, or how participants feel about their own learning?

Three types of learning assessment, each used for a different purpose

Prescriptive or Diagnostic – assesses the knowledge and skill of participants before the instruction is designed. These can take the form of standardized or instructor developed tests, auditions or review of a student's prior work.

Formative – provides feedback about student learning while the instruction is ongoing and allows the instructor to adjust teaching methods during a course. For example, require students to write a one page 'reaction paper' to a reading assignment, or prepare an annotated bibliography of research materials several weeks before the research paper is completed.

Summative – a final evaluation of the criteria for assessment, occurs at the end of instruction, i.e. multiple choice question, essays given under controlled conditions, or an evaluation of citations used in the student's research paper or a portfolio review.

²⁸ Webb, J & Powis C. *Teaching information skills: theory and practice*. London: Facet Publishing, 2004, p138

²⁹ Webb, J & Powis C. *Teaching information skills: theory and practice*. London: Facet Publishing, 2004, p134-135

³⁰ www.ifla.org/VII/s42/pub/IL-guidelines2004-e.pdf [Accessed 23 March 2007]

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There are a number of publications and articles pertaining to information literacy and assessment including:

Webb, J & Powis C. *Teaching information skills: theory and practice*. London: Facet Publishing, 2004, Chapter 7 Assessment

Other publications and articles that you may find useful are:

Andretta, Susie. *Information literacy; a practitioner's guide*. Oxford: Chandos Publishing, 2005.

Neely, Teresa Y. *Information Literacy Assessment: standards-based tools and assignments*. Chicago: American Library Association, 2006.

Brabazon, Tara. (2004) *BA (Google): Graduating to information literacy*.

Available from

www.lboro.ac.uk/departments/cd/docs_dandt/research/ed/elearning/Lead%20papers/BrabazonPDF.pdf [Accessed 23 March 2007]

Information Literacy Level – Schools

Skills and Student Assessment Checklist Items³¹

Level A - this is the level which most pupils should be able to reach by the end of P3 (8 years old)

| Skills | Student assessment checklist |
|---|--|
| <p>Planning</p> <ul style="list-style-type: none"> ○ Define the information needed and the steps to find it ○ Use starter words to develop questions on the topic ○ Brainstorm information already known ○ With teacher help, identify keywords | <ul style="list-style-type: none"> ● Describe information needed and state as question with teacher help ● Describe what is known about topic ● List keyword(s) with teacher help |
| <p>Locating</p> <ul style="list-style-type: none"> ○ Identify resources <ul style="list-style-type: none"> ○ Distinguish fiction from information books ○ Identify where resources are found <ul style="list-style-type: none"> ○ Recognize that information books on a topic are in the same area ○ Create simple questions for interviewing ○ Use keywords to search <ul style="list-style-type: none"> ○ Identify broad vs. narrow terms (e.g., birds vs. robins) | <ul style="list-style-type: none"> ● Separate fiction from information books ● Describe that information books are arranged by topic ● Create simple interview questions ● Use keyword to search |
| <p>Organising</p> <ul style="list-style-type: none"> ○ Use questions to guide listening and viewing ○ Seek information from illustrations ○ Use people as sources of information ○ Select relevant information ○ Sort information by question ○ Draw conclusions | <ul style="list-style-type: none"> ● Select information to answer question(s) ● Get information from illustrations ● Use information to draw conclusions |
| <p>Representing</p> <ul style="list-style-type: none"> ○ Select format for presentation ○ Create presentation | <ul style="list-style-type: none"> ● Create simple presentation |
| <p>Evaluating</p> <ul style="list-style-type: none"> ○ Recall steps in search and what | <ul style="list-style-type: none"> ● Recall steps taken and what |

³¹ City of Edinburgh's EXPLORE Model
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Adapted from document by Marie-Therese Taylor for the Information and Learning Resources Service, City of Edinburgh Council

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| | |
|---|---|
| <p>worked and didn't work</p> <ul style="list-style-type: none">○ Describe what one liked about the product | <p>worked</p> <ul style="list-style-type: none">● Describe what is good about final product |
|---|---|

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Level B Skills - this is the level which most pupils should be able to reach by the end of P4 (9 years old)

| | |
|--|--|
| <p>Planning</p> <ul style="list-style-type: none"> ○ Define the information problem and list the steps to find it ○ Brainstorm information already known and areas of interest ○ Cluster ideas using mindmapping ○ Form a variety of questions about the topic ○ Identify keywords for searching | <ul style="list-style-type: none"> ● Describe information needed and state as question(s) ● List steps needed to find information ● Describe what is known about topic and cluster using mindmapping ● List keyword(s) for searching |
| <p>Locating</p> <ul style="list-style-type: none"> ○ Identify general, reference, and community resources ○ Select best potential resources ○ Recognize information books are organized by Dewey Decimal system ○ Locate a book using the call number ○ Use the library catalog to locate an item by keyword ○ Use a web browser to locate a pre-selected webpage ○ Use an index and table of contents ○ Create effective questions for interviewing | <ul style="list-style-type: none"> ● Identify potential books and other resources ● Select the best resources for the question(s) ● Describe that information books are arranged by Dewey Decimal numbers ● Locate a book using a call number ● Search the catalog by keyword to locate an item ● Use pre-selected webpage to find information ● Use a book's table of contents and index to find information ● Create interview questions |
| <p>Organising</p> <ul style="list-style-type: none"> ○ Use questions to guide listening and viewing ○ Use headings and subheadings to find relevant information ○ Read and interpret graphic information ○ Select relevant, understandable and current information ○ Use different notetaking techniques ○ Paraphrase or summarize information ○ Sort information by questions ○ Make judgments and draw conclusions, beginning to develop own opinions ○ With teacher's help determine which questions are not completely answered ○ Record information sources in a simplified format | <ul style="list-style-type: none"> ● Select information to answer question(s) ● Use headings and subheadings to find information ● Select relevant, understandable and current information ● Use notetaking techniques ● Paraphrase or summarize information ● Use information to draw conclusions or make judgments ● Record sources of information in simple format |

National Information Literacy Framework (Scotland)

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| | |
|--|---|
| Representing <ul style="list-style-type: none">○ Select format for presentation○ Create first draft, gather feedback, edit, and complete final product | <ul style="list-style-type: none">• Draft, edit and complete a simple product |
| Evaluating <ul style="list-style-type: none">○ Recall steps in search and what worked and didn't work○ Assess the process for effectiveness and efficiency○ Apply established evaluation criteria for the product | <ul style="list-style-type: none">• Recall steps taken and what worked and didn't• Describe what is good about final product based on teacher's criteria |

National Information Literacy Framework (Scotland)

Working Draft

Level C Skills - this is the level which most pupils should be able to reach sometime between P5 and the end of P6 (10 - 11 years old)

| | |
|---|--|
| <p>Planning</p> <ul style="list-style-type: none"> ○ Define the information problem and create a list and timeline of the steps to find it ○ Brainstorm information already known, its relevance, and areas of interest about the topic ○ Cluster ideas using mindmapping ○ Form a variety of questions about the topic, some on higher levels ○ Identify keywords most relevant for searching | <ul style="list-style-type: none"> ● Describe information needed and state as a variety of question(s) ● List steps to find information and create a timeline ● Use mindmapping to describe what is known and what is to be learned about topic ● Identify most relevant keyword(s) for searching |
| <p>Locating</p> <ul style="list-style-type: none"> ○ Identify general, reference, community, and people resources ○ Select best potential resources that are understandable, relevant, valid and current ○ Use the library catalog to locate an item by keyword, author or title ○ Use a search engine to locate information by keywords or phrases ○ Use a web directory ○ Use an index and table of contents independently ○ Use formatting features and navigational features to find relevant information in a website and in print ○ Create effective open ended and probing questions for interviewing | <ul style="list-style-type: none"> ● Identify potential general and reference books and other media including web and people resources ● Select the best resources for the question(s) ● Search the catalog by keyword, author or title to locate an item ● Use a search engine to find information by keywords or phrases ● Use formatting and navigational tools to find information ● Create probing interview questions |
| <p>Organising</p> <ul style="list-style-type: none"> ○ Use questions to guide listening, viewing, and reading ○ Skim for main ideas ○ Scan for keywords ○ Read and interpret graphical information ○ Select relevant, understandable, current, and objective information ○ Distinguish fact from opinion ○ Use different notetaking techniques ○ Paraphrase or summarize information ○ Sort information by questions and integrate with prior knowledge (outlining, webbing) ○ Look for commonalities, trends, inconsistencies, or missing information ○ Compare findings with predictions or | <ul style="list-style-type: none"> ● Select information to answer question(s) ● Scan and skim for relevant information ● Select relevant, understandable, current, and objective information ● Distinguish fact from opinion ● Use a variety of notetaking techniques ● Paraphrase or summarize information ● Find commonalities, trends, or inconsistent information ● Compare findings with questions and use information to draw conclusions or make judgments ● Record sources of information |

National Information Literacy Framework (Scotland)

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| | |
|---|--|
| <p>questions and make judgments and draw conclusions</p> <ul style="list-style-type: none">○ Record information sources in an approved citation format and understand its importance | |
| <p>Representing</p> <ul style="list-style-type: none">○ Select format for presentation that fits assignment○ Create first draft, gather feedback, edit, refine, and complete final product | <ul style="list-style-type: none">● Select appropriate format● Draft, edit, refine, and complete a final product |
| <p>Evaluating</p> <ul style="list-style-type: none">○ Recall steps in search and what worked and didn't○ Assess the process for effectiveness and efficiency○ With teacher assistance, develop and apply evaluation criteria for the product | <ul style="list-style-type: none">● Recall steps taken and what worked and didn't● With assistance, develop evaluation criteria for product● Describe what is good about final product based on criteria |

National Information Literacy Framework (Scotland)

Working Draft

Level D Skills- this is the level which most pupils should be able to reach by the end of P7 (12 years old)

| | |
|--|---|
| <p>Planning</p> <ul style="list-style-type: none"> ○ Define the information problem, analyse the task, and create a list and timeline of the steps; track progress ○ Brainstorm information already known, its relevance, and areas of interest about the topic ○ Organise ideas using mindmapping or other technique ○ Form a variety of questions about the topic, some on higher levels ○ Identify multiple keywords relevant to all aspects of research questions | <ul style="list-style-type: none"> ● Describe information needed and state as question at different levels ● List steps to find information and create a timeline; track progress ● Use mindmapping or other technique to brainstorm what is known and what is to be learned about topic ● Identify multiple relevant keyword(s) on all aspects of question(s) |
| <p>Locating</p> <ul style="list-style-type: none"> ○ Identify and select general, reference, community, and people resources ○ Select best potential resources that are valid, understandable, relevant, authoritative and current ○ Use a search engine to locate information by keywords, Boolean operators, truncation, and special punctuation (+/-) ○ Combine keywords using technique appropriate to search engine ○ Use formatting features, table of contents and index to find relevant information | <ul style="list-style-type: none"> ● Identify and select best general and reference books and other media including web and people resources ● Use a search engine to find information by keywords or phrases, using tools for combining concepts as appropriate ● Use formatting and navigational tools to find information |
| <p>Organising</p> <ul style="list-style-type: none"> ○ Use questions to guide listening, viewing, & reading ○ Skim for main ideas ○ Scan for keywords ○ Read and interpret graphical information ○ Select relevant, understandable, current, objective, and valid information ○ Recognize bias and point of view ○ Use different note taking techniques ○ Paraphrase or summarize information, using direct quotes when needed ○ Sort information by questions and integrate with prior knowledge (outlining, webbing) ○ Analyse for commonalities, trends, inconsistencies, redundancies, or | <ul style="list-style-type: none"> ● Select information to answer question(s) ● Scan and skim for relevant information ● Select relevant, understandable, current, objective, and valid information ● Recognize point of view ● Paraphrase or summarize information, using direct quotes where needed ● Identify commonalities, trends, inconsistent, redundant or missing information ● Make inferences, generalizations or conclusions ● Record sources of information in an approved format ● Describe the importance of giving credit to information creator |

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| | |
|---|---|
| <p>missing information</p> <ul style="list-style-type: none">○ Make inferences, generalizations, and conclusions○ Record information sources in an approved citation format and understand importance of this | |
| <p>Representing</p> <ul style="list-style-type: none">○ Select format for presentation that fits assignment and nature of information○ Create first draft, gather feedback, edit, refine, and complete final product○ Use appropriate technologies | <ul style="list-style-type: none">● Select appropriate format for assignment and information● Draft, edit, refine, and complete a final product using appropriate technologies |
| <p>Evaluating</p> <ul style="list-style-type: none">○ Recall steps in search and what worked and didn't○ Assess the process for effectiveness and efficiency○ With teacher assistance, develop and apply evaluation criteria for the product | <ul style="list-style-type: none">● Recall steps taken and what worked and didn't and how efficient it was● Develop and apply evaluation criteria for product |

Information Literacy Level – Secondary Schools / Further Education Colleges

General skill

Use a few simple information skills to perform a familiar information task with guidance if required

Example of level of task

Specific skills³²

Ability to:

- carry out a very simple search for information on a familiar topic
- define the selected information topic
- identify a few keywords
- identify suitable information sources
- search selected information sources to find relevant information on topic
- evaluate information using evaluation criteria
- record and acknowledge sources of information (reference and cite sources)
- communicate / share findings in a manner or format that is appropriate to the information, the intended audience and situation
- review search results and identify appropriate changes for a similar future search

Further information:

- Sources of information considered should include print, electronic and people
- The information may be textual, numerical, graphical, images, audio or video.
- Recognised techniques to clearly define the selected information topic could include brainstorming and mind mapping.

If the person is to be assessed then they must:

- find **relevant** information on their topic using keywords
- record and **acknowledge sources** of information (reference and cite sources)
- communicate / share findings in a **manner or format that is appropriate** to the information, the intended audience and situation.

Assessment level SCQF Level 2 / Access 2

There is no separate descriptor for level 1, which covers all provision that comes below the full achievement of level 2.

³² The skills are based upon SQA's Information Handling Skills National Qualification and CILIP's Information Literacy definition

Information Literacy Level

General skill

Using basic information literacy skills and competences to undertake a simple information task

Example of level of task

Specific skills³³

Ability to:

- plan and organise an information task
- define the selected information topic
- identify and use appropriate keywords
- identify suitable information sources
- search selected information sources and find relevant information on topic
- evaluate information using evaluation criteria
- record and acknowledge sources of information (reference and cite sources)
- communicate / share findings in a manner or format that is appropriate to the information, the intended audience and situation
- review search results and identify appropriate changes for a similar future search

Further information:

- Sources of information considered should include print, electronic and people
- The information may be textual, numerical, graphical, images, audio or video.
- Recognised techniques to clearly define the selected information topic could include brainstorming and mind mapping.

If the person is to be assessed then they must:

- find relevant information on their topic using keywords
- use three sources of information from a range of sources
- know the advantages and disadvantages of using those information sources
- use a recognised technique to clearly define the selected information topic
- record and acknowledge sources of information (reference and cite sources)
- communicate / share findings in a manner or format that is appropriate to the information, the intended audience and situation.

Assessment level

SCQF Level 3 / Access 3

³³ The skills are based upon SQA's Information Handling Skills National Qualification and CILIP's Information Literacy definition

Information Literacy Level

General skill

Using information literacy skills and competences to undertake a straightforward information task

Example of level of task

Specific skills³⁴

Ability to:

- plan and organise a straight forward information task
- clearly define the selected information topic
- identify and use appropriate keywords
- identify suitable information sources
- search selected information sources effectively to find relevant information on topic
- evaluate information using evaluation criteria
- record and acknowledge sources of information (reference and cite sources)
- communicate / share findings in a manner or format that is appropriate to the information, the intended audience and situation
- review search results and identify appropriate changes for a similar future search

Further information:

- Sources of information used should include print, electronic and people
- The information may be textual, numerical, graphical, images, audio or video.
- Recognised techniques to clearly define the selected information topic could include brainstorming and mind mapping.

If the person is to be assessed then they must:

- find relevant information on their topic using keywords
- use more than one recognised technique to define the selected information topic
- use a range of sources e.g. three sources of information, one from each of the following categories – electronic, people and printed sources
- know the advantages and disadvantages of using different information sources
- know the criteria used to evaluate information
- record and acknowledge sources of information (reference and cite sources)

³⁴ The skills are based upon SQA's Information Handling Skills National Qualification and CILIP's Information Literacy definition

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- communicate / share findings in a manner or format that is appropriate to the information, the intended audience and situation.

Assessment level

SCQF Level 4 / Intermediate 1

DRAFT

Information Literacy Level

General skill

Using information literacy skills and competences effectively to undertake an information task

Example of level of task

Specific skills³⁵

Ability to:

- plan and organise an information task
- use a range of techniques to clearly define the selected information topic
- identify appropriate keywords
- identify suitable information sources
- search selected information sources effectively to find relevant information on topic
- evaluate information using evaluation criteria
- record and acknowledge sources of information (reference and cite sources)
- communicate / share findings in a manner or format that is appropriate to the information, the intended audience and situation
- review search results and identify appropriate changes for a similar future search

Further information:

- Sources of information used should include print, electronic and people
- The information may be textual, numerical, graphical, images, audio or video.
- Recognised techniques to clearly define the selected information topic could include brainstorming and mind mapping.
- The person should be able to work with minimum support.

If the person is to be assessed then they must:

- find relevant information on their topic using keywords
- use a range of sources e.g. six sources of information, two from each of the following categories – electronic, people and printed sources
- know the advantages and disadvantages of using different information sources
- use appropriate searching techniques (e.g. use of Boolean)
- know the criteria used to evaluate information
- record and acknowledge sources of information (reference and cite sources)
- communicate / share findings in a manner or format that is appropriate to the information, the intended audience and situation.

³⁵ The skills are based upon SQA's Information Handling Skills National Qualification and CILIP's Information Literacy definition

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Assessment level SCQF Level 5 / Intermediate 2

**SQA National Unit Qualification - Information Handling Skills DF9J 11
(Intermediate level 2)** see Appendix B for further information

DRAFT

Information Literacy Level

General skill

Using information literacy skills and competences effectively and ethically to independently undertake an information task

Example of level of task

Specific skills³⁶

Ability to:

- plan and organise an information task
- use a range of techniques to clearly define the selected information topic
- identify of appropriate keywords
- identify suitable information sources
- search selected information sources effectively to find relevant information on topic
- evaluate information using evaluation criteria
- review search results and identify appropriate changes for a similar future search
- manage findings
- communicate / share findings in a manner or format that is appropriate to the information, the intended audience and situation.
- use information found ethically and responsibly
- review search results and identify appropriate changes for a similar future search

Further information:

- Sources of information used should include print, electronic and people
- The information may be textual, numerical, graphical, images, audio or video.
- Recognised techniques to clearly define the selected information topic could include brainstorming and mind mapping.
- The person should be able to work with minimum support.
- The management of their findings may be electronically or in print.

If the person is to be assessed then they must:

- find relevant information on their topic using keywords
- use a range of sources of information from the following categories – electronic, people and printed sources
- know the advantages and disadvantages of using different information sources
- use appropriate searching techniques (e.g. use of Boolean)

³⁶ The skills are based upon SQA's Information Handling Skills National Qualification and CILIP's Information Literacy definition

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- know the criteria used to evaluate information
- know and understand the ethics and responsible use of information
- communicate / share findings in a manner or format that is appropriate to the information, the intended audience and situation.

Assessment level

SCQF Level 6 / Higher

DRAFT

Information Literacy Level

General skill

Using information literacy skills and competences effectively and ethically to independently undertake a piece of research

Example of level of task

Specific skills³⁷

Ability to:

- plan and organise an information task
- use a range of techniques to clearly define the selected information topic
- identify of appropriate keywords
- identify of suitable information sources
- search selected information sources effectively to find relevant information on topic
- evaluate information using evaluation criteria
- review search results and identify appropriate changes for a similar future search
- manage findings
- communicate findings
- use information found ethically and responsibly

Further information:

- Sources of information used should include print, electronic and people
- The information may be textual, numerical, graphical, images, audio or video.
- Recognised techniques to clearly define the selected information topic could include brainstorming and mind mapping.
- The person should be able to work with minimum support.
- The management of their findings may be electronically or in print.

If the person is to be assessed then they must:

- use a range of sources of information from the following categories – electronic, people and printed sources
- know the advantages and disadvantages of using different information sources
- know the criteria used to evaluate information
- know and understand the ethics and responsible use of information

³⁷ The skills are based upon SQA's Information Handling Skills National Qualification and CILIP's Information Literacy definition

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- communicate / share findings in a manner or format that is appropriate to the information, the intended audience and situation.

Assessment level

SCQF Level 7 / SHE level 1, Cert HE, HNC, Advanced Higher

DRAFT

Information Literacy Level – Further / Higher Education

General skill

Using information literacy skills and competences effectively and ethically to independently undertake a piece of scholarly / academic research

Example of level of task

Specific skills³⁸

1. The ability to recognise a need for information
2. The ability to distinguish ways in which the information 'gap' may be addressed:
 - knowledge of appropriate kinds of resources, both print and non-print
 - selection of resources with 'best fit' for task at hand
 - the ability to understand the issues affecting accessibility of sources
3. The ability to construct strategies for locating information
 - to articulate information need to match against resources
 - to develop a systematic method appropriate for the need
 - to understand the principles of construction and generation of databases
4. The ability to locate and access information
 - to develop appropriate searching techniques (e.g. use of Boolean)
 - to use communication and information technologies
 - to use appropriate indexing and abstracting services, citation indexes and databases
 - to use current awareness methods to keep up to date
5. The ability to compare and evaluate information obtained from different sources
 - awareness of bias and authority issues
 - awareness of the peer review process of scholarly publishing
 - appropriate extraction of information matching the information need
6. The ability to organise, apply and communicate information to others in ways appropriate to the situation
 - to cite bibliographic references in project reports and theses
 - to construct a personal bibliographic system

³⁸ SCONUL Seven headline skills from the Seven Pillars Model for Information Literacy
www.sconul.ac.uk/groups/information_literacy/papers/Seven_pillars2.pdf

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- to apply information to the problem at hand
- to communicate effectively using appropriate medium
- to understand issues of copyright and plagiarism

7. The ability to synthesise and build upon existing information, contributing to the creation of new knowledge

Assessment level

SCQF Level 8 / SHE level 2, Dip HE, HND, SVQ 4

DRAFT

Information Literacy Level – Higher Education

General skill

Using information literacy skills and competences effectively and ethically to independently undertake a piece of scholarly / academic research

Example of level of task

Specific skills³⁹

1. The ability to recognise a need for information
2. The ability to distinguish ways in which the information 'gap' may be addressed:
 - knowledge of appropriate kinds of resources, both print and non-print
 - selection of resources with 'best fit' for task at hand
 - the ability to understand the issues affecting accessibility of sources
3. The ability to construct strategies for locating information
 - to articulate information need to match against resources
 - to develop a systematic method appropriate for the need
 - to understand the principles of construction and generation of databases
4. The ability to locate and access information
 - to develop appropriate searching techniques (e.g. use of Boolean)
 - to use communication and information technologies, including terms international academic networks
 - to use appropriate indexing and abstracting services, citation indexes and databases
 - to use current awareness methods to keep up to date
5. The ability to compare and evaluate information obtained from different sources
 - awareness of bias and authority issues
 - awareness of the peer review process of scholarly publishing
 - appropriate extraction of information matching the information need
6. The ability to organise, apply and communicate information to others in ways appropriate to the situation
 - to cite bibliographic references in project reports and theses

³⁹ SCONUL Seven headline skills from the Seven Pillars Model for Information Literacy

www.sconul.ac.uk/groups/information_literacy/papers/Seven_pillars2.pdf

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- to construct a personal bibliographic system
 - to apply information to the problem at hand
 - to communicate effectively using appropriate medium
 - to understand issues of copyright and plagiarism
7. The ability to synthesise and build upon existing information, contributing to the creation of new knowledge

Examples of how universities (University of Abertay & Loughborough) have used the Seven Pillars Model as a foundation for their own Information Literacy framework / skills levels are included in the Appendices.

SCQF Level 9 / SHE level 3, Ordinary degrees

Information Literacy Level

General skill

Using information literacy skills and competences effectively and ethically to independently undertake a piece of scholarly / academic research.

Example of level of task

Specific skills

1. The ability to recognise a need for information
2. The ability to distinguish ways in which the information 'gap' may be addressed:
 - knowledge of appropriate kinds of resources, both print and non-print
 - selection of resources with 'best fit' for task at hand
 - the ability to understand the issues affecting accessibility of sources
3. The ability to construct strategies for locating information
 - to articulate information need to match against resources
 - to develop a systematic method appropriate for the need
 - to understand the principles of construction and generation of databases
4. The ability to locate and access information
 - to develop appropriate searching techniques (e.g. use of Boolean)
 - to use communication and information technologies, including terms international academic networks
 - to use appropriate indexing and abstracting services, citation indexes and databases
 - to use current awareness methods to keep up to date
5. The ability to compare and evaluate information obtained from different sources
 - awareness of bias and authority issues
 - awareness of the peer review process of scholarly publishing
 - appropriate extraction of information matching the information need
6. The ability to organise, apply and communicate information to others in ways appropriate to the situation
 - to cite bibliographic references in project reports and theses
 - to construct a personal bibliographic system
 - to apply information to the problem at hand
 - to communicate effectively using appropriate medium
 - to understand issues of copyright and plagiarism

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7. The ability to synthesise and build upon existing information, contributing to the creation of new knowledge

An example of how a university (University of Abertay) has used the Seven Pillars Model as a foundation for their own Information Literacy framework / skills levels is included in the Appendices.

SCQF Level 10 / SHE level 4, Honours degrees

DRAFT

Information Literacy Level

General skill

Using information literacy skills and competences effectively and ethically to independently undertake a piece of scholarly / academic research.

Example of level of task

Specific skills⁴⁰

1. The ability to recognise a need for information
2. The ability to distinguish ways in which the information 'gap' may be addressed:
 - knowledge of appropriate kinds of resources, both print and non-print
 - selection of resources with 'best fit' for task at hand
 - the ability to understand the issues affecting accessibility of sources
3. The ability to construct strategies for locating information
 - to articulate information need to match against resources
 - to develop a systematic method appropriate for the need
 - to understand the principles of construction and generation of databases
4. The ability to locate and access information
 - to develop appropriate searching techniques (e.g. use of Boolean)
 - to use communication and information technologies, including terms international academic networks
 - to use appropriate indexing and abstracting services, citation indexes and databases
 - to use current awareness methods to keep up to date
5. The ability to compare and evaluate information obtained from different sources
 - awareness of bias and authority issues
 - awareness of the peer review process of scholarly publishing
 - appropriate extraction of information matching the information need
6. The ability to organise, apply and communicate information to others in ways appropriate to the situation
 - to cite bibliographic references in project reports and theses

⁴⁰ SCONUL Seven headline skills from the Seven Pillars Model for Information Literacy

www.sconul.ac.uk/groups/information_literacy/papers/Seven_pillars2.pdf

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- to construct a personal bibliographic system
 - to apply information to the problem at hand
 - to communicate effectively using appropriate medium
 - to understand issues of copyright and plagiarism
7. The ability to synthesise and build upon existing information, contributing to the creation of new knowledge

SCQF Level 11 / SHE level 5, PG 1, PG Dip, PG Cert, MA, MSc, SVQ5

DRAFT

Information Literacy Level

General skill

Using information literacy skills and competences effectively and ethically to independently undertake a piece of scholarly / academic research

Example of level of task

Specific skills⁴¹

1. The ability to recognise a need for information
2. The ability to distinguish ways in which the information 'gap' may be addressed:
 - knowledge of appropriate kinds of resources, both print and non-print
 - selection of resources with 'best fit' for task at hand
 - the ability to understand the issues affecting accessibility of sources
3. The ability to construct strategies for locating information
 - to articulate information need to match against resources
 - to develop a systematic method appropriate for the need
 - to understand the principles of construction and generation of databases
4. The ability to locate and access information
 - to develop appropriate searching techniques (e.g. use of Boolean)
 - to use communication and information technologies, including terms international academic networks
 - to use appropriate indexing and abstracting services, citation indexes and databases
 - to use current awareness methods to keep up to date
5. The ability to compare and evaluate information obtained from different sources
 - awareness of bias and authority issues
 - awareness of the peer review process of scholarly publishing
 - appropriate extraction of information matching the information need
6. The ability to organise, apply and communicate information to others in

⁴¹ SCONUL Seven headline skills from the Seven Pillars Model for Information Literacy

www.sconul.ac.uk/groups/information_literacy/papers/Seven_pillars2.pdf

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ways appropriate to the situation

- to cite bibliographic references in project reports and theses
 - to construct a personal bibliographic system
 - to apply information to the problem at hand
 - to communicate effectively using appropriate medium
 - to understand issues of copyright and plagiarism
7. The ability to synthesise and build upon existing information, contributing to the creation of new knowledge

SCQF Level 12 / SHE level 6, PG 2, Ph.D. – Doctorate

Information Literacy Level – lifelong learning including all information-using communities e.g. community learning and in the workplace

General skill

Knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner.

Specific skills⁴²

The skills (or competencies) that are required to be information literate require an understanding of:

- a need for information
- the resources available
- how to find information
- the need to evaluate results
- how to work with or exploit results
- ethics and responsibility of use
- how to communicate or share your findings
- how to manage your findings.

Understanding a need

Recognising that information is needed; understanding why information is needed, what (and how much; what kind of) information is required, as well as any associated constraints (e.g. time, format, currency, access); recognising that information is available in a wide range of formats in various geographical and virtual locations. The ability to articulate a question and so develop a focus for the research is an important skill.

Note: Information may be available on paper (books, reference works, journals, magazines, newspapers, etc), digitally (on CD-ROMs, over the Internet or the World Wide Web, on DVDs, on your own computer or network, etc), through other media such as broadcast or film, or from a colleague or friend. It may or may not be conveniently close to hand and easily accessible, and quantifying your need and making a decision about the use of an information source may be tempered by the ease and speed with which an answer can be obtained.

⁴² CILIP Information Literacy: the skills

www.cilip.org.uk/policyadvocacy/informationliteracy/definition/skills.htm

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Understanding availability

Be able to identify what resources are available for exploitation, where they are available, how to access them, the merits of individual resource types, and when it is appropriate to use them.

Note: As suggested, this requires an understanding of types of resource (paper-based, electronic/digital, human, etc) and when to use each; what are the merits of individual resource types; what are the differences between them.

Examples:

1. A journal article may be available in print, as a part of an e-journal or as a record in a database of full-text articles
2. Not all search engines offer the same facilities
3. A company website, a market research report, or the website of a national statistical organisation may offer differing views
4. Access channels to information resources may vary according to who or where you are.
e.g. For an 8 year old child, availability is subject to having to go through various gatekeepers such as their parents' views or willingness to buy books, the library's filtering policy, access to a computer at home or at their friends, etc. Whether the exact same information sources can be reached by different children depends on the local channels available to them.
5. Any resource may be subject to cultural, political, industrial, national or other bias.
e.g. Newspapers are notoriously politically biased and this same bias is continued in Web news sources; it is also important to be aware that PR companies are employed to create 'spin' websites. Think, for example, of lobby groups (e.g. animal rights, anti- or pro-abortion, extreme left or right wing political groups, religious groups/sects). The organisation behind the information you are being given may have an ulterior motive.

Understanding how to find information

An ability to search appropriate resources effectively and identify relevant information.

Note: Strategies need to be tailored to the resource being used, so as to get the best results from that resource. Users need to respond to search results – possibly because there are too few or too many – and know when to stop searching. An information literate person would also understand that, in addition to purposive searching, information can be acquired by browsing, scanning and monitoring information sources.

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Examples:

1. Searching across several resources
2. Using back-of-book indexes
3. Using abstracting and Indexing journals
4. Scanning RSS and news feeds
5. Participating in e-mail, discussion lists, Bulletin boards, etc
6. Using hypertext, URLs, bookmarks, etc
7. Understanding and using Boolean logic
8. Understanding and using truncation
9. Understanding and using fielded data
10. De-duplicating search results
11. Understanding and using relevance and relevance-ranked searching

Understand the need to evaluate results

Be able to evaluate information for its authenticity, accuracy, currency, value and bias. Also, be able to evaluate the means by which the results were obtained in order to ensure that your approach did not produce misleading or incomplete results.

Note: This is not just whether the resource appears to answer the question, but whether it is intrinsically trustworthy.

Examples:

1. Use prior knowledge of author, editor, series, publisher
2. Examine
 - Relevance to problem/question/task in hand
 - Appropriateness of style for users
 - Availability of index, notes, bibliography, illustrations, multimedia, etc
 - Authenticity and origin
 - Authority (ownership, reputation, coverage, scope)
 - Bias or point of view
 - Error rate/accuracy
 - Purpose/audience
 - Currency/timeliness
 - Consistency
 - Design (output, presentation and arrangement)
 - Organisation/Navigation (ease of use)
 - Access and Use (documentation, accessibility, comparison with other sources)

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Understand how to work with or exploit results

Analyse and work with the information to provide accurate, presentable research results, or to develop new knowledge and understanding.

Note: To understand, compare, combine, annotate, and apply (use) the information found. Recognise and understand a possible need for further information searching.

Examples:

1. Use of appropriate software (spreadsheet / database / statistical / reference management / etc)

Understand ethics and responsibility of use

Know why information should be used in a responsible, culturally sensitive and ethical (professional, business, personal ethics) manner. Respect confidentiality and always give credit to other people's work. Understand the nature and uses of bias, in order to report appropriately. Where appropriate, provide a balanced (unbiased) report.

Note: This could include issues of intellectual property, plagiarism, unfair practice, fair use, freedom of information, data protection, codes of practice and ethical principles as set out by your employers, institution or professional body (e.g. CILIP).

Examples: CILIP's Ethical Principles and Code of Professional Practice for Library and Information Professionals are available at:
www.cilip.org.uk/professionalguidance/ethics/

Understand how to communicate or share your findings

The ability to communicate/share information in a manner or format that is appropriate to the information, the intended audience and situation.

Note: This goes beyond analysis to the synthesis, organisation and/or creation of further information in an appropriate form.

Examples:

1. Understanding of the advantages and disadvantages of different communications channels (e.g. web page, presentation, written report)
2. Participating effectively in collaborative writing and publication, including use of collaborative software (e.g. student group report; internal knowledge base; collaborative blog; wikipedia)
3. Understanding of appropriate writing styles (e.g. for reports, essays, presentation, etc)

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4. Knowledge of citation style
5. Use of footnotes / end notes
6. Use of a succinct and easily understood style when reporting findings verbally
7. Use of appropriate style and understanding of conventions when using e-mail

Understand how to manage your findings

Know how to store and manage the information you have acquired using the most effective methods available. Reflect critically on the process and achievement as well as on the sources found in order to learn from the experience of finding and using information.

Note: Continual or ongoing management for yourself and/or others.

Examples:

1. Consideration of re-finding resources (either locally or in the original) at a later date
2. Use of, and relocation in, filing cabinets and/or shelves for physical resources
3. Use of folders to organise computer-stored data
4. Organisation of e-mail and e-mail attachments
5. Use of appropriate software (spreadsheet / database / statistical / reference management / etc)
6. Security and backup copies
7. Tracking changes in documents
8. Personal content management

Updated: 21 December 2004

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Appendices

- A Example of information literacy materials**
- B Existing skills definitions, frameworks and models used to inform the development of this national framework**
- C Mind maps of models, qualification and skills definition used in draft national framework**
- D University of Abertay Dundee: Information Literacy Framework**
- E Loughborough University Library Information Literacy: IL competencies**

Appendix A – Examples of information literacy material

Information Handling Skills course for lifelong learners / post 16-year olds

Interactive online material which demonstrates how to use and retrieve information from a variety of sources (books, newspapers, journals, CD-ROMs and the web to name just a few) and set these within a range of scenarios/themes: Employment; Leisure; Research; Shopping and Travel. To support these five themes, 23 generic learning objects (learning bites) were identified and developed. Examples of these include planning, searching (searching for information, searching the web, Boolean searching and keywords) and evaluation (suitability and reliability of information source and currency of information). Launched in January 2004 and rolled out to Further education colleges, public libraries, schools, higher education and other SLIC (Scottish Library and Information Council) members within Scotland.⁴³ For more details see: www.sfeu.ac.uk/ihs

Information Literacy Skills study materials

Scottish Library and Information Council study materials aimed at post-16 learners - thirty generic learning objects (<http://4mostplus.co.uk/slic/glo.htm>) covering the effective use of information sources. The content supports a Scottish Qualifications Authority award in Information literacy.

Learning and Teaching Scotland's Information Literacy material

Range of interactive materials designed to help pupils (age groups (9–11, 12–14 and 15-18)) improve the ways in which they identify, gather, organise and use information. Also includes notes for teachers and the following files on the pedagogical rationale underlying the materials.

[Word file: Information literacy and study skills content and structure rationale \(492 KB\)](#)

[PDF file: Information literacy and study skills research report \(150 KB\)](#)

Launched in December 2006 - for more details see:

www.ltscotland.org.uk/informationliteracy/index.asp

The Open University Library: SAFARI - Skills in Accessing, Finding, and Reviewing Information

Divided into seven sections, each covering a particular aspect of information skills. Within each section, there are a series of topics to work through.

<http://ltssolweb1.open.ac.uk/safari/signpost.htm>

⁴³ A 'by-product' of the development of this material was the SQA national qualification Information Handling Skills DF9J 11 (a first of its kind in 2004 / 2005)

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The Open University Library: Beyond Google

New online course that runs over 10 weeks and covers blogs, wikipedia, Google scholar vs subscription services; user generated content - blogs, wikis, Flickr, MySpace, YouTube; RSS, social bookmarking e.g. FURL, del.icio.us, tagging and folsonomies; the deep web and a whole lot more.
<http://students.open.ac.uk/technology/courses/tu120/taster/>

Internet Detective

Free Internet tutorial - learn to discern the good, the bad and the ugly in online searching.

www.vts.intute.ac.uk/detective/

PLATO - Plagiarism Teaching Online

Develops practical skills in referencing and promotes reflection on the attitudes, behaviours and situations which may lead to plagiarism. Available to purchase as a site licence by Higher and Further Education and Secondary Schools www.i4learn.co.uk/edu_HEproducts.html

North Ayrshire Information Literacy Toolkit (ILT)

Toolkit developed by North Ayrshire Education Resources provides a progressive outline of the literacy and information literacy skills expected at levels A – E within the 5 -14 curriculum and provides a range of generic classroom materials to reinforce skills being taught by teachers and the primary education Resource Co-ordinators in North Ayrshire Council. Launched in May 2005 the toolkit has been rolled out within North Ayrshire and is now available for sale to other local authorities.

www.ers.north-ayrshire.gov.uk/Primary%20Project/informationskills.htm

City of Edinburgh ExPLORE Model

Ex**PLORE** is an information literacy model which provides a framework and support materials to help students become skilled at 'knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner' (CILIP, 2006)

It recognises:

- **The National Priorities in Education**, particularly No. 5 Learning for Life, 'To equip pupils with the foundation skills, attitudes and expectations necessary to prosper in a changing society and to encourage creativity and ambition.'
- The need to support learning to students at **different ages and stages**, allowing flexibility. It recognises the same pupil will achieve skills at different levels within one school year.
- **The 5-14 programme, guidelines & strands**: basic core skill competencies at which pupils can aim level by level (especially connects to English Language, Environmental Studies, and ICT).
- **The 3-18 Curriculum for Excellence**: placing 'the pupil at the centre of the curriculum', rather than viewing outcomes as 'based on subjects in their own right', so that 'learning is about preparing young people to be successful learners, confident individuals, effective contributors and

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responsible citizens.' [Scottish Executive 3-18 Curriculum review, May 2005]

It nurtures

- Critical thinking by appraising and evaluating sources of information
- Creative thinking by fostering confidence in the use and application of several resource media
- Independent learning by recognising achievement on a basis of continuous improvement and formative assessment methods
- A learning culture for life by showing the transferability of every skills to any enquiry

The model is to be further developed for the 3-18 curriculum.

Appendix B - Existing skills definitions, frameworks and models used to inform the development of this national framework

CILIP (Chartered Institute of Library and Information Professionals) Information Literacy Skills and Competences

As the professional body responsible for the information profession, CILIP defined information literacy and the associated skills and competencies in a way that is understandable by all information-using communities in the UK.

www.cilip.org.uk/policyadvocacy/informationliteracy/definition/introduction.htm

JISC i-Skills Model

Compiled for all those with a responsibility for developing staff in further and higher education to help:

- Define i-skills
- Understand why they are important for individuals and institutions
- Recognise i-skills in context
- Make a start on an i-skills staff development plan
- Develop ideas to help you deliver i-skills provision for your own institution

www.jisc.ac.uk/publications/publications/pub_sissdocs/pub_sissdocs_improving.aspx

Scottish Credit and Qualifications Framework

There are 12 levels within the Framework which indicate the complexity of learning, and credit points which show the volume of learning undertaken to achieve the qualification.

www.scqf.org.uk/

SQA Core Skills Framework: an introduction

Each Core Skill, and its components, can be assessed at each of five levels (Access 2, Access 3, Intermediate 1, Intermediate 2 and Higher — SCQF levels 2 – 6). This is a brief description of each component and the range activities that its assessment will involve at the different levels.

www.sqa.org.uk/files_ccc/Core%20skills%20combined%20241106.pdf

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SQA National Unit Qualification - Information Handling Skills DF9J 11 (Intermediate level 2)

Involves forty hours of learning and the following four outcomes:

1. Plan an information task.
2. Identify a range of information sources and use them to investigate a chosen information task.
3. Evaluate the selected information.
4. Review search results and suggest possible improvements.

Full details are available from SQA's website.⁴⁴

The unit also provides automatic certification for:

Complete Core Skills for the Unit:

Problem Solving Intermediate 2

Additional Core Skills Components for the Unit:

Critical Thinking Intermediate 2

Reviewing and Evaluating Intermediate 2

Planning and Organising Intermediate 2

To accompany the unit specification there is a national assessment (NAB) available which has two parts to it. The first part is the practical abilities assessment where the candidate has to successfully undertake the four unit outcomes and gather evidence for their portfolio. The information task can be chosen from a range of scenarios including an open option where the unit qualification could be used in conjunction with another qualification for example the investigative part of a subject national unit qualification (Modern Studies Intermediate 11 or Higher English). To help the candidate record some of their evidence including their thinking and actions there are four log books, one for each outcome. The second part consists of thirty multiple choice questions which tests their knowledge and understanding.

⁴⁴ www.sqa.org.uk/files/nu/DF9J_11.pdf

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www.ers.north-ayrshire.gov.uk/Primary%20Project/information skills.htm

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Australian and New Zealand Information Literacy Framework

The Australian and New Zealand information literacy framework is derived from the Association of College and Research Libraries' (ACRL) Information literacy competency standards for higher education. It provides the principles, standards and practice that can support information literacy education in all education sectors.

www.anziil.org/resources/Info%20lit%202nd%20edition.pdf

SCONUL Seven Pillars Model

The Seven Pillars model was designed to be a practical working model which would facilitate further development of ideas amongst practitioners in the field and would hopefully stimulate debate about the ideas and about how those ideas might be used by library and other staff in higher education concerned with the development of students' skills. The model combines ideas about the range of skills involved with both the need to clarify and illustrate the relationship between information skills and IT skills, and the idea of progression in higher education embodied in the development of the curriculum through first-year undergraduate up to postgraduate and research-level scholarship.

www.sconul.ac.uk/groups/information_literacy/seven_pillars.html

University of Abertay Dundee Information Literacy Framework

Following a recommendation of the University Quality Enhancement Committee, in March 2004, the University Senate formally approved the UAD Information Literacy Framework. This requires the integration of Information Literacy learning outcomes into all undergraduate programmes, across all four Schools. The framework is based upon The Society of College, National and University Libraries (SCONUL) Seven Pillars model. For more details see www.sconul.ac.uk/groups/information_literacy/papers/outcomes.pdf and Appendix D

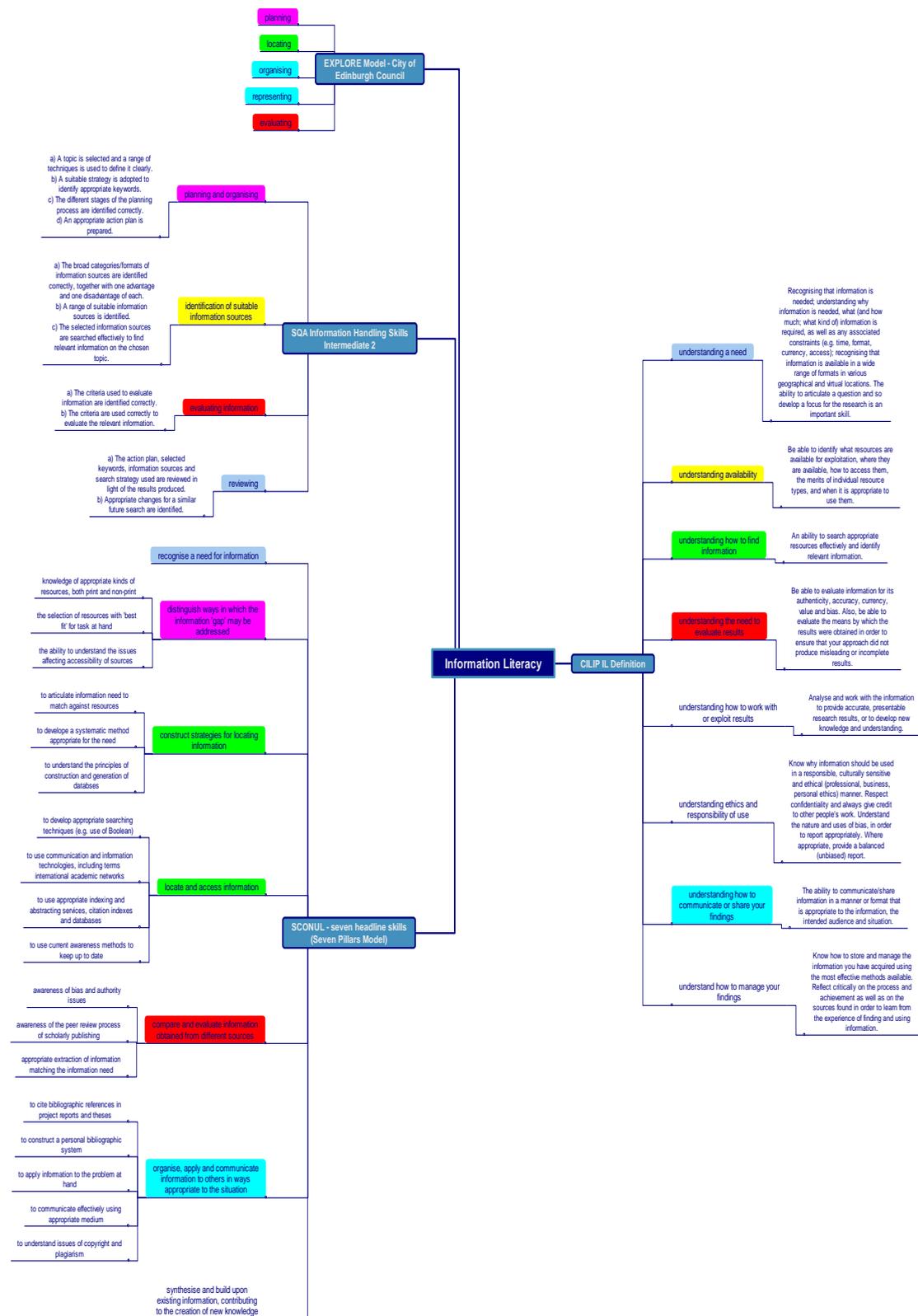
Loughborough University Library Information Literacy Framework

Loughborough have adopted and modified The Society of College, National and University Libraries (SCONUL) Seven Pillars model. See Appendix E

Appendix C - Mind map of models, qualification and skills definition used in draft national framework



Common Themes



Appendix D - University of Abertay Dundee: Information Literacy Framework

Baseline Skills - Indicative Content

| Library & Information Skills | |
|---|---|
| Level | UAD - Baseline Skills SCONUL: "Novice" / "Advanced Beginner" |
| Outcomes | Identify, locate and evaluate appropriate academic sources for a set academic task using key library and information skills, and acknowledge their use. |
| UAD Indicative Content & Skills | |
| Identify from citations in a reading list what information is given and what action is required to find the items | Skill 1 – Recognise a need for information |
| Use the Library catalogue to find items on a reading list | Skill 2 – Select appropriate sources |
| Understand the concept of field searching using the author/title/subject indexes of the Library catalogue | Skill 3 – Construct search strategies |
| Locate items in the different collections in the Library | Skill 4 – Locate and access information |
| Understand how the Dewey Decimal Classification System works | Skill 4 |
| Know how to borrow, renew and reserve items, including advance booking of Short Loan items | Skill 4 |
| Use the Virtual Library to locate online databases of abstracts, and full text journals and newspapers | Skills 1, 2, 3 & 4 |
| Understand the difference in content between books and journals | Skill 5 – Compare and evaluate information |
| Evaluate the quality of information retrieved in print and online using criteria such as authorship, bias, currency, validity etc | Skill 5 |
| Use the internet critically for communication and information retrieval | Skills 1, 2, 3, 4 & 5 |
| Reference books, journals and online material using the Harvard style | Skill 6 – Organise, apply and communicate information |
| Cite references in the text of written work | Skill 6 |
| Understand the issues associated with plagiarism and copyright | Skill 6 |

Intermediate Skills – Indicative Content

| Library & Information Skills | |
|---|---|
| Level | UAD - Intermediate Skills SCONUL: "Advanced Beginner"/"Competent" |
| Outcomes | Recognise the need for information required for a task and be able to identify and search a range of appropriate sources to locate and retrieve that information Evaluate information retrieved and be able to select from relevant primary and secondary sources. |
| UAD Indicative Content & Skills | |
| Define the information need for a particular task | SCONUL Information Skills Skill 1 – Recognise a need for information |
| Be aware of and differentiate between the various types of information resource available, and select an appropriate one | Skill 2 – Select appropriate sources |
| Understand the importance of, and identify the keywords, synonyms and related terms for the information needed | Skill 3 – Construct search strategies |
| Identify and use search techniques appropriate to the information resource used | Skill 4 – Locate and access information |
| Construct a search strategy using commands appropriate to the information resource being used | Skill 4 |
| Download and print records retrieved | Skill 4 |
| Be aware of external sources of information where appropriate e.g. inter-library loan, reciprocal agreements with other libraries, UK Libraries Plus | Skill 4 |
| Understand the peer review process and identify the purpose and potential audience of resources | Skill 5 – Compare and evaluate information |
| Evaluate the quality of information retrieved in print and online using criteria such as authorship, bias, currency, validity etc | Skill 5 |
| Examine information resources critically to evaluate reliability, validity, accuracy, authority, bias etc | Skill 5 |
| Reference books, journals and online material using the Harvard style | Skill 6 – Organise, apply and communicate information |

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Advanced Skills - Indicative Content

| Library & Information Skills | |
|--|---|
| Level | UAD - Advanced Skills SCONUL: "Competent/Proficient" |
| Outcomes | Develop and implement an information retrieval strategy appropriate to a topic or problem Select from a range of relevant primary and secondary sources including theoretical and research-based evidence to extend their knowledge Develop a range of strategies to keep up to date with the literature of the discipline. |
| UAD Indicative Content & Skills | |
| Develop a research plan appropriate to the topic selected | Skill 1 – Recognise a need for information |
| Identify the most appropriate resources to meet the information need | Skill 2 – Select appropriate sources |
| Create a search strategy having identified key concepts and terms describing the information need | Skill 3 – Construct search strategies |
| Be aware of differences in spelling and terminology | Skill 3 |
| Understand the advanced search facilities of databases e.g. indexes, search limits | Skill 4 - Locate and access information |
| Download and print records retrieved | Skill 4 |
| Be aware of external sources of information where appropriate e.g. inter-library loan, reciprocal agreements with other libraries, UK Libraries Plus | Skill 4 |
| Use current awareness services to set up TOC and search alerts | Skill 4 |
| Gather and evaluate information and modify the research plan as necessary | Skill 5 – Compare and evaluate information |
| Understand the peer review process and identify the purpose and potential audience of resources | Skill 5 |
| Critically evaluate reliability, validity, authority, bias etc. of information sources | Skill 5 |
| Reference books journals and online material using the Harvard style | Skill 6 – Organise, apply and communicate information |
| Use Bibliographic Management software (e.g. EndNote) to import references from databases and the Library catalogue | Skill 6 |
| Use Bibliographic Management Software linked with a word processor to prepare reference lists and bibliographies | Skill 6 |
| Access and use information legally and ethically | Skill 6 |

Appendix E

Loughborough University Library Information Literacy: IL competencies

Minimum levels of IL competencies required by members of the University

The Society of College, National and University Libraries (SCONUL) has established a framework for Information Literacy known as the Seven Pillars model. It has been adopted and modified for Information Literacy development at Loughborough.

Please note we see a graduation / progression in the development of Information Literacy skills and only indicate below the minimum competency levels for each group. The competencies should be attained by the end of the academic year for the UG.

| Steps to Information literacy | Undergraduate year 1 | Undergraduate year 3 / Taught postgraduate | Researcher / Academic |
|--|---|--|--|
| Recognise information need | 1. Recognise the need to use information to support their studies. 2. Know where to ask for help in Library. | 1. Recognise the need to use varied resources and good quality information in their assignments. | 1. Recognise the need to use good quality information to support their research. 2. Understand the need to collaborate with librarians to ensure students have access to librarians to ensure students have access to good quality academic material. |
| Construct strategies for locating information | 1. Can select a limited number but appropriate sources to search for information to support their studies e.g. <ul style="list-style-type: none"> • Online reading list system | 1. Can select a wide range of appropriate sources to search for information to support their studies e.g. <ul style="list-style-type: none"> • MetaLib • Databases relating to their topic | 1. Can <ul style="list-style-type: none"> • use proximity searching • how / when to use controlled vocabulary. |

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| | | | |
|--|--|--|---|
| | <ul style="list-style-type: none"> Library Catalogue <p>2. Can select appropriate key words from a reference to search for an item on the Catalogue, e.g. author and words from title of a book.</p> <p>3. Can identify when to use different formats of information e.g. reference books versus journal articles.</p> | <ul style="list-style-type: none"> Search engines / gateways <p>2. Can:</p> <ul style="list-style-type: none"> select appropriate keywords to find information on a particular topic. combine key words using Boolean operators <p>3. Can recognise the problems of too much / too little information and plan accordingly.</p> | |
| <p>Ability to locate and access information</p> | <p>1. Can access:</p> <ul style="list-style-type: none"> Online reading list system Library Catalogue. <p>2. Can carry out a simple search and understand how to use additional features on the Library Catalogue.</p> <p>3. Can locate material in the Library efficiently.</p> <p>4. Know how to use basic services e.g. printing, photocopying, resource booking.</p> | <p>1. Can access:</p> <ul style="list-style-type: none"> MetaLib Individual databases Print and electronic material <p>2. Can select the appropriate resource category within MetaLib for their topic.</p> <p>3. Can name at least one key subject resource for their department.</p> <p>4. Can source the full text of an article using the:</p> <ul style="list-style-type: none"> the SFX link the Library | <p>1. Can use the University's online reading list system to ensure material is in the Library to support their students.</p> <p>2. Understand Library procurement practices in relation to books and journals.</p> <p>3. Can search for and access different formats of information, e.g. grey literature, ongoing research, completed research.</p> <p>4. Can search systematically</p> |

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| | | | |
|---|--|---|---|
| | | <p>Catalogue.</p> <p>5. Can select the appropriate authentication method for each electronic journal / database.</p> | <p>across selected resources both within MetaLib and the native interface of databases.</p> <p>5. Can create current awareness strategies and use current awareness services such as Table of Contents and Selective Dissemination of Information (SDI) tools</p> <p>6. Can access material through the Inter-Library Loan service</p> <p>7. Can access and utilise academic discussion lists</p> |
| <p>Ability to evaluate information</p> | <p>1. Can recognise whether content is relevant to studies.</p> <p>2. Can recognise the bias and authority of information freely available from the web.</p> <p>3. Can note down pertinent points.</p> | <p>1. Can evaluate whether content is relevant to their project.</p> <p>2. Can recognise the bias of their chosen electronic resources.</p> <p>3. Can redefine a search based on the information already found.</p> | <p>1. Can evaluate whether content is relevant to their research</p> <p>2. Recognises when to undertake a cross search within MetaLib and a sophisticated search within the native interface of a database.</p> |
| <p>Ability to organise and apply information</p> | <p>1. Has a basic understanding of plagiarism.</p> <p>2. Can note down complete</p> | <p>1. Can mark and download references for use in their academic work.</p> <p>2. Understand the intricacies of</p> | <p>1. Knows how to use bibliographic management software to manage and manipulate bibliographic</p> |

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| | | | |
|--|--|---------------------------------------|---|
| | <p>references for use in a bibliography.</p> <p>3. Can cite ideas obtained from others in text.</p> <p>4. Can create bibliographies following a referencing standard.</p> <p>5. Can process several pieces of information and piece it together to form a reasoned argument.</p> | <p>plagiarism and how to avoid it</p> | <p>references.</p> <p>2. Can build upon existing knowledge and progress into new areas of knowledge.</p> <p>3. Can communicate research findings.</p> |
|--|--|---------------------------------------|---|

ⁱ Curriculum for Excellence www.curriculumforexcellencescotland.gov.uk/index.asp