Information skills in the school:
engaging learners in constructing knowledge

Information skills in the school: engaging in construction knowledge

Foreword

A key concept of the *Library Policy – Schools* is planning and implementing information and digital skills support for the teaching and learning program of the school.

There is a range of Information Process Models (ISP). This simple version should be used in conjunction with the NSW Quality Teaching framework (intranet). For further details supporting an evidence-based approach, and related research, see Additional information and further reading (p.30).

Information skills in the school provides a framework for developing student skills to enhance information literacy. When partnered with the Department's *Quality Teaching* model, it can inform professional judgments about explicit information skills teaching support for class units of work and cross curriculum priorities, such as literacy and integrating ICT. A guided inquiry approach, and reference to other information process models, may further enrich the development of information literacy skills.

This document clarifies:

- the lifelong value of information skills in vocational, recreational, social and cultural pursuits

- information skills and attitudes students should develop in order to use information effectively

- key concepts related to the information process, of which information skills are a part

- strategies for the selection and use of information sources

- appropriate and useful steps schools can take in planning, implementing and evaluating learning activities which focus on information skills.

As is the case with the *Library Policy – Schools*, this document should be implemented across the curriculum. All school staff, including teachers, teacher-librarians and school executive, have responsibilities in this implementation and will find specific sections of *Information skills in the school* addressed to them. Potential roles for the community in supporting the development of information skills are also outlined.

This document provides a philosophical basis and a working tool for the planning and teaching of information skills in primary and secondary schools.

Table of contents

Introduction

Information skills assist people to satisfy their changing information needs, pursue independent lifelong learning and contribute to the development of an informed society.

There has been an explosion of knowledge and enormous advances in technology into the twenty-first century. As a result, we live in an information environment characterised by:

- the development of information services as an integral part of the economy
- an expansion of the range of sources of information
- the appearance of information specialists and consultants
- a variety of online information forms and agencies
- the transient nature of information.

It is essential for students to develop skills in using information as part of the knowledge, skills and attitudes necessary for lifelong learning. People who are aware of information sources and services, who have the confidence to approach them, and the flexibility of thinking to use them, have the basis for a better quality of life than those who are unable to pursue their information needs.

These concerns are already addressed in several NSW Department of Education and Training curriculum documents, and syllabus documents provided by the Board of Studies Teaching and Educational Standards NSW. Schools need to provide planned opportunities for students to develop information skills.

The *Library Policy – Schools*, indicates that one purpose of the school library is

> *to enhance teaching and students' learning within the total program of the school by … providing opportunities for students to develop information skills and use them confidently and competently.*

Information skills in the school, as a support document to the Library Policy, presents a framework for the teaching and learning of information skills across the curriculum in both primary and secondary schools.

When partnered with the Department's *Quality Teaching* model, *Information skills in the school* can inform professional judgments about explicit information skills teaching support for class units of work and cross curriculum priorities, such as literacy and integrating ICT. A guided inquiry approach, and reference to other information process models, may further enrich the development of information literacy skills.

Building on the information skills of students

When children arrive at school they bring with them a body of knowledge and experiences which provides the foundation for the school curriculum. In order to deal with everyday living, they have drawn on the information in their environment and have begun to develop skills in using this information.

The school builds on students' present levels of proficiency and aims to equip them with the more sophisticated information attitudes and skills required for adult life. Experiences in school are not the only ones which will shape these attitudes and skills. Searching newspaper and online advertisements and deciding which second-hand bike to buy is an example of a recreational information activity which contributes to the development of such skills and attitudes. A topical unit taught at school using information from a range of online and other resources, such as newspapers, provides planned and guided development of expertise in using information.

Developing successful information users

People who use information successfully display the following characteristics:

- they are able to add to their core knowledge and frequently do so
- they use a variety of information sources and the necessary technology
- they are able to process the information which surrounds them
- they are confident in their ability to use information effectively.

The school plays an important part in developing these characteristics in students by focusing on specific information-related skills. Such skills are sometimes referred to as inquiry skills or information skills. In this document the term information skills will be used. Information skills development is essential for information literacy in the contemporary environment.

Information skills and attitudes

Information skills fall into two groups:

- skills concerned with locating information:
  - finding information in a variety of forms e.g. online, print, electronic, brochures, pictures, audio, maps
  - finding information from a variety of sources e.g. people, school library, public library, travel agent, home, DVDs
  - finding information within sources e.g. using an index, guide words, map key, electronic menu;
- skills concerned with understanding and using information:
  - asking questions
  - selecting, evaluating and, if necessary, discarding information
  - combining information from different sources
  - presenting the most relevant information
  - presenting information according to the audience
  - gauging the success of the presentation.

Along with skill development the school fosters in students positive information attitudes and values. These include:

- recognising that learning is lifelong
- valuing competency in information skills as an instrument in learning
- valuing creative and critical thinking in the information process
- valuing truth and the discipline of scholarship
- recognising that information is needed for personal, cultural, recreational and vocational purposes
- recognising a personal need to become competent in the information process and to experiment with new techniques and skills as information technology and social institutions change
- valuing personal performance as an information user with a repertoire of skills and developing independence.

To ensure that students grow in confidence and proficiency, the school and the community should value the information process as well as its product.

The information process

The information process is the series of physical and intellectual steps that anyone takes to complete an information task. Each step usually requires the use of several information skills. This process is generally a part of learning and problem-solving inside and outside the school.

View an outline of the **steps of the information process**, along with some of the key questions that information users can ask themselves as they proceed. Arrows to and from the information steps show that people tend to move backwards and forwards between the steps according to the unique requirements of each information task.

Information skills, expressed as objectives, are also shown for the process steps. They are applicable to all themes and subjects. Activities deriving from these objectives take place in every classroom, whether they are facilitated by the teacher or not.

Considering the information process, in conjunction with the Department's *Quality Teaching* model, including aspects of the affective domain, can inform professional judgments about explicit information skills teaching support for class units of work and cross curriculum priorities, such as literacy and integrating ICT. A guided inquiry approach, and reference to other information process models, may further enrich the development of information literacy skills.

Defining
What do I really want to find out?
Quality Teaching

Locating
Where can I find the information I need?
Quality Teaching

Selecting
What information do I really need to use?
Quality Teaching

Organising
How can I use this information
Quality Teaching

Presenting
How can I present this information?
Quality Teaching

Assessing
What did I learn from this?
Quality Teaching

The Information Process (ISP)

NEALS

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Steps in the process
- What is my purpose?
- Why do I need to find this out?
- What are the key words and ideas of the task?
- What do I need to do?

Information skills
Students should be able to:
- relate the task to their learning
- clarify the meanings of the words of the task
- identify and interpret key words and ideas in the task
- state the task in their own words
- work out the parts of the task.

Steps in the process
- Did I fulfil my purpose?
- How did I go - with each step of the information process?
- How did I go - presenting the information?
- Where do I go from here?

Defining
What do I really want to find out?

Quality Teaching

Steps in the process
- What do I already know
- What do I still need to find out?
- What sources and equipment can I use?

Information skills
Students should be able to:
- review the extent to which the end product meets the requirements of the task
- assess their use of this process in completing the task
- examine strengths and weaknesses in specific information skills
- identify increases in knowledge
- set personal goals for the further development of information skills.

Assessing
What did I learn from this?

Quality Teaching

Locating
Where can I find the information I need?

Quality Teaching

Information skills
Students should be able to:
- recall relevant information and skills from previous experience
- recognise strengths and limitations of current knowledge and decide whether additional information and/or skills are needed
- limit an investigation to a manageable size
- identify possible sources (people, organisations, places, print, electronic materials, objects)
- recognise the relative worth of sources
- select the best of these sources to use
- locate sources and appropriate equipment
- use appropriate equipment
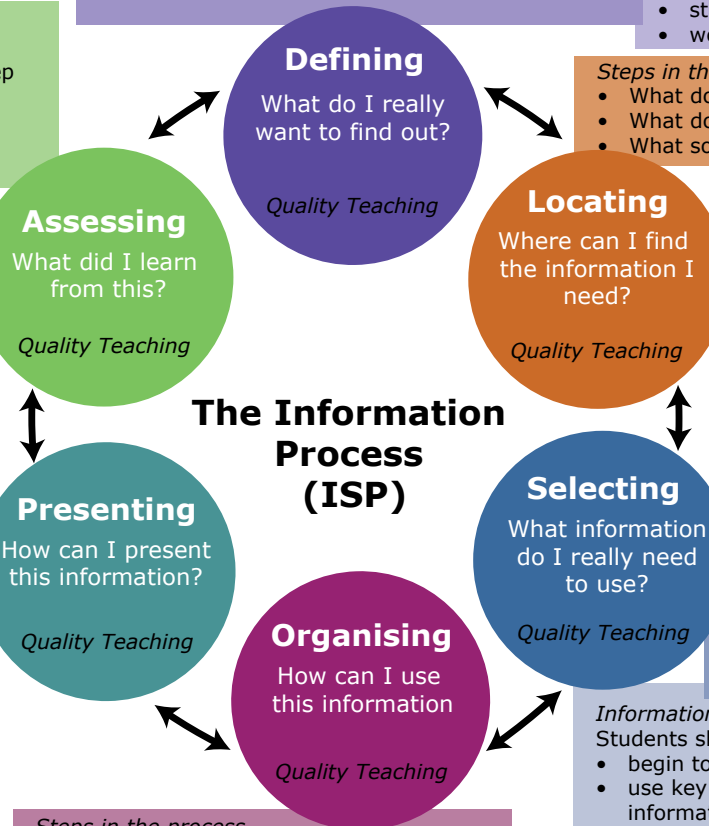- record details of sources that are used.

The Information Process (ISP)

Steps in the process
- What will I do with this information?
- With whom will I share this information?

Presenting
How can I present this information?

Quality Teaching

Selecting
What information do I really need to use?

Quality Teaching

Organising
How can I use this information

Quality Teaching

Steps in the process
- What information can I leave out?
- How relevant is the information I have found?
- How credible is the information I have found?
- How will I record the information I need?

Information skills
Students should be able to:
- identify the requirements of different forms of presentation
- consider the nature of the audience for the presentation
- select a form and style of presentation appropriate to the audience and the content of the material
- prepare the presentation
- present the information.

Steps in the process
- Have I enough information for my purpose?
- Do I need to use all this information?
- How can I best combine information from different sources?

Information skills
Students should be able to:
- begin to analyse the usefulness of each source
- use key words to locate potentially useful information within sources
- skim each source for information
- identify information that has links with the task
- assess and respect privacy and ownership of information
- decide what to do about deficiencies within information
- decide whether information is closer to fact or opinion
- assess the credibility of sources which express opinion
- identify inconsistency and bias in sources
- devise a system for recording and synthesising information
- summarise information
- record quotations and sources of information.

Information skills
Students should be able to:
- review the purpose of the task
- combine the information into larger units of information
- combine the units of information into a structure
- review the structure in light of the purpose of the task
- adjust the structure where necessary.

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DEPARTMENT OF EDUCATION AND TRAINING

Source: School Libraries website

Integrating information skills into the curriculum

In every classroom, every day, information skills are used by students. Many students display a limited knowledge of the information process, lacking confidence and control in their use of information skills.

Where teachers are aware of the information process and actively and explicitly assist students in skill development, the rate and quality of learning can be greatly increased. Where teachers show students that the information process is a schema which they can deliberately employ in their own learning, they are promoting student independence. This supports students to become discerning users of information, in all its formats and sources.

The responsibility for integrating information skills into the curriculum rests with the whole school. This responsibility is reinforced by executive supervision of classroom and specialist teachers who are facilitators of the process with students.

Students at any stage, from Kindergarten to Year 12, require opportunities to develop proficiency in using the information process. As students become more skilled in the steps of the process, they are able to complete increasingly sophisticated and difficult tasks. This also applies to the resources they are able to use.

A Kindergarten student and a Year 12 student may both use the same kinds of resources, such as plastic construction bricks, picture, electronic, and website to solve an information task related to house building. Both, however, will require resources which suit their own levels of understanding. Both will need to define their purpose, locate sources of information, select that which is useful, organise, present, and assess their information task. They will also need to develop and refine their information skills within the context of their task.

To create a learning environment which fosters the development of information skills, schools should provide a program which allows for teacher and student flexibility in exploring curriculum tasks and problems. Such flexibility would allow:

- consideration of available resources
- inclusion of students' existing knowledge
- provision for individual differences in skill development and learning styles when information skills are incorporated into student learning.

Opportunities for building information skills into the curriculum

At every level of the school, curriculum decision-making should take into account student information needs and skill development.

A consideration of information use and teaching can be built into the agendas and activities of

- curriculum and other school-wide committees
- the school executive group
- faculty/grade groups
- individual classroom teachers
- individual specialist teachers
- the teacher librarian.

The following pages summarise some of the points these groups should consider for action. The pages can serve as a checklist for each group – to be refined or added to as necessary.

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Executive action

The principal and the executive ensure the integration of information skills into the curriculum and related collaboration with the teacher librarian by:

- coordinating
    - information distribution to staff, parents and the community
    - discussion of teaching issues relating to students' development of information skills
    - schoolwide staff development activities
    - policy development
    - involvement of parents and the community where appropriate
- promoting the teaching and learning of information skills as appropriate to student needs

    (*See Appendix 1*)

- providing directions for the purchase of appropriate, diverse sources of information to support specific curriculum plans

    (*See Appendix 2*)

- ensuring that the school's information sources are balanced and that they reflect Departmental policies

    (*See Appendix 2*)

- ensuring equality of access to information technology for staff and students (e.g. staff development opportunities on new electronic resources and new information technology)
- supervising systems in the school which ensure that information (school policies, teaching resources, library resources, equipment, etc.) can be easily accessed and located by all
- creating an atmosphere which encourages student-centred activities
- planning and supervising evaluation of the school's information systems and the integration of information skills into the curriculum.

Grade or faculty group action

Grade and faculty groups, working with specialist teachers, ensure the integration of information skills into the curriculum by:

- initiating staff development activities for the group in line with whole school directions

- discussing how the information process relates to grade/faculty content concerns

- incorporating information skills objectives and related syllabus outcomes into grade/faculty programs

- identifying appropriate teaching and learning resources which

    - exist within the school

    - can be developed at the school

    - are available from agencies outside the school

    - are recommended for purchase

    (*See Appendices 2 and 3*)

- identifying the specific information skills to be

    - reinforced

    - introduced, practised and applied

    in appropriate units of work

    (*See Appendix 1*)

- suggesting learning strategies which focus on specific information skills

- evaluating the impact of learning strategies which focus on information skills as well as the learning strategies which focus on content

- evaluating the impact of grade/faculty programs in terms of information skills objectives as well as content objectives

- identifying criteria for assessing student progress in terms of information skill development for related grade/faculty programs

- collaborating on any of these with the teacher librarian.

Individual teacher action

Grade and faculty subgroups or individual teachers, working with specialist teachers, ensure information skills are incorporated into the curriculum by:

- identifying aspects of a given unit of work where students will use the information process
  - deciding on one or more aspects where the information process will receive teaching and learning emphasis
  - deciding on the information skills to be reinforced/introduced, practised and applied
- identifying specific resources, taking into account
  - the outcomes and content requirements of the task
  - the need to match resources to students' ability levels and learning needs
  - the need to provide a range of information forms for students to work with
- charting the information steps which students will take in using resources, that is, charting the information process, and anticipating
  - potential difficulties
  - opportunities for fostering student decision-making and independence
  - the need to reinforce/introduce, practise and apply targeted information skills
- adjusting the overall direction of the unit according to resources selected and information steps charted
- finding ways to teach the skills in context by scheduling the teaching of information skills to coincide with the appropriate step of the information task
- devising teaching and learning strategies for
  - reinforcing/introducing the targeted information skills
  - providing opportunities for practice and feedback
  - relating skills practice to the information process in progress in the unit
- negotiating with specialist teacher(s) to take part in information skills units, e.g. specific preparation, teaching and assessment roles
- planning and carrying out of teaching units and programs
- collaborating on any of these with the teacher librarian.

Specialist teacher action

Individual specialist teachers, such as the support teacher (learning difficulties) and the English as a second language (ESL) teacher, have an important role to play. They contribute to the information skills development of particular groups of students and should therefore be involved in planning, implementing and evaluating information skills programs related to units of work.

Because the teacher librarian is a specialist teacher, who fulfils a resource management function in information skills programs as well as a teaching function, the following pages detail action for the teacher librarian.

Teacher librarian action

The *Library Policy – Schools* emphasises the collaborative role of the teacher librarian in the teaching and support of information skills programs supporting the teaching and learning program of the school. Students are more likely to become information literate if learning is undertaken within the context of class units of works. Isolated information skills instruction is less effective.

Depending on the allocation of time, staff and financial resources to the library, the teacher-librarian can:

- lead and participate in the planning of information initiatives, programs and units at all levels, contributing their knowledge of information sources, library finding aids and procedures, and teaching ideas

- take part in the teaching of segments of units which involve information skills reinforcement or introduction,

    - with the classroom teacher (in the library or the classroom)

    - in separate lessons planned with the classroom teacher

    - with small groups or individual students, as planned with the classroom teacher

- take an active role in the assessment of student performance in information activities within cooperatively planned/taught units

- participate in the evaluation of information skills units which were cooperatively planned/taught

- take part in the evaluation of information skills programs supporting learning priorities and units of work at all levels in the school

- provide specialist advice at each school level on the selection and use of suitable resources

- arrange for the acquisition of new resources which are required for units focusing on information skills and which are suitable for the library collection (refer to the library's collection development policy)

- arrange for resources to be collected and made available to users according to the needs of planned information skills teaching and learning

- take part in staff development activities focusing on information skills as participant/leader

When a separate library skills program is in operation, learning is isolated from other curriculum areas and the transfer of skills cannot be assured. It is also likely that a large number of information skills specific to particular curriculum areas and information tasks are not adequately addressed.

Where the teacher librarian plays an active role in the integration of information skills into the curriculum, library skills lessons or programs become obsolete, and the full range of information skills are taught in context instead.

School library action

The library collection and facilities:

- provide teaching and learning support for information literacy skills development
- supply a wide range of information forms and equipment for students to use and explore
- provide finding aids e.g. signs, catalogue, electronic and other pathfinders which students need to locate information for themselves
- provide learning spaces which may be more suitable than the classroom for some information and reading activities activities.

The degree to which these services can be provided will depend largely upon the human, physical and financial resources allocated to the library.

Parent/community action

Adults within the community (parents, relations, friends, employers etc) play an important part in supporting students' understanding and development of information skills. Community members can:

- take part in whole school activities focusing on information skills which involve parents/community

- be involved in school library fundraising and the selection of library resources, where appropriate

- demonstrate and discuss how information is found and used e.g. show how information is found and used in the purchase of a new appliance or electronic device for the home or in the choice of a holiday destination

- involve the student in information tasks and decision making which arise in the home, work experience program, sporting teams, etc.

- encourage the critical discussion of information encountered outside the school in terms of credibility, bias and other characteristics

- take an active interest in the information tasks undertaken by the student at school by promoting the information process steps.

Appendix 1

Sample student activities

The following pages give examples of some of the activities which students could carry out at teach step of the information process.

The activities suggested for each step vary in the level of information skills and understanding required. Activities are best selected according to the known levels of students. For example, a given student could be capable of operating independently at quite a sophisticated level in the Defining and Locating phases, but may only be able to operate, with guidance, and at a much simpler level, in the Selecting and Organising stages.

See also the Information skills matrix K–6 and Information skills matrix 7–10 for additional teaching ideas to use or adapt.

Defining

Sample activities include:

- Brainstorm, with teacher guidance, questions which set guidelines for the task (e.g. Where did they live? What did they wear?)

- Say back to the teacher what the task is ("I need to find out about...")

- Identify key words in a question with the help of teacher/other students

- Identify and define key words of the task, using dictionary, encyclopaedia as necessary

- Work in a small group to identify and cluster key words

- In a small group, identify sub-topics which set directions for the task; assign different sub-topics to members of the group for investigation

- Independently
  - decide on the limits of the task
  - identify key words and sub-topics and confirm with teacher if necessary.

Other:

Locating

Sample activities include:

- Outline own knowledge of the topic
- Outline own knowledge of the topic and decide whether more information is needed
- Brainstorm alternative search words
- Respond to teacher questions
    - "What do you know about …?
    - "What are other things that you need to find out about…?
- With teacher guidance, talk about/draw up a list of places to look for information ("Who do I ask?" "Where do I go?")
- Contribute to a class list of sources which includes a wide range of materials, e.g. online, audio, and in print
- Make up a search plan, charting sources and locations according to the information process
- Use library catalogues in school and public libraries
- Use electronic information e.g. websites, DVDs, online databases, CD-ROMs, webcasts, podcasts
- Use simple library finding aids such as signage, pathfinders and shelf labels
- Locate journal articles by using the library catalogue, websites and databases
- Find and use appropriate equipment e.g. DVD player, listening post equipment
- Find more than one source and format of information for the task e.g. website, book, DVD
- Choose appropriate sources from own experience of the full range of resources and on the basis of the information each source offers.

Other:

Selecting

Sample activities include

- Use cover/packaging information of source to decide on appropriateness of resource
- Use reviews, descriptions, search result outlines to decide on relevance of resource
- Use simple contents pages or outlines to select relevant information
- Skim and scan using subheadings in books and sections of websites
- Select the appropriate picture from a range of pictures
- From a narration/description (listened to or read) use context clues to predict, confirm information
- Recognise fact, opinion, fiction, decide which is required
- Find answers in more than one source to key questions of the task
- Use more than one medium (e.g. DVD, audio, book, internet)
- Write/tell the teacher key words or ideas from source(s)
- Develop a note-taking system, selected from a range of options, including electronic
- Compare and evaluate information from different sources
- Use own fully developed range of information skills to select, sort and record information
- Confirm results of selecting and sorting with teacher/peers/work group.

Other:

Organising

Sample activities include:

- Answer the question "Why am I doing this?" (refer to purpose step)
- Discard irrelevant information after reviewing purpose or task
- In a small group, compare answers found in sources and refer back to purpose of the task
- With guidance, combine answers found in more than one source into sentence(s), paragraph(s)
- Take key words/ideas and combine them into whole thoughts
- Group related thoughts
- Use tables, spreadsheets, databases, as appropriate
- Use information collected to develop own hypothesis or argument
- Outline the structure of the completed task
- Review task structure with teacher/work group/peer/parent
- Check against the purpose of the task. Adjust as necessary.

Other:

Presenting

Sample activities include:

- Brainstorm possible presentation forms e.g. *PowerPoint*, video, picture book, podcast; select appropriate form and experiment, with guidance
- Use teacher, parent or peer as a sounding-board for presentation of ideas
- Choose a presentation style most suited to purpose, audience and content of material
- Contribute to a class picture, model, video, website etc.
- Write a simple sentence and illustrate it
- Draw a picture and label with key words which summarise findings, explain the picture to others
- With guidance, make a model in a group, based on finding. Use sentences, paragraph to explain the model
- With guidance, learn how to compile and present a report/essay/talk etc.
- Develop skills in an unfamiliar presentation style
- Prepare presentation using a range of oral, written, graphic, media skills as appropriate.

Other:

Assessing

Sample activities include:

- Brainstorm "Steps that we took to do this task" and put them into sequence. Analyse the steps, using questions such as "How did we make up our answer?" "What could we do next time?"

- Respond to the questions

    "What was easy?"

    "What was hard?"

    "What did I learn?"

    "What could we do next time?"

- Respond to questions from the audience regarding content of the presentation

- Analyse audience responses to the presentation

- Analyse a written critique of the presentation

- Consider information process and own performance of each step:

    "I'm good at …"

    "I need to improve on …"

    "I can improve by …"

    "I learnt …"

- Consult with the teacher about ways to improve skills

- Analyse strengths and weaknesses of argument/content. If necessary, rethink information process…

- Talk about the task with other students/teacher.

Other:

Appendix 2

Criteria for choosing resources: curriculum materials

In order to carry out an information task effectively, students need access to appropriate information sources. The following are some key points to consider when deciding which published materials to include in the curriculum. All curriculum resources should be regularly reviewed, whether they have been purchase, borrowed or donated.

Evaluating curriculum materials

Potential use

- Does the material support the school's curriculum"
- Does it answer an expressed need or anticipate a future need?

Subject

- How does the resource relate to curriculum topic(s)?
- Does it fill an obvious gap? (Also, is there already a copy in the library/textbook room/teachers' collection?)
- Is it of such interest and value that it will attract readers and extend their experience?

Treatment

- Does the item have a stated purpose and is it fulfilled?
- Can it be understood by the age group or at the year level where the interest lies? Will students be able to identify required information in the source?
- Does the approach used contribute to the material's value, e.g. does it invite new thoughts on the subject or contribute positively to its understanding?
- Does the resource feature undesirable aspects such as

    bias

    stereotypes

    tokenism

    unsatisfactory treatment of minority groups

    unsatisfactory treatment of women?

- Is the item educationally sound in keeping with current theory and practice?
- What information skills teaching/learning activities could the resource support?

Scope

- Is the coverage of the subject broad or limited to a specific area?
- Are supplementary materials needed?
- How does it compare with already existing materials?

Reliability

- Are the authors/editors/publishers recognised as having specialised knowledge?
- Are the facts accurate and the information up-to-date?
- If it is a new edition, how much of the former edition has been revised?

Format and presentation

Overview

- Does the presentation/format/packaging/cover appeal? Does it provide enough information for students to make an informed decision about the resource?
- Does the resource have features, such as a sitemap, index, glossary, chapter summaries, helpful links which make the contents readily accessible? Are these features provided at a level appropriate to student use? (e.g. A complex index may appear useful but will students be able to use it with ease?)
- Is the medium chosen (e.g. print/DVD/audio/online encyclopedia) appropriate for the subject and the presentation consistent with the kind of use it will get? Will this item contribute to the range of media valuable to students on the topic? (e.g. Is this another print resource to add to an already print-heavy range of resources, and should another medium, such as video, be chosen in preference?)

Technical quality and durability

- Are the print, photographs, sound and other qualities satisfactory?
- Is the binding/packaging suited to the type and frequency of intended use?
- Is the resource accessible and easily navigated/intuitive to use?

Price

- Does the resource represent good value for money?
- How does it compare with other resources in the area?

Further information on these and other selection criteria which should be considered in choosing resources can be found in the *Handbook for school libraries*:

- *Criteria for nonfiction: Section 5.2.3.1*
- *Criteria for nonbook materials: Section 5.2.3.3*
- *Criteria for computer software: Section 5.2.3.4.*
- *Criteria for fiction: Section 5.2.3.2.*

See also *Aboriginal Education K–12 resource resource guide*, pages 15–17. (NSW Department of Education and Training, 2003)

Appendix 3

A checklist of information sources

(print, physical and electronic formats)

Almanacs
Archives
Art originals
Atlases
Audio recordings

Braille texts
Brochures

CD-ROMs
Charts
Computer programs

Databases
Dioramas
Drawings
DVDs

E-books (online and print)
Electronic resources
Email
Encyclopaedias (online and print)
Environments e.g. marine, alpine

Fiction books and websites
Films
Flashcards
Flora and fauna

Games
Geological features
Globes
Government documents
Graphs

Handbooks

Interactive resources
Interactive white board (IWB)
Internet

Kits

Large print text

Magazines
Maps
Models
Music
News services
Newspapers
Non fiction books and websites

Pamphlets
People e.g. interviews, storytelling
Periodical indexes
Posters
Prints
Puppets

Radio programs
Realia e.g. war medal

Sculptures
Search engines
Skeletons
Slides
Sound recordings
Specimens
Subtitled media

Tactile texts
Technical drawings
Television programs
Timetables

Video recordings

Websites

X-rays

Appendix 4

A checklist of teaching/learning activities

Access information online
Ask questions
Analyse
Argue
Arrange

Browse
Calculate
Chart
Classify
Collect
Compare
Compute
Contrast
Construct
Cooperate
Coordinate

Dance
Debate
Decide
Deduce, induce
Demonstrate
Detect implications
Devise
Discard
Discuss
Distinguish relevancy, credibility
Elaborate
Eliminate
Estimate
Evaluate
Exhibit
Experiment

Film

Generate own ideas
Graph
Group

Hypothesise

Identify
Identify alternatives
Imagine
Interpret
Interview
Invent
Investigate

Justify

List
Listen

Make a model
Manipulate
Map
Measure

Observe
Organise

Photograph
Plan
Prepare and use date-bases, spreadsheets

Rank alternatives
Read
Reason
Recall
Record
Reflect
Restate
Role play

Search online
Self-assess
Sing
Skim and scan
Solve problems
Speak
Speculate
Summarise
Synthesise

Tabulate
Take notes
Theorise
Think
Travel

Value
View

Word process
Work (experience)
Write

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