Chapter – III

INFORMATION LITERACY
STANDARDS AND MODELS

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Chapter 3
INFORMATION LITERACY STANDARDS AND MODELS

3.1. Introduction

Preparing people for lifelong learning is the major task facing by the present society. Advancement of technology made people to get access information within a fraction of second, but what kind of information they need, how much authentic and reliable is that information, how to access it, how to evaluate accessed information, how to acknowledge the creator of information and finally how to make use of available information is the major issues the people of the society is encountering.

The famous saying, ‘knowledge is power, nothing is equal to knowledge’, those who acquire knowledge continuously will always be with knowledge society. Those who stop acquiring the knowledge will lag behind in the knowledge society. To acquire the knowledge continuously the person need some set of skills, those skill is called information literacy skills. So to survive in the knowledge society the person has to become information literate.

What the present society thinks lifelong learners, as the Paul G Zurkowske called that concept as Information Literate which means learning how to learn, find out the need, analyse, search, access, evaluate, use ethically and legally the required information. To become a information literate is not a easy task it required continuous learning and updating of knowledge in all aspects.

3.2. Meaning

In general Information literacy is the set of essential skills and knowledge that not only allows us to find, evaluate and use the information we need, but perhaps more important allows us to find and filter out the information we don’t need in the information explosion world.

3.3. Definition

According to Burchinal (1976) “To be a information literate requires a new set of skills. These include how to locate and use information needed for problem – solving and decision making efficiently and effectively”.

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Owens (1976) tied information literacy to democracy, stating “Beyond information literacy for greater work effectiveness and efficiency, information literacy is needed to guarantee the survival of democratize institutions. All men are created equal but voters with information resources are in a position to make more intelligent decisions than citizens who are information illiterates.”

American Library Association Presidential Committee on Information Literacy, Final Report (1989) “To be information literate, a person must be able to recognise when information is needed and have the ability to locate, evaluate and use effectively the needed information”

According to SUNY (State University of New York) (1997) “Information literacy includes the abilities to recognize when information is needed and to locate, evaluate effectively use and communicate information in its various formats”.

According to Shapiro & Hughes (1996) Information Literacy is a new literal art that extends from knowing how to use computers and access information to critical reflection on the nature of information itself, its technical infrastructure, and its social, cultural and even philosophical context and impact”.

Information literacy is the ability to find, evaluate, use, and communicate information in all of its various formats (Work Group on Information Competences, 1995, P4).

Information literacy is the ability to effectively identify, access evaluate and make use of information in its various formats, and to choose the appropriate medium for communication. It also encompasses knowledge and attitudes related to the ethical and social issues surrounding information and information technology (California Academic and Research Libraries Task Force, 1997).

Information literate people are those who have learned how to learn, they know how to learn because they know how to use information in such a way that others can learn from them. They are people prepared for lifelong learning, because
they can always find the information needed for any task or decision at hand (American Library Association Presidential Committee on Information literacy, 1989).

Patricia S Breivik described “information literacy as an integrated set of skills and the knowledge of tools and resources. Information literacy as a problem solving activities”.

3.4. Standards and Models of Information Literacy and its application

3.4.1 ACRL Information Literacy Competency Standards for Higher Education

Information Literacy Competency Standards for Higher Education provides a framework for assessing the information literate individual. It also extends the work of the American Association of School Librarians Task Force on Information Literacy Standards, thereby providing higher education an opportunity to articulate its information literacy competencies with those of K-12 so that a continuum of expectations develops for students at all levels. The competencies presented here outline the process by which faculty, librarians and others pinpoint specific indicators that identify a student as information literate.

Standards, Performance Indicators, and Outcomes

Standard One

The information literate student determines the nature and extent of the information needed.

Performance Indicators:

1. The information literate student defines and articulates the need for information.

   Outcomes Include:

   a. Confers with instructors and participates in class discussions, peer workgroups, and electronic discussions to identify a research topic, or other information need
   b. Develops a thesis statement and formulates questions based on the information need
   c. Explores general information sources to increase familiarity with the topic
   d. Defines or modifies the information need to achieve a manageable focus
   e. Identifies key concepts and terms that describe the information need
f. Recognizes that existing information can be combined with original thought, experimentation, and/or analysis to produce new information

2. The information literate student identifies a variety of types and formats of potential sources for information.

*Outcomes Include:*

a. Knows how information is formally and informally produced, organized, and disseminated

b. Recognizes that knowledge can be organized into disciplines that influence the way information is accessed

c. Identifies the value and differences of potential resources in a variety of formats (e.g., multimedia, database, website, data set, audio/visual, book)

d. Identifies the purpose and audience of potential resources (e.g., popular vs. scholarly, current vs. historical)

e. Differentiates between primary and secondary sources, recognizing how their use and importance vary with each discipline

f. Realizes that information may need to be constructed with raw data from primary sources

3. The information literate student considers the costs and benefits of acquiring the needed information.

*Outcomes Include:*

a. Determines the availability of needed information and makes decisions on broadening the information seeking process beyond local resources (e.g., interlibrary loan; using resources at other locations; obtaining images, videos, text, or sound)

b. Considers the feasibility of acquiring a new language or skill (e.g., foreign or discipline-based) in order to gather needed information and to understand its context

c. Defines a realistic overall plan and timeline to acquire the needed information

4. The information literate student re-evaluates the nature and extent of the information need.

*Outcomes Include:*


Reviews the initial information need to clarify, revise, or refine the question

d. Describes criteria used to make information decisions and choices

**Standard Two**

The information literate student accesses needed information effectively and efficiently.

**Performance Indicators:**

1. The information literate student selects the most appropriate investigative methods or information retrieval systems for accessing the needed information.

   *Outcomes Include:*

   a. Identifies appropriate investigative methods (e.g., laboratory experiment, simulation, fieldwork)
   b. Investigates benefits and applicability of various investigative methods
   c. Investigates the scope, content, and organization of information retrieval systems
   d. Selects efficient and effective approaches for accessing the information needed from the investigative method or information retrieval system

2. The information literate student constructs and implements effectively-designed search strategies.

   *Outcomes Include:*

   a. Develops a research plan appropriate to the investigative method
   b. Identifies keywords, synonyms and related terms for the information needed
   c. Selects controlled vocabulary specific to the discipline or information retrieval source
   d. Constructs a search strategy using appropriate commands for the information retrieval system selected (e.g., Boolean operators, truncation, and proximity for search engines; internal organizers such as indexes for books)
e. Implements the search strategy in various information retrieval systems using different user interfaces and search engines, with different command languages, protocols, and search parameters

f. Implements the search using investigative protocols appropriate to the discipline

3. The information literate student retrieves information online or in person using a variety of methods.

   Outcomes Include:
   a. Uses various search systems to retrieve information in a variety of formats
   b. Uses various classification schemes and other systems (e.g., call number systems or indexes) to locate information resources within the library or to identify specific sites for physical exploration
   c. Uses specialized online or in person services available at the institution to retrieve information needed (e.g., interlibrary loan/document delivery, professional associations, institutional research offices, community resources, experts and practitioners)
   d. Uses surveys, letters, interviews, and other forms of inquiry to retrieve primary information

4. The information literate student refines the search strategy if necessary.

   Outcomes Include:
   a. Assesses the quantity, quality, and relevance of the search results to determine whether alternative information retrieval systems or investigative methods should be utilized
   b. Identifies gaps in the information retrieved and determines if the search strategy should be revised
   c. Repeats the search using the revised strategy as necessary

5. The information literate student extracts, records, and manages the information and its sources.

   Outcomes Include:
   a. Selects among various technologies the most appropriate one for the task of extracting the needed information (e.g., copy/paste software
functions, photocopier, scanner, audio/visual equipment, or exploratory instruments)

b. Creates a system for organizing the information
c. Differentiates between the types of sources cited and understands the elements and correct syntax of a citation for a wide range of resources
d. Records all pertinent citation information for future reference
e. Uses various technologies to manage the information selected and organized

**Standard Three**
The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.

**Performance Indicators:**

1. The information literate student summarizes the main ideas to be extracted from the information gathered.
   
   *Outcomes Include:*
   
   a. Reads the text and selects main ideas
   b. Restates textual concepts in his/her own words and selects data accurately
   c. Identifies verbatim material that can be then appropriately quoted

2. The information literate student articulates and applies initial criteria for evaluating both the information and its sources.
   
   *Outcomes Include:*
   
   a. Examines and compares information from various sources in order to evaluate reliability, validity, accuracy, authority, timeliness, and point of view or bias
   b. Analyzes the structure and logic of supporting arguments or methods
   c. Recognizes prejudice, deception, or manipulation
   d. Recognizes the cultural, physical, or other context within which the information was created and understands the impact of context on interpreting the information
3. The information literate student synthesizes main ideas to construct new concepts.

   Outcomes Include:
   a. Recognizes interrelationships among concepts and combines them into potentially useful primary statements with supporting evidence
   b. Extends initial synthesis, when possible, at a higher level of abstraction to construct new hypotheses that may require additional information
   c. Utilizes computer and other technologies (e.g. spreadsheets, databases, multimedia, and audio or visual equipment) for studying the interaction of ideas and other phenomena

4. The information literate student compares new knowledge with prior knowledge to determine the value added, contradictions, or other unique characteristics of the information.

   Outcomes Include:
   a. Determines whether information satisfies the research or other information need
   b. Uses consciously selected criteria to determine whether the information contradicts or verifies information used from other sources
   c. Draws conclusions based upon information gathered
   d. Tests theories with discipline-appropriate techniques (e.g., simulators, experiments)
   e. Determines probable accuracy by questioning the source of the data, the limitations of the information gathering tools or strategies, and the reasonableness of the conclusions
   f. Integrates new information with previous information or knowledge
   g. Selects information that provides evidence for the topic

5. The information literate student determines whether the new knowledge has an impact on the individual’s value system and takes steps to reconcile differences.

   Outcomes Include:
   a. Investigates differing viewpoints encountered in the literature
   b. Determines whether to incorporate or reject viewpoints encountered
6. The information literate student validates understanding and interpretation of the information through discourse with other individuals, subject-area experts, and/or practitioners.

   Outcomes Include:
   a. Participates in classroom and other discussions
   b. Participates in class-sponsored electronic communication forums designed to encourage discourse on the topic (e.g., email, bulletin boards, chat rooms)
   c. Seeks expert opinion through a variety of mechanisms (e.g., interviews, email, listservs)

7. The information literate student determines whether the initial query should be revised.

   Outcomes Include:
   a. Determines if original information need has been satisfied or if additional information is needed
   b. Reviews search strategy and incorporates additional concepts as necessary
   c. Reviews information retrieval sources used and expands to include others as needed

Standard Four
The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.

Performance Indicators:
1. The information literate student applies new and prior information to the planning and creation of a particular product or performance.

   Outcomes Include:
   a. Organizes the content in a manner that supports the purposes and format of the product or performance (e.g. outlines, drafts, storyboards)
   b. Articulates knowledge and skills transferred from prior experiences to planning and creating the product or performance
c. Integrates the new and prior information, including quotations and paraphrasings, in a manner that supports the purposes of the product or performance

d. Manipulates digital text, images, and data, as needed, transferring them from their original locations and formats to a new context

2. The information literate student revises the development process for the product or performance.

   Outcomes Include:
   a. Maintains a journal or log of activities related to the information seeking, evaluating, and communicating process
   b. Reflects on past successes, failures, and alternative strategies

3. The information literate student communicates the product or performance effectively to others.

   Outcomes Include:
   a. Chooses a communication medium and format that best supports the purposes of the product or performance and the intended audience
   b. Uses a range of information technology applications in creating the product or performance
   c. Incorporates principles of design and communication
   d. Communicates clearly and with a style that supports the purposes of the intended audience

Standard Five

The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.

Performance Indicators:
1. The information literate student understands many of the ethical, legal and socio-economic issues surrounding information and information technology.

   Outcomes Include:
   a. Identifies and discusses issues related to privacy and security in both the print and electronic environments
b. Identifies and discusses issues related to free vs. fee-based access to information

c. Identifies and discusses issues related to censorship and freedom of speech

d. Demonstrates an understanding of intellectual property, copyright, and fair use of copyrighted material

2. The information literate student follows laws, regulations, institutional policies, and etiquette related to the access and use of information resources.

Outcomes Include:

a. Participates in electronic discussions following accepted practices (e.g., "Netiquette")

b. Uses approved passwords and other forms of ID for access to information resources

c. Complies with institutional policies on access to information resources

d. Preserves the integrity of information resources, equipment, systems and facilities

e. Legally obtains, stores, and disseminates text, data, images, or sounds

f. Demonstrates an understanding of what constitutes plagiarism and does not represent work attributable to others as his/her own

g. Demonstrates an understanding of institutional policies related to human subjects research

3. The information literate student acknowledges the use of information sources in communicating the product or performance.

Outcomes Include:

a. Selects an appropriate documentation style and uses it consistently to cite sources

b. Posts permission granted notices, as needed, for copyrighted material

3.4.2 Big6 Skills

Introduction

Developed by Mike Eisenberg and Bob Berkowitz, the Big6 is the most widely known and widely used approach to teaching information and technology skills in the world. Used in thousands of K-12 schools, higher education institutions,
and corporate and adult training programs, the Big6 information problem-solving model is applicable whenever people need and use information. The Big6 integrates information search and use skills along with technology tools in a systematic process to find, use, apply, and evaluate information for specific needs and tasks.

**The Big6 Skills**

The Big6 is a process model of how people of all ages solve an information problem. From practice and study, we found that successful information problem-solving encompasses six stages with two sub-stages under each:

1. **Task Definition**
   1.1 Define the information problem
   1.2 Identify information needed

2. **Information Seeking Strategies**
   2.1 Determine all possible sources
   2.2 Select the best sources

3. **Location and Access**
   3.1 Locate sources (intellectually and physically)
   3.2 Find information within sources

4. **Use of Information**
   4.1 Engage (e.g., read, hear, view, touch)
   4.2 Extract relevant information

5. **Synthesis**
   5.1 Organize from multiple sources
   5.2 Present the information

6. **Evaluation**
   6.1 Judge the product (effectiveness)
   6.2 Judge the process (efficiency)
People go through these Big6 stages—consciously or not—when they seek or apply information to solve a problem or make a decision. It’s not necessary to complete these stages in a linear order, and a given stage doesn’t have to take a lot of time. We have found that in almost all successful problem-solving situations, all stages are addressed.

In addition to considering the Big6 as a process, another useful way to view the Big6 is as a set of basic, essential life skills. These skills can be applied across situations—to school, personal, and work settings. The Big6 Skills are applicable to all subject areas across the full range of grade levels. Students use the Big6 Skills whenever they need information to solve a problem, make a decision, or complete a task.

The Big6 Skills are best learned when integrated with classroom curriculum and activities. Teachers and library media specialists can begin to use the Big6 immediately by:

- Using the Big6 terminology when giving various tasks and assignments
- Talking students through the process for a particular assignment
- Asking key questions and focusing attention on specific Big6 actions to accomplish.

Various computer and information technology skills are integral parts of the Big6 Skills. For example, when students use word processing to compose a letter, that’s Big6 #5, Synthesis. When they search for information on the World Wide Web, that’s Big6 #3, Location & Access. When they use e-mail to discuss an assignment with another student or the teacher, that’s Big6 #1, Task Definition. Using computers can “turbo-boost” students’ abilities.

3.4.3 The SCONUL Seven Pillars of Information Literacy Core Model for Higher Education

Introduction

In 1999, The SCONUL Working Group on Information Literacy published “Information skills in higher education: a SCONUL position paper” (SCONUL, 1999), introducing the Seven Pillars of Information Skills model. Since then, the
model has been adopted by librarians and teachers around the world as a means of helping them to deliver information skills to their learners.

However, in 2011 we live in a very different information world and while the basic principles underpinning the original Seven Pillars model remain valid, it was felt that the model needed to be updated and expanded to reflect more clearly the range of different terminologies and concepts which we now understand as “Information Literacy”.

1. **IDENTIFY**

   **Able to identify a personal need for information**

   **Understands:**
   1. That new information and data is constantly being produced and that there is always more to learn
   2. That being information literate involves developing a learning habit so new information is being actively sought all the time
   3. That ideas and opportunities are created by investigating/seeking information
   4. The scale of the world of published and unpublished information and data

   **Is able to:**
   1. Identify a lack of knowledge in a subject area
   2. Identify a search topic / question and define it using simple terminology
   3. Articulate current knowledge on a topic
   4. Recognise a need for information and data to achieve a specific end and define limits to the information need
   5. Use background information to underpin the search
   6. Take personal responsibility for an information search
   7. Manage time effectively to complete a search

2. **SCOPE**

   **Can assess current knowledge and identify gaps**

   **Understands:**
   1. What types of information are available
2. The characteristics of the different types of information source available to them and how they may be affected by the format (digital, print)
3. The publication process in terms of why individuals publish and the currency of information
4. Issues of accessibility
5. What services are available to help and how to access them

Is able to:
1. “Know what you don’t know” to identify any information gaps
2. Identify which types of information will best meet the need
3. Identify the available search tools, such as general and subject specific resources at different levels
4. Identify different formats in which information may be provided
5. Demonstrate the ability to use new tools as they become available

3. PLAN
Can construct strategies for locating information and data
Understands:
1. The range of searching techniques available for finding information.
2. The differences between search tools, recognising advantages and limitations
3. Why complex search strategies can make a difference to the breadth and depth of information found
4. The need to develop approaches to searching such that new tools are sought for each new question (not relying always on most familiar resources)
5. The need to revise keywords and adapt search strategies according to the resources available and / or results found
6. The value of controlled vocabularies and taxonomies in searching

Is able to:
1. Scope their search question clearly and in appropriate language
2. Define a search strategy by using appropriate keywords and concepts, defining and setting limits
3. Select the most appropriate search tools
4. Identify controlled vocabularies and taxonomies to aid in searching if appropriate
5. Identify appropriate search techniques to use as necessary
6. Identify specialist search tools appropriate to each individual information need

4. GATHER
Can locate and access the information and data they need

Understands:
1. How information and data is organised, digitally and in print sources
2. How libraries provide access to resources
3. How digital technologies are providing collaborative tools to create and share information
4. The issues involved in collecting new data
5. The different elements of a citation and how this describes an information resource
6. The use of abstracts
7. The need to keep up to date with new information
8. The difference between free and paid for resources
9. The risks involved in operating in a virtual world
10. The importance of appraising and evaluating search results

Is able to:
1. Use a range of retrieval tools and resources effectively
2. Construct complex searches appropriate to different digital and print resources
3. Access full text information, both print and digital, read and download online material and data
4. Use appropriate techniques to collect new data
5. Keep up to date with new information
6. Engage with their community to share information
7. Identify when the information need has not been met
8. Use online and printed help and can find personal, expert help
5. EVALUATE

Can review the research process and compare and evaluate information and data

Understands:
1. The information and data landscape of their learning/research context
2. Issues of quality, accuracy, relevance, bias, reputation and credibility relating to information and data sources
3. How information is evaluated and published, to help inform personal evaluation process
4. The importance of consistency in data collection
5. The importance of citation in their learning/research context

Is able to:
1. Distinguish between different information resources and the information they provide
2. Choose suitable material on their search topic, using appropriate criteria
3. Assess the quality, accuracy, relevance, bias, reputation and credibility of the information resources found
4. Assess the credibility of the data gathered
5. Read critically, identifying key points and arguments
6. Relate the information found to the original search strategy
7. Critically appraise and evaluate their own findings and those of others
8. Know when to stop

6. MANAGE

Can organise information professionally and ethically

Understands:
1. Their responsibility to be honest in all aspects of information handling and dissemination (e.g. copyright, plagiarism and intellectual property issues)
2. The need to adopt appropriate data handling methods
3. The role they play in helping others in information seeking and management
4. The need to keep systematic records
5. The importance of storing and sharing information and data ethically
6. The role of professionals, such as data managers and librarians, who can advise, assist and support with all aspects of information management
Is able to:
1. Use bibliographical software if appropriate to manage information
2. Cite printed and electronic sources using suitable referencing styles
3. Create appropriately formatted bibliographies
4. Demonstrate awareness of issues relating to the rights of others including ethics, data protection, copyright, plagiarism and any other intellectual property issues
5. Meet standards of conduct for academic integrity
6. Use appropriate data management software and techniques to manage data

7. PRESENT
Can apply the knowledge gained: presenting the results of their research, synthesising new and old information and data to create new knowledge and disseminating it in a variety of ways

Understands:
1. The difference between summarising and synthesising
2. That different forms of writing/presentation style can be used to present information to different communities
3. That data can be presented in different ways
4. Their personal responsibility to store and share information and data
5. Their personal responsibility to disseminate information & knowledge
6. How their work will be evaluated
7. The processes of publication
8. The concept of attribution
9. That individuals can take an active part in the creation of information through traditional publishing and digital technologies (e.g. blogs, wikis)

Is able to:
1. Use the information and data found to address the original question
2. Summarise documents and reports verbally and in writing
3. Incorporate new information into the context of existing knowledge
4. Analyse and present data appropriately
5. Synthesise and appraise new and complex information from different sources
6. Communicate effectively using appropriate writing styles in a variety of formats
7. Communicate effectively verbally
8. Select appropriate publications and dissemination outlets in which to publish if appropriate
9. Develop a personal profile in the community using appropriate personal networks and digital technologies (e.g. discussion lists, social networking sites, blogs, etc.)

3.4.4 Australian and New Zealand information literacy framework: principles, standards and practice

Introduction

The second edition of the 2001 Information literacy standards is entitled the Australian and New Zealand information literacy framework: principles, standards and practice to reflect the ways academics and librarians have used the first edition. It incorporates changes developed at a workshop in Sydney in January 2003. Prior to the workshop, input was received from university, technical and further education and other librarians from around Australia and New Zealand. More than fifty academics and librarians who had used the first edition contributed their experience. Two small groups worked on each standard, and the ideas developed were peer reviewed by a third group. A steering group evaluated this material, and a representative panel from the workshop reviewed the penultimate version. This edition is thus consistent with the first edition, but benefits from input based on experience in use, and peer review. Given the care with which the standards have been revised, there can be increased confidence in their use, especially in the tertiary education sector.

Standard One

The information literate person recognises the need for information and determines the nature and extent of the information needed

Learning outcomes
The information literate person
1. Defines and articulates the information need
2. Understands the purpose, scope and appropriateness of a variety of information sources
3. Re-evaluates the nature and extent of the information need
4. Uses diverse sources of information to inform decisions

**Standard Two**

*The information literate person finds needed information effectively and efficiently*

**Learning outcomes**

The information literate person

1. Selects the most appropriate methods or tools for finding information
2. Constructs and implements effective search strategies
3. Obtains information using appropriate methods
4. Keeps up to date with information sources, information technologies, information access tools and investigative methods

**Standard Three**

*The information literate person critically evaluates information and the information seeking process*

**Learning outcomes**

The information literate person

1. Assesses the usefulness and relevance of the information obtained
2. Defines and applies criteria for evaluating information
3. Reflects on the information seeking process and revises search strategies as necessary

**Standard Four**

*The information literate person manages information collected or generated*

**Learning outcomes**

The information literate person

1. Records information and its sources
2. Organises (orders/classifies/stores) information
Standard Five

The information literate person applies prior and new information to construct new concepts or create new understandings

Learning outcomes
The information literate person
1. Compares and integrates new understandings with prior knowledge to determine the value added, contradictions, or other unique characteristics of the information
2. Communicates knowledge and new understandings effectively

Standard Six

The information literate person uses information with understanding and acknowledges cultural, ethical, economic, legal, and social issues surrounding the use of information

Learning outcomes
The information literate person
1. Acknowledges cultural, ethical, and socioeconomic issues related to access to, and use of, information
2. Recognises that information is underpinned by values and beliefs
3. Conforms with conventions and etiquette related to access to, and use of, information
4. Legally obtains, stores, and disseminates text, data, images, or sounds

3.5. Conclusion

Models and Standards play an important role to know the Information Literacy level of person. It can also be useful for the improvement of information literacy skills. Most of the IL Models start with need arise of the information and ends with satisfaction of accessing information with in legal context. Models and standards are very much essential for a person acquire essential skills survival for the present information world.
REFERENCE


Seven Faces of Information Literacy in Higher Education | Christine Bruce. (2011). Retrieved May 21, 2016, from file:///D:/IL Standard & Model/Seven Faces of Information Literacy in Higher Education _ Christine Bruce.html
