SCONUL

Rebuilding the Seven Pillars: the SCONUL Research Lens

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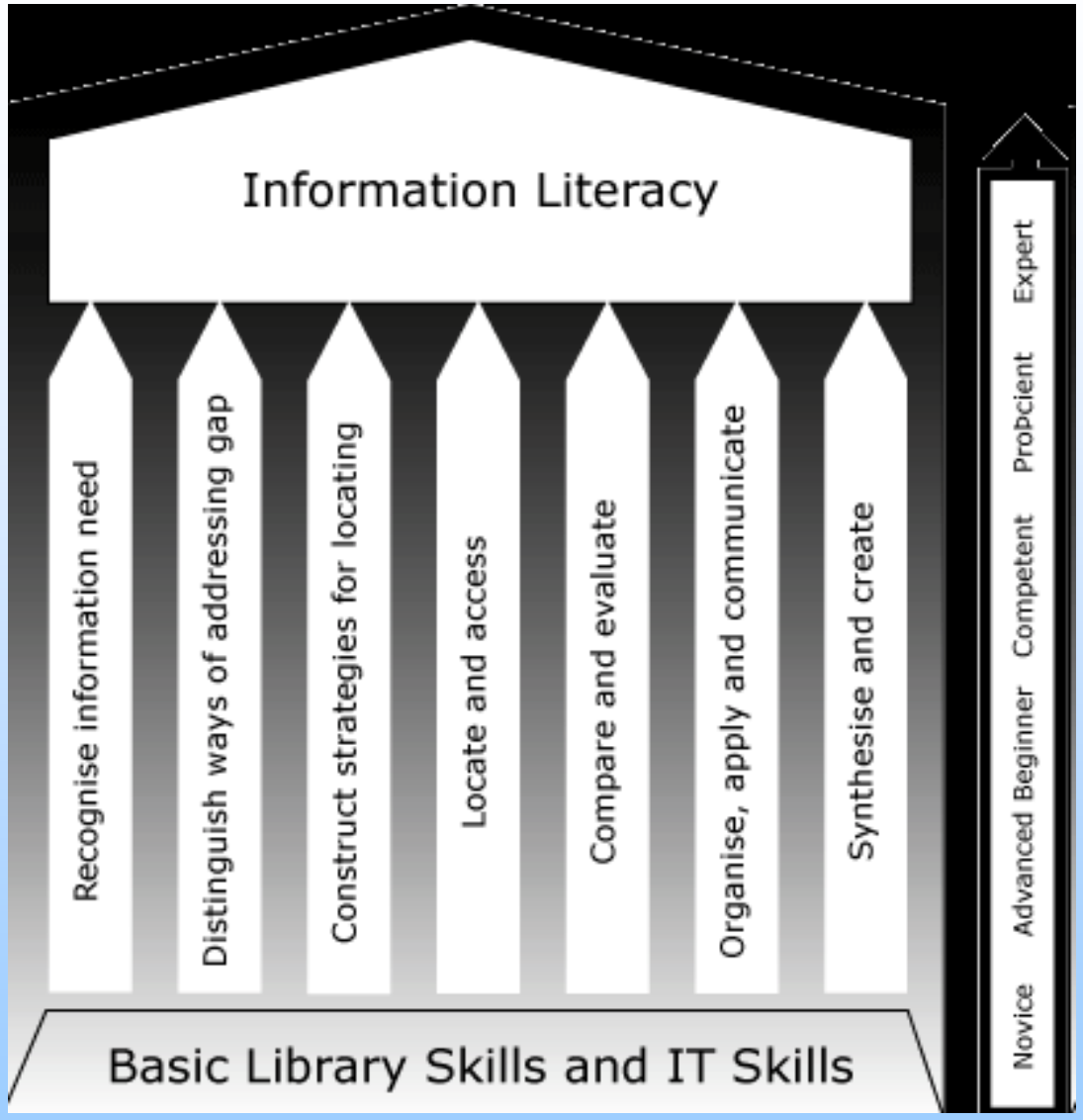
Seven Pillars: Original model



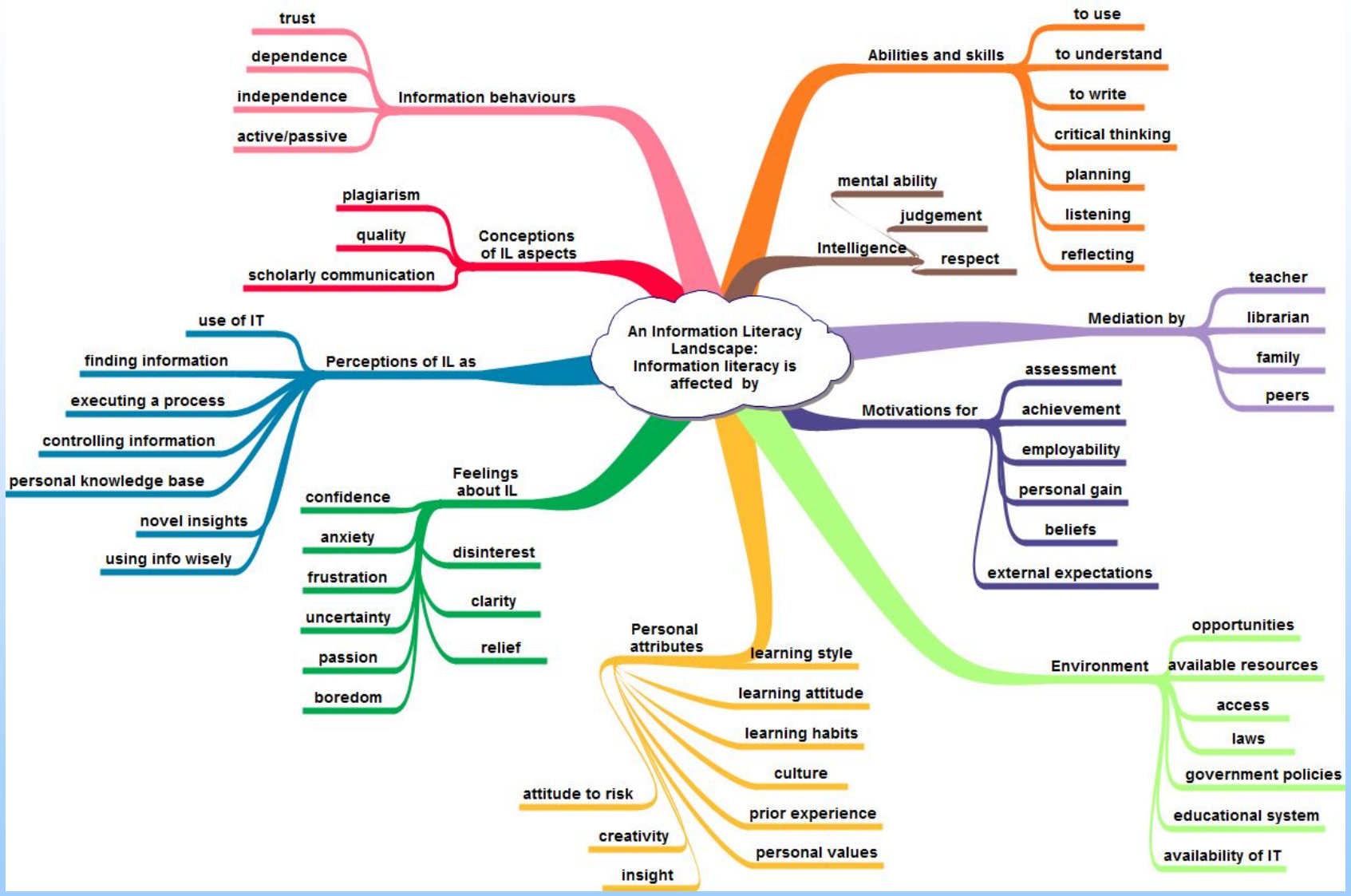
Society of College, National and University Libraries

http://www.sconul.ac.uk/groups/information_literacy/sp/sp/spportbw.gif Reproduced under CCL

Seven Pillars: Around the world

World Map 1689 — No. 1 by Chuck “Caveman” Coker
http://www.flickr.com/photos/caveman_92223/3185534518/

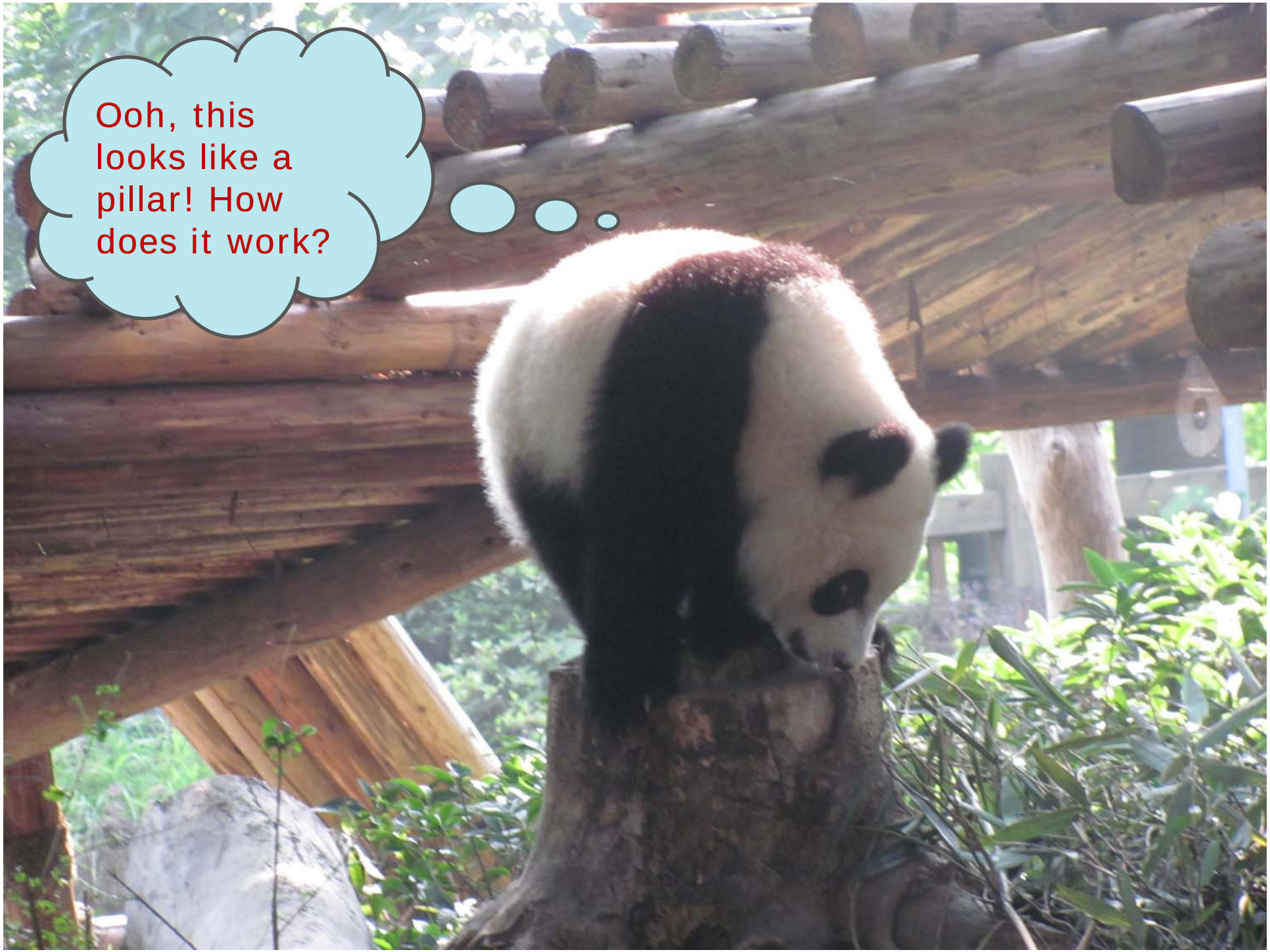
An Information Literacy Landscape



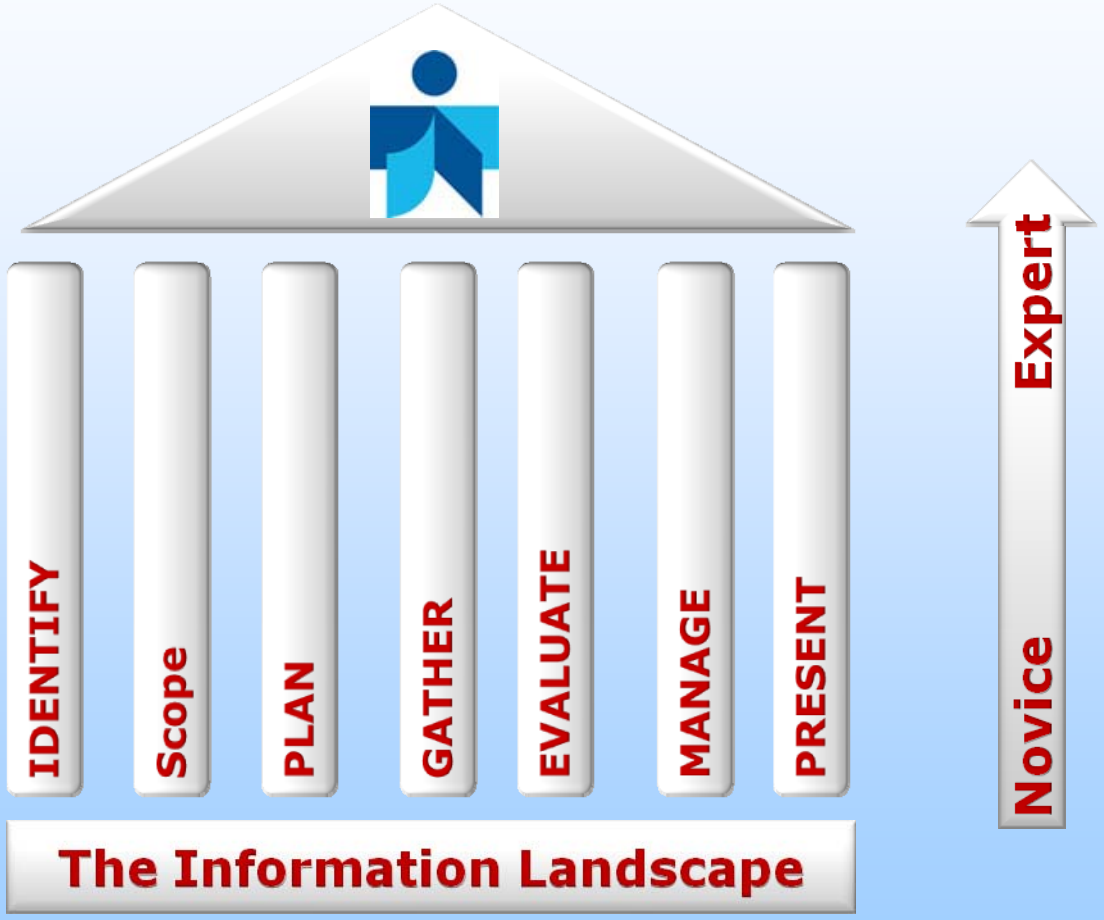
Information Literacy Definition

Information literate people will demonstrate

an awareness of how they gather, use, manage, synthesise and create information and data in an ethical manner and will have the information skills to do so effectively.

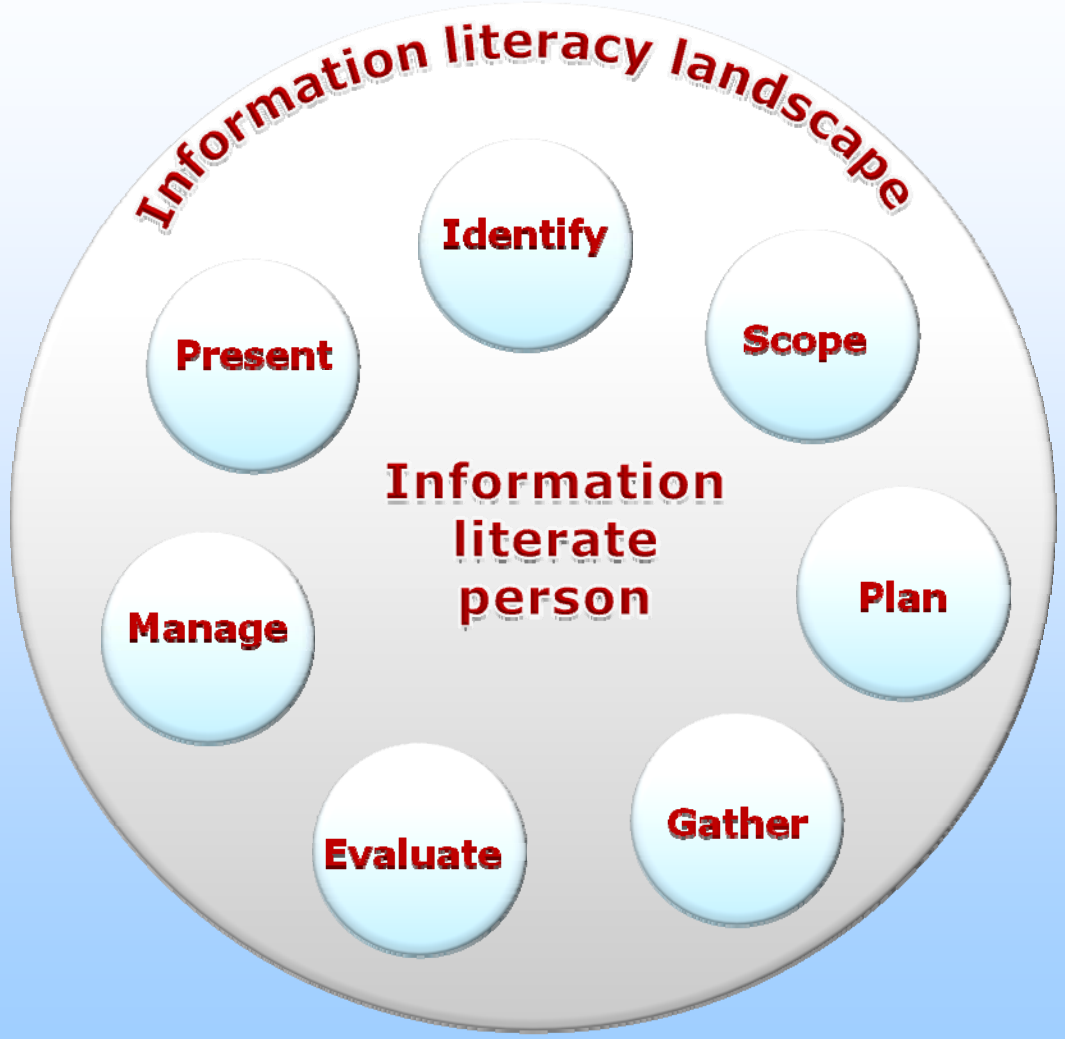

Ooh, this looks like a pillar! How does it work?

Seven Pillars of Information Literacy



Seven Pillars: New model

Seven Pillars: Doughnut



Seven Pillars: Core

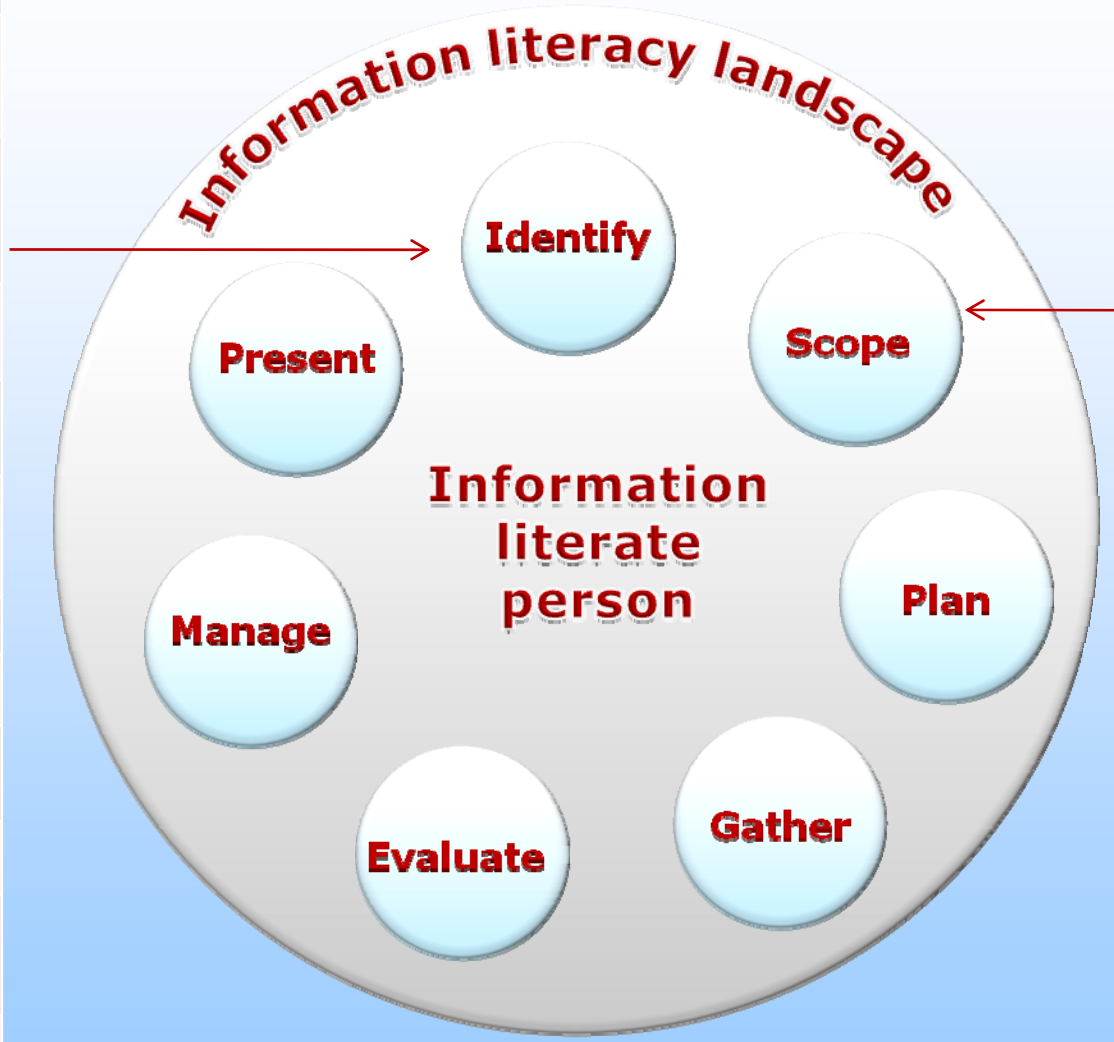
Identify

Understands:

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

Is able to:

- Identify a lack of knowledge in a subject area
- Identify a search topic / question and define it using simple terminology
- Articulate current knowledge on a topic
- Recognise a need for information and data to achieve a specific end and define limits to the information need
- Use background information to underpin research
- Take personal responsibility for an information search
- Manage time effectively to complete a search



Scope

Understands:

- What types of information are available
- The characteristics of the different types of information source available to them and how the format can affect it
- The publication process in terms of why individuals publish and the currency of information
- Issues of accessibility
- What services are available to help and how to access them

Is able to:

- "Know what you don't know" to identify any information gaps
- Identify the types of information required to meet the need
- Identify the available search tools, such as general and subject specific resources at different levels
- Identify different formats in which information may be provided
- Demonstrate the ability to use new tools as they become available

Identify	Scope	Plan	Gather	Evaluate	Manage	Present
Understands:	**Understands:**	**Understands:**	**Understands:**	**Understands:**	**Understands:**	**Understands:**
•New information & data is constantly being produced & that there is always more to •Being information literate involves developing a learning habit so new information is being actively sought all the time •Ideas and opportunities are created by investigating / seeking information •Scale of the world of published and unpublished information and data	•What types of information are available •The characteristics of the different types of information source available to them & how they may be affected by format •The publication process in terms of why individuals publish & the currency of information •Issues of accessibility •What services are available to help & how to access them	•Range of searching techniques available •Differences between search tools •Why complex search strategies can make a difference to the breadth & depth of information found •Need to develop approaches to searching such that new tools are sought for each new question •Need to revise keywords & adapt strategies •Value of controlled vocabularies & taxonomies in searching	•How information & data is organised •How libraries provide access to resources •How digital technologies are providing collaborative tools to create & share information •Issue involved in collecting new data •Different elements of a citation •Use of abstracts •Need to keep up to date •Difference between free & paid for resources •Risks involved in operating in a virtual world •Importance of appraising& evaluating search results	•Information & data landscape or their learning / research context •Issues of quality, accuracy, relevance, bias, reputation & credibility relating to information & data sources •How information is evaluated & published, to help inform personal evaluation process •Importance of consistency in data collection •Importance of citation in their learning / research context	•Responsibility to be honest in all aspects of information handling & dissemination •Need to adopt appropriate data handling methods •Role play in helping others in information seeking & management •Need to keep systematic records •Importance of storing & sharing information/data ethically • Relevance of Freedom of Information to research activities •Need to curate and archive research data ethically •Importance of metadata •Role of professionals in advising with all aspects of info management	•Difference between summarising & synthesising •Different formats of writing / presentation styles •Data can be presented in different ways •Personal responsibility to store & share information & data •Personal responsibility to disseminate information & knowledge •How their work will be evaluated •Processes of publication •Concept of attribution •Individual can take an active part in creation of information through traditional publishing & digital technologies
Is able to:	**Is able to:**	**Is able to:**	**Is able to:**	**Is able to:**	**Is able to:**	**Is able to:**
•Identify a lack of knowledge in a subject area •Identify a search topic / question and define it using simple terminology •Articulate current knowledge on a topic •Recognise a need for information and data to achieve a specific end and define limits to the information need •Use background information to underpin research •Take personal responsibility for an information search •Manage time effectively to complete a search	•"Know what you don't know" to identify any information gaps •Identify which types of information will best meet the need •Identify the available search tools, such as general and subject specific resources at different levels •Identify different formats in which information may be provided •Demonstrate the ability to use new tools as they become available	· Scope their search question clearly and in appropriate language · Define a search strategy by using appropriate keywords and concepts, defining and setting limits · Select the most appropriate search tools · Identify controlled vocabularies and taxonomies to aid in searching if appropriate · Identify appropriate search techniques to use as necessary · Identify specialist search tools appropriate to each individual information need	•Use a range of retrieval tools & resources effectively •Construct complex searches appropriate to different digital & print resources •Access full text information •Use appropriate search techniques to collect new data •Keep up to date with new information •Engage with their community to share information •Identify when the information need has not been met •Use online & print help & can find personal & expert help	•Distinguish between different information resources •Choose suitable material on their search topic •Assess the quality, accuracy, relevance, bias, reputation & credibility of the resources found •Assess the credibility of the data gathered •Read critically, identifying key concepts & arguments •Relate the information found to the original search strategy •Cortically appraise & evaluate own findings •Know when to stop	•Use bibliographic software if appropriate to manage information •Cite printed & electronic resources using suitable referencing styles •Create appropriately formatted bibliographies •Demonstrate awareness of issues relating to the rights of others including ethics, data protection, copyright, plagiarism & other intellectual property issues •Meet standards of conduct for academic integrity •Use appropriate data management software & techniques to manage data	•Use the information & data found to address original question •Summarise documents and reports verbally & in writing •Incorporate new information into context of existing knowledge •Analyse & present data appropriately •Synthesise & appraise new & complex information from different sources •Communicate effectively using appropriate writing styles in a variety of formats •Communicate effectively verbally •Select appropriate publications & dissemination outlets in which to publish •Develop a personal profile in the community using appropriate personal networks &

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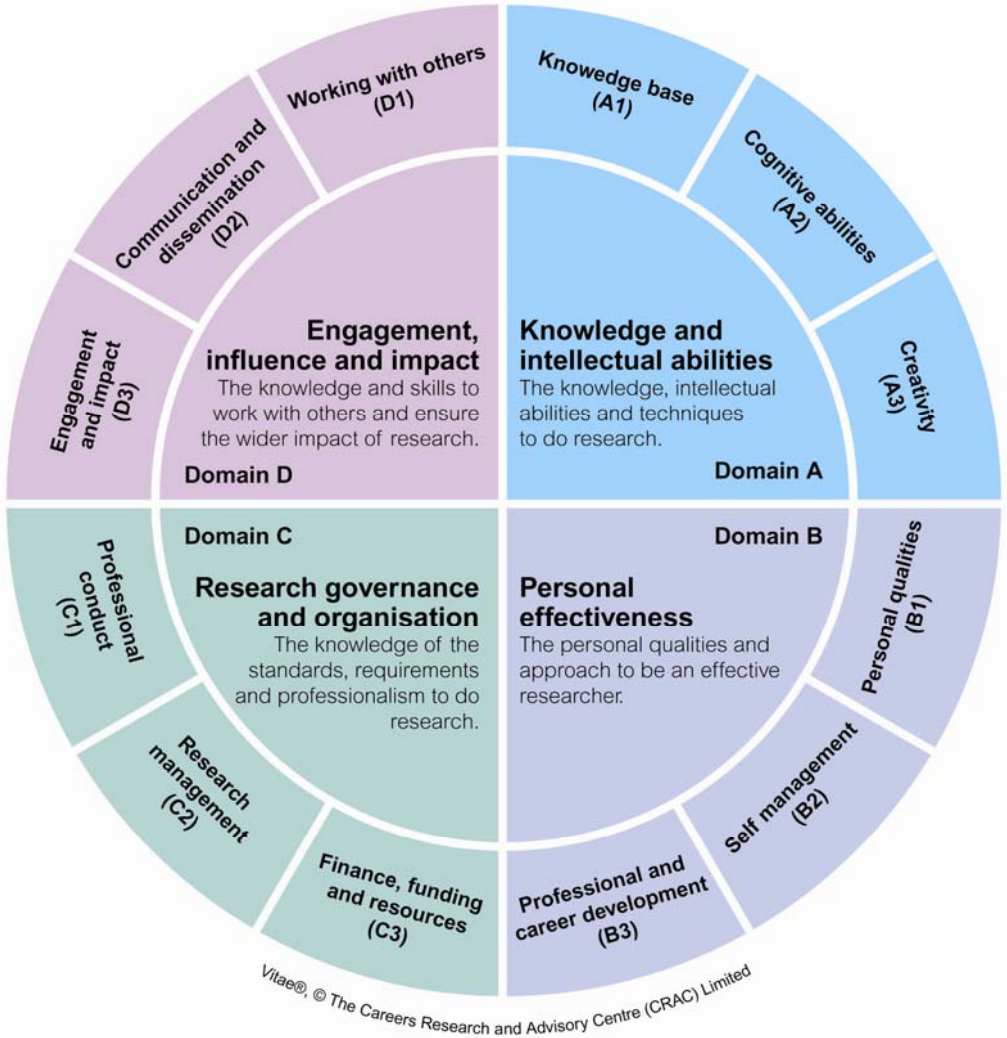
The Seven Pillars: Research Lens

Closely linked to the

Researcher Development Framework

Researcher Development Framework



RDF produced by Vitae after consultation with research community

- Tool for planning, promoting & inspiring researchers to achieve excellence
  - Supports personal, professional and career development of researchers in HE
  - Describes the knowledge, skills, behaviours and personal qualities of researchers

RDF recognises importance & place of information literacy in research process, especially in Domain A

- Information seeking
- Information literacy & management
- Synthesising
- Evaluating
- IPR/copyright
- Attribution/co-authorship
- Publication

Sub-domains and key descriptors	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
A1 Knowledge base					
1. Subject knowledge Seven Pillars: 1	Has, at least, core knowledge and basic understanding of key concepts, issues and history of thought. Knows of recent advances within own research area and in related areas. Is working towards making an original contribution to knowledge. Is developing awareness of international and non-academic dimensions of knowledge creation.	Develops detailed and thorough knowledge/understanding of own and related subject areas – and becomes familiar with associated areas in other disciplines/research areas. Situates knowledge in international context.		Stimulates new knowledge; may make outstanding breakthroughs. Considers multiple perspectives. Has deep and holistic understanding of strategic direction and intellectual developments of discipline/research area and its inter-relatedness with other disciplines/research areas. Uses this knowledge to enrich own discipline/research area. Contributes to the integrity and future health of the discipline/research area. Exercises international influence.	
2. Research methods - theoretical knowledge Seven Pillars: 2	Understands relevant research methodologies and techniques and their appropriate application within own research area. Justifies the principles and experimental techniques used in own research.	Appreciates the value of a range of standards and methods/techniques for information/data collection and analysis; assesses and demonstrates usefulness and validity of information/data in the context of a specific problem/question.	Combines and justifies methods/techniques in a flexible and rigorous manner designed specifically for the research investigation.	Recognises the value of alternative research paradigms and is able to work in and support others working in an inter-disciplinary way.	
3. Research methods – practical application Seven Pillars: 3, 4	Skilfully uses a range of research methods linked to study area; documents own activity. Shows growing competence in own subject area and is developing awareness of alternative methods/techniques.	Demonstrates further development of methods/techniques; confidently applies these in research. s and implements research using methods and tools appropriate to the task. Documents research processes.	Educates and guides others in the appropriate selection and use of research design, information/data collection, and information/data management analysis, and methods/techniques.	Creates new models and hypotheses, research designs, data collection and analysis techniques. Sets expectations for application of methods locally, regionally and internationally.	

http://www.rin.ac.uk/our-work/researcher-development-and-skills/researcher-development-framework

Sub-domains and key descriptors	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
A1 Knowledge base					
4. nformation seeking Seven Pillars: 2, 3, 4, 5	Acquires and develops search and discovery skills and techniques. Identifies and accesses appropriate bibliographical resources, archives and other sources of relevant information including web based resources, primary sources and repositories. Makes best use of a range of current tools and techniques. Assesses the reliability, reputation and relevance of sources. Seeks feedback from relevant groups to access other insights.	Conducts advanced and complex searches, using a range of sophisticated information software, resources and techniques; recognises their advantages and limitations. Recognises the importance of bibliometrics and citations.	Shows highly developed awareness of most appropriate sources for research. Uses a range of specialist print and on-line resources, as appropriate. Manages bibliometrics and citations to best advantage and with a high level of proficiency. Educates others in information/data seeking, accessing, evaluating and verifying techniques.		
5. Information literacy and management Seven Pillars: 2, 4, 6	s and executes systems for the acquisition and collation of information using information technology (e.g. word processing, spreadsheets, simulation systems, databases) appropriately. Develops awareness of information/data security and longevity issues. Knows where to obtain expert advice – i.e. information/data managers, archivists and librarians.	Develops a sustained awareness of the creation, organisation, validation, sharing, storing and curation of information/data and associated risks. Understands legal, ethical and security requirements involved in information/data management, especially over time. Has knowledge of purpose of metadata.	Advises and educates peers, less experienced researchers, students and staff in discipline/research area-specific information/data management techniques, data security, legal and ethical requirements.	Develops new techniques for information management. Keeps abreast of and anticipates trends in the design and use of information/data collection, analysis and preservation.	

Sub-domains and key descriptors	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
D2 Communication and dissemination					
2. Communication media Seven Pillars: 7	Develops skills in a range of communication means, e.g. face-to-face interaction using interactive technologies, and/or textual and visual media, where useful/necessary. Has a web presence as a researcher. Uses visual aids effectively in presentations.	Is confident in face-to-face interactions. Uses interactive communication technologies for networking, information/data sharing and promoting research presence. Engages with locally available media. Uses complex audio-visuals in presentations. Willingly learns additional skills.	Confidently uses e-resources. Establishes and leads virtual research environments. Collaborates and communicates research 'virtually'. Uses national/international media and web media. Continuously seeks self-improvement in terms of media usage. Educates, advises and guides others.	Maintains advanced level of knowledge and skill in interactive communication technologies. Has international media use and presence.	Is an institutional/disciplinary figurehead with global presence on key issues.
3. Publication Seven Pillars: 2, 5, 7	Understands the processes of publication and academic exploitation of research results. Produces some publishable material in print, electronic or other format. Is developing awareness of the range and diversity of outlets for publications.	Understands how research is evaluated and published in print, electronic or other format. Produces publishable material of high standard; may co-author/collaborate with others. Disseminates in a range of research, professional and public outlets.	Regularly publishes and is involved in editing/may be editor of national publication. Aims for the most prestigious publication in academic and non-academic outlets. Actively seeks collaborative and/or interdisciplinary partners; is lead author on co-authored outputs. Supports and enables less experienced researchers to publish. Willingly peer reviews publications.	Chooses to actively publish in a variety of outlets, sometimes solicited contributions; is involved in editing/is editor of international journal or other form of dissemination. Targets right journals/outlets to gain an 'extensive track record of high quality published research'.	Internationally and publicly renowned for publications. Serves on influential editorial boards.

Seven Pillars: Research

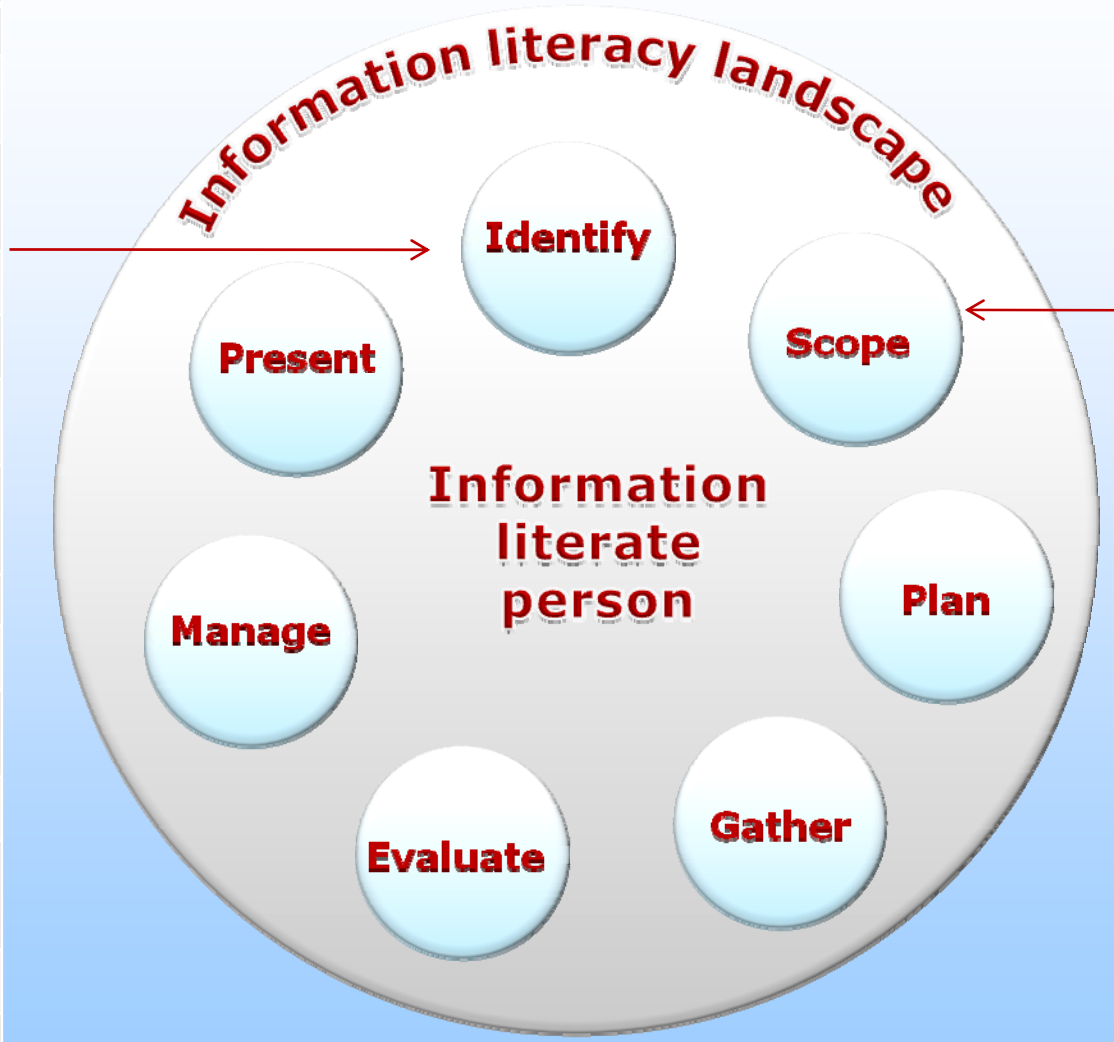
Identify

Understands:

- New knowledge & data is constantly being produced & there is always more to learn
- Being information literate involves developing a learning/research habit so new information is being actively sought all the time
- Ideas &opportunities are created by investigating/seeking information
- Scale of the world of published & unpublished information & data
- Different disciplines place greater emphasis on different types of information & data
- A researchers' need for information will vary depending on the task at hand, subject discipline & stage of research

Is able to:

- Identify a lack of knowledge in a subject area
- Identify a research topic / question and define it using simple terminology
- Articulate current knowledge on a topic
- Recognise a need for information and data to achieve a specific end and define limits to the information need
- Use background information to underpin research
- Take personal responsibility for research project
- Manage time effectively to complete a research project



Scope

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- What types of information are available
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- The publication process in terms of why individuals publish and the currency of information
- Issues of accessibility
- What services are available to help and how to access them

Is able to:

- "Know what you don't know" to identify any information gaps
- Identify the types of information required to meet the need
- Identify the available search tools, such as general and subject specific resources at different levels
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Understands:	**Understands:**	**Understands:**	**Understands:**	**Understands:**	**Understands:**	**Understands:**
▪ New knowledge & data is constantly being produced & that there is always more to ▪ Being information literate involves developing a learning / research habit so new information is being actively sought all the time ▪ Ideas and opportunities are created by investigating / seeking information ▪ Scale of the world of published and unpublished information and data ▪Different disciplines place greater emphasis ▪On different types of information & data ▪A researchers' need for information will vary depending on task at hand, subject discipline & stage of research	▪ What types of information are available ▪ The characteristics of the different types of information source & how they may be affected by format ▪ The processes for the dissemination of research outputs, including publication, in terms of how and why individuals make their research results known and the currency of information ▪ Issues of accessibility ▪What services are available to help & how to access them	•Range of searching techniques available •Differences between search tools •Why complex search strategies can make a difference to the breadth & depth of information found •Need to develop approaches to searching such that new tools are sought for each new question •The need to match data collection techniques to the circumstances •Need to revise keywords & adapt strategies •Value of controlled vocabularies & taxonomies in searching	•How information & data is organised •How libraries provide access to resources •How digital technologies are providing collaborative tools to create & share information •Issue involved in collecting new data •Different elements of a citation •Use of abstracts •Need to keep up to date •Difference between free & paid for resources •Risks involved in operating in a virtual world •Importance of appraising& evaluating search results	· The information and data landscape of their discipline and how their research fits in · Issues of quality, accuracy, relevance, bias, reputation and credibility relating to information and data sources · The importance of consistency in data collection · How the outputs of research are evaluated and disseminated, including the peer review process, publication, other forms of dissemination and research assessment · The relevance of citation and bibliometrics to their research context	•Their responsibility to be honest in all aspects of information handling & dissemination, e.g. copyright, plagiarism & intellectual property right issues •Need to adopt appropriate data handling methods •Role they play in helping others in information seeking & management •Need to keep systematic records •Importance of storing & sharing information & data ethically •The role of professionals, such as data managers and librarians, who can advise, assist and support with all aspects of information management	•Difference between summarising & synthesising •Different formats of writing / presentation styles •Data can be presented in different ways •Personal responsibility to store & share information & data •Personal responsibility to disseminate information & knowledge •How their research outputs will be peer reviewed, evaluated and disseminated •Processes of publication •Concept of attribution •Individual can take an active part in creation of information through traditional publishing & digital technologies
Is able to:	**Is able to:**	**Is able to:**	**Is able to:**	**Is able to:**	**Is able to:**	**Is able to:**
▪ Identify a lack of knowledge in a subject area ▪ Identify a research topic / question and define it using simple terminology ▪ Articulate current knowledge on a topic ▪ Recognise a need for information and data to achieve a specific end and define limits to the information need ▪ Use background information to underpin research ▪ Take personal responsibility for a research project ▪ Manage own time effectively to complete a research project	▪ "Know what you don't know" to identify any information gaps ▪ Identify which types of information will best meet the need ▪ Identify the available search tools, such as general and subject specific resources at different levels ▪Identify different data collection methods ▪Identify different formats in which information may be provided •Demonstrate the ability to use new tools as they become available	•Scope their search question clearly & in appropriate language •Define a search strategy by using appropriate keywords & concepts, defining & setting limits •Select the most appropriate search tools •Identify controlled vocabularies and taxonomies to aid in searching •Identify appropriate search techniques (e.g. from finding contents pages and indexes to complex data mining) •Identify specialist search tools appropriate to each individual information need	•Use a range of retrieval tools & resources effectively •Construct complex searches appropriate to different digital & print resources •Translate the search strategy to work in different resources •Redefine a search strategy based on previous result sets •Sort and manipulate results sets •Access full text information •Use appropriate search techniques to collect raw data •Keep up to date with new information •Engage with their community to share information •Identify when the	•Distinguish between different information resources •Choose suitable material on their search topic •Assess the quality, accuracy, relevance, bias, reputation & credibility of the resources found •Assess the credibility of the data gathered •Read critically, identifying key concepts & arguments •Relate the information found to the original search strategy •Critically appraise & evaluate own findings •Know when to stop •Use citation metrics as an evaluative technique (e.g. citation counting, journal impact factors,	•Use bibliographic software if appropriate to manage information •Cite printed & electronic resources using suitable referencing styles •Create appropriately formatted bibliographies •Demonstrate awareness of issues relating to the rights of others including ethics, data protection, copyright, plagiarism & other intellectual property issues •Set & meet standards of conduct for academic integrity •Identify data curation opportunities to ensure that research data is ethically stored for re-use in other projects •Use appropriate data	•Use the information & data found to address original question •Summarise documents and reports verbally & in writing •Incorporate new information into context of existing knowledge •Analyse & present data appropriately •Synthesise & appraise new & complex information from different sources •Communicate effectively using appropriate writing styles in a variety of formats •Communicate effectively verbally •Select appropriate publications & dissemination outlets in which to publish

The Seven Pillars & You

- What are your thoughts on the revised model?
- Can you envisage using it in your institution?
- What other lens would you like to see developed?
  - Undergraduate
  - Secondary School
  - Further education
  - Academic staff
  - Work based