



Information Literacy in the Workplace

An annotated bibliography.

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Summary

This report summarises the outcomes of literature-based research undertaken by IMaGeS¹ at Robert Gordon University as a contribution to the work of InformAll² on the relevance of IL in the workplace.

The research specifically addressed two key issues:

- How should we describe information literacy within workplace settings? What are the priority/key information skills and abilities related to the effective use of information in the workplace?
- Is there any evidence of the value and/or impact of information literacy in the workplace?

English language publications spanning the last 15 years were examined in relation to these questions. The analysis was restricted to publications which addressed IL and/or information use in the workplace. It was beyond the scope of this research to examine the wider range of material in associated areas such as learning and decision-making in the workplace: while such material could offer scope for a wider examination of the contexts within which information is used, the objective in this study was primarily to explore the ways in which IL is described (e.g. language used, priority skills areas, etc) in workplace settings and how this compares with more generic descriptions, and whether there is any evidence of the value and impact of information literacy in workplace settings.

This summary highlights the main findings with reference (by item number) to some of the specific contributions made by the 41 items in the accompanying table. The annotations in the table provide a brief summary of the content of each item. Notes are also provided in the right-hand column where the publications refers explicitly to the definition of IL.

How is information literacy described within a workplace setting?

Most of the literature on workplace based IL research and/or practice sets out to explore the phenomenon of IL in the workplace but does not attempt to define IL for the workplace. Some

¹ www.rgu.ac.uk/images

² www.informall.org.uk

authors (e.g. 6, 9, 11, 18, 20, 21, 40) retain the generic descriptions (e.g. ACRL, SCONUL, etc) in their research design, analysis and/or descriptions of skills and activity in workplace settings. However Kirk (19) and Lloyd (22, 23) provide more contextualised definitions and/or additional perspectives which their research suggests are more reflective of workplace IL:

Kirk (19): “five qualitatively different ways of experiencing the [information] phenomenon: packaging information, enabling the flow of information, developing new knowledge and insights, shaping judgements and decisions and influencing other.”

Lloyd (22):

“An information literate person has a deep awareness, connection, and fluency with the information environment. Information literate people are engaged, enabled, enriched, and embodied by social, procedural, and physical information that constitutes an information universe. Information literacy is a way of knowing that universe.”

Lloyd (23):

Information literacy practice is defined as: “Knowledge of information sources within an environment and an understanding of how these sources and the activities used to access them are constructed through discourse. Information literacy is constituted through the connections that exist between people, artefacts, texts and bodily experiences that enable individuals to develop both subjective and intersubjective positions. Information literacy is a way of knowing the many environments that constitute an individual being in the world. (Lloyd, 2010, p. 26)”

Although still reflecting to some extent the generic models of IL, Sen & Taylor (27) also provide a more contextualised definition specifically of corporate information competence which they define as “a company or organization having information management skills and systems to support business strategy and operations: generating, gathering, analysing, disseminating and using appropriate information effectively, ensuring information security, validity and integrity.” In contrast O’Farrill (31) argues for a move away from specific IL which he feels is unproductive in understanding the embedded nature of information use. His definition of literacy is “The progressive development of competences for becoming aware of, accessing, critically interpreting and effectively using a variety of languages, codes, semiotic resources and technological affordances as tools for learning, communication, and sense-making in situated social practices.”

While there is no single definitive description of workplace IL, in comparison with many of the generic definitions and models these contextualised descriptions all tend to place much greater emphasis on:

- social, informal, contextualised processing of information (e.g. 19, 23, 26, 28);
- the transformation of information to knowledge (e.g. 24);
- information creation, packaging, and organisation ((e.g. 1, 16, 29).

These priority/key aspects of information use and ability contrast with the focus on more formal search skills and finding information which has often been the case in IL education and which is unlikely to translate well into workplace contexts. The nature of the sources used in workplace and professional contexts also differs from sources emphasised in traditional IL education: in the workplace a much greater prominence is given to the use of people as information sources (e.g. colleagues, contacts) and relatively little use of libraries (e.g. 9, 40). The interpretation of IL as a narrow skills-based approach is criticised as being inappropriate for the workplace (e.g. 24, 26, 29).

Criticisms of generic models centre around the equal weighting given to all skills/activity areas – in the workplace not everyone deals with the whole range of skills expressed in generic models. Different levels of staff may have different needs: for example, junior employees may not need to search for information in relation to their role within the organisation; for many information processing is a team and/or shared activity; different work contexts within the same organisation may need/emphasise different aspects of IL (e.g. 14, 16). The importance of the social and shared nature of information use is not reflected to the same extent in the generic models. Experience and motivations towards information tasks can also differ from educational contexts: a new project is more likely to be seen as a challenge rather than the daunting experience sometimes described in school or university settings.

Information literacy is not generally recognised as a term in the workplace. “Effective use of information” is preferred as a term by some (32, 36, 41) while Lloyd prefers to talk of “information literacy practice” (23) recognising the embedding of information use within the activities and experiences which constitute any working environment. The term i-Skills has been used (e.g. 16, 18) but places emphasis more narrowly on skills and can be misunderstood by business as being focussed on ICT skills. Hepworth & Smith (16) found that the JISC i-skills model did not adequately

cover the range of themes emerging in their analysis of information use by non-academic departments in an HE environment.

Is there research evidence of the value and/or impact of information literacy in the workplace?

Participants in studies (e.g. 11, 14, 21, 38) often say IL is important but there have been few attempts to assess impact of IL. Value is often expressed in terms of enhanced efficiency and/or reduction in the costs to business associated with lack of efficient information search and use. Its value is also seen as: a core competence underpinning KM (1, 7, 32), environmental scanning (41) and staying up-to-date (14); important to company-wide knowledge sharing (6); overcoming information overload (24); improved information resilience leading to more effective problem solving and coping with new/changing demands (24); a support for organisational learning (22); leading to “deeper awareness” (Lloyd 22) and an awareness of the central value of knowledge in the workplace (24). It is associated variously with success in the marketplace (14); better business communication (18); increased organisational competitiveness and profitability (4, quoting Drucker, 1994); shaping judgements and decisions (19); economic development and SME resilience (37). Sen & Taylor (37) identify corporate information competence as a critical success factor for SMEs.

Despite these many descriptions of value, actual hard evidence of impact of IL is scarce in the literature. DeSaulles (11) provides one of the few pieces of hard evidence in his 2007 analysis of the impact of lack of IL within SME environments with his conservative estimate of £3.7 billion per year (and likely to be much higher) as the cost to SMEs of inefficient searching for information. Gasteen & O’Sullivan (14) describe impact of IL within a law firm as impacting on its success in the market place and its ability to maximise its profit, although this impact is not quantified. Although not strictly addressing the impact of IL, Grieves (15) has been included in the list as a key early attempt to assess impact of the use of information. The findings quantify the views of staff in 5 sectors (banking, pharma, government departments, insurance and physiotherapy) of the impact of their use of information on decision-making processes, and subsequent avoidance of loss of time and funds. However the study did not set out to assess impact of information in relation to levels of IL and so, while useful in demonstrating the overall impact and value of information, this evidence does not directly demonstrate impact of IL.

Greater evidence of impact of IL, expressed in terms that relate to industry and professional priority areas is urgently needed if business, government and professions are to be convinced of the

relevance and significance of IL. The need for more outcomes-based evidence of impact is also currently being recognised in other fields of information research (e.g. Stenton et al, 2012. Exploring and modelling elements of information management that contribute towards making positive impacts: An outcome based approach for senior managers in a local government setting. *International Journal of Information Management*, 3(2), pp. 158-163; Gainor & Bouthillier, 2014. Conceptualizing outcome and impact measures for intelligence services. *Information Research*, 19(4), March). Together with earlier examples of impact research such as Grieves (15) this indicates a long-term recognition of the need to be able to express impact in terms that will be understood outwith the world of information science.

The ability to evidence the impact of IL in terms of, for example, business success, organisational competitiveness, profitability, resilience, effective decision-making, is a key to more effective communication with industry and professions. Until we have that clear evidence the most useful ways to reach leaders and employers may be to draw on some of the “value” statements in the literature which go some way to making the link with priorities they are likely to recognise.

	Publication	Key points in relation to information literacy in the workplace	Definition of information literacy in the workplace
1.	Abell, A. and Oxbrow, N., 2001. <i>Competing with Knowledge: the Information Professional in the Knowledge Management Age</i> . First edn. London, UK: Library Association Publishing.	<ul style="list-style-type: none"> • A Knowledge Management text aimed at the library and information science profession. • A whole chapter on information literacy – <i>Information Literacy – A core competence</i>. • Highlights the importance of effective information use and information literacy within business. • More research is needed. • “A great deal of attention has been paid to the development of “computer literacy”, and computer literacy is now a core skill for many posts. The focus is on the ability to use computers and standard software applications, but stops short of being able to structure, find, evaluate and use the information to which a computer provides access.” (p. 131) • “IT literacy has had a high priority for a number of years in order that everyone can use IT tools as part of everyday working practice. The same attention to the integration of sound information management practice is required.” (p. 142) • Organisations have mostly focused on knowledge-sharing behaviours and the capacity to manage and survive, but as they become more adept at these they are recognising that the next step in skills development is information literacy (p. 141). 	<ul style="list-style-type: none"> • “Information Literacy combines an awareness of the value of information and knowledge to the organisation with the skills and competencies that enable an individual to play a full, effective and rewarding role in knowledge environments (TFPL, unpublished, 1999).” (p. 132) • “The ability to create, store, access and use information is essential to everyone working in a knowledge-based environment.” (p. 132)
2.	Bruce, C. S., 1999. Workplace experiences of information literacy. <i>International Journal of Information Management</i> , 19(1), pp. 33-47.	<ul style="list-style-type: none"> • “Drucker (1992) discusses the need for organisations to become information literate. He suggests that corporations need to learn to ask questions such as: What information do we need in this company? When do we need it? In what form? How do we get it?; and then to ask further questions related to the impact of information received.” (p. 34) • Summarises an investigation into the experience of information literacy amongst professionals within Australian universities: librarians & IT, 	<ul style="list-style-type: none"> • “Information literacy is about peoples’ ability to operate effectively in an information society. This involves critical thinking, an awareness of personal and professional ethics, information evaluation, conceptualising information needs, organising information, interacting with information professionals and making effective use of information in problem-solving, decision-making

		<p>counsellors and staff developers, and engineering, music, business and architecture academics.</p> <ul style="list-style-type: none"> • Explores the differences between individual and organisational information literacy. • The study revealed a picture of the phenomenon characterised by: varying emphases on technology; the capacity to engage in professional responsibilities; social collaboration or interdependence between colleagues; need for partnership of information intermediaries; intellectual manipulation of information. • The research identified Seven Faces of (or ways of experiencing) information literacy in the workplace, described as experiences of: information technology, information sources, information process, information control, knowledge construction, knowledge extension, and the wisdom experience. • These experiences are linked to workplace processes of: environmental scanning; provision of inhouse and external information resources and services; information processing (packaging for internal/external consumption); information/records management and archiving; corporate memory; research and development; professional ethics/codes of conduct. • Suggests new directions for information literacy education based on this model. 	<p>and research. It is these information based processes which are crucial to the character of learning organisations and which need to be supported by the organisation’s technology infrastructure.” (p.46)</p> <ul style="list-style-type: none"> • The research identified Seven Faces of (or ways of experiencing) information literacy in the workplace, described as experiences of: information technology, information sources, information process, information control, knowledge construction, knowledge extension, and the wisdom experience.
3.	<p>Bruce, C. S., 2011. Information literacy programs and research: reflections on ‘Information literacy programs and research: An international review’ by Christine Bruce. 2000. <i>The Australian Library Journal</i>, 60(4), pp. 334-338.</p>	<ul style="list-style-type: none"> • The main foci of the paper are: an exploration of ways of interpreting information literacy from the literature (including a number of definitions and mention of information literacy standards and staff development models); a synthesis of new directions in educational, community and workplace contexts; an introduction to recent research, concluding with the Bruce’s own investigation on professionals’ experiences of information literacy. • Under explorations of the workplace, Bruce mentions Gasteen and O’Sullivan’s report on the development of an Information Literacy 	<ul style="list-style-type: none"> • “My own research...leads me to conclude that: IL, like phenomena such as teaching and learning, does not have a life of its own, rather it is a way of thinking and reasoning about aspects of subject matter. (Bruce, 1997)” (p.327)

		<p>Strategy for the legal firm Blake, Dawson and Waldron. “Their strategy is based on the argument that ‘...a firm’s information literacy, on an organisational level, impacts on its success in the market place’ and revolves around the library, important resources such as precedents and their Infobank database, as well as human resources and training. Gasteen and O’Sullivan have also developed a ‘profile of an information literate law firm’” (p. 328). She also mentions Cheuk’s work researching information literacy experiences of auditors and engineers and the resulting “workplace-based, recursive model of information literacy that challenges a number of conventional assumptions” (p. 328). Cheuk “suggests that, in the workplace, information seeking is often by trial and error; is not ‘getting the answer’; is not linear; is not a one man job; & that relevance criteria change.” (pp. 328-329)</p> <ul style="list-style-type: none"> • Bruce discusses the Seven Faces of Information Literacy (see above Bruce, 1999) and the model’s use in education and training programmes. 	
4.	<p>Cheuk Wai-Yi, B., 1998. An information seeking and using process model in the workplace: a constructivist approach. <i>Asian Libraries</i>, 7(12), pp. 375-390.</p>	<ul style="list-style-type: none"> • An in-depth case study of auditors and their experiences of seeking and using information in their work. These findings are part of a larger study which also examines engineers and architects. • Cheuk Wai-Yi recognises that information literacy is an essential criterion of the contemporary workforce (and therefore organisation). • “Having the competence to use information effectively (i.e. information literacy) has been suggested by business gurus as essential to increase organisational competitiveness and profitability (Drucker, 1994; Grainger, 1994; Senge, 1994).” (p. 375) 	
5.	<p>Cheuk, B., 2000. Exploring information literacy in the workplace: a process approach. In: C. BRUCE and P. CANDY, eds, <i>Information Literacy Around the</i></p>	<p>SAME STUDY AS ABOVE - Cheuk Wai-Yi, B., 1998</p> <ul style="list-style-type: none"> • Moves away from the experts’ perspective and adopts a user-centred approach to explore information literacy in the workplace. • Examines auditors’ information seeking and use strategies to address 	

	<p><i>World: Advances in Programs and Research</i>. First edn. Wagga Wagga, New South Wales, Australia: Centre for Information Studies, Charles Strut University, pp. 177-191.</p>	<p>the question of “what kind of processes do employees naturally experience in seeking and using information in the workplace when completing their work tasks?” (p. 178).</p> <ul style="list-style-type: none"> • Addressing this research question will enable improvements to the design of practical information literacy education. 	
6.	<p>Cheuk, B., 2002. Information literacy in the workplace context: issues, best practices and challenges. <i>White paper prepared for UNESCO, The US National Commission on Libraries and Information Science, and the National Forum on Information Literacy, for use at the Information Literacy Meeting of Experts, Prague, The Czech Republic</i>.</p>	<ul style="list-style-type: none"> • The paper discusses a number of cases studies based on observation in Singapore, Hong Kong and USA, e.g. Buckman Laboratories, Chrysler Corp., and Hewlett-Packard. • The concept of Knowledge Management (KM) in relation to information literacy is discussed with a focus on “how critical information literacy is to allow companies to reap actual benefits from promoting company-wide knowledge creation, sharing and using”. • Highlights best practices and barriers to encouraging information literacy in the workplace. • Information literacy in the workplace is critical as workers now and in the future are expected to access, manage and use the ever increasing volume of information that is supplied in an array of formats through a variety of channels. • A workforce who is not information literate will cost the business, e.g. reduction in operational efficiency and business opportunities. Highlights inefficiencies due to a lack of information literacy skills in the workforce. • Business leaders are beginning to realise the need to develop their employees’ information literacy skills. • Importance of language as information literacy is not a familiar phrase in the workplace and the language used can act as a barrier. 	<ul style="list-style-type: none"> • “A set of abilities for employees to recognize when information is needed and to locate, evaluate, organize and use information effectively, as well as the abilities to create, package and present information effectively to the intended audience”.
7.	<p>Cheuk, B., 2008. Delivering business value through information literacy in the workplace. <i>Libri</i>, 58(3), pp. 137-</p>	<ul style="list-style-type: none"> • Presents a case study of how information literacy is introduced into the workplace context. • “The modern workplace requires employees who are <i>confident</i> and <i>competent</i> in interacting with information to deliver maximum business 	<ul style="list-style-type: none"> • “A set of abilities for employees to recognize when information is needed and to locate, evaluate, organize and use information effectively, as well as the abilities to create, package and present

	143.	<p>value.” (p. 137)</p> <ul style="list-style-type: none"> • The case study company recognises “‘information literacy’ as a critical component of its knowledge management program to create value for the company” (p. 137). • Importance of language as information literacy is not a familiar phrase in the workplace. • Information literacy is acknowledged as having added critical business value to the case study organisation. 	<p>information effectively to the intended audience. Simply speaking, it is a set of abilities for employees to interact with information when they need to address any business issues or problems at work.” (p. 139)</p>
8.	<p>Conley, T.M. and Gil, E.L., 2011. Information Literacy for Undergraduate Business Students: Examining Value, Relevancy, and Implications for the New Century. <i>Journal of Business & Finance Librarianship</i>, 16(3), pp. 213-228.</p>	<ul style="list-style-type: none"> • Considers the business relevance of information literacy and the importance for undergraduate business students. • Survey of business professionals (recruiters and employers) for “their opinion and insight regarding information literacy in the workplace, as a job description element and their perceptions of student competencies in this area” (p. 220). • Business professionals were not generally familiar with the term information literacy, but after an explanation was provided they were able to recognise and value its processes. • Calls for further research to: <ul style="list-style-type: none"> • establish any significance or understandable differences between information literacy and critical thinking from business professionals, and as a result develop “discussions between librarians and faculty to be able to cover information literacy beyond retrieving and locating information in the classroom” (p. 224); and • build practitioner evidence on their perceived value of information literacy. 	<p>Various descriptions of information literacy, including:</p> <ul style="list-style-type: none"> • ““We need to make ourselves and our businesses information literate” (p. 7). He said that executives need different types of information from secondary sources for them to be able to identify environmental threats and opportunities that will affect their industry. Sources such as the government, trade associations, and data banks need to be utilized, and the information structured into an information system that can be drawn on by executives to make business decisions and set business strategy (Drucker, 1995). One can clearly recognize elements of information literacy behind Drucker’s ideas.” (p. 215) • “Mutch (1997) suggested that information literacy might be the way of organizing skills workers need to deal with the overload of data with which they are confronted, thus creating a framework by which to make better decisions.” (p. 215) • “She defined information literacy as follows: “Information literacy . . . involves critical thinking,

			an awareness of personal and professional ethics, information evaluation, conceptualising information needs, organising information, interacting with information professionals and making effective use of information in problem-solving, decision-making and research” (p. 46).” (p. 215)
9.	Crawford, J. and Irving, C., 2009. Information literacy in the workplace: A qualitative exploratory study. <i>Journal of Librarianship and Information Science</i> , 41(1), pp. 29-38.	<ul style="list-style-type: none"> • The work describes findings of an exploratory interview-based study resulting from a review of the literature on workplace learning. • The literature identified a number of differing views or characteristics of workplace learning, including but not limited to: the importance of reflective practice; learning embedded within a community of practice; learning that is situated and re-situated, depending on social relationships between a number of communities of practice; the importance of transferability of skills between organisational contexts; and the idea of learning from practice and mistakes. • The authors identified the implication of the review for information literacy development and training in the workplace. • Interviews were conducted with care home staff, civil service tribunal service staff, Scottish Government civil servants, NHS and social work staff investigating their information usage. They varied in their approaches to information problems depending on the qualifications and experience. • The interviews confirmed the literature view that human sources of information are most important, both as authoritative sources of information and an interaction from which new knowledge grows. Interviewees were able to evaluate sources of information whether from people, printed or electronic sources. They had an implicit rather than explicit understanding of information literacy and described it in terms of their own qualifications, experiences and information needs. 	<ul style="list-style-type: none"> • The research used the CILIP definition of information literacy for interviewees.

		<ul style="list-style-type: none"> • Libraries were less obvious sources of information, except for NHS interviewees, but organisations had their own information policies based on its staff, internal sources and a small range of printed sources or contacts. A few interviewees regarded pre-existing policies as potentially limiting. • Training which includes some information literacy aspects were found to be useful (e.g. NHS eLibrary), but needs to be targeted to subject and job requirements not generic. Both subject and job context are factors in the levels of information literacy activity. • The researchers found difficulties recruiting private sector interviewees, but anecdotal evidence is that training is valued in terms of immediate tangible benefits to improve productivity and output. 	
10.	Crawford, J. and Irving, C., 2013. <i>Information literacy and lifelong learning : policy issues, the workplace, health and public libraries</i> . Oxford: Chandos Publishing.	<ul style="list-style-type: none"> • Split into three parts: Overview; Specific Areas; and Policymaking Issues for the Future. • Overview: a history of information policy, including information literacy policy; highlights pertinent international policy documents; and the significant of information literacy in early years. • Specific Area: examines information literacy activity outside of education, including in government, health, public libraries; how to redefine information literacy for the workplace; and a chapter on value and impact. • Policymaking Issues for the Future: draws out key points and policy issues; how fundamental it is to have national information literacy policies; and the need for greater collaboration. • Includes case studies and examples of good practice. 	
11.	De Saulles, M., 2007. Information literacy amongst UK SME: an information policy gap. <i>Aslib Proceedings</i> , 59(1), pp. 68-79.	<ul style="list-style-type: none"> • Explores information literacy amongst SMEs in the UK and the USA. • Primary and secondary data. The results of a survey of UK SMEs were compared to similar surveys undertaken in the USA. In addition, UK policy documents were analysed to determine how government policy addressed information literacy amongst SMEs. 	<ul style="list-style-type: none"> • References a definition of workplace information literacy from Cheuk (2002). “[...] information literacy in the workplace context is defined as a set of abilities for employees to recognise when information is needed and to locate, evaluate,

		<ul style="list-style-type: none"> • Asserts that information illiterate employees are costing organisations millions of pounds through time wasted through inefficient search strategies, lack of awareness of the range sources, and lack of evaluation skills. Drawing on a range of sources from reputable data collection bodies, and focussing on use internet by SMEs as a main information source, de Saullés calculates cost of inefficient searching for information by SMEs in the UK (page 75, Table 1). From the findings “...it is conservatively estimated that £3.7 billion is spent by SMEs in the UK on time wasted looking for information that they cannot find” (page 75). • UK public policy has focused on the development of the technology skills of the workforce and the utilisation of broadband internet connections by companies, rather than supporting these workers to gain a better understanding of how they find and use the information that is provided by the technology. • As the volume of information employees must navigate grows, the need for an information literate workforce becomes increasingly critical. 	<p>organize and use information effectively, as well as the abilities to create, package and present information effectively to the intended audience (Cheuk 2002, p. 2).”</p>
12.	<p>Donnelly, A. and Craddock, C., 2002. Information Literacy at Unilever R&D. <i>Library and Information Update</i> 1.</p>	<ul style="list-style-type: none"> • A workplace study of scientists at Unilever, a multinational consumer goods company. Following the identification of the need for information skills development, an information literacy programme was delivered to staff at two UK research centres. • Concern about the need for improved information literacy amongst those entering the workplace. • Highlights the importance of information literacy in the workplace and the critical role it plays in the optimum use of information. • Previous assumptions that users were adequately prepared for the workplace due to experience in higher education were found to be incorrect and Donnelly and Craddock note “we were wrong in assuming that employees necessarily bring to the workplace the skills they need to work effectively” (p. 40). • While the information literacy programme was well received by 	

		<p>staff, the preliminary findings highlighted the importance of adapting the programme for each individual project team and their specific information needs.</p> <ul style="list-style-type: none"> • The impact of “new and effective information skills” on work performance was promoted as benefit to employees. 	
13.	<p>Fiegen, A.M., 2011. Business Information Literacy: A Synthesis for Best Practices. <i>Journal of Business & Finance Librarianship</i>, 16(4), pp. 267-288.</p>	<ul style="list-style-type: none"> • A literature review focusing on 15 high quality articles by academic business librarians to examine “evidence-based literature of business information research instruction to synthesize best practices and so to serve as a guide when planning and delivering information literacy instruction to business students. For each study six components were extracts: <ol style="list-style-type: none"> 1. Study objectives and research questions 2. Study characteristics (institution type, course, and population studied) 3. The theory, standard, model, or significant author cited in the study 4. The instruction method and assessment instruments used 5. Results or outcomes of the study 6. Recommendations for future research” (p. 268) • The author indicates useful research to guide information literacy instructional practice for business students, synthesises best practices, and make suggestions for future research (more longitudinal studies for example). • Best practices include: alliances with faculty; collaborative planning; targeting specific instruction for specific business classes; use of conceptual models; adapting rubrics to measure learning outcomes. 	
14.	<p>Gasteen, G. and O’Sullivan C., 2000. Working towards an information literate law firm. In: C. BRUCE and P.</p>	<ul style="list-style-type: none"> • Lawyers are recognised as working within an information heavy profession and information literacy is therefore critical to the professional skills of a lawyer. It is acknowledged that what information 	<ul style="list-style-type: none"> • “For a law firm, being information literate means that staff have the capacity to stay up-to-date and give timely, correct, and relevant legal advice. It means that information produced by the firm, and

	<p>CANDY, eds, <i>Information Literacy Around the World: Advances in Programs and Research</i>. First edn. Wagga Wagga, New South Wales, Australia: Centre for Information Studies, Charles Strut University, pp. 109-120.</p>	<p>literacy means to a lawyer is very similar to any other profession in that they recognise the impact of information on their job and know how to find, evaluate, synthesise and use information, but possibly what differentiates lawyers is the significance of accurate and timely information, and the “extent to which lifelong learning is more than an admirable goal, but a necessity” (p. 112).</p> <ul style="list-style-type: none"> • Gasteen and O’Sullivan profile an information literate law firm, exploring both what it means to be an information literate law firm and what it means to be an information literate lawyer. They highlight that possibly most crucial to being an information literate law firm is having information literate staff. The information literacy strategy of the firm is examined, gaps identified and recommendations for the future identified. • The impact of information literacy with the business is demonstrated as being wide reaching and should be a priority for the whole organisation. Gasteen and O’Sullivan note that a “firm’s information literacy on an <i>organisational</i> level impacts on its success in the market place” (p. 110). 	<p>knowledge held by individuals, is captured and reused. It means that the firm knows how it makes a profit and uses its structures and procedures to maximise profit for the future. It means that staff understand what information and knowledge means to the firm and that the firm enables and encourages them to do their job efficiently. Perhaps most importantly, being an information literate law firm also means having information literate staff.” (p. 112)</p> <ul style="list-style-type: none"> • “In brief, information literacy to an individual lawyer means much the same as it does to any other professional. It means that they know how information impacts on their job, that they know how to find appropriate information, how to analyse it, and how to manipulate it and use it for specific purpose. It also means that they know how to store information for reuse for another purpose. Perhaps what distinguishes lawyers from many other professionals is the extent to which accurate and timely information is central to their work, and the extent to which lifelong learning is more than an admirable goal, but a necessity.” (p. 112)
15.	<p>Grievess, M., 1998. The impact of information use on decision making: studies in five sectors - introduction, summary and conclusions. <i>Library Management</i>, 19(2), pp. 78-85.</p>	<ul style="list-style-type: none"> • The article provides an overview of several studies examining information use in decision making in the UK with some comparison with similar work in Canada. A critical incident approach was used whereby participants described an incident when “information was required and sought to enable a decision to be taken” (p. 78). • The studies centred on banking (mainly retail), government 	

		<p>departments, insurance, pharmaceutical industry (mainly researchers), and physiotherapists. The different groups had differing access to library/information resources and used differing sources of information (colleagues, books/journals, personal files).</p> <ul style="list-style-type: none"> • The value and attitudes to information sought by the different groups is summarised under the following headings: information of value and increased confidence in decision, information led to better informed decision making, handled the decision-making process differently, information provided new knowledge, information substantiated prior knowledge, information refreshed memory of detail or facts, information added a new dimension, saved time, contact with information centre weekly or monthly. (p. 80) • The studies also sought data on delegation of the information seeking process reflecting different working patterns and decision-making processes. • The author reported the extent to which information requested positively affected activities, including: proceed to the next step, deciding on a course of action, improving a procedure or a policy, improving relations with a client, approving funding, exploiting new opportunities, improving the image of the institution, positive changes in patient care (choice of drugs, care or treatment advice), or avoiding a poor decision, avoiding a waste of human resources, avoiding the loss of time/funds/client, avoiding conflict within and outwith the organisation. • The overall responses tended to reflect the type of work context and decisions being made. • The article provides a methodology for assessing the impact of information on decision making in the workplace. 	
16.	Hepworth, M. and Smith, M., 2008. Workplace information literacy for	<ul style="list-style-type: none"> • A report on a joint exploratory study between Leeds and Loughborough Universities looking at the information literacy of non academic staff in 	

<p>administrative staff in higher education. <i>Australian Library Journal</i>, 57(3), pp. 212-236.</p>	<p>the Finance and Research Departments. The study sought to identify information intensive situations experienced in the workplace; to explore the situations and review staffs' knowledge and skills associated with managing information; and to compare them with information literacy headings in the JISC i-skills model of: identifies and information need; assesses the information need; retrieves information; evaluates information critically; adapts information; organises information; communicates information; and reviews the process.</p> <ul style="list-style-type: none"> • The study was qualitative using an information audit, interviews and focus groups with eleven staff. The interview instruments/questions are provided as appendices. • Findings indicated that work environment i-skills are different from academic context of the i-skills model. Although the headings are recognisable, they do not adequately reflect the information experiences of participants. • The information need was often given and clearly defined; information used was likely to be primary data found in established systems. Validation of information tended to use professional training. There was scope for adapting information in the form of analysing, collating and then manipulating data. Organising information (using files and folders) was a common cause of concern due to time constraints and difficulties anticipating future needs. Communicating information was often more prescribed and in a variety of formats. Reviewing the process tended to centre on task checking rather than reflecting on the process. • Themes identified that are not explicit in the i-skills model were: time management and information overload; social networking; and team working. • Different levels of staff were identified to have different i-skills requirements and the two work contexts (finance and research) were also found to have different emphasis on i-skills usage. 	
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17.	<p>Hepworth, M. and Walton, G. (eds) 2013. <i>Developing people's information capabilities: fostering information literacy in educational, workplace and community contexts</i>. Bingley: Emerald Group Publishing Ltd.</p>	<ul style="list-style-type: none"> • The book is split into four broad areas, ranging from the strategic to the highly contextualised: strategic view; delivering information literacy education; the link between university and work; and beyond higher education. • The significance of “context and the need to understand and develop these capabilities within a given milieu” is a recurrent idea in the book (p. 2). • Authors examine the transferability of the skills learned by graduates to the workplace and whether the value of these information literacy skills for the workplace is appreciated by graduates. • In the modern information-rich workplace, inadequate functional information literacy in workers results in a noticeably less efficient workforce. Graduates must leave university with the necessary skills to survive in the information intensive workplace. 	
18.	<p>Katz, I. R., Haras, C. and Blaszczynski, C., 2010. Does business writing require information literacy? <i>Business Communication Quarterly</i>, 73(2), pp. 135-149.</p>	<ul style="list-style-type: none"> • Research investigating the extent to which a commercially available iSkills information literacy assessment is a useful means of informing instruction in the critical business communication skill of business writing. (p. 136) • The electronic test presents scenario-based tasks representing communication assignments in a business course. • A sample of 152 students were given an i-skills test before and after a course of business communication. The scores were correlated against their undergraduate grade point average and the business writing grade. Those students who identified English as their best language were compared with those who were classified as English language learners. • The results indicated that i-skills pre-test scores predicted the business writing grade in both groups of students. Thus information literacy skills are associated with better business communication tasks included in the business communication course, such as emails, memos and 	<ul style="list-style-type: none"> • ‘A person who is information literate has “the ability to locate, evaluate and use effectively the needed information.”’ (ALA, 1989) • Also specifies the five information literacy standards for students in higher education: the information-literate student: <ol style="list-style-type: none"> 1. determines the nature and extent of the information needed; 2. accesses needed information effectively and efficiently; 3. evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system; 4. individually or as a member of a group, uses information effectively to accomplish a

		<p>technical reports.</p> <ul style="list-style-type: none"> • The authors suggest that assessment of information literacy might be used to assess business writing potential of students and workers. The assessment might help instructors tailor instruction, particularly for those with weaker information literacy skills. This might also be transferable to company training programmes. 	<p>specific purpose;</p> <p>5. understands many of the economic, legal, and social issues surrounding the use of information, and accesses and uses information ethically and legally.</p> <p>(Association of College & Research Libraries, 2000)</p>
19.	Kirk, J., 2004. Information and work: Extending the roles of information professionals. Paper presented at the ALIA 2004 Conference, Australia.	<ul style="list-style-type: none"> • Research project resulting in a variety of ways senior managers from two public sector cultural organisations use information in their work. • 15 senior managers were asked to describe two situations in their work roles with in-depth experience of information use in each situation. • Analysis resulted in “five qualitatively different ways of experiencing the [information] phenomenon: packaging information, enabling the flow of information, developing new knowledge and insights, shaping judgements and decisions and influencing others” (p. 2). These are related to each other and related to personal and organisational factors. • Information use experience as packaging information and information use as enabling the flow of information were viewed as objective and part of the external environment. • Information use as developing new knowledge and insights was seen as subjective and personal. • Information use as the shaping of judgements and decisions and information use as influencing others was viewed as transformative in the sense that it was transformed and transformed others. • “Information is infused with the values, principles and experience of people as well as the organisation. The relationship among the experiences of information use and the relation between people and information is hierarchical and it reflects the focus of the senior managers on their own roles and tasks as well as on the organisation itself.” (p. 5) 	<ul style="list-style-type: none"> • “...in the workplace an information literate person will be able to ‘navigate the landscape...and understand its ecology’ (Lloyd, 2003: 89)” (p. 1) • “Information practices and processes are embedded in the social relationships that are an essential part of every workplace and they contrast significantly with the focus on information discovery that characterises many information literacy programs in schools, college and universities.” (p. 2)

		<ul style="list-style-type: none"> • The authors discuss the shift from a technical and process focus of the role of information professionals in knowledge organisations to a more people-oriented role; and the shift from the concept of providing a service to being part of the core business of the organisation and suggests ways in which this might be achieved. (pp. 6-7) 	
20.	<p>Kirton, J. and Barham, L., 2005. Information literacy in the workplace. <i>The Australian Library Journal</i>, 54(4), pp. 365-376.</p>	<ul style="list-style-type: none"> • Information literacy as a term is not common or particularly well understood outside of the library sphere, though an information literate workforce who is able to locate, evaluate and effectively use information is fundamental to any organisation. While information literacy is visible in the workplace the language used to describe it differs to traditional library and information science (LIS) terminology. • Importance of remembering to differentiate between information literacy in academia and the workplace when looking at concepts, experiences, research and their transferability. • “Employees are not asked for school essays or assignments on specific issues” and they are frequently required to define their own tasks and construct their own interpretation to solve an information problem (p. 366). • The need for an information literate workforce, combined with increasing Information and Communications Technology (ICT) offers the opportunity for the special librarian to demonstrate their value and have greater prominence within their organisations. 	<ul style="list-style-type: none"> • “[...] an information literate workforce that can locate, evaluate and effectively use information is the key to the success of many organisations” (p. 366)
21.	<p>Klusek, L. and Bornstein, J., 2006. Information literacy skills for business careers. <i>Journal of Business & Finance Librarianship</i>, 11(4), pp. 3-21.</p>	<ul style="list-style-type: none"> • Report on research investigating which of the information literacy skills taught in universities are valued in the workplace. • The researchers used a set of 21 detailed job descriptions (including skills, knowledge, abilities, activities and tasks) of business and finance occupations taken from the Department of Labor’s Occupational 	<ul style="list-style-type: none"> • “ACRL defines the information-literate individual as one who is able to <ol style="list-style-type: none"> 1. Determine the extent of information needed. 2. Access the needed information effectively and efficiently.

		<p>Information Network (O*Net database). The O*Net Basic Skills used to facilitate learning (active learning; active listening; critical thinking; learning strategies; monitoring; speaking; and writing) were aligned to the first four of the standards from the ACRL standards, referred to succinctly as Know, Access, Evaluate and Use.</p> <ul style="list-style-type: none"> • Using an importance score, work activities from the 21 jobs were also related to the information literacy standards: <ol style="list-style-type: none"> 1. “Knowing includes identifying information. 2. Accessing includes getting information and updating and using relevant information. 3. Evaluating includes analysing data or information, making decisions and solving problems, and evaluating information to determine compliance. 4. Using is described in over 12 different activities including developing objectives and strategies, training others, documenting information, communicating with persons outside and inside the organization, and thinking creatively.” (p. 15) • The research summarised which information literacy skills are used and valued in the workplace and gives detailed examples in Table 4 (p. 17). • The authors suggest that students need to master both subject matter and information skills and that information professionals in corporations have a role in developing information literacy within the organisation. 	<ol style="list-style-type: none"> 3. Evaluate information and its sources critically and incorporate selected information into one’s knowledge base. 4. Use information effectively to accomplish a specific purpose. 5. Understand the economic, legal and social issues surrounding the use of information ethically and legally.” (ALA, 2005)
22.	<p>Lloyd, A., 2004. Working (in)formation: conceptualizing information literacy in the workplace. In: <i>Proceedings of 3rd International Lifelong Learning Conference</i>. 13-16 June 2004.</p>	<ul style="list-style-type: none"> • Qualitative research (undertaken with fire fighters in Australia) into what it means to be information literate in a workplace and how information literacy manifests itself within a workplace. Lloyd (p. 219) takes a holistic exploration approach “in which information literacy is envisioned as an important scaffold that supports workplace learning”. 	<ul style="list-style-type: none"> • “Based on this research the following definition of an information literate person is now offered: An information literate person has a deep awareness, connection, and fluency with the information environment. Information literate people are

	<p>Rockhampton, Queensland: Central Queensland University Press. pp. 218-224.</p>	<ul style="list-style-type: none"> • Exploring the information practices of fire fighters, two themes emerge: the need for fire fighters to construct information practices specific to their profession and the interactive nature of these information practices from social, corporeal and textual sites of knowledge; and the role of others in the community of practice that mediate, afford and interpret access to information. (p. 218) • Discusses the idea of embodiment: the gradual and incremental process of information awareness and synthesis, and the importance of developing collective meaning to ensure safety in time of danger. • “[...] current conceptions of information literacy do not adequately characterize the meaning of the phenomenon outside the formal educational context.” (p. 221) • “[...] becoming information literate within the workplace is not an objective individual experience that can be measured ... or rationalized in terms of identified outcomes.” (p. 222) 	<p>engaged, enabled, enriched, and embodied by social, procedural, and physical information that constitutes an information universe. Information literacy is a way of knowing that universe.” (pp. 222-223)</p>
23.	<p>Lloyd, A., 2011. Trapped between a rock and a hard place: what counts as information literacy in the workplace and how is it conceptualized? <i>Library Trends</i>, 60(2), pp. 277-296.</p>	<ul style="list-style-type: none"> • Author views the critical place for information literacy is the workplace not educational settings. Reviews literature to highlight key issues that arise from workplace research that are not explicit in the skills models arising from research in education settings: <ol style="list-style-type: none"> 1. Context creates difference 2. Information needs are not always identified or evaluated by the individual 3. Information and knowledge are a collective possession 4. Transferability of information literacy • Author continues to discuss the relationship between information literacy and practice theory. “...the focus of practice theory is on the arrays of human activity (cognitive and embodied) that produce among 	<ul style="list-style-type: none"> • “...I define an information practice as: An array of information related activities and skills, constituted, justified and organized through the arrangements of a social site, and mediated socially and materially with the aim of producing shared understanding and mutual agreement about ways of knowing and recognizing how performance is enacted, enabled and constrained in collective situated action.” (p. 285) • “As a central information practice, information literacy practice is defined as: Knowledge of information sources within an environment and an

		<p>members engaged in practices a shared account of “know-how” or practical understanding.” (p. 285)</p> <ul style="list-style-type: none"> • “Consequently, we must not only focus on the information skills through which the practice is operationalized, we must also recognize the social architectures through which the flow of information (including information about how to access and use it) is afforded or constrained, in turn enabling the construction of a narrative that resonates between members and is used to align newcomers.” (p. 286) • New understanding will help generate a language that is understood in settings outside the information profession. • Key concepts of workplace information literacy: architecture (dimensions & conditions of setting); information landscapes; social enactment of information literacy; hidden activities of information literacy. • Features revealed by workplace research: <ul style="list-style-type: none"> • “how information is enabled, afforded, nuanced, or contested within a settings; • the modalities of information that are considered credible and authoritative to the setting; • how to employ the appropriate information skills; which in turn, • enable an understanding of how to “go on” in the performance of learning or working.” (p. 292) 	<p>understanding of how these sources and the activities used to access them are constructed through discourse. Information literacy is constituted through the connections that exist between people, artefacts, texts and bodily experiences that enable individuals to develop both subjective and intersubjective positions. Information literacy is a way of knowing the many environments that constitute an individual being in the world. (Lloyd, 2010, p. 26)” (p. 286)</p>
24.	<p>Lloyd, A., 2013. Building information resilient workers: The critical ground of workplace information literacy. What have we learnt? <i>European Commission for Information Literacy: Communications in Computer and</i></p>	<ul style="list-style-type: none"> • The modern multimodal workplace necessitates workers who are capable of doing more than locating and accessing information, workers must be able to deal with the information overload that is an unavoidable consequence of the information-rich workplace and must use their information skills to address challenges and solve problems. 	<ul style="list-style-type: none"> • “Workers who develop information resilience have the capacity to connect and engage with information in order to solve problems, adapt to change or to novel situations, transform workplace practices and to reduce possible sources of conflict or stress that arise when there is uncertainty about

<p><i>Information Science</i>. Springer. Volume 397, 2013, pp. 219-228.</p>	<ul style="list-style-type: none"> • Lloyd describes lessons which have been learned from information literacy research in the workplace and everyday setting: <ol style="list-style-type: none"> 1. Workplace information literacy is a Situated Practice. 2. Information Needs are Hierarchical and Referenced against Normative and Social Dimensions. 3. The Performance of Work is a Collective Endeavour. 4. Workplace Information Landscapes are Composed of a Range of Modalities, Which are Critical for Workplace Learning. • The workplace research also identified how information emerges through: <ul style="list-style-type: none"> • negotiations with others (the negotiation of practice); • the practice architecture of a setting shapes the type of activities and information skills important in the construction and access to knowledge; • the affordances of activities are not constrained by skills but encouraged by formal and informal social opportunities; • ways of knowing is collaborative enabling connection with a range of knowledge and ways of accessing it. (pp. 222-223) • This represents a people-in-practice approach, shifting away from skills to social practice. • The challenge for information literacy educators is preparing students for the transition from education to the workplace. Research has identified that the workplace is often complex and messy, and traditional information literacy programs which take a linear or systemic approach do not adequately prepare people for entering the workplace. Future research must examine how to develop information literacy programs which help shape information-resilient workers who are able to cope with the ever-increasing demands which are placed on them. 	<p>the type of information that is required, or where to locate it in the information landscape.” (p. 225)</p> <ul style="list-style-type: none"> • “An outcome of this reshaping is that knowledge is now seen to have a central value in the workplace and it is not enough to be able to operationalize information skills: to locate, access and organize it. Workers must be able to transform information to create new knowledge or to use it as the leverage for new ideas and innovations.” (p. 220)
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25.	Lloyd, A. (2014 in press) Following the red thread of information in information literacy research: Recovering local workplace knowledge through Interview to the Double. <i>Library and Information Science Research</i> .	<ul style="list-style-type: none"> • Article proposing a methodology for capturing the non-normative information sources of information, which are internal, embodied, relational and less visible. They are social and situated aspects, shared understandings and nuanced routines. • Researching workplace information literacy requires following “information as it is encountered, created, and circulated within a setting.” (p. 3) requiring both normative and non-normative aspects of information practice and local knowledge to be captured. • Data collection technique known as interview to the double (ITTD) and observational techniques, such as photo voice, allows the participant to reflect on what is important but differs from other techniques by isolating the participant narrative from the research technique. • Used in a pilot study (at the end of an interview) where aged-care workers were asked the ITTD question, in essence, “to imagine that they are training a “double” to take their place the next day” but “that others must not detect the double as an imposter” (p. 4). Few prompts were given. • Analysis of the technique highlighted aspects that might otherwise have remained hidden, the idea of getting “in the know” (p. 5) to ensure safe working, by getting to know people and checking their experiences with those of others, setting nuances, e.g. checking behind doors, for example. • Limitations of the technique: can be intimidating; reporting what is important to the participant may not be important to the researcher; needs additional data collection techniques. 	<ul style="list-style-type: none"> • Uses Lloyd definition 2011 above.
26.	Lloyd, A. and Somerville, M., 2006.	<ul style="list-style-type: none"> • Article exploring the contribution of an empirical study of fire-fighters’ 	<ul style="list-style-type: none"> • “In this new definition information literate people: [...]have a deep awareness, connection and fluency

	<p>Working information. <i>Journal of Work-place Learning</i>, 18(3), pp. 186-198.</p>	<p>learning to the concept of information literacy – understanding the role of context, the information practices and strategies used to gain access to information from situated sites of knowledge and role the community of practice to facilitate shared understandings (p. 195).</p> <ul style="list-style-type: none"> • Study used constructivist grounded theory on data from semi-structured interviews and conversations to explore the meaning, role and manifestation of information literacy in the workplace setting of a fire station (p. 188). • Findings conflict with the concept of information literacy as a series of decontextualized skills but reflected view of information literacy as a way of know about types of information embodied within a context, seen as a set of practices using social (mediated, culture & values), physical (sensory) and textual (procedures) sources of information. • Contributes to our understanding of workplace information literacy: “by highlighting the relationship between different modalities of information, and the relationship between workplace learning and professional identity” (p.196). 	<p>with the information environment, information literate people are engaged, enabled, enriched and embodied by social, procedural and physical information that constitutes an information universe. Information literacy is away of know that universe. (Lloyd, 2004) ” (p.195). This describes the process of workplace learning from novice to proficient.</p>
27.	<p>Lundh, A., Limberg, L. and Lloyd, A., 2013. Swapping Settings. Researching Information literacy in workplace and in educational contexts. <i>Information Research</i>, 18(3). Available from: http://www.informationr.net/ir/18-3/colis/paperC05.html#.U6qbDyfDtaQ</p>	<ul style="list-style-type: none"> • Acknowledges the challenges of the relevance of information literacy and identifies the need for well-chosen theoretical perspectives in order to influence professional practice. • Compares four empirical studies on information literacy in educational settings with four in workplace settings in order to identify approaches to norms and values in information literacy. • The education studies took an evaluative approach (where learning is the primary goal based on standards or definitions), while three of the workplace studies took an explorative approach. • Table 1 provides an overview of the studies examined followed by brief 	

		<p>summaries and their conceptualisations of information literacy.</p> <ul style="list-style-type: none"> • Two approaches to norms and values are identified: one where the concept is predefined, a set of skills and abilities that can be seen as potentially measurable learning outcomes; the second is when the empirical research seeks to understand and then define the concept. Table 2 provides a summary of the differences in approach. • The authors put forward the interesting view (by Sundin 2008) that information literacy studies is a means of supporting the professional status of librarians. • Information literacy in the workplace cannot be seen as a goal in its but is a means to achieve other goals. 	
28.	<p>Moring, C. and Lloyd A., 2013. Analytical implications of using practice theory in workplace information literacy research. <i>Information Research</i>, 18(3). Available from: http://www.informationr.net/ir/18-3/colis/paperC35.html#.U6qbWSfDt_aQ</p>	<ul style="list-style-type: none"> • “In this paper the authors consider practice theory and the implication of using this approach in workplace information literacy research.” They consider two practice theoretical perspectives by Theodore Schatzki (2002) and Etienne Wenger (1998). • Studies where this approach has been used “focus on information literacy as something that develops in social contexts and is specific to a particular community (Talja and Lloyd 2010: xii).” • Common features of practice theories are that they represent “an organized constellation of different people’s activities, and that practice is understood intersubjectively as anchored in the activities of multiple people, and not as the action of an individual (Schatzki, 2102).” It enables a broader approach focusing on the interaction between people, information and knowledge practices in particular settings. • Three central analytical dimensions focus “on the relationship between 1) practices and activities, 2) the individual and the social and 3) the 	

		<p>body and the mind.”</p> <ul style="list-style-type: none"> • Schatzki’s theory is primarily about understanding social life as it happens. Lloyd’s workplace information literacy study of ambulance officers (Lloyd, 2009) and the study of nurses by Bonner and Lloyd (2011) are given as examples. • Wenger’s theory is primarily about learning in its social dimensions negotiating meaning. Morings study of the information practice of sales assistants (2011) and Lloyd’s fire fighters (2005) are given as examples. • Practice theoretical approaches in information literacy research are emerging. When using practice research the authors stress the need to understand differing theoretical perspectives. 	
29.	<p>Mutch, A., 2000. Information literacy: A critical realist perspective. In: C. BRUCE and P. CANDY, eds, <i>Information Literacy Around the World: Advances in Programs and Research</i>. First edn. Wagga Wagga, New South Wales, Australia: Centre for Information Studies, Charles Strut University, pp. 153-162.</p>	<ul style="list-style-type: none"> • Considers information use in higher education and the workplace and examines the differences between the two. • Mutch points out that problems in higher education have a bounded, structured nature while those in the workplace are messy and open-ended for many workers. In addition, there is perhaps a greater need to focus on organisation and storage of information in the workplace than in higher education. • Argues that rather than the “narrow, skills-based approach to information” there should an implementation of a critical realist perspective in information literacy (p. 154). When focusing on the workplace there should be caution in applying a conceptual understanding of information literacy that has originated from research examining educational contexts. 	
30.	<p>Oman, J., 2001. Information literacy in the workplace. <i>Information</i></p>	<ul style="list-style-type: none"> • Oman discusses her own experiences as an information manager. 	

	<i>Outlook</i> , 5(6), pp. 33-35.	<ul style="list-style-type: none"> • Importance of an information literate workforce who can recognise when further information is needed and who are able to locate, evaluate and effectively use information. Oman notes that her research has led her to understand and place greater emphasis on information literacy, and now regards it as of greater importance than knowledge management. Increasing information overload only intensifies the need for information literacy within the workforce. 	
31.	O’Farrill, R. T., 2008. Information literacy and knowledge management: preparations for an arranged marriage. <i>Libri</i> , 58(3), pp. 155-171.	<ul style="list-style-type: none"> • Part of a doctoral study examining information literacy in the workplace, exploring its theoretical and practical relationships to knowledge management. O’Farrill proposes a new conceptual framework to advance research in the study of workplace information literacy. • Information needs, sources and practices are more diverse and complex than in a conventional educational setting and this can present problems when attempting to apply the traditional concept of information literacy in a workplace setting. When attempting to apply the concept of information literacy to the workplace setting the limitations which exist within the conventional conceptions are only exaggerated. • O’Farrill makes the case for the development and use of “a single, untagged and multimodal concept of literacy, instead of information literacy” (p. 167). It is further suggested that this untagged concept of literacy could be the catalyst for a more diverse variety of research within the field of library and information science. 	<ul style="list-style-type: none"> • Based on discussions O’Farrill offers the following definition of literacy: “The progressive development of competences for becoming aware of, accessing, critically interpreting and effectively using a variety of languages, codes, semiotic resources and technological affordances as tools for learning, communication, and sense-making in situated social practices.” (p. 167)
32.	O’Farrill, R. T., 2010. Information literacy and knowledge management	<ul style="list-style-type: none"> • Phenomenographic study of conceptions of effective information use of frontline staff at NHS24. 	<ul style="list-style-type: none"> • “This study has employed a working definition of IL as “effective information use” for the empirical study because the concept of effectiveness was

	<p>at work: Conceptions of effective information use at NHS24. <i>Journal of Documentation</i>, 66(5), pp. 706-733.</p>	<ul style="list-style-type: none"> • Eight conceptions of effective information use were identified from the interview data: <ol style="list-style-type: none"> 1. Awareness of information related to events that affect the service and changes to procedures 2. Awareness of health-related information and knowledge sources 3. Sourcing appropriate information for decision making 4. Giving appropriate advice and information to callers 5. Controlling information 6. Sharing information and knowledge 7. Using information to learn 8. Using information systems • The main institutional information literacy frameworks were found to have “limited application” for the workplace setting being studied, in part due to their broad statements. Further they do not adequately reflect some important ways in which information is used in the workplace, in particular “the use of people as information sources and the social sense making and interpretation of the value of information and its application in the workplace environment” (p.706). The statements in these institutional frameworks are too general for the workplace setting. • “[...]people’s literacy is composed of different abilities and skills, defined basically by the characteristics of the situated practice and the level of expertise required to perform in that setting, and not necessarily conforming to any single academic (or other) standard.” (p. 729) • “Requirements for effective information use and therefore IL will vary according to the aims, field of practice, industry, etc. of different workplaces as well as their organizational culture and the presence of 	<p>considered a point of connection between IL and KM.” (p. 707)</p>
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		<p>specific initiatives such as those related to KM.” (p. 729)</p> <ul style="list-style-type: none"> • Further research is needed to identify the common characteristics of information literacy in specific industries and professions. It is advisable to explore further workplace settings and exercise caution before generalising prescriptive frameworks. 	
33.	<p>O’Sullivan, C., 2002. Is information literacy relevant in the real world? <i>Reference Services Review</i>, 30(1), pp. 7-14.</p>	<ul style="list-style-type: none"> • Importance of an information literate workforce who is able to locate, evaluate and effectively use information. • The business community uses different terminology and has a different context. A need to align the way we talk about information literacy with business concepts. • Queries whether some of the information literacy skills and concepts are being addressed within the corporate world, but using different terminology. • Businesses are aware of the “value of information and knowledge, but at the micro level, workers are floundering with too much information readily available, too little relevant and timely information when they need it, and few tools or skills to deal with information effectively” (p. 9). • In the business world, as in schools and universities, integration and relevance are essential if an information literacy strategy is to be successful. • As a profession, we must see ourselves as part of the business and change the way we view our role; we must widen our interests and pursue interests relevant to the business. 	<p>Refers to a number of information literacy definitions, including:</p> <ul style="list-style-type: none"> • Council of Australian University Librarians’ (CAUL) information literacy standards • Aligns part of this definition with “established concepts used in role descriptions, selection criteria, performance appraisals and professional development programmes” (p. 10).
34.	<p>Qayyum, M., Thompson, K., Kennan, M.A. and Lloyd, A., 2014. The provision and sharing of information</p>	<ul style="list-style-type: none"> • A qualitative study to explore the information practices of service agencies caring for refugee resettlement in Australia. Semi-structured 	

	<p>between service providers and settling refugees. <i>Information Research</i>, 19(2). Available from: http://www.informationr.net/ir/19-2/paper616.html#.U6pv8ifDtaQ</p>	<p>interviews and focus groups with refugees and service providers were conducted to understand whether the sharing of information enables community participation and reduces exclusion and barriers to information access and use are minimised.</p> <ul style="list-style-type: none"> • Analysis focused on the role of the service providers and identified that refugees found the information context complex, difficult to navigate and suffered from information overload resulting in barriers to participation. • Study discusses the information services and issues related to them (including the role of libraries in providing services), and provides recommendations for improved service provision. 	
35.	<p>Rader, H. B., 2002. Information Literacy 1973-2002: a selected literature review. <i>Library Trends</i>, 51(2), pp. 242-259.</p>	<ul style="list-style-type: none"> • The volume of publications related to information literacy was found to have grown drastically over the three decades that Rader examined. • Rader touches on “information skills training in the workplace” and highlights that not only is information skills training needed for all employees, it must be continual if employees are to thrive in the information-rich workplace setting. It is acknowledged that there has been a greater focus on assessing the information skills students acquire at university which assist them in an improved workplace performance. • Rader concludes that while the focus within information literacy has largely been in an educational context employers and businesses are starting to pay attention and are increasingly interested in “teaching people appropriate information and technical skills for improved learning and job performance” (p. 258). It is noted that there has been a shift in the literature and the more recent publications included have 	

		less of an education and library focus than previously and instead are shifting towards business and other disciplines.	
36.	Sayyad Abdi, E., Partridge, H. and Bruce, C., 2013. Website designers: how do they experience information literacy? <i>The Australian Library Journal</i> , 62(1), pp. 40-52.	<ul style="list-style-type: none"> • Findings from phase one of a phenomenographic study into the information literacy of website designers, specifically the five different ways in which website designers were found to experience information literacy: <ol style="list-style-type: none"> 1. Problem-solving 2. Using best practices 3. Using a knowledge base 4. Building a successful website 5. Being part of a learning community of practice • When talking to research participants the term “effective use of information” was used in place of “information literacy” as it was felt “information literacy” was a term which might not be easily understood outside of the information science field and this could hinder communication with the research participants. Importance of terminology when examining information literacy in the workplace. 	<ul style="list-style-type: none"> • “[...] the term ‘information literacy’ is an abstract term and therefore might not be readily understood outside the field of information studies. Therefore, in order to be able to communicate clearly with the research participants, the term ‘effective information use’ was used during the interviews.” (p. 44)
37.	Sen, B. A. and Taylor, R., 2007. Determining the information needs of small and medium-sized enterprises: a critical success factor analysis. <i>Information Research</i> , 12(4). Available from: http://InformationR.net/ir/12-4/paper329.html	<ul style="list-style-type: none"> • The critical success factor method was used to identify the information and strategic needs of SMEs. • The study analysed critical documents within the two organisations to gain a greater understanding of the focus of the organisation and conducted interviews with key staff (inc. companies' Directors, departmental managers and team supervisors). • Nine identical critical success factors were identified for both companies. One of these critical success factors was <i>corporate information competence</i>. Information was found to be a critical supporting theme to all other critical success factors identified. 	<ul style="list-style-type: none"> • “Corporate information competence is defined here as a company or organization having information management skills and systems to support business strategy and operations: generating, gathering, analysing, disseminating and using appropriate information effectively, ensuring information security, validity and integrity.”

		<ul style="list-style-type: none"> • “Critical areas have been identified for strategic development and information management and systems planning have been identified as being especially critical to improving business performance, supporting strategic development and maintaining competitive advantage.” • The role of information is crucial to all organisations, in particular SMEs and if these businesses are to grow and maintain their competitive edge they must adopt a strategic approach their information needs. • A strategic and effective approach to information is critical to the competitive success of smaller businesses and this ability to use information effectively, i.e. information literacy (IL), is vital to the role SMEs play in economic development and resilience. 	
38.	Sokoloff, J., 2012. Information literacy in the workplace: employer expectations. <i>Journal of Business & Finance Librarianship</i> , 17(1), pp. 1-17.	<ul style="list-style-type: none"> • University library practitioner, qualitative research studying mid- and senior level corporate manager’s information use in the workplace and how this relates to entry-level professionals’ information skills. • Examined managers of organisations with direct relationship with the College of Business of James Madison University (JMU) to explore the links between library information literacy initiatives and business requirements. • Participants were ask open-ended questions: <ol style="list-style-type: none"> 1. “What types of information do you use in your workplace? 2. What information tools do you use in your workplace? 3. What activities are informed by research and information? 4. What research skills are necessary in your workplace, and how are entry level JMU alumni equipped to meet these needs?” (p. 8) <p>Intentionally not mentioning the term information literacy.</p> • Analysis themes and examples of types of responses: 	

		<ul style="list-style-type: none"> • types of information used - industry & company, legal, & regulatory information; • information tools used - Google, news reports, white papers, contacts; • information-informed activities - informing decisions & recommendations, developing products & services, current business awareness; • necessary research skills - general work habits of independence, efficiency, IT & presentation skills, synthesizing & critical thinking skills; • research responsibilities - collaborative process, resources prescribed for entry-level employees; • evaluating information competencies - difficulty discerning information literacy skills as identifiable traits, used concepts such as “soft skills”, participants did not relate to recognised information literacy language. Quote from participant “If you reuse somebody’s work in college, that is considered plagiarism, but once you get in the workforce, reusing people’s work is effective.” (p. 13) • Discusses the need to consider a more varied approach to information literacy in business disciplines. Discusses some specific areas of concern for business librarians. 	
39.	Thompson, S., 2003. Information Literacy Meeting of Experts: Prague, The Czech Republic: September 20-23, 2003: Report of a Meeting. Washington: United States Commission on Libraries and Information Science.	<ul style="list-style-type: none"> • Report of the first colloquium, held in Prague. • “Many people worldwide are not prepared for the 21st century workplace, information literacy is a fundamental competency in a world where change and exponentially expanding digital information is the norm.” (p. 4) • “[...] information literacy is a fundamental skill in the workplace that produces positive outcomes for small and large businesses alike.” (p. 4) 	

		<ul style="list-style-type: none"> •“Victor Rosenberg pointed out the motivation for business is “the bottom line,” and that information literacy must (and can) demonstrate that it is a good return on investment for companies. For small businesses especially, information literate workers can help their companies compete with larger corporations and on a global scale, by taking advantage of the information explosion of the last decade.” (p. 15) 	
40.	<p>Williams, D., and Coles, L., 2007. Evidence-based practice in teaching: an information perspective. <i>Journal of Documentation</i>, 63(6), pp.812-835.</p>	<ul style="list-style-type: none"> • The study, funded by ESRC, examined teachers’ own use of information, comparing their use of research information and general information, in their professional practice and development. The study looked at both information literacy and information behaviors within the context of the teaching profession and the school as workplace. This was a mixed-methods study, analyzing data from a survey, scenario interviews, and group activities. • Teachers’ professional use of research information reflects a preference for predigested information and informal sources, heavily weighted towards “people” sources, e.g. colleagues and inservice training. Formal journal sources and libraries ranked very low in the list of sources used by teachers. Lack of ready local access to information and lack of time were cited as major barriers to the use of research information. • Teachers also revealed uncertainties and lack of confidence in their own ability to find and evaluate such information. The findings suggest scope for more targeted provision by school librarians of both information and skills to support the professional development of teachers. This also raises issues of priorities and resources, and wider change in ethos supported by senior management. 	<p>IL questions within the survey, and IL codes in qualitative analysis, were based on generic IL definitions and models: ACRL (2000), CILP (2004) and SCONUL (2004) definitions and frameworks.</p>

		<ul style="list-style-type: none"> • The study also raises questions about teachers' own experiences and approaches to the use of information in professional learning, and how this might impact on the provision of support for their pupils and the potential for collaborative working between librarians and teachers. 	
41.	<p>Zhang, X., Majid, S. and Foo, S., 2010. Environmental Scanning: An Application of Information Literacy Skills at the Workplace. <i>Journal of Information Science</i>, 36(6), pp. 719-732.</p>	<ul style="list-style-type: none"> • Paper discussing environmental scanning, "a systematic way for organizations to detect changes, and hence formulate adaptive strategies for coping with uncertainties" (p. 719). The author states that information literacy skills are implicitly required to do this effectively and efficiently. • "Costa proposes a strategic information scanning system consisting of six steps: Steps 1 and 2 specify information needs and sources; Steps 3 and 4 identify the participants of the system and assign them scanning tasks; and Steps 5 and 6 deal with the storage, processing and dissemination of the information" (p. 720). The authors refine models showing the flow of environmental scanning process and discuss their application and development, and the perceived corresponding information literacy skills and issues. 	