

Information Literacy for the 21st Century

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INFORUM 2010: 16th Conference on Professional Information Resources

Prague, May 25-27, 2010

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The PowerPoint of this presentation is at
<http://www.slideshare.net/sheilawebber/information-literacy-for-the-21st-century-4297566>

Introduction

In this paper I will present my ideas on key aspects of information literacy (IL) in the 21st Century. I will start by expanding on a definition of information literacy, and identifying that it is still a relevant concept for 21st Century life. I will then draw on some 21st Century research studies into Information Behaviour (IB) and IL, and finish by identifying key aspects for 21st Century IL.

The definition of IL was developed by my colleague Bill Johnston and I:

“Information Literacy is the adoption of appropriate information behaviour to identify, through whatever channel or medium, information well fitted to information needs, leading to wise and ethical use of information in society.”

Appropriate information behaviour means IB that is best for the context. If your context is writing an essay at university, searching electronic journals may be best. If you are seeking information about using Google Docs to share material, then you might go to a specialist online discussion group for advice.

Thus, adopting appropriate information behaviour requires knowledge of the kinds of *information channels and media* which are available (whether that is a person, a website or a book), which sources are best for different purposes, and how you should interact with each source to get the most out of it.

Whilst most effort has been put in training people for searching, research shows that people actually acquire (and need IL in) browsing, monitoring, chaining through, creating and encountering information. Encountering means “bumping into” information (Erdelez 1999). A quotation from a recent study of search logs of journal databases illustrates this:

“The irony is that while Google searching proved hugely popular, once people entered a site they would far rather browse than search again using the internal search engine. The advanced search function was not used by really anyone, and the higher the research rank the truer this was.” (usage of ScienceDirect: CIBER, 2009; 87)

Note also that people were not following through a pathway in one information source: the academic researchers often bounced from Google or PubMed straight to a journal article, rather than going to the e-journal or university library portal first.

Our IL definition also identifies that you have to be able to recognise your information needs and judge when you have met them. The final part of the definition reminds us that each of us acquire and use information within a legal, cultural and social context, and information literate people are sensitive to this context.

With the possibility to publish things quickly via Web 2.0, and the ways in which people are able to (and often encouraged to) share information, this has become a more challenging area. Students may, for example feel it is confusing: they are told to share information for their “group work” assignments at university, websites encourage them to “share” and retweet, but at other times they are told to avoid sharing because it is cheating or plagiarising. There is a need to educate people more deeply on understanding when it is, and is not, ethical and legal to share information. There is also the issue of being respectful in what information you publish and present, yet also remaining true to your own values and beliefs.

Our definition of IL only becomes out of date if you assume that “appropriate information behaviour” is always the same (for example, that it always means doing a planned search in an academic database). However, if you approach it in a more open minded way, it can be adapted to different times and situations. At the same time, it demands more of you, since each individual has to decide for him or herself “what is appropriate for this information need, at this time, in this place?”

This task has become harder, as people are challenged to acquire and use information from a wider range of sources. I will use a number of examples to illustrate differences and similarities in terms of IB, IL, and what “information” means”.

The studies I draw on are:

- A North American study of pre-teens’ IB (Myers et al, 2009);
- Studies by the Research Information Network of the use of e-journal collections (RIN, 2009) and of researchers’ IB (CIBER, 2009)
- Research into IB in the virtual world, Second Life, carried out by my students 2007-2010 (Webber, 2010);
- British research into teenagers gamers’ views about gaming and the public library (Gumulak, 2009);
- An Australian study of what IL means for ambulance workers (Lloyd, 2009);

IL of young people

Meyers et al. (2009) carried out study of pre-teens’ IB. 34 young people aged 9-13 were studied using mixed qualitative methods. The investigators found that the places that the young people found or exchanged information included formal and informal places. People were key sources of information, their peers and adults, and they communicated in various

ways, notably face to face, instant messaging, email and using mobile phones. Other information sources included Television, Radio, Books, Magazines, Websites, Search engines and organisations. Searches could be multi-stage “a tween might consult a peer, who recommends a Web site, which is vetted by a parent, and ultimately they together consult a store professional.” (p317)

IL in a virtual world

Three cohorts of my first year undergraduate students have carried out research interviews in the virtual world, Second Life (SL) (Webber, 2010). They asked the interviewees to think about a time they needed information for a SL activity. Speech, sound, and movement (and touching – or rather, clicking) again emerge as important in information acquisition. People were also important, interacting inside or outside SL using instant message, Facebook, discussion lists, face-to-face etc. “Much of my information came from talking to people, asking questions, finding what they had done” (Interviewee 3 2007/08). There was a wide range of other types of source, including Books, Journals, Websites, Wikis, Blogs, Search engines in SL, Search engines outside SL, their own files and SL inventory, and SL Shops. Again there was some complex search paths, and some interviewees showed they were aware of piecing together an information picture “a wiki might give an example of a piece of code, but a blog may tell us a story of how the author came up with it” (Interviewee 3 2008/09)

IL of gaming

One of my Masters students (Gumulak, 2009) interviewed schoolchildren about their use of computer games. They were using IL skills (such as browsing, searching and evaluating and applying the information) to solve gaming problems. They could have found solutions easily by searching the web for walkthroughs (step by step explanations of how to solve all the problems in a game). However, the young people saw this as a last resort; they preferred to solve the problem themselves. To do this they used a range of information sources, visual, aural and textual including in game text boxes, Game environment, Non player characters, Game booklet & box, Friends and family, Review sites, Search engines, Forums and Websites.

Thus with Web 2.0, 3.0 or 4.0 we can identify complex information literacy needs and behaviours in digital worlds, with people using print, personal and digital sources to solve “digital” information problems, and using digital spaces to create shared material. These people need to manage information, and information flows: with the increasing problem of useful information (3D, multimedia etc.) being lost in the “cloud”.

IL in the workplace

Lloyd (2009) investigated the information experiences of ambulance officers in training and on-road practice in Australia. Textual sources were important e.g. training manuals, books, written rules and protocols. However, there was particular value on learning from other people and using them to get information and develop knowledge. This included both more experienced workers and the patients they were handling. The ambulance workers were using getting information from speech, sound, touch and movement: “you don’t really know what’s happening until you get your hands on the patient and can see breathing, feel a

pulse, what's the blood pressure, are they pale?" (p409) Thus, again, the workers were haing to interpret and combine information from a complex range of sources.

The importance of context emerges in the academic field as well, for example a recent study of UK life science researchers identified that "any survey that examines responses from Importance researchers divorced from their context and of group context for role can provide only an incomplete research: understanding of their information practices sharing, monitoring and needs" (RIN, 2009; 5) This points up the need for more education about IL with people sources, and more education for collaborative information literacy e.g. co-creating documents and websites and working on information tasks together (in an academic, workplace or personal context).

Key aspects of 21st century IL

These are therefore what I see as key aspects of IL in the 21st Century, setting an agenda for IL education

- IL as context specific and context sensitive;
- IL demanding a variety of behaviours: not just searching, but also encountering, browsing, monitoring, managing and creating;
- People moving along complex paths to meet their information needs: moving between the virtual and physical worlds, and using different sources and spaces;
- IL in digital environments;
- IL with people sources;
- People being information literate individually and collaboratively
- People being **aware** they are information literate: you cannot be an information literate 21st Century citizen without being conscious of the need to develop these IL skills and attitudes, and continue to update your IL through your life!

I finish by emphasising that IL is not just valuable for employability, citizenship and as part of functional literacy (although obviously these are important). I am inspired by a quotation from a Syrian school librarian interviewed by one of my PhD students, Shahd Salha as part of her doctoral work. This librarian said that IL

"opens my eyes to new horizons which I did not experience before as I was blind. I was not able to see anyone except myself, my thought, my ideas and my life. Information literacy is to think out of the dark box and to see the sunlight."

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