

The info-smart learner's toolkit: information literacy, intranets, and learning and teaching websites

By James Herring

Introduction

This article seeks to focus on the skills needed in today's and tomorrow's schools by students who have to adapt to the plethora of text, images, sound and video which they increasingly face in schools, at home and in society. The article seeks to define an info-smart learner and examine how information literacy teaching, intranets, and learning and teaching websites in schools can provide students with the necessary toolkit to be smart information users and, more importantly, smart learners.

Info-smart learners

Strauss (2002) argues that despite developed nations pouring millions of dollars into technology in today's schools, students are still not being given the learning skills they need to effectively exploit the new technology. Strauss (2002) argues that 'we need smart learners, not smart classrooms; and smart classrooms are not enough to get us there'. One definition of a smart learner is that they are: *successful, motivated, autonomous, responsible, and thoughtful*" (AEL n.d.) but such acronyms may be less than useful unless there is an understanding of what is meant by the term *smart*. This author would define a smart learner as one: who thinks about the learning process as well as the content of what is being learned; who uses various skills in thinking, planning, reading, analysing, synthesising and communicating when learning; who recognises the value of learning resources whether they are in print, electronic or human format; and who adopts and adapts new technologies to suit her/his learning style. An info-smart learner is one who *effectively* uses information and information technology for her/his own learning needs. The key difference between an average learner and an info-smart learner is that info-smart learners have a clear and constant view of their *purpose*.

A good example of this can be seen in how more able students in schools – the info-smart learners – use search engines. In a recent study by this author (Herring 2005) in which learning and teaching websites had been developed jointly by the teacher librarian and a group of teachers, year 8 and year 9 students were encouraged not to use Google. This was because it was the teachers' experience that few students benefited from using Google as they did not use it effectively. The main problems encountered by students were the lack of focus in search strategies and information overload. The school is examining ways of improving students' use of search engines. One teacher argued that he preferred students to use the website rather than being



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'lost in an endless search on Google'. These teachers and the teacher librarian want students to spend more time in using their information skills to *use* resources, rather than on the mechanics of *finding* resources. Teachers commented, however, that more able students were encouraged to use Google or another search engine. One teacher commented that:

The students themselves, I think, now prefer to use the site rather than use Google. We don't mind the brighter students using Google as they seem to know what they're doing and won't just accept any old stuff they find on Google.

Other teachers noted that more able students 'knew what they were looking for', could structure searches effectively

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and evaluate results. Thus info-smart learners not only think clearly about the format and content of information they access but also the context, the origin and the authority of that information. In short, info-smart learners are information literate.

Smart information use is now seen as a national priority for research in Australia (DCITA 2004). A research study (partly funded by ASLA) by Hay and Eyre (2005) identified that the key characteristics of smart information users were in the areas of 'effective formulation of questions, critical thinking, communication, ethical practice, metacognition, social literacy and management'. All of these attributes could be assigned to school students in some way and one of the challenges for teacher librarians and teachers is enabling as many students as possible to become info-smart learners.

Information literacy and info-smart learners

Using this author's PLUS model (Herring 2004), it can be argued that info-smart learners are:

1. smart with information purpose – they can focus clearly on a defined topic for investigation, can recognise their existing knowledge, can formulate questions and use thinking skills in brainstorming and concept mapping
2. smart with information location – they can find relevant

information in different sources, use selection skills to assess the relevance of an information resource and use ICT skills with electronic resources such as the web

3. smart with information use – they can confidently and expertly use reading and understanding skills, selection and evaluation skills, recording and synthesising skills and writing and/or presentation skills
4. smart with information self-evaluation – they can reflect on the learning process, identify areas of improvement in their work and transfer skills from one subject area to others.

Information literacy has, rightly, been a key focus of attention for teacher librarians and teachers in Australia and other countries. Recent publications such as *Reality bytes* (La Marca and Manning 2004) and *The information literate school community 2: issues of leadership* (Henri and Asselin 2005) have challenged the way we think about teaching information literacy skills in schools. If one of the goals of information literacy teaching in schools is to produce info-smart learners then it may be time to reflect on what constitutes that teaching. The following might be considered as relevant:

1. How integral are information literacy skills to assignment/project specifications given to students in the school?
 2. Do students in the higher ability levels need to be taught information skills or are they innately information literate?
 3. Information literacy skills learned at school are not the key information literacy skills students will need in the workplace – this is a myth.
 4. Do students learn information literacy skills more from each other than they do from the teacher or the teacher librarian. How would we know?
 5. Asking students about the information process is the only effective way to know what information literacy skills students need.

Examining the above, this author's view is that teacher librarians will benefit from gaining an overview of the extent to which their teaching colleagues are incorporating information literacy skills into assignment specifications. If teachers can be persuaded to pursue the same info-smart goals as teacher librarians, students are more likely to respond, as they will be constantly reminded that there are certain expectations related to information literacy built into their course work. While the more able students often *appear* not to need information literacy guidance, these students will

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R.M.E Short Course

World of Values short course

Learning Outcome 4

You are to conduct an investigation into a moral aspect of a social issue. The choice of topics is extensive and you are free to choose a topic that interests you. When you have chosen your topic, speak to your teacher and let them know the topic you have chosen.

The investigation has to be presented in the form of an essay. The essay has to be around 800 words in length. The structure of the essay should be as follows.

1. Opening paragraph explaining the topic you have chosen to study.
2. In the next section you should explain the significant facts relevant to the issue you have chosen to study.
3. In this section there should be no opinions given, either by yourself or anyone else.
4. Stick to the facts concerning the issue.
5. You must then explain a minimum of three viewpoints. You can give more than three however you must not give less than three. At least one of the viewpoints has to be from a religious perspective.
6. In the last section you are to express a personal opinion on the topic supported with at least two valid reasons.

Issues

Figure 1: The student task (Linlithgow Academy website).

respond to advice and adapt it for their own needs. In a current (as yet unpublished) study by this author of year 12 students, a focus group of high-achieving students (selected according to availability, with all students likely to gain university entrance) showed that students remembered their introduction to information literacy in year 7 during which they were introduced to the PLUS model (Herring 1996). The students stated that they subsequently used the guidance to formulate their own, individual model of information literacy. The students' own models were similar to the PLUS model but individual differences included students' preference for written or mental concept maps and approaches to note taking.

A plethora of literature (including some of this author's publications) exists that blandly defines information skills taught in schools as lifelong learning skills that students will transfer to the workplace and make them more effective employees. Recent work by Lloyd (2003) has shown that when students go into the workplace, the skills needed to be information literate or info-smart are *not* the same as those skills being taught in schools. The skills we teach students in schools are mostly related to information sources that are mainly linked to academic work in the school. In the workplace, the main source of information that employees need to succeed (and, in the case of Lloyd's study of fire fighters, to survive) is often not codified in print or electronic form but resides in the heads of fellow employees. As teacher librarians will recognise, knowing who to ask as opposed to knowing what to read is often the key information skill required for a particular task.

What do we know about how students interact with each other when they are learning or implementing information literacy skills in schools? This author would suggest that it is very little. In a typical class of students, there may be a range from very info-smart learners to very info-poor learners. Do these students help each other? Do they discuss how best to use the learning resources we provide them with? The key problem is that we do not ask our students very often about how they function as learners and information users. An approach that involved regularly gaining feedback from students about the skills they recognise (or not), reflect on (or not) and use (or not) would produce an insight into the key needs of students in information literacy. How can this be done? A very practical way of doing this is to include a self-evaluation sheet/questionnaire that students complete at the end of an assignment/project and are required to hand in (see, for example, Herring, Tarter and Naylor 2002). Another method is to include a diary or journal as part of the course work and structure. This so that students reflect on their skills during the course work as well as at the end of it.

Intranets and info-smart learners

One of the key developments in information and communication technology (ICT) in schools in recent years has been the introduction of intranets into primary and secondary schools in developed countries. But is this new *smart* technology being exploited to produce info-smart learners? Few studies have been published on the learning benefits of intranets in schools but Carter's (2002) research, which focused on the role of the teacher librarian in intranet development in schools, showed that teacher librarians can have various roles in relation to intranets. These include: intranet builder (involved in designing and building an intranet); intranet manager (gathering and editing information for intranet content); intranet mediator (identifying online resources to support intranet content); and content creator (creating materials for the intranet such as information literacy guides).

What can intranets provide for the potential info-smart learner in a school? Intranets can provide access to parts of the curriculum that are online and the section below on learning and teaching websites provides examples of this. Intranets also provide access to resources that have been mediated by the teacher librarian and/or teachers and that help students to focus on relevant sources. In some schools, students at certain levels or for certain course work are encouraged *not* to use search engines but to develop their visual, graphical and textual skills by *using* sites selected for them. Thus, a student may not only access mediated websites on the intranet but also information literacy

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<p>Catholics against capital punishment Catholics Against Capital Punishment was founded to promote greater awareness of Catholic Church teachings that characterize capital punishment as unnecessary, inappropriate and unacceptable in today's world.</p>
<p>USA capital punishment statistics A breakdown of statistics on the number of Americans executed in particular years and the number currently awaiting execution.</p>
<p>Amnesty International Amnesty International's campaign against the death penalty.</p>
<p>Pro Death Penalty.com A resource for pro-death penalty information and resources.</p>
<p>Capital punishment UK Capital Punishment in the United Kingdom. This site holds details of every execution in the twentieth century in the United Kingdom. It also list methods of punishment and has case studies of people who have been executed.</p>
<p>The Church of England The Church of England's view on capital punishment.</p>
<p>The ultimate punishment – a defence An essay defending the use of the death penalty.</p>
<p>Debatbase – Is it justifiable to execute criminals? The pros and cons of applying the death penalty.</p>



Figure 2: Links to resources (Linlithgow Academy website).

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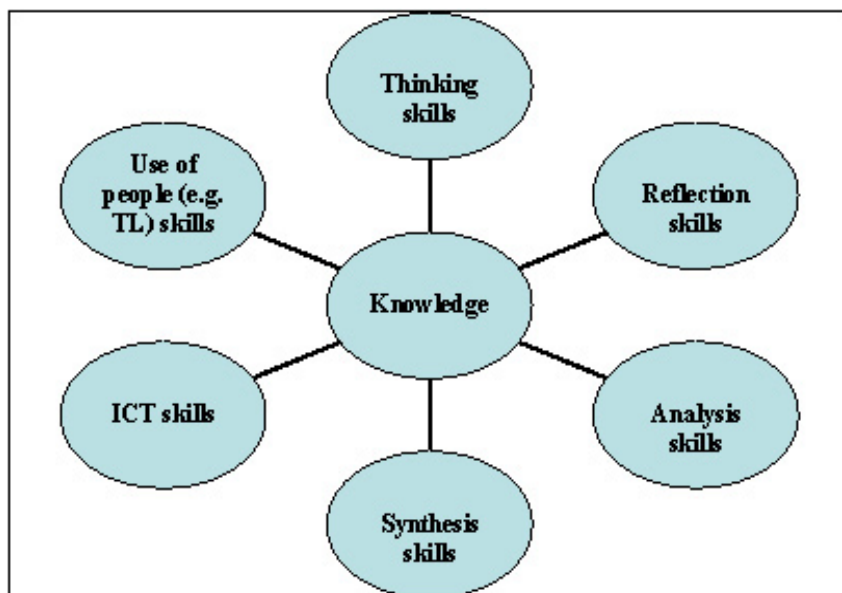


Figure 3: The info-smart learner's toolkit.

guidance that can be followed when using the selected sites. Some examples of this are also available on some school library websites, such as Melbourne High School (n.d.) <<http://www.mhs.vic.edu.au/home/library/infoproc/index.htm>> and Springfield Township High School (n.d.) <<http://mciu.org/~spjvweb/infolit.html>>. From this author's point of view, however, intranets are still in their infancy in terms of contributing to learning in schools and in developing info-smart learners. As learning and teaching websites, intranets could be used to host student discussion groups to stimulate new ideas within subjects or across the curriculum. Commercial companies see intranets as vehicles to capture and store the knowledge that their employees develop, so schools could use their intranets to encourage students to share their knowledge with other students and teacher librarians, as intranet managers, could play a key role in this. A few schools use their intranets to publish their students' work in art, creative writing and technology but this could be expanded to include examples of student work from which other students could learn. Through their role as learning and teaching websites, intranets can contribute to developing info-smart learners.

Learning and teaching websites and info-smart learners

This author defines learning and teaching websites as online tools (also referred to as *learning objects*) which:

are designed by individuals or groups of school staff; are related to the curriculum; contain information from which students can learn; engage students in critical thinking by posing questions; contain links to print and/or electronic resources for students to use; encourage students to use information skills; and include, where appropriate, multimedia features such as graphics, photographs, sound and video (Herring 2004, pp. 133).

Very little research has been done in schools on the use of learning and teaching websites although there is

considerable literature on the design of such websites (Eduscapes 2001; Community High School District 99 n.d.; BECTA 2004; Herring 2004). The value of learning and teaching websites can be seen in relation to what students learn, the provision of scaffolding for students and the inclusion of mediated online and print resources in the websites. Learning and teaching websites provide students with an experience of online learning or e-learning in schools and many schools are revising their overall school vision to include e-learning. The State of Victoria (2004) argues that: 'eLearning refers to a broad range of activities that involve the use of information and communication technologies to support and enhance learning. It includes the effective use of digital resources and learning tools, collaboration with colleagues and mentors in other locations, the experience of a virtual environment and access to online courses from home or within the community' (n.p.).

Examples of pages from a learning and teaching website can be seen in figures 1 and 2. The pages are from a website designed jointly by the teacher librarian and teachers at Linlithgow Academy in Scotland. Figure 1 (page 22) is an outline of the student task in RME (religious and moral education) and figure 2 (page 23) shows a screen that a student would reach by clicking on the *Capital punishment* option from the topic list. This represents a collection of mediated online resources that have been evaluated by the teacher librarian and the teachers. Each title can be clicked to allow the student to go straight to the website on this topic. Thus, the website is a combination of mediated sites and guidance for students in applying information literacy skills.

Two research studies relating to learning and teaching websites have been completed by the author in this school. One study (Herring 2005) examined the learning and teaching website as a focus for teacher librarian and teacher collaboration. Key findings were that: teachers viewed collaboration in the development of the website as valuable in improving student learning; improving student coursework, particularly in terms of essay structure; use of resources, as opposed to using Google or another search engine; interprofessional exchange of ideas; teacher professional development; and the creative use of ICT in the school. A second study, yet to be published, focused on student views of the value, or otherwise, of a learning and teaching website. Preliminary findings show that students found the website easy to use, attractively designed and beneficial in terms of some information literacy aspects such as structuring a discursive essay, using print and electronic resources and understanding of the topic. Students also stated that they would have liked more guidance on

aspects such as developing a focus on one topic, note taking and writing. A key aspect noted by students was that they preferred to use the site's lists of online and print resources rather than using Google.

Learning and teaching websites can be used to develop info-smart learners by providing online access not only to the learning resources they need but also to information literacy scaffolding, which can improve their use of information and ideas.

The info-smart learner's toolkit

What can we identify as the content of the info-smart learner's toolkit? Figure 3 shows that an info-smart learner is not defined mainly in terms of the use of ICT. Info-smart learners accept, adopt and adapt new technologies for their own use but they can also be defined by the exploitation of inter-related learning skills. It can also be seen from figure 3 that the teacher librarian can be a key resource for info-smart learners. Such students also benefit from the teacher and from teacher/teacher librarian co-operation, for example, the development of learning and teaching websites. In the toolkit in figure 3, the students' knowledge is enhanced by the application of the relevant skills. As students gain new knowledge, their learning is further enhanced by the application of new skills. As well as skills, info-smart learners develop attributes such as the ability to take a metacognitive view of their own learning, that is, info-smart learners think about their own learning.

Conclusion

The emergence of a new generation of *potentially* info-smart learners presents challenges and opportunities for teacher librarians and teachers in today's schools. The challenges include: keeping pace with new technologies and the way in which info-smart learners adopt and adapt to them; playing a role in the school's intranet development; and developing expertise in learning and teaching website design and use. The opportunities include being a key player in developing info-smart learners by providing them with the tools they require and becoming an instructional consultant for teachers in developing websites that focus not only on curricular content but on information literacy guidance. Challenges and opportunities, however, require difficult decisions. It would be foolish to assume that teacher librarians can keep adding to their existing workload and still be effective. Thus, the individual teacher librarian will need to think about what roles s/he can play *effectively* in the school. This author would suggest that focusing on supporting and developing information and ICT literacy across the curriculum, with an emphasis on information literacy development and instructional design, including the production of mediated learning resources, should take precedence over other, often more narrowly focused, roles.

This article is based on a keynote paper delivered at the School Library Association of South Australia (SLASA) conference in 2004.

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