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## **PROMOTING META-EVALUATION DURING THE INFORMATION SEARCH**

**By Andrew K. Shenton and Alison J. Pickard**

### **The Challenge of Evaluation**

For years writers concerned with information literacy (IL) – essentially the knowledge, skills and understanding needed to find and use information effectively – have stressed the importance of learners evaluating the material with which they come into contact whilst searching. In an influential publication that first appeared over thirty years ago, Marland (1981) presented an “information skills curriculum” whose fourth stage – that of determining the resources to be employed – listed various matters that should be considered by a youngster when making a decision on whether to select or reject particular material. Numerous subsequent models have also proposed individual criteria for the assessment of information sources. As many commentators explain, the need to make sound judgements has become especially important today, since so much information searching now involves the World Wide Web. This point is well made in a previous article in the journal. The piece, “Using the Internet for Student Research in Schools” (2011), highlights several reasons why evaluation is critical when working in the electronic environment. Specifically,

- the content of collaboratively authored resources such as blogs and wikis may not be entirely reliable;
- much of the material available via the Internet is not appropriate for the ages of the pupils we teach;
- for the most part, traditional gatekeepers who exercise quality control are missing from the Web.

### **Questionable Origins**

One of the key problems for the educator is that, in the majority of IL models, there is little evidence that the framework recommended for adoption has been formulated after rigorous investigation. Thus, ironically, in such cases the credibility of the model itself is open to question, even if we are prepared

to accept, on an intuitive level, that the principles being proposed for consideration seem sensible. This concern has existed for a long time. As far back as the early 1990s, Eisenberg and Brown (1992) commented that, typically, IL models “were developed without any formal research. While most were developed after the authors had years of practical experience working with students and meeting their needs, the models are not empirically derived or tested in any formal field or laboratory study” (p. 104). This pattern is indicative of a wider issue recognised by Limberg and Sundin (2006), namely that the teaching of IL and research into information behaviour “have not influenced each other in the way that they have potential so to do”. There are certainly sound reasons why strong connections between the two areas are highly desirable. Ideally, IL teaching should be informed by an awareness of the problems youngsters have been seen, through research, to experience, and good practice demonstrated by effective pupils in real situations and revealed in studies may be highlighted to others via instruction.

### **A New Model**

The evaluative framework proposed in this article was designed with the aim of helping to narrow the gap between discoveries emerging from research and the teaching of IL. To this end, the content is based very closely on a recently constructed model prepared by Pickard, Gannon-Leary and Coventry (2010) and devoted to “how users place their trust in digital information resources in the web environment” (p. 4). The team’s research explored the credibility judgements made by people and grouped these according to three categories, pertaining respectively to the individual’s cognitive state, internal cues relating to the material itself and external factors associated with the source but not intrinsically part of it. The structure put forward here concentrates mainly on the second dimension, although one of the external factors identified by Pickard, Gannon-Leary and Coventry is also incorporated. Figure One shows the ten issues that have been selected for coverage and converts each of the authors’ explanatory comments into one or more questions for consideration by the learner. Whilst the chart focuses on Web material, it could also be employed, with only minor amendments, either for evaluating other kinds of information sources or as a generic tool for assessing a range.

*[refer to Figure One at the end of the work]*

## **The Significance of Context**

Despite the strong arguments for forging a close relationship between IL on the one hand and research into how young people find and use information on the other, traditionally fundamental differences in emphasis between the two areas have been clearly evident. In a seminal textbook, Case (2007) observes that it is now well accepted in research that people's information behaviour takes place in a specific context; the needs for information that are experienced by an individual do not emerge in a vacuum but owe their existence to wider factors. Many IL models, however, give scant attention to context when presenting criteria for the evaluation of information sources. This reflects a broader shortcoming of IL frameworks – in demonstrating transferability and wide ranging relevance, they do little to acknowledge factors that are particular to individual situations and which may impose their own idiosyncratic demands. Moreover, the fact that evaluative criteria are usually presented in a simple list (frequently in a bulleted form) tends to imply that they are all of equal weight. Nevertheless, very often, in reality, their relative pertinence differs according to the situation. Let us take a moment to consider how the importance of some of the criteria highlighted in Figure One varies from one set of circumstances to another.

- Currency of information is obviously a factor that is paramount in the study of many scientific or technological topics but it is much less significant if a historical matter is under examination. In the latter situation, up-to-dateness cannot be dismissed completely, as we must always be mindful of fresh interpretations and new evidence, yet there are also occasions when old material is valuable in revealing thinking or the level of development in relation to a certain matter at a particular time. This characteristic is, of course, central to the role of the historical source.
- Although, in terms of coverage, we may be inclined to assume that in-depth information is preferable to brief material, Ahituv and Newman (1990) remind us that very detailed content can confuse, mislead and actually form a barrier to the acquisition of knowledge. In addition, as a pupil is preparing an academic assignment, the depth of the information required may vary according to the phase of the work that the individual has reached. Outlining the stages within the Information Search Process, Kuhlthau (2004) explains how, in the third – that of “prefocus exploration” – the

learner is intent on finding out about the general topic. Here, it is likely that a short paragraph or two offering an overview or introduction is desirable whereas, in the later stage of “information collection”, more precise, and probably detailed, material is necessary.

- Whilst for the most part we demand information that is objective, if we are exploring the stance of a particular pressure group material which is wholly unbalanced and does no more than merely put forward their arguments may still be suitable for our needs.

The overall message underpinning all these examples is that the application of the different evaluative criteria should be situation-specific. A similar attitude may be taken with regard to people recommending information sources. We may trust advice on the quality of football Web sites if it is given by a friend who is knowledgeable on the game but baulk at accepting the ideas of the same individual if they offer guidance on Web sites devoted to a subject that we know is outside their field of expertise.

### **The Proforma Tool**

The proforma shown in Figure Two, which has been derived from the previous chart, is intended as vehicle for the promotion of meta-evaluation. In recent times, the prefix, “meta-”, has become somewhat overused, and the range of senses in which it has been applied is now so diverse that its meaning is ambiguous. If we note, however, that “metacognition” is frequently assumed to represent “thinking about our thinking” and that “metadata” is often defined as “data about data”, by extension we may say that “meta-evaluation” is concerned with “evaluating evaluation” or more specifically in the case of this article the evaluation of evaluative criteria.

*[Refer to Figure Two at the end of the work]*

As we have seen, it is beneficial if, rather than youngsters automatically applying each evaluative criterion in a prescribed set to all the various sources they encounter when undertaking an information search, they pursue a more selective and flexible approach. The attitude to source evaluation proposed in this article should be viewed as part of current trends towards aligning IL more

closely with the concerns of research into how people actually find and use information. The methods advocated here are consistent with the modern argument of Limberg et al (2008) that IL constitutes “a set of abilities to seek and use information in purposeful ways related to the task, situation and context in which information seeking practices are embedded” (p. 83) – a stance that will itself strike a chord with academics whose interest lies in investigating the phenomenon of information behaviour.

Educators who are keen to promote meta-evaluation may provide pupils with copies of Figures One and Two at the outset of a task that necessitates finding and using information. The ten stated criteria form foci for the learners’ attention and serve as a basis for potential criticism. Each youngster may be asked to decide whether, in their particular case, the criteria and the accompanying questions shown in Figure One are suitable for evaluating the first source they will encounter. In Figure Two, the blank, white boxes adjacent to each of the criteria provide spaces for the pupil’s writing. Here, the learner may either comment on the quality of the source under scrutiny in relation to the criterion involved or indicate why this factor is inappropriate for their purposes. The questions shown in Figure One are intended to serve as guides to stimulate thinking, although it is possible that the youngster may choose to interpret a certain criterion in a way that is not represented in any of the questions posed but which is still pertinent to the task, their own state of knowledge or the subject. Herring (2011) suggests that pupils may be encouraged to develop their own IL models, instead of having such frameworks imposed upon them. The proforma goes some way to accommodating this kind of latitude by including four lightly shaded boxes. Here youngsters are at liberty to offer their own evaluative criteria and assess the source in question in terms of these considerations. Nonetheless, if, as Harris (2008) asserts, there is a tendency among youngsters “to simplify Web site evaluation tasks and make credibility judgments that rely heavily on design and presentation features rather than content” (p. 161), it would be unwise to leave the learners entirely to their own devices when asked to assess material and they should be guided at least to some degree by a set framework.

### **Freedom of Method**

Assuming that we adhere to the principle that the location and use of information take place within a certain context, it is important that pupils are not only allowed the scope to apply evaluative criteria as

they see fit but they are also given some autonomy with respect to the methods they use when making their actual evaluative assessments. It is all too easy for IL teaching to take a heavily didactic orientation, with learners encouraged to apply stipulated techniques in a prescribed order, thereby reducing information processes to little more than a formula and limiting opportunities for personal decision making. It is more appropriate to concentrate on furnishing pupils with a repertoire of strategies that they apply as they deem necessary according to the circumstances in which they find themselves. Let us consider how a particular pupil pursues different methods for evaluating information when faced with two contrasting scenarios. In the first, he is exploring a Web site devoted to his favourite sport, cricket. The youngster is a teenager who has followed the game avidly for some years and already he has amassed a considerable personal knowledge base. He assesses the site for both accuracy and currency on the basis of this knowledge. Since he is an expert on the game, major errors in the information will immediately become apparent to him, and he is able to test the currency of the material he sees against what he knows about recent developments and the latest events in the sport. When asked, however, in a History lesson to evaluate a Web site devoted to the French Revolution – a subject with which he is totally unfamiliar – the youngster has no alternative but to resort to other methods. Consequently, he pays close attention to the dates given on the Web page in order to determine when it was created and last updated, and assesses the accuracy of its content by looking to verify some of its stated facts against other information sources. There is much to be said for educators who are keen to develop their pupils' IL setting a wide range of assignments that, in sum, allow different levels of choice, present diverse contextual situations and encourage the use of more than one evaluative strategy in relation to a particular criterion.

## **Conclusions**

Since today much of the information encountered by young people when searching the Web is of dubious quality and value, the ability to evaluate the material accessed in this way is vital. There is no shortage of criteria that have been recommended for use in assessment but many are of questionable provenance themselves. This article has presented a framework that is firmly rooted in what has been learnt in recent research about the strategies executed in real situations by information users. The

danger arises, however, that, when any prescribed set of criteria is employed as a basis for action, the process of source evaluation becomes rather mechanical, and youngsters direct their attention, with little thought, to each of the considerations in turn. To combat this possibility, the authors have proposed that a higher order meta-evaluation is necessary. Youngsters must make decisions as to whether a certain criterion that has been advocated in IL training should be adopted in the light of the peculiarities of the specific situation with which they are involved. Some of the factors that have been put forward by educators may be seen to be inappropriate. Conversely, youngsters should be encouraged to add their own criteria if they come to the conclusion that they will be of value in dealing with the matter at hand. Finally, once the individual factors for application have been determined, learners may be given the freedom to decide for themselves the tests they will use *in their particular situation*. In short, the process of source evaluation demands an adaptable mindset which is sensitive to a range of variables.

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**Figure One: The Model**

	<p><i>Is the information sufficiently comprehensive and detailed for your needs?</i></p>	<p><i>Does the page give a recent date when it was prepared or updated? Does the page refer to the latest developments/events? If the writer refers to other sources, how old are they?</i></p>	<p><i>Are there any obvious factual errors? What happens if you check the material against other sources?</i></p>	<p><i>What sort of object is it? Is it, for example, a blog, a journal article or an encyclopedia entry?</i></p>
	Coverage	Currency	Accuracy	Type
<p><i>Has the source been recommended to you? If so, by whom? Can you trust their advice?</i></p>	Recommendation	<p><b>SOURCE EVALUATION</b></p>		<p><i>Author's authority</i></p>
	Citations	Objectivity and motivation	Presentation and format	Affiliations
	<p><i>Is reference made to the work of other writers? Who else has used (cited) the page's information?</i></p>	<p><i>Does it deal in fact or opinion? Is there evidence that a certain perspective is being taken? Are other viewpoints included? Why was the information published?</i></p>	<p><i>Is the site/page well structured? How good is the quality of writing? Are there mistakes in spelling, grammar or formatting?</i></p>	<p><i>Is the source the work of a well regarded organisation? Do you know who funded the page?</i></p>
				<p><i>Have you heard of the person? Does the source include a page where you can find out more about the individual and check their credentials?</i></p>

**Figure Two: The Proforma**

Pupil Criterion 1					Pupil Criterion 2
	Coverage	Currency	Accuracy	Type	
	Recommendations	<b>SOURCE EVALUATION</b>		Author's authority	
Pupil Criterion 3	Citations	Objectivity and motivation	Presentation and format	Affiliations	Pupil Criterion 4