
The Information Source Evaluation Matrix: a quick, easy and transferable content evaluation tool

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The Information Source Evaluation Matrix was developed by Leigh, Mathers and Towlson with funding as part of a Research Informed Teaching Award project at De Montfort University.¹ The matrix is the result of cross-departmental research co-operation: Lucy Mathers and Mike Leigh are academics within the faculty of technology and Kaye Towlson is a senior assistant librarian in library services. The framework was developed within the context of specific technology courses – ‘Multimedia animation production’, ‘Object-oriented systems analysis and design’ and ‘Systems analysis and design’ – but it is readily transferable to other subject areas.

This work was based upon previous research by Mathers and Leigh which revealed a significant gap between students’ self-assessment of information evaluation skills and those evident in material posted on a learning community wiki as part of an assignment.² In their work Mathers and

Leigh found that nearly 69% of students agreed/strongly agreed that they had the ability to evaluate the academic worth and relevance of materials they posted. However, an examination of these materials, using initial evaluation criteria, found that this was not true and revealed a need for students to enhance their ability to evaluate the academic worth and relevance of these materials. Building on this evidence and experience and in order to help to fill the skills gap, Leigh, Mathers and Towlson took an action research approach to develop:

- students' information evaluation skills within the curriculum
- an information evaluation skills self-assessment questionnaire
- a quick, readily available and easy-to-use tool to facilitate students' evaluation of academic and non-academic material.³

WHAT DID WE DO?

To develop these tools the action research was embedded into the existing curricula for 'Multimedia animation production', 'Object-oriented systems analysis and design' and 'Systems analysis and design'. The first two modules were for second-year undergraduates and the third was at Masters level. All the student cohorts engaged in a similar assignment demanding the creation of an online wiki for a specific learning community of their peers and the evaluation of information posted on this wiki. For both modules a face-to-face seminar was given to introduce and reinforce the essential skills and practice of information evaluation. Students then utilised these skills in the production of a wiki. In the 'Multimedia animation' module this was taken further by the production of articles on a specific topic by students for evaluation by their peers. Anecdotally it was felt by course tutors that the information evaluation tuition had improved the quality of material posted in comparison with the previous academic year. Reflection on this work revealed a need for a specific tool to enable a more systematic evaluation of information sources plus a means of self-assessment of students' understanding of and attitudes towards evaluation of information sources. These tools were then developed in the form of the Information Source Evaluation Matrix and a self-assessment Likert scale for information evaluation. These tools were then piloted via focus-group workshops populated by students from the module cohorts. Workshop attendees were volunteers who received a small payment and refreshments. Workshops followed a set pattern whereby

students completed the self-assessment and were then reminded about the skills and criteria of information source evaluation. They were then introduced to the Information Source Evaluation Matrix, which they used to assess material made available within the context of a given task (from books, journal articles and web sites). After this they completed the self-assessment again to measure any change in their confidence and attitude towards information source evaluation. Students were then asked to comment on the Information Source Evaluation Matrix and its use.

THE INFORMATION SOURCE EVALUATION MATRIX: WHAT DOES IT DO?

The matrix enables the user to allocate a score between 1 (low) and 5 (high) as an indicator of the value of an item of information, for example, a web site, journal article or book, using five discrete criteria (see Figure 1). The criteria are the following '5 Ws':

- **Who** is the author?
- **What** is the relevance of points made?
- **Where** is the context for points made?
- **When** was the source published?
- **Why**: what was the author's reason/purpose for writing the resource?

The framework enables the user to consider each criterion, allocate an individual mark and then generate an overall mark to judge the usefulness, relevance and reliability of the material in relation to a specific task or piece of academic work. The framework also reinforces the concept of information evaluation by forcing the user to consider all of the criteria in allocating a specific indicative value score. It enables quick and easy comparison with other material to help guide the user to include the most relevant material in their resulting work, be it a wiki (as in the Leigh, Mathers and Towlson project; see note 1), or a written or other assignment.

Information Source Evaluation Matrix						
	1	2	3	4	5	Mark
Who? - is the author	<i>Author background is unknown</i>	<i>Some evidence author works in this area but few articles</i>	<i>Evidence of some publications in this area by author</i>	<i>Author has several published works in this area</i>	<i>Author is a known authority in this area</i>	
Score						
What? - is the relevance of points made	<i>Content and arguments of little or no relevance to the task</i>	<i>Only of peripheral /little relevance to task being undertaken</i>	<i>Some of the content is relevant to task requirements</i>	<i>Several points made are of relevance to task</i>	<i>Content and arguments closely match your needs</i>	
Score						
Where? – context for points made	<i>Situation to which author applies points is different to that of the task</i>	<i>Minimal similarity between author's context & the task context</i>	<i>Author's situation and that of the task have some similarity</i>	<i>Reasonable similarity between author's and task context</i>	<i>Author's context and that of the task very similar</i>	
Score						
When? – was the source published	<i>Date is unknown or older than 20 years old</i>	<i>Old reference – between 10 and 20 years old</i>	<i>Reference is between 5 to 10 years old</i>	<i>Recent reference is 2 to 5 years old</i>	<i>Up-to-date source – published in last two years</i>	
Score						
Why? – author's reason/ purpose for writing the article	<i>No apparent motivation seen in article</i>	<i>News paper (or online) article opinion – not evidenced</i>	<i>Trade magazine / commercial paper – might have some bias</i>	<i>Book source / conference paper or subject interest forum/blog</i>	<i>Academic journal paper – peer reviewed</i>	
Score						
Source/Reference:					Total marks	
Task/Question:						
Leigh, Mathers and Towlson (2009)						

Figure 1. The Information Source Evaluation Matrix.

The authors would be pleased to receive any feedback concerning the use of this matrix.

RECEPTION AND RESULTS

At the end of the focus-group workshops students were asked to 'Write two statements outlining what you found useful in the use of the Information Source Evaluation Matrix' and to 'Write two ways in which the Information Source Evaluation Matrix could be improved.' Results from this exercise were very positive for both undergraduates and postgraduates. All the focus-group students engaged with the matrix and found it useful in evaluating the given material. All found the matrix easy to use; no one mentioned any difficulty in its utilisation. All the suggestions for improvement were positive; some suggested a variation in the points allocation for the individual criteria within the matrix as they felt some criteria were more important than others. There was also a suggestion that the importance of the individual criteria may vary depending on the task in hand and that the matrix should allow for this contextualisation. Others suggested a use of colour coding to distinguish the criteria. There were also suggestions of an inclusion of space for annotations to aid future comparison and use of the matrix as a comparative tool was acknowledged. The comments showed an increased awareness of the importance of particular criteria when evaluating a source for academic work. One participant made specific mention of the usefulness of the '5 Ws' as a mechanism to focus on the elements of the source.

The Information Source Evaluation Matrix has been presented to a gathering of librarians and information professionals at a one-day conference on teaching practice in libraries organised by CILIP's University, College and Research Group, East Midlands (28 April 2009), at a De Montfort University internal library staff training session (1 June 2009) and at the SOLSTICE conference, Edge Hill University, 4 June 2009. It has been well received by academics and librarians. Results from the focus-group workshops reflected the positive response received from students.

FUTURE PLANS

Future plans include the development of an online matrix, a review and enhancement of the information evaluation self-assessment tool and the development of an online tutorial to support their use. There are also plans to investigate a customisation of the matrix to fit different contexts and subject areas, enabling the allocation of greater importance to some criteria in relation to others. However, this may confuse the user and

part of the matrix's appeal and transferability value lies within its simplicity and ease of use. We intend to promote the use of the matrix in a range of subject areas.

A LIBRARIAN'S PERSPECTIVE

As a central service with faculty and subject connections across the breadth of the university, the library is in a prime position to spread the use of the Information Source Evaluation Matrix across different subject areas. This work has already started and the matrix has been well received in the faculty of humanities, where there is a plan to utilise it in a critical-reading exercise within a media module on the undergraduate programme. Plans are also in progress to make it available to librarians teaching within the curriculum and study support services. Easy access to faculties enabling wide dissemination of this tool is an added bonus of the cross-departmental nature of the project.

From a librarian's perspective the project provides evidence that confirms the need for the high volume of information literacy work in which many of us engage. It also reveals the need for a quick and easy-to-use tool to aid content or information evaluation. In the recent research of Mathers and Leigh,⁴ students were made aware of the study and evaluation tools provided by the Open University's Safari⁵ and Intute's Internet Detective,⁶ but they declined to utilise these resources. This led to the conclusion that a quick and readily available tool for evaluation was required and that the application of the tool should be built into the curriculum.

IN CONCLUSION

This research has confirmed the need for an explicit, easy-to-use, readily available information evaluation tool and enabled the development of such a tool. The tool, the Information Source Evaluation Matrix, is flexible and applicable to different pedagogic environments, for example traditional, blended learning or online. It enables the comparison of material as well as the initial evaluation. This helps students to build up a bank of relevant material for an assignment or task and then compare material for inclusion and decide on the order or context of the usage of that material. As a tool developed within and for a subject-specific environment it remains for it to be tested beyond these boundaries. As a mechanism developed in a library/faculty research project, the Information Source Evaluation Matrix is in an

ideal place to be disseminated across new subject areas and reviewed in the light of different subject demands and experiences.

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