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# The 'Seven pillars of wisdom' model: a case study to test academic staff perceptions



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Many British universities and colleges have used the SCONUL 'Seven pillars of wisdom' model<sup>1</sup> as a basis for the development of institutional information literacy programmes. However, little research has been done on whether academic staff can relate to the model and the implications it could have for their understanding of information literacy.

## BACKGROUND

During March and April 2004, a survey was conducted with De Montfort University teaching staff to obtain their perceptions of information literacy and to ascertain how skills relating to information and research are incorporated into student learning. The research into staff perceptions centred on the SCONUL 'Seven pillars of wisdom' model and the American Library Association's definition of information literacy.

This research was undertaken primarily for a dissertation for a MBA in Educational Management<sup>2</sup> but with the underlying purpose that it should be able to inform information skills development at De Montfort, a three-campus university based in Leicester and Bedford. The university has approximately 19,000 students and 1,600 academic teaching staff. The university is divided into 6 faculties:

- Art and Design
- Business and Law
- Computing Sciences and Engineering

- Education and Contemporary Studies
- Health and Life Sciences
- Humanities.

The research in the spring of 2004 was undertaken in order to ascertain:

- staff perceptions of information literacy;
- to what extent the library's teaching was meeting the needs of staff.

Questionnaires were sent out to 478 faculty academic staff across all six faculties and three campuses. They were chosen because they were all module leaders within the final year (Level 3) of undergraduate programmes. (At De Montfort University, a course is normally a 3-year undergraduate programme made up of 360 credit points, with each year of study comprising 120 points. The course is made up of subject modules to which are attached either 15, 60 or, more typically, 30 credit points. A module leader is the member of faculty staff responsible for the co-ordination of the module.)

Completed questionnaires numbered 98, giving a 21% response rate. The response rate was disappointing but much higher than the response rate of 14% achieved in 2003 for a general library satisfaction survey. Response rates within individual faculties were noticeably different:

- Art and Design 16%
- Business and Law 26%
- Computer Sciences and Engineering 12%
- Education and Contemporary Studies 23%
- Health and Life Sciences 30%
- Humanities 9%

## TESTING THE 'SEVEN PILLARS' MODEL

The staff being surveyed were not told anything of the SCONUL 'Seven pillars of wisdom' model so as to achieve the equivalent of a 'blind testing'. The main set of questions asked were reproduced from the model with examples given where it was felt that this might provide clarification. The staff were asked to identify which of the seven skills from the original SCONUL model were:

- a) Important for students to have acquired by the end of their course
- b) Specifically taught on final year modules
- c) Developed through student centred learning on final year modules
- d) Assessed on final year modules.

The results (see Table 1) showed a positive endorsement of the model and confirmation of the importance of the skills therein.

Which of the following skills:					
A) Do you wish students to have <b>acquired</b> by the end of their degree course?					
B) Are specifically <b>taught</b> on Level 3 modules in which you are involved?					
C) Are <b>developed through student centred learning</b> on Level 3 modules?					
D) Are <b>assessed</b> within Level 3 modules that you teach?					
	SKILLS	A)	B)	C)	D)
1	<b>The ability to recognise a need for information.</b>	97%	49%	58%	47%
2	<b>The ability to distinguish ways in which the information "gap" may be addressed</b> , e.g. knowledge of appropriate and relevant resources.	91%	53%	58%	38%
3	<b>The ability to construct strategies for locating information</b> , e.g. to develop a systematic method appropriate for the need.	89%	48%	54%	49%
4	<b>The ability to locate and access information</b> , e.g. to use appropriate indexing and abstracting services, citation indexes and databases.	92%	46%	60%	43%
5	<b>The ability to compare and evaluate information obtained from different sources</b> , e.g. awareness of bias and authority issues.	91%	59%	59%	72%
6	<b>The ability to organise, apply and communicate information to others in ways appropriate to the situation</b> , e.g. to cite bibliographic references in project reports and dissertations.	94%	71%	55%	78%
7	<b>The ability to synthesise and build upon existing information, contributing to the creation of new knowledge.</b>	85%	48%	57%	60%
	<b>Average responses to seven skills overall</b>	91%	53%	57%	55%

**Table 1 – Seven skills with overall responses given**

Overall these responses show that:

- 91% of academic staff wish the students to have acquired the seven skills by the end of their course
- 57% of academic staff are developing the skills through student centred learning on Level 3 modules
- 55% of academic staff are assessing the skills within Level 3 modules
- 53% of academic staff are ensuring that the skills are taught on Level 3 modules.

Academic staff responses to the seven activities that make up the SCONUL model show a stark contrast between an overwhelming support for the students to acquire these skills (91%) against what is done to enable this (an average of 55%).

The high level of support for the skills detailed within the model denotes a strong advocacy of the model which has so far made little impact outside the confines of academic libraries. The research undertaken at De Montfort University reinforces the desire, when the model was produced, that it could be a credible and workable framework for partnerships to support the development of information skills<sup>3</sup>. This research also confirms the diagnostic profile of a Level 3 student that was deemed a 'possibility' when Stephen Town first discussed potential uses of the model. He felt that, as final year projects and dissertations approach, students would be strongest in skills in the following order:

- Skill 1 – recognise a need for information
- Skill 6 – organise, apply and communicate information
- Skill 4 – locate and access information
- Skill 2 – distinguish ways of addressing the information gap
- Skill 5 – compare and evaluate information
- Skill 3 – construct strategies for locating information
- Skill 7 – synthesise and build upon information.

In Table 1, the responses from staff in terms of students having acquired these skills by the end of their course (column A) practically mirrors this expectation.

Town acknowledges that the model does not represent a simple progression from stage to stage but it does allow for a logical sense of development during higher education. This is reinforced

This area does warrant further research to discover whether there is a greater level of activity in the earlier years of undergraduate programmes.

Two other members of academic staff, both from the Faculty of Health and Life Sciences, identified skill 7 as being at a higher postgraduate level which is in line with the original thinking behind the model<sup>1</sup>.

#### DEVELOPING INFORMATION SKILLS BY 'OSMOSIS'

An analysis of how skills are viewed, at faculty level, and what is actually done to embed the skills, shows some interesting disparity between good intention and appropriate action, as illustrated in Table 2.

Faculty	Importance of skills to faculties <i>% response</i>	Actions taken to embed skills in student learning <i>% response</i>	Gap between importance & actions <i>% response</i>
Art & Design	93	56	37
Business & Law	94	48	46
Computing Sciences & Engineering	90	31	59
Education & Contemporary Studies	92	61	31
Health & Life Sciences	87	68	19
Humanities	95	70	25
TOTAL	91	55	36

**Table 2 – Faculty aspirations and actions in relation to the 'seven skills'**

by specific comments that some staff made on their questionnaire responses, e.g.

Embedding of skills (columns B to D) '*done in Level 2 to prepare students for Level 3*' (Education and Contemporary Studies)

*'To be honest, most of these should have been taught and developed at earlier stages of an academic career. Level 3 is certainly too late for this.'* (Business and Law)

Skills 1 to 4 identified as being covered '*by the end of the first term*' (Health and Life Sciences).

From Table 2, it can be seen that whilst Health and Life Sciences staff gave the lowest response in terms of wishing for their students to have acquired the skills, they do a good amount, proportionately, to ensure that the skills are embedded. The Faculty of Humanities both rates the acquiring of skills highly and effects the most to ensure that they are embedded. The Faculty of Computer Sciences and Engineering ranked the lowest in terms of teaching (20%), assessing (45%) and developing the skills through student centred learning (27%) but staff do actually value the acquiring of the skills.

The responses from De Montfort University academic staff give further credence to the conclusions of McGuinness<sup>4</sup> that staff assume students will 'pick up' the skills and Thompson<sup>5</sup> that information literacy has a tendency to be left to 'the osmosis technique'. (The De Montfort University subject librarians, who were interviewed as part of this research, were very much in favour of information skills being contextualised within modules that students take.)

#### THE LIBRARIAN'S ROLE

The faculty staff were asked to what extent they felt comfortable supporting the development of these skills and whether they felt that there was a role for librarians in this educational process. Fortunately, there was overwhelming acceptance of the librarian's role in the development of the skills highlighted within the model. There is a marked contrast between staff in different faculties as to their own comfort levels at supporting the development of the 'seven skills' (see Table 3). The faculties of Art and Design, Business and Law, and Education and Contemporary Studies are in the 90% range whilst Computing Sciences and Engineering staff are only acknowledging a 29% (that is, 2 out of 7 respondents) comfort level.

upon the definition produced by the American Library Association<sup>6</sup> in 1989 and used because, at the time of the research, the United Kingdom did not have a nationally accepted definition of information literacy. This research suggests that there may be wide acceptance of the American Library Association's definition since 97% of the De Montfort academic staff, who responded, were in agreement with the statement (see Table 4).

When asked whether undergraduate students should have achieved this state by the end of their course, 93% of the respondents either agreed or strongly agreed, as shown in Table 5. The lowest level of agreement, at an overall 86% (which, unfortunately, was only 6 out of 7 respondents), came from the Faculty of Computing Sciences and Engineering. With hindsight, it would have been interesting to also ask the question – whether undergraduate students do actually achieve this state by the end of their course. (This is planned for an update of the research in April/May 2005, focusing on Architecture staff.)

	Percentage (%) of staff comfortable supporting skills development	Percentage (%) of staff who feel there is a role for librarians in skills development
Art & Design	90	100
Business & Law	92	96
Computing Sciences & Engineering	29	100
Education & Contemporary Studies	92	100
Health & Life Sciences	81	94
Humanities	75	100

**Table 3 – Staff and librarians' roles in skills development**

#### ACCEPTANCE OF INFORMATION LITERACY

Another major aspect of the research was to ask the academic staff to what extent they agreed with the statement – '*An information literate student is one who can recognise when information is needed and have the ability to locate, evaluate and use effectively the needed information*'. This statement was based

'An information literate student is one who can recognise when information is needed and have the ability to locate, evaluate and use effectively the needed information'	Strongly agree	Agree	Disagree	Strongly disagree	Not stated
Art & Design	40%	60%			
Business & Law	72%	28%			
Computing Sciences & Engineering	86%	14%			
Education & Contemporary Studies	67%	33%			
Health & Life Sciences	64%	28%	5%		3%
Humanities	62.5%	37.5%			
TOTAL	65%	32%	2%		1%

**Table 4 – ALA definition of information literacy**

Undergraduate students should have achieved an information literate state by the end of their course	Strongly agree	Agree	Disagree	Strongly disagree	Not stated
Art & Design	80%	20%			
Business & Law	60%	40%			
Computing Sciences & Engineering	43%	43%	14%		
Education & Contemporary Studies	59%	33%			8%
Health & Life Sciences	38.5%	50%	5.5%		6%
Humanities	75%	12.5%			12.5%
TOTAL	54%	39%	3%		4%

**Table 5 – Responses regarding information literate graduates**

It could be suggested that academic staff equate the SCONUL model with information literacy given:

- the overall 93% agreement that students should have achieved an information literate state by the end of their course (Table 5), and
- the overall 91% agreement with the need for students to have acquired the 'seven skills' by the end of their course (Table 1).

However, this may be a supposition too far?

#### **FUTURE WORK**

The next step at De Montfort University is to work on how to negate the observations of McGuinness<sup>4</sup> and Thompson<sup>5</sup> and to further develop a philosophy where:

*'Collaborative partnerships between academic teachers and academic librarians are built on a mutual understanding of how collective expertise can enhance student learning'*<sup>7</sup>

This is being advanced in ways such as:

- progressing the principle of an information literacy framework within the University, using the 'seven pillars' model as a basis (this is currently in preparation and will be taken through the University and Faculty Learning and Teaching Committees);
- market our services further, exploring all areas for collaboration, especially highlighting subject librarians' expertise in developing Skill 4;
- endeavour to get information skills to be more contextualised and assessed, especially within the university's Blackboard VLE and web based teaching;

- provide more opportunities for academics to update their skills to become information literate themselves: a focus here is with Computing Sciences and Engineering who have shown such a low confidence level with the 'seven skills' themselves.

A future direction for this research in 2005, to be progressed as already mentioned with Architecture staff, within the Faculty of Art and Design, is:

- to test whether staff feel that students are information literate by the end of their course;
- to test the CILIP definition of information literacy<sup>8</sup> and to see whether this is as warmly received as that of the American Library Association.

## References

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