

Information literacy in the curriculum: selected findings from a phenomenographic study of UK conceptions of, and pedagogy for, information literacy

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Abstract

This paper reports on a phenomenographic study investigating UK marketing academics' conceptions of pedagogy for information literacy, part of a larger project, funded by the Arts and Humanities Research Board. Existing definitions and models of information literacy are identified. Previous relevant studies of conceptions of teaching are reviewed briefly, and the phenomenographic research approach is outlined. After discussion of sample and methods, five qualitatively different categories of pedagogy for information literacy are described. The paper concludes by noting some similarities and differences between previous research into conceptions of teaching and this study, and by suggesting implications for academics in an information society.

Keywords

Phenomenography; Information Literacy; Marketing; UK; Conceptions of pedagogy

Introduction

We report on a phenomenographic study investigating UK marketing academics' conceptions of pedagogy for information literacy. This is part of a larger project, studying academics in four disciplines, funded by the Arts and Humanities Research Board (see <http://dis.shef.ac.uk/literacy/project/>).

The key research questions we are addressing in our project are:

1. What conceptions of information literacy are held by UK academics?
2. What are academics' conceptions and reported practice in educating students for information literacy?
3. Do differences in conception correspond to differences in discipline?

Literature on information literacy is discussed briefly in the next section. Our own conception of information literacy is "the adoption of appropriate information behaviour to obtain, through whatever channel or medium, information well fitted to information needs, together with critical awareness of the importance of wise and ethical use of information in society." (Johnston and Webber, 2003)

The first stage of the project consists of a phenomenographic study of the conceptions of pedagogy for information literacy held by 20 academics in each of four disciplines; Marketing, Civil Engineering, Chemistry and English. The second phase, which will take place in the final year of the project, will draw on the data collected in the first phase in order to draw up a questionnaire

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tailored to academics in each discipline. The questionnaires, which again will focus on conceptions of, and pedagogy for, information literacy, will be distributed to a larger sample of the population of UK academics in each discipline.

The following sections provide the rationale and context for the research in terms of the focus on academics' conceptions of information literacy and their conceptions of teaching. The paper goes on to describe our methodology and the phenomenographic categories of description that have emerged from our analysis of the marketing transcripts.

Rationale and background for research into information literacy

Information Literacy has been a major focus of attention from library and information professionals, and has increasingly received wider recognition. For example, Candy et al (1994), in their report on Australian higher education, identify information literacy as one of the five key elements in the profile of a lifelong learner. A UNESCO-sponsored meeting in 2003 produced the Prague Declaration "Towards an information literate society", which asserts that: "Information literacy encompasses knowledge of one's information concerns and needs, and the ability to identify, locate, evaluate, organize and effectively create, use and communicate information to address issues or problems at hand; it is a prerequisite for participating effectively in the Information Society, and is part of the basic human right of lifelong learning." (Information Literacy Meeting of Experts, 2003)

Models such as the Society of College, National and University Libraries' 7 pillars (SCONUL Task Force on Information Skills, 1999) have been produced by library and information science (LIS) professionals as definitions and as proposed frameworks for teaching information literacy. Although existing research has been considered when drawing them up, the models themselves were not developed through application of a specific research method and they reflect LIS professionals' conceptions. Johnston and Webber (2003) have identified that, although librarians are increasingly engaging with their pedagogic role, there are still problems, for example, lack of meaningful assessment of student learning.

The key role of academics in producing information literate students has been identified by librarians (eg by the British SCONUL Task Force (1999; para 6) and by the American ACRL IS Research and Scholarship Committee (2003; p485.) However, librarians comment on the difficulty of collaborating with academics and Julien and Given (2003) have found that librarians' attitudes towards academics may also be problematic.

Whilst the librarians' voices and their views on information literacy are well represented in the literature, academics' own conceptions have received comparatively little attention. There have been a small number of research studies focusing on academics' perceptions of information literacy outside the UK. These include Bruce's (1997) phenomenographic study of educators in Australian universities, a Canadian survey of information literacy perceptions and activities amongst science and engineering faculty (Leckie and Fullerton, 1999) and McGuinness' phenomenographic investigation into Irish academics' conceptions of information literacy (early findings are reported in McGuinness, 2003).

In Bruce's (1997) study the core participants were 16 interviewees from Australian universities. The sample included academics, librarians, staff developers and learning counsellors. She identified seven qualitatively different conceptions of information literacy ("7 Faces"). Each has a different

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aspect of information literacy in focal awareness, for example: Information Technology conception: using IT for information retrieval and communication; Wisdom conception; using information wisely and ethically for the benefit of others.

Conceptions of teaching

A growing body of research investigates academics' conceptions of teaching. A number of these studies use the phenomenographic approach. We have not identified any studies of marketing academics (the focus of this article). Martin et al (2000) included business and social science lecturers in their phenomenographic study of how teachers intended to teach a subject or topic. They also observed the lecturers' practice, to compare intention with practice. In describing the lecturers' approaches to teaching, Martin et al developed categories which drew on an earlier phenomenographic study (Trigwell et al, 1994) of university science teachers. Martin et al (2000) identified six categories. The first three focus on information transmission, the next two categories are focused on conceptual development and the final category focuses on conceptual change.

Samuelowicz and Bain (2001) note that there are "many points of calibration between the descriptive categories [for approaches to teaching] that have been used in the literature" (p300) and organise the categories into three groups: Knowledge conveying categories (which would, for example, include Martin et al's "information transmission" categories), Facilitation of learning categories (including conceptual development and change categories) and (between these two) Intermediate categories (which, for example, focus on student-teacher interaction).

Martin et al (2000) put forward the importance of considering the "object of study" that teachers construct for their students (the "what" as opposed to the "how" of the act of teaching). They note a study of teaching creative writing by Martin and Ramsden which suggested that students learned what their teachers presented as learning: for example if creative writing were taught as a set of skills, then students were more likely to see creative writing as consisting primarily of skills development. Martin et al. (2000) conclude their paper by suggesting that "the object of study", more than anything else, will determine the quality of teaching and probably the quality of learning outcome as well." (p411) Our own study explicitly illuminates the "object of study" ie information literacy, as part of our analysis.

The research approach: Phenomenography

Phenomenography "aims to reveal the qualitatively different ways of experiencing various phenomena." (Marton and Booth, 1997, 136). Trigwell (2000) has identified distinguishing aspects of the phenomenographic approach, in particular that the approach aims to identify variation in experience of a phenomenon and that phenomenography takes a second-order perspective.

Marton and Booth (1997) characterise the phenomenographic approach as one which does not recognise a dividing line between the inner world and the outer world. The individual and the phenomena he or she experiences are bound together: the world is "constituted as an internal relation between them. There is only one world, but it is a world that we experience, a world in which we live, a world that is ours" (13) Phenomenography is a means of opening up these individual worlds, to form a picture of all the different ways in which the same phenomena might be seen "by learning about how the world appears to others, we will learn what the world is like, and what the world could be like" (13)

Samples for a phenomenographic study are normally purposive, seeking to cover variations of experience in population being covered and the preferred method of data collection is a semi-structured interview, with questions which aim to encourage the interviewee to focus on describing their experience of the phenomenon. The individual questions circle around and illuminate this central question. During the interview, it is important that the interviewer does not let his or her own conception of the phenomenon colour the interview (Ashworth and Lucas, 2000).

The interviews are transcribed verbatim, and the researcher(s) familiarise themselves with the data through repeated readings. The interview transcripts are pooled, since the focus is not on one interviewee's conception, but the variety of conceptions held between all interviewees. Each variation in conception which is expressed is held as valid. The researchers seek to identify concepts upon which the interviewees focus (looking for indicators such as repetition or emphasis). The result of the analysis process is a description of categories of variation in experience, and an "outcome space" which includes articulation of the ways in which these experiences are internally related. Diagrammatic representation may be used in addition to textual description. Quotations are an integral part of the descriptions (Entwistle, N. and Marton, F. (1984) 226)

Methodology

In this section we describe the methods we have adopted for sampling, data collection and analysis. In selecting our sample, of 20 academics in each of the four disciplines, we aimed for a varied population within our target group. The following factors were considered in selecting our sample:

- Institution: Interviewees come from 26 universities in England, Scotland and Wales.
- Sex: 39% of our sample are female.
- Post-1992 and Pre-1992 universities: 69% are from pre-1992 universities
- Departmental rating in the Research Assessment Exercise (RAE)
- Departmental rating in the latest teaching quality assessment for that country/subject.

We surveyed other characteristics, such as age, through a brief factual questionnaire administered as part of the interview. The characteristics of the sample of 20 Marketing academics were as follows:

- 12 male and 8 female, with 15 of UK nationality;
- Age ranges from 21-30 and those inbetween to 51-60;
- Years of teaching in ranges from 0-5 and those inbetween to 26-30. A few academics were members of the Academy;
- All taught undergraduates, 18 taught Masters students, 8 taught PhD students;
- 10 were course or programme coordinators;
- They came from 12 different universities: 4 post-1992 and 8 pre-1992;
- Research Assessment Exercise ratings ranged from 2 to 5*;
- Teaching quality grades ranged from Satisfactory to Excellent.

We contacted interviewees either by emailing individual academics directly or via librarians. The large number of interviewees who said that they had not heard of the term "information literacy", and the variation in conception that we are discovering, lead us to contend that we did not just interview those already interested in information literacy.

The research team (Webber, Johnston and the Research Assistant Stuart Boon) drafted interview questions, and the semi-structured interview was piloted with three lecturers. The key questions were:

1. What is your conception of information literacy? Supplementary questions included asking how the academic personally engaged with information literacy, for example in their research.
2. How do you engage your students in information literacy? Supplementary questions included asking about the desired outcomes; challenges; collaboration with librarians; and whether information literacy was assessed.
3. What is your conception of an information literate university? Supplementary questions included goals and outcomes; challenges; and who would be affected by change.

The questions provided a good progression within the interview, moving it from current personal experience and practical teaching experience to organisational context. Each of the questions helped to develop the picture of how the interviewees experience information literacy.

The interviews for the whole project were carried out and transcribed by Boon. Each interview lasted approximately 45 minutes. Initial analysis began once the first few interviews (from a mixture of the four disciplines) were transcribed. We have taken a collaborative approach to analysis. Each team member read the transcripts and presented their reflections at the team meeting. A pattern was established of holding team meetings roughly every six weeks. Marked-up transcripts, concise minutes and in some cases other media (eg flip charts) recorded discussion and decisions.

Once all the interviews were transcribed, the key analysis phase began, with concentration focusing on one discipline at a time, beginning with the Marketing transcripts. In addition to the work already done in highlighting key quotations and flagging up key themes and potential categories the data was loaded into Atlas/ti text analysis software. Codes were developed through an iterative process and the coded data was output in the form of lists of numeric occurrences of the codes, charts derived from numeric data about the codes, and sets of quotations coded to different themes and categories. External presentations on the project also stimulated separate analysis of subsets of the data. Through an iterative process, moving between analysis and readings of the data, the categories described in the following sections were identified. Firstly, categories of description for conceptions of information literacy were identified. These categories then contributed to the categories of description of the academics' conceptions of pedagogy for information literacy.

UK Marketing academics conceptions of pedagogy for information literacy

1. Someone else's job
2. Upgrading students' information toolbox at an appropriate point
3. Facilitating access to a variety of resources
4. Showing students how and when to use information skills
5. Helping students understand how information literacy is critical to them, for marketing & life

The key dimensions of variation are:

- i. Pedagogic focus on: (in combination) the subject (marketing); the course of study; self; assumptions about students; student expectations (of the course or lecturer); student understanding.

ii. Conceptions of information literacy. These were analysed into the following phenomenographic categories:

1. *Accessing information quickly and easily to be aware of what's going on:* The focus is on being able to get access to a wide variety of information quickly and easily. The key purpose is keeping in touch with, and drawing on, what is going on in the outside world.
2. *Using IT to work with information:* The focus here is on using information technology (software applications and networks) efficiently and effectively to work with information. Both textual and numeric information is explicitly mentioned.
3. *Possessing a set of information skills and applying them to the task in hand:* The focus is on developing a set of information skills and being able to apply the relevant skills to a particular task (eg writing an article, producing an assignment).
4. *Using information literacy to solve real-world problems:* focuses on understanding a problem and understanding how information can be used to solve the problem. It is qualitatively different from conception 3, in that the central focus is on the problem, rather than on skills.
5. *Becoming critical thinkers:* The central focus is on becoming a critical thinker. Most important to this development are higher order information skills such as understanding and interpreting information.
6. *Becoming a confident, independent practitioner:* The focus is on the use of information literacy as an important part of becoming a confident practitioner. Thus there is a focus on personal development to become this practitioner, which will happen in a real world context.

Table 1: Outcome space for UK Marketing academics' pedagogy for information literacy

	<i>1. Someone else's job</i>	<i>2. Upgrading students' information toolbox</i>	<i>3. Facilitating access to a variety of resources</i>	<i>4. Showing students how & when to use information skills</i>	<i>5. Helping students understand how information literacy is critical to them</i>
Conception of information literacy	- Toolbox - Accessing information	- Toolbox	- Accessing information - Using IT	- Accessing information - Using IT	- Problem solving - Critical thinker - Independent practitioner
Focus of pedagogy	The subject (marketing) + assumptions about students	The course of study + assumptions about students	Self + student expectations	The course of study + student expectations	Student understanding

Category 1. Someone else's job

The subject (marketing) is in focal awareness; the role of teaching information literacy may be explicitly rejected.

"It's my job in a two hour lecture to lecture to them on the subject area for two hours."

"Uh, when I go to a lecture I teach in a lecture. I don't teach them how to use the library. I

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don't teach them how to use the internet. I don't teach them how to do electronic searches."
(Interviewee13).

Insofar as the teacher is involved in information literacy education, it is in providing reading lists and handouts, or directing students to resources at appropriate points. Information literacy is seen as relevant to the students, but it is just not the lecturer's responsibility to develop them. The conception of information literacy is 1 or 3. Assumptions are made about the students and the skills and knowledge they may or may not possess.

"Um, my students are third years so I am making the generally, probably wholesome, assumption that over the previous two years they probably have learned these skills to some degree, and if they haven't then... again because it is such a short semester, I don't really have time to go into things like how to go to the library, how to find information, um, I give them a reading list, and I try to make it explicit which library they need to go to"

(Interviewee 08)

Category 2. Upgrading students' information toolbox at an appropriate point

The focal awareness is on the interaction between a toolbox of information skills and a given course of study. The conception of information literacy is *Possessing a set of information skills and applying them to the task in hand.*

Pedagogy for information literacy is experienced as giving teaching or classes to meet the course requirements, driven by their expectations of what students need at that point.

"Well, it means having a, uh, a kind of toolbox of skills that I can show the students how to use. But I should point out that I don't teach a lot of information literacy, not as it would be called information literacy, but there are important bits or specific tools that I do bring out for different classes." (Interviewee14)

Their expectations of students are that they will arrive at university with deficiencies in specific areas of information literacy. Students learn by being exposed to teaching at an appropriate point in the course of study.

"Marketing 05: Evaluation is important, but I do it for them until second year.

Interviewer: Why is that?

Marketing 05: There isn't a lot of call for evaluation in first year. And I don't think they possess those skills until we cover them." (Interviewee 05)

Where the manner in which teaching and learning takes place is elaborated, reference is made to showing and demonstration, with mention of PowerPoints and handouts in particular.

Category 3. Facilitating access to a variety of resources

In this conception the focus is on the lecturer's role in facilitating access to information. There is a focus on being aware of what the students' expectations are, and tailoring the pedagogic approach to those expectations.

The conception of information literacy is of *Accessing information quickly and easily to be aware of what's going on* or (where there is a particular concern with numerical data) *Using IT to work with information efficiently and effectively* (access to information and using IT tools effectively are part of the internal horizon for both these conceptions). The focal awareness is on the lecturer making information accessible at a point that fits in with his or her own teaching, and on the students being able to access the information.

"As an educator, I suppose it would mean, um, well, if we are talking about education, then I suppose it [information literacy] would mean—because my first answer was based on

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research—I suppose this would mean more about using it in teaching and teaching other people where to get information from, and what exists out there, and how to get a hold of it." (Interviewee 18)

Students are perceived as having expectations about course delivery and there is a desire to meet the perceived expectations.

"Full-time MBAs and executive MBAs are expecting guru-like experiences, so that's the... the way to approach that is to be up to date with the latest stuff, adding your own research, and having consultancy experience, building on the field work." (Interviewee 07)

These information sources include the lecturers' own material, the library, the students themselves, and books, and also the systems the students use to access the sources. Verbs such as "post", "give", "show", "send [the student to...]" are used in this context.

Category 4. Showing students how and when to use information skills

The focus for those with this conception is on introducing information literacy skills when the students need them. There is similarity to the conception **Upgrading students' information skills at an appropriate point** in that the requirements of the course are important. The key qualitative differences from the latter conception are that

1) When talking about changes in teaching, academics often talk about adapting to student expectations and preferences, or reacting to observations of student behaviour. eg

"I asked them [the librarians] last year to come in and to present a session with students to show them how to use different databases like EBSCO and ABI Inform and things like that, because the students were professing that they didn't know how to do that [...]"

(Interviewee 03)

2) The academics talk about how they aim to persuade students that the skills will also be useful in their lifecourse, as well as during the course itself.

"Aside from all the stuff they have to learn about what this topic is, I like them to learn, um, how to find things out to use for essays and the resources that are available on the computer and in the library. I like them to learn, um, a more practical side of things like communication and discussion and things like that, but I don't know if you'd class that as information skills or not. But I think that the learning experience is about, um, can you go out and work at the end of the degree and not just can you recite who wrote this particular journal article in 1978?" (Interviewee 03)

There are two variations, depending on whether the conception of information literacy is 1 or 2, and the emphasis in what is done in the classroom will vary accordingly. For example, Variation 1 with information literacy conception 1 (Accessing information quickly and easily) focuses particularly on students learning about finding resources and his/her own role as a provider of information. However, this is qualitatively different from the **Facilitating access to a variety of resources** conception, in that this is combined with an awareness of developing learning through a course of study.

When describing teaching practice, there is an emphasis on demonstration, provision and student activities (searching, using information systems etc).

Category 5. Helping students understand how information literacy is critical to them, for marketing & life

The focus is on students' understanding of the role and importance of information literacy in the discipline of marketing and/or in students' life outside formal education.

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"The MBA is all about learning to swim in information and to make heads or tails of where you are and where you need to go. (Interviewee 01)

"People really know how important it is and how increasingly important those skills are in terms of doing things in the real world, whether they are going to be academics or practitioners, it doesn't matter. You know, the world is about information and we are breeding a generation of knowledge workers. The better they are when they leave us.

Interviewer: So that is something you are trying to instill in the students as well?

MARK10: Oh, I think, I think that it is something that comes with everything they do." (Interviewee 10)

Thinking and reflection very important

"Students want to rush off to Yahoo and get started. They want everything to be waiting for them. They want it now, now, now! A lot of what I tell them is to slow down. 'Slow down,' I say. 'Think about what your doing.' So I tell them to start by looking at the problem. Really have a good look at it. [Pause]. You've got to try to get your hands on it. Try to work out how to go at it, like, uh, how you want to approach it." (Interviewee 12)

The intention is that student understanding comes about variously through participation, questioning, problem solving, case study work etc as well as demonstration and facilitating access to resources;

"I want them to think about information. I want them to feel like they can really participate. I put a lot of pressure on the students to get interactive, to go out and to learn. I want them to see that information is essential and that it doesn't have to be boring. Information acquisition can be driven by a high level of creativity, or idea creation, and a lot of these things can be taken straight from everyday things. My own methods for teaching in this way is to make things kind of sexy or funky." (Interviewee 20)

Discussion and conclusions

We will confine our discussion to two points. Firstly, it was noted in a previous section that there appear to be "many points of calibration" (Samuelowicz and Bain, 2001) between the various categories produced by investigations of conceptions of teaching. Our study is similar in that it reveals both knowledge conveying (Our categories 2 and 3) and Facilitation (our category 5) approaches to teaching. Our study is different in that it has produced a category "Someone else's job" that has not appeared in previous studies. Note that the "object of study" (information literacy) **was** experienced, and conceived as having value for students, but the teaching of the "object of study" was not seen as the lecturer's job.

This shows that it is worth distinguishing between investigation into teaching "your subject" and investigation into teaching those skills or knowledge outside "your subject". Teaching other skills and knowledge (in this case information literacy, but other examples would be team working and learning to learn) are increasingly framed as part of a UK academic's job. It cannot be assumed that because a university teacher has a certain approach to learning and teaching of their core subject area, that they will take the same approach to teaching and learning of subjects such as "key skills." This has been an under-researched area.

Secondly, we would contend that development of IL within the curriculum might be seen as one form of a nascent response to the *information society*. The idea of an information society has

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gathered pace as a description of the growth and impact of information services, products and systems as key features of economy and communication. Academic institutions are implicated in this wider social development as the scale of relevant information services, particularly online services, has grown, and impacted the research and teaching practices of academics and students. Some of the interviewees acknowledge the existence of an "information society" in which IL is important or even essential "You know, the world is about information and we are breeding a generation of knowledge workers." (Marketing 10). However, despite recognising the value of information literacy, this recognition did not always mean that information literacy was taught. The extent to which academics engage with information literacy may illuminate the ways in which notions of an information society are being translated into pedagogical practice.

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