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## **Information Literacy in the United Kingdom: a critical review**

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### **Abstract**

*This chapter aims to provide a picture of the state of information literacy in the United Kingdom (UK). In order to set these developments in context, it starts with an analysis of political, economic, social and technical developments in the UK that impact on information literacy. The authors proceed to identify key constituencies concerned with information literacy and summarise their engagement with it. These constituencies are: government, information hosts and providers, the library and information profession, education sectors and the wider public (including employers). The most detailed discussion is devoted to the education sectors, since that is where there has been most activity. The chapter concludes by noting some key barriers preventing the swift movement to an information literate UK.*

### **1 Introduction**

This paper aims to provide an overview of key developments concerning Information Literacy in the United Kingdom (UK), together with our own critical perspective on the subject. We start by defining information literacy, and go on to analyse the political, economic, social and technical context in the UK. We proceed to consider different constituencies, and their contribution to information literacy. The constituencies are: Government, the library and information profession, the education sector (where most developments have taken place), and finally the wider community of the workplace and the citizen.

#### **1.1 The UK and the Information Society**

As we indicate in later sections of this chapter, the UK has a developed information industry, comprehensive educational provision, and a powerful political agenda for social and economic modernisation. This agenda seeks to combine a vision of economic well-being and equality of opportunity in an information society. The Information Society has been defined as:

"... a society in which the creation, distribution, and manipulation of information has become the most significant economic and cultural activity." (UK National Inventory Project, 2000).

The British Prime Minister, Tony Blair, has expressed his views on citizenship in such a society as follows:

"My vision is of a nation where no-one is seriously disadvantaged by where they live, where power, wealth and opportunity are in the hands of the many not the few." (Tony Blair, foreword: Social Exclusion Unit, 2001)

These statements imply a tightly organised and strategically managed endeavour, aimed at exploiting and developing the nations' human and information resources to achieve economic and social wellbeing. In the British context, this combination of factors might be said to constitute an 'information democracy' for the 21<sup>st</sup> century.

The concepts and practices associated with Information Literacy should therefore be a concern for those interested in achieving this vision. However in comparison to Australia, the USA, and Canada, the UK has made limited progress in developing Information Literacy as a key discipline of the information society. Consequently our task in this chapter of surveying the current state of Information Literacy in the UK is complicated by the absence of a clear unifying agency. The UK does not have a clear information policy at Government level.

## **1.2 Definition of Information Literacy**

The UK, unlike, for example, the USA, has not established a defining statement or model of Information Literacy, although the academic library community has produced a model which we describe in 2.4, below. Consequently we will work from our own definition which is:

"Information literacy is the adoption of appropriate information behaviour to identify, through whatever channel or medium, information well fitted to information needs, leading to wise and ethical use of information in society."

This holistic definition captures the more complex experiences of Information Literacy which we see as essential to education, the economy, and community activity in a society as developed as the UK. We seek also to capture Information Literacy's roots in Library and Information Science, whilst acknowledging the need to diffuse understanding and skill in information use much more widely in the workforce and the community than in the past.

Bawden (2001) has identified the wide variety of phrases and words used to describe this concept. In the UK, some people have expressed discomfort with the term "information literacy" (worrying that the subjects of information literacy education will feel that to be labelled, by implication, "illiterate" is insulting). "Information skills" has been more commonly used (for example in the *Big Blue* project (Manchester Metropolitan University Library and Leeds University Library, 2002). However, Information Literacy is gaining ground as a term, as witnessed by the metamorphosis of the Standing Committee of National and University Libraries' (SCONUL) *Task Force on Information Skills* into the *Advisory Committee on Information Literacy* in 2002.

## **1. 2 Background: Influences on information literacy in the UK**

This section provides a brief PEST analysis of the UK situation, to provide a context for the subsequent discussion: i.e. it considers in turn Political and legal, Economic, Social and Technical factors.

First, we consider political and legal influences. A characteristic here is the political tension between, an apparent focus on social inclusion issues by Tony Blair's Labour Government (e.g. by setting up the Social Exclusion Unit) and economic policies which carry forward the agenda of the conservative government, such as contracting out or privatisation of public services (for a critical perspective see, for example Monbiot (2002) and for commentary on the impact of privatisation on public sector information see Haywood (1995: 150-2).

There is also a tension between, a Government commitment to more information and to e-government (Office of the e-Envoy, 2002b), and the traditional British Government approach that citizens should only be allowed access to public information on a "need to

know” basis (Haywood, 1995:145-150.) The *Freedom of Information Act* (UK Parliament, 2000) puts pressure on public bodies to make their information better organised and more accessible. One might argue that this encourages these bodies to be more information literate. Pedley (2002) points out the information management implications, for example. The Information Commissioner (2002) has a remit to monitor compliance with this act, as well as the Data Protection Act. However, the Freedom of Information Act came under strong criticism during its progress through parliament (Macintyre, 2001; Picton, 2002), as it was felt that the Government was giving itself too much leeway to refuse access to information (on the grounds that public interest would not be served by disclosure), and was delaying implementation of the Act.

Therefore, in terms of political influences on Information Literacy, it seems that whilst there are legal moves to enhance information access and use by citizens, there are equally powerful political tensions militating against that objective. Section 2.1 below, discusses specific Government initiatives in more detail.

The next issues we will consider are social ones. The UK is a relatively small country: very crowded in some parts (e.g. South East England), but also with sparsely populated and difficult to access areas (e.g. the highlands and islands of Scotland). There is diversity in terms of rural vs. urban, and also in terms of ethnic background, religion and language. There is, for example a well established British Asian community (The size of the minority UK's ethnic population was 4.5 million in 2001/02 (National Statistics, 2002a.)). In terms of indigenous languages, Wales is a bilingual country, and there are communities of Gaelic speakers and support for Gaelic culture in Scotland. This linguistic and cultural diversity raises question of appropriate forms of information literacy. People from some cultural backgrounds, for example, might put a particular emphasis on the wise and ethical use of information, others might be more concerned about freedom of information. The population of the UK is growing, but at a fairly modest rate (see: National Statistics, 2002b)

The UK is media rich, with a strong publishing industry. There is high penetration of TVs, video recorders and mobile phones (Intel, 2001), and growing penetration of home computers and home access to the internet (National Statistics, 2002c): by September 2002 46% of households could access the internet from home. Tools such as mobile phones are owned by people, especially young people, in a variety of social groups (certainly not just by the affluent) and are changing communication patterns (National Statistics, 2002d: 218; Charlton, 2002). However, surveys have shown that the unemployed and those on low income will have less access to the internet and computers (National Statistics, 2002c: 5).

There has been a big increase in participation in higher education over the past 25 years (from about 5% to about 37% of the population going into post-school education), but figures show that this means that the majority of middle class children now go to university, and there is still under-representation of those for lower income groups (Watson, 2002) As there has been a particular focus on information literacy in higher education, one might ultimately expect an more information literate general population, in line with the increased participation in higher education: as yet there is not evidence of this.

Thus, whilst the technological and higher education provision conditions of the Information Society are well developed, and should drive up demand for information literacy, it seems that there is significant inequality of access based on income, allied to regional and local variations in patterns of use. The diversity of the population may be influential in leveraging an equally diverse and culturally rich provision, and thereby encouraging a sophisticated information public.

We will finally consider Economic and Technical factors. The decline of UK manufacturing and the rise of service and knowledge industries also implies a greater need for information literate employees. Globalisation, amongst other things, may

demand more knowledge about, and ability to communicate with, those from other cultures, in order to trade with them successfully (or gain a job in a transnational company). The Blair vision of a "modernised" Government, and of a population at ease in a global information society implies an economy which has a skilled, flexible and information literate workforce.

Equally the internet has had an impact on how and where people find information, their expectations about information (in terms of format, access and cost) and their information behaviour generally. It also provides many opportunities for information and library professionals to hook into interest in search engines and websites, in order to educate people for information literacy. People (rather than books or journals) are often valued as information sources. The internet (through chat and email), internet/intranet technology and mobile phones have made it much easier for people to use each other as information sources: not just friends and family but experts or fellow enthusiasts who they have never met physically.

In the workplace, debate on networking within and between companies has (at least in large corporates) gone past the "how do we tie these bits of cable together" stage to questions of "how can we get people to use this network effectively": again, an opportunity to foreground information literacy as a key ability for employees.

Publicly funded bodies have to spend a lot of time recording, interpreting and justifying what they do, and applying for the next grant or benefit. Information gathering, information analysis, and presentation of information have therefore become more important skills to master. Yet again there is limited evidence that public sector organisations possess strategic blueprints or staff development strategies, beyond a naïve faith in hardware investment. (Mutch, 1997)

Thus the headline debate on knowledge competitiveness, and the growing use of computers, the internet, and mobile communication technologies is very favourable to Information Literacy. Equally there is a strong perception in the labour market that Information and Communication Technology (ICT) skills are crucial to employability. However, it is more difficult to identify specific examples of significant linkage between the aim of knowledge competitiveness, and the actual practice of information literate economic activity at the sectoral or enterprise levels.

To sum up our PEST analysis: the foregoing material displays a potentially rich landscape, but one full of contradictions and conflicts. There is no sense of the organisation or strategy implied by the definition of the Information Society, or the vision of citizenship cited in the introduction. The overwhelming sense of this review is a lack of connection and direction in the political, social and economic domains of the nation.

## **2. Who is concerned with information literacy?**

A number of different constituencies are concerned with the information literacy. We will focus here on Government, information providers, professional bodies, the education sectors, and those concerned with information management in the workplace.

### **2.1 Government**

We have already highlighted some political issues. In this section we will develop the theme further by exploring briefly Government's conception of the "Information Society", and then providing a short indicative review of two different and representative examples: lifelong learning, and supporting communities.

A disappointing aspect is that Information Literacy is seldom mentioned explicitly, and the focus is predominantly on ICT literacy. At a pan-UK level, the Office of the e-Envoy aims to "ensure that the country, its citizens and its businesses derive maximum benefit from the knowledge economy" (Office of the e-Envoy, 2002a) This is to be achieved

through core objectives relating to e-commerce; universal access and electronic delivery of Government services by 2005; and cross-Departmental coordination. Similarly, the Welsh Assembly (which has devolved powers) has a number of initiatives concerned with the Information Society. However, the majority concern use of ICTs, e.g. increasing use of ICTs in business and fostering e-learning. (Welsh Assembly Government, 2000) A key development is Wales Information Society (WIS). Despite the fact that the "goal [of WIS] is to help Wales become a knowledge-based society as quickly and effectively as possible" the project simply "aims to stimulate and develop the use of information and communications technology throughout the Principality" (Welsh Development Agency, 2002). The underlying assumption for both the WIS and the Office of the e-Envoy is that knowledge subsists in ICTs. They have been encouraged in this view by the European Union's emphasis on the electronic aspect of the Information Society (the first sentence of the recent European Commission (2002: 1) brochure on the information society is "The Internet is changing the world we live in, and the challenge for Europe is to embrace the digital age and become a truly knowledge-based economy. "

**Lifelong Learning:** In terms of learning, the Government has launched a number of initiatives which aim to encourage citizens to undertake learning (e.g. short practical courses, off- or online) and to foster the idea of lifelong learning. The National Grid for Learning (2002), an initiative launched by the UK Government in 1998, promotes some of the skills and knowledge encompassed by information literacy. However, the stress is on ICTs with some implication that skills such as internet searching are ICT skills rather than higher level problem-solving skills. Other UK initiatives are described on the Lifelonglearning (2002), The New Opportunities Fund (2002) and Learndirect (2002) websites. Scotland quite often has separate agencies fulfilling similar functions to the UK Central Government ones. For example, Community Learning Scotland (2001) is the Scottish national community education agency.

For libraries, the key official "wired" development has been the People's Network (2001) which aims to have all 4300 of the UK's public libraries with internet connections by the end of 2002. Part of the initiative has funded librarians' training, but the emphasis is on ICT training, with education for more information literate roles such as "Net navigator" only being funded when the core ICT competencies have been achieved.

**Community Information and Action:** The Social Exclusion Unit (2002), set up in 1997, not long after the Labour Government had come to power, has a "remit ... to help improve Government action to reduce social exclusion by producing 'joined up solutions to joined up problems.'" 18 Policy Action Teams (PATs) worked on key topic areas. *Better information* (Social Exclusion Unit, 2000) is a report by one of these PATs. This report aimed to investigate the adequacy of the small-area statistics gathered by various local and national Government Departments and agencies, in order to meet the needs of Government in policy, planning and delivery of services, and to aid local communities themselves.

The Action Team was highly critical. They identify a need for more neighbourhood data, with more granularity e.g. more detail on ethnicity. However, they go beyond this to expose serious information management problems in Government bodies. The Action Team note that poor information has led to ignorance about local problems, local trends and policy impact, to poor allocation and use of Government resources, and to duplication in data gathering. For example:

"The common theme that emerges from this chapter is the lack of leadership on joined up data issues across government and hence the lack of overall government strategy, either at national or local level. ... In the absence of clear leadership from government, there has been considerable duplication of effort, a waste of resources, no clear guidance for using data, lack of information on what is currently available, inadequate national standards on quality and no development of an adequate skills base to utilise and interpret the data. This in turn has led to cultural barriers being erected, such as

fear of information, suspicion of its use and the hoarding of data by Government departments." (SEU, 2000: 23)

In an earlier paper, (Webber and Johnston, 2002a) we relate this report to comments from a small-scale survey of community action groups. We conclude that the Government does not only have a role in developing the information literacy of its citizens, through lifelong learning, but also should itself be information literate. This means that the manifestations and agents of Government need to be better at recognising information needs, at organising, locating and evaluating information, and at communicating it effectively. A more information literate Government would benefit both taxpayers and the State.

## **2.2. Information providers and hosts**

Information is an experience good (you may not be able to judge its value to you until you have experienced and paid for it) and could be seen as a "grudge purchase" (something necessary, but not enjoyable). Therefore it is desirable for potential customers to recognise when they need information, and to experience success when they search for information. Information providers will aim to design products which meet users' needs, which are convenient to access, and appropriately priced. However, if people are unable to recognise when they have an information need, and are too unskilled to find the information they want, they will not be repeat buyers. This has been recognised as a key problem in reaching small and medium sized enterprises. For example, as far back as 1982, White et al identified, that that "the manager of a small firm does not have the experience to identify the problem and to be able to analyse it in precise terms in order to seek appropriate information".

Unsurprisingly, information providers tend to concentrate their information literacy training efforts on educating users in the use of specific information sources, i.e. their own offerings. However, they also support the work of information professionals in educating users more generally. An example is Factiva's (<http://www.factiva.com/>) InfoPro portal (the business information service Factiva is a joint venture between the UK company Reuters and the US firm Dow Jones). They include a section on their website called *Training tools for the information professional*.

## **2.3 The Library and Information Profession**

In its strategic statement, *2020 vision*, the Library and Information Commission (2000) highlighted the importance of access to knowledge. Although the phrase 'information literacy' is not actually used in the document, it does say that "Individuals will need a range of literacies to enable them to maximise their potential, individually and collectively." This body is now re:source: the Council for Museums, Archives and Libraries.

The Chartered Institute of Library and Information Professionals (CILIP) was formed in 2002 by a merger of the Library Association and the Institute of Information Scientists. CILIP has a course accreditation checklist, outlining the subjects which should be covered in librarianship and information management courses (CILIP, 2002a).

Obviously concepts of searching and organising information etc. are included, as are "user studies and education", but the document does not explicitly mention information literacy.

However, there are indications that Information Literacy will be moving further up CILIP's agenda. Its corporate plan states that CILIP "also acts in the public interest, as a champion of access to knowledge and a promoter of information literacy for all." (2002b: 1) and notes "the centrality of information literacy to society's aspirations for social inclusion and cohesion, lifelong learning and educational attainment, economic competitiveness and regeneration, and informed and engaged citizenship" (2002b: 4)

At time of writing this acknowledgement had still to be translated into tangible CILIP initiatives or any public declaration to match the Australian Information and Library Association's (2001) *Statement on Information Literacy for all Australians*. The 2002 President of CILIP, Sheila Corral, has an active interest in Information Literacy (see e.g. Corral, 1998 and Corral, 2002)

There is not a CILIP special interest group devoted specifically to user education or information literacy. Some specialist professional groups have taken an interest in Information Literacy, and this is noted in the relevant section, below. There is no national institute or forum for information literacy, unlike, for example, the USA (with its National Forum for Information Literacy).

There have been two conferences focusing on information literacy. The first was organised by the Standing Conference of National and University Libraries (SCONUL) in 2000 (proceedings are available: Corral and Hathaway, 2000). The IT and Information Literacy conference was held in Glasgow in March 2002: there is a website with some presentations (see <http://www.iteu.gla.ac.uk/elit/itilit2002/papers.html>) and selected proceedings are to be published in 2003 (Martin and Rader).

## **2.4 Education sectors**

A variety of trends are affecting education sectors in the UK. "Key skills" have been defined or flagged up in important reports (this area will be discussed in more detail below). In all sectors, educators are being urged to shift from an emphasis on teaching to an emphasis on learning, with an alignment of teaching, learning and assessment (Biggs, 1999). Authors such as Bryce and Humes (1999), Cohen et al (1998), Laurillard (1993) and Ramsden (1992) have been influential,

Problem-based learning is used increasingly, meaning that students are more likely to have to research individual problems and topics, rather than simply follow a reading list. A constructivist approach to learning and teaching, which concentrates on "learning by doing", and sees learning as being individually constructed, building on a foundation of personal experience (see e.g. Fox, 2001), can be seen as symbiotic with an increased emphasis on information literacy. All sectors of education in the UK are subject to quality assurance. See the Quality Assurance Agency website (<http://www.qaa.ac.uk/>) for information on universities' teaching quality assessment and the Office for Standards in Education (OFSTED) website (<http://www.ofsted.gov.uk/>) for information on school inspections.

All sectors are affected by changes in the channels through which information is published: in particular there is increased use of the internet. The Office of Her Majesty's Chief Inspector of Schools (2002: 1) notes that in 2001 96 % of primary schools and all secondary schools were connected to the Internet.

There is also increased use (particularly in universities) of the use of electronic journals and reference tools. The Joint Information Systems Committee (JISC) has funded the development of networks and networked information in higher education, and has also funded research into the way in which electronic information is used: a couple of specific projects are mentioned below. Teaching staff in all education sectors are being encouraged to use ICTs as part of their teaching strategy. In higher education Virtual Learning Environments (VLEs) are being used to support on-campus, as well as distance learning, students.

As has already been noted, there has been a significant increase in the number of students going on to higher education in the UK.

### **2.4.1 Schools**

Librarians' ongoing interest in information skills for students is evidenced by the existence of texts such as those by Irving (1985) and Herring (1996), and studies such as that of Hopkins (1987), which examined selected school curricula for evidence of teaching in some aspects of information literacy. The actual term "information literacy" has had less exposure than in the United States, Canada and Australia. From an educational policy perspective, the current emphasis is on developing transferable skills and ICT skills.

As of yet, no real standards for information literacy have been incorporated into the National Curriculum, as it is not identified as one of the official Key Skills for pupils. Information Literacy is spread amongst the key skills (e.g. "Using ICT to find information" in ICT; "Reading & obtaining information" under Communication) (Qualifications and Curriculum Authority, 2002c). There is a mention of a need for "information skills" and information competency as part of the Key Stage 3 National Literacy Strategy. The level descriptions of the National Curriculum's targets for ICT do, however, suggest the influence of information literacy, containing language that reflects SCONUL's Seven Pillars (see next section), and Bruce's Seven Faces, of information literacy (Bruce, 1997). For example, the five attainment targets for information and communication technology capability include "finding things out", "exchanging and sharing information", and "reviewing, modifying and evaluating work as it progresses" (Qualifications and Curriculum Authority (2002b).

CILIP's School Libraries Group website does not list information literacy as one of its aims, key issues or objectives, while it does clearly state the aim "To utilise and promote developments in information and communications technology" (<http://www.cilip.org.uk/groups/sg/sg.html>). The School Library Association (SLA), a group which is independent of CILIP, has been more explicitly active. It has promoted information literacy in schools through publications such as Dubber's *Developing Information Literacy Skills through the Primary School Library* (1999), and SLA-sponsored workshops. The SLA has also produced a series of courses which explore "effective ways of using the school library and its resources to develop information literacy across the curriculum" (<http://www.sla.org.uk/training.html>).

There is evidence within the schools themselves of teachers and school librarians taking initiative individually and integrating information literacy into their classes and information sessions. For example Roberts (2001) describes her involvement in a six-week module and Small (1993) reports on the way in which information skills have been integrated into the curriculum at ADT College, a City Technology College in London. Tilke (1998) reports briefly on a survey of secondary school libraries, including their information skills programmes.

Evidence of further interest into the topic of information literacy and schools can be found in an increasing amount of research being undertaken in the area. Williams et al (2001) provide a critical review of the literature, looking for evidence of the impact of the school library on learning. Williams and Wavell (2001) report on a study undertaken in Scottish secondary schools, which examined pupils' and librarians' perceptions of the impact that the school library has on learning. The researchers developed a framework of indicators. They propose a checklist for progression of learning.

Information literacy of both pupils and teachers is being examined. Merchant and Hepworth (2002) studied pupils and teachers in two schools. They found that, although there was evidence that teachers were information literate, this information literacy was not necessarily being passed on to pupils. The pupils themselves possessed some skill at locating information, but were not so adept at evaluating and using the information. At the University of Sheffield Department of Information Studies, a three-year project entitled *Education for evidence-based citizenship: improving pupils' information seeking skills*, funded by the Arts and Humanities Research Board (AHRB), is being carried out in association with The City School, Sheffield. The project focuses on the way in which

students from eleven to sixteen years of age search the Internet, in the context of their studies. Research methods include interviews with teaching staff, surveys of students' use of Internet resources, and action research in the design and evaluation of interventions. (Madden et al, 2003)

## **b. Higher & further education**

The prominence of the library, digital resource, and IT skills orientation over Information Literacy found in the schools is displayed in the post-school sector as well. Furthermore, the emphasis on students learning independently, and the influence of a research culture, create more pressure for an Information Literacy perspective. Below we highlight aspects which we deem particularly important. Problems and issues in the Higher and Further education sectors are described further in Johnston and Webber (2003), Webber (2001), Hepworth (2000) and Manchester Metropolitan University Library and Leeds University Library (2002). We will not attempt to review older literature on "user education" in academic libraries (see e.g. Fleming, 1990 or Hopkins, 1995).

In terms of models of information literacy, the SCONUL Seven Pillars model has become increasingly important (SCONUL, 1999). It provides a framework that can encompass a variety of experiences and accounts of information literacy. With IT skills and elementary library skills at the basis, the seven 'pillars' comprise: recognition of an information need; distinguishing ways of addressing the gap between what is known and what is needed; identifying strategies for locating information; accessing and locating resources; evaluating information; using and communicating information; and synthesising and creating information. Ideally, education for information literacy during the student's time at university should help the student progress their learning in all seven pillars. There has been some application of the Seven Pillars model e.g. Godwin (2002) describes their use in benchmarking undergraduate skills at different levels of study at South Bank University.

Johnson (2001) summarises SCONUL's work on information literacy. This also includes identifying critical success factors for information literacy, after consultation via a number of workshops in different parts of the UK. Town (2001) provides an early report on the work, and the results will be published by SCONUL early in 2003 in the form of a Briefing Paper (likely to be made available on the SCONUL website [www.sconul.ac.uk](http://www.sconul.ac.uk)).

**Subject curricula:** There is limited evidence of significant work on developing Information Literacy throughout the various subject curricula in an institution. Progress has been made in some institutions, but may only have impacted some of the programmes or courses. It is also more likely that information awareness and skill is developed as a by product of activities and tasks, such as project work, and more traditional research-based activities like essays and dissertations. Such activities may involve formal instruction in library and information resource use, including internet searching, but it is questionable whether or not these experiences amount to a serious attempt at Information Literacy education. However information seeking and evaluation skills feature prominently in the programme specifications of the Quality Assurance Agency for Higher Education (2000) which set out in some detail the expected content and outcomes of undergraduate degree programmes. This may provide an opportunity for Information Literacy specialists to make connections within all the subject curricula offered by universities.

As an example of integration in the curriculum, Cardiff University has adopted a university-wide policy on information literacy, and a guidance note (Cardiff University, 2002?) explains this. The importance of embedding information literacy into the curriculum, and collaboration of all those involved in teaching, are stressed. Further

details of the initiative, and the integration that has been achieved with courses in law, are given in Martin and Rader (2003).

Librarians seem to be agreed that there must be cooperation between themselves and faculty in order for integration of information literacy into the curriculum to take place. There is debate on the extent to which librarians should do the teaching. Two papers which directly address this issue are Noon (2000; giving the case for librarians teaching) and Heseltine (2000; giving the case against). Noon's paper, in particular, identifies challenges and issues, and problems arising from the current situation are also analysed by Johnston and Webber (2003).

There is a small amount of interest in information literacy from faculty outside the library and information community, often aroused because of issues such as problem-based learning, distance learning and student use of electronic resources. An example is McDonald et al (2001), describing a study undertaken in 1998 of students on two Open University distance-learning courses, one postgraduate and one undergraduate, both of which employ resource-based learning. This study found that the undergraduate students, whilst confident in their use of Information Technology, were slower to acquire skills in evaluating and analysing information.

**Key Skills** Commentators on the undergraduate learning environment increasingly emphasise the use of information technology and the internet to achieve a variety of subject specific and, in particular, generic skill learning objectives, including information skills. Use of IT was listed in the influential Dearing Report (National Committee Of Enquiry Into Higher Education (1997) along with Learning to Learn, Numeracy and Communication Skills, as one of the four key skill areas for students in UK higher education. However, information literacy is rarely mentioned explicitly as part of the UK "key skills" agenda (see Drew, 1998), although it could be connected to that agenda. For post-16 education, as for schools, information literacy is not highlighted as a separate Key Skill (Qualifications and Curriculum Authority, 2002a). This is in contrast to the Australian approach, where official reports have **explicitly** mentioned information literacy, rather than just IT literacy and generic personal skills. This may explain in part the limited progress in developing and implementing holistic and complex accounts of information literacy in the UK.

**Technological/digital library interpretations.** The UK's Joint Information Systems Committee (JISC) has funded a number projects potentially relevant to information literacy education, such as the Networked Learning in Higher Education (Centre for Studies in Advanced Learning Technology, Lancaster University, 2001) and the eLib (Electronic Library) projects. These projects have produced some interesting findings, for example, that although there are efforts to make good quality information sources accessible to faculty and students, free search engines may be preferred to priced networked journals and databases (Armstrong 2001). There has also been work on supporting information professionals who are educating users through electronic environments (see Levy, 2000). The Scottish Higher Education Funding Council has also backed initiatives, such as the collaborative training and information project aimed at engineers (Joint et al., 2000).

A number of academic libraries have developed online information skills tutorials. Examples are those described by Rutter and Matthews (2002; the "Infoskills" web-based tutorial at Bournemouth University) and Joint et al. (2000; the GAELS courseware package: this article also contains an interesting critique of this approach).

Increasingly, librarians are using VLEs to deliver online tutorials, and are also collaborating with academics to embed links to library resources and tutorials into the VLEs created by academics. For example, Moore and Abson (2002) describe the Infoquest tutorial (using the Blackboard) which is being integrated into a number of classes at Sheffield Hallam University. The tutorial is tailored to meet specific subject needs by librarians in cooperation with academics.

Availability of electronic information resources, the need to educate students in the use of ICTs, and the adoption of VLEs have undoubtedly created opportunities for librarians in promoting information skills. However, a problem is that the focus may be drawn too heavily to the use of IT and the use of networked information, equating *information* with *electronic information*. Research funding from JISC has focused on projects concerning electronic resources, thus not taking account of the full range of resources and the full spectrum of information literacy.

### **Information literacy curricula**

An credit-bearing information skills module, MOSAIC, was launched by the Open University (OU) in 2002. The OU is the long-established distance-learning university in the UK. This module is not course-dependent, and the idea is that a wide variety of OU students can take this in order to improve their study skills. The development of this course is reported in Martin and Rader (2003) and information is available on the OU website. SCOUNL was involved in the development of the module, as was the OU library. This is seen as an interesting development and it has been reported that the student feedback on the initial running of the module has been positive.

Our own work, starting with development of a credit-bearing information literacy class at Strathclyde, University is described in Johnston & Webber (1999) and Webber and Johnston (2000). Our experience was that students readily identified information seeking and sources in their conception of information literacy. As the class progressed, students increasingly identified evaluation, application and organisation of information as being subjects distinctive to information literacy, and they were less likely to refer to information literacy as being about information technology. We contend that, from a pedagogic perspective, information literacy needs attention in its own right, and should not always be subordinated to another discipline. Whilst integrating information literacy into other parts of the curriculum may have an attraction, the danger is that the student learns in snatches and does not develop a coherent conception of what information literacy means to them. If reflection and reward is only focused on the discipline-specific problem, then experiences relating to information literacy may remain disconnected, unevaluated and unconsolidated.

The feedback we elicited in this area seems to demonstrate that information literacy can be taught as a stand-alone subject in its own right, and does not have to be incorporated into other classes in order to be meaningful to the students. The students were able to apply information literacy within other subject domains on their own initiative.

There are some further examples of credit-bearing modules which are devoted to information literacy, although often including a strong IT element. An example is the class described by Andretta (2001). This credit-bearing class was taken by undergraduate law students at the University of North London.

### **Research**

Research funded by JISC has already been mentioned. Of this research, the Big Blue project (Manchester Metropolitan University Library and Leeds University Library, 2002) was most explicitly focused on information literacy. This surveyed information skills training in UK further and higher education, producing a final report which summarised findings and key issues, and created a "toolkit" of examples. All material is available on the project website and is well worth investigating.

A three year research project to investigate UK academics' conceptions of, and pedagogy for, information literacy started in late 2002, with a research assistant based at Sheffield University Department of Information Studies, and investigators from Sheffield and Strathclyde Universities. Phenomenography will be used as the key research method. Developed to explore conceptions of learning and teaching, phenomenography has been employed in related areas including information literacy

(Bruce, 1997). Academics from four disciplines will be interviewed, so that any differences in conceptions between the disciplines can be identified. More detail is available at <http://dis.shef.ac.uk/literacy/>

**Conclusion:** Our contention is that making people information literate is not simply a matter of providing them with better organised virtual libraries. There is plenty of activity in UK academic libraries, but overall the UK presents a somewhat skewed profile with overemphasis on IT and a limited appreciation of the wider implications of the information society for higher education curricula, teaching and learning. Our own vision of the information literate university, (involving all constituencies, aware of developments, evaluating, and seeing opportunities for knowledge creation, extension and wisdom) is outlined briefly in Johnston and Webber (2003).

## 2.5 Citizens and the workplace

In the UK public library sector there has been less explicit focus on information literacy, since "user education" has been less of a core role for the public librarian. This has changed as internet education for various sectors of the community has come to be seen as an increasingly important part of the public library's mission, stimulated by the *People's Network* funding. However, as noted in 2.1, above, the emphasis has been primarily on education in use of technology.

There are far fewer papers which describe workplace information literacy programmes than describe the situation in education. This may be both because there is less activity, and because successful KM and information literacy strategies may be seen as part of a firm's competitive advantage (and therefore confidential).

A number of authors (e.g. TFPL, 1999) have noted the need for information literate employees in the workplace, for success in the knowledge economy. As Knowledge Management (KM) is taken more seriously in both the private and the public sector, so has the interest in information literacy increased. Still, recognition of information literacy's importance is far from universal. O'Sullivan (2002) feels that part of the problem lies with information professionals, who do not relate what they are doing effectively enough to the business process and core goals. Dale (e.g. Dale, 2001) has commented in a series of articles of the lack of appreciation of the need for information literacy by business, and of the ways in which information literacy could benefit business.

The information consultancy, TFPL (1999) have identified information literacy as necessary for all employees, as part of a knowledge management strategy (see also Abell and Oxbrow, 2001). Building on this earlier work, TFPL (Skelton and Abell, 2001) were sponsored by the (UK) Information Services National Training Organisation to develop a prototype skills toolkit. This aims to aid diagnosis of skill gaps, both by employees and their managers. It describes information and knowledge roles and key skill sets. It can be used to specify the ideal mix of skills required for a particular job, to identify an individual's current skill profile, and to compare the two. The toolbox provides an interesting approach (with use of spider charts to map desired skill sets for a particular role), though the issue of how an employee or manager is able accurately to assess their current competence is not dealt with in any depth.

Bawden et al. (2000) conclude, in their study of information use in a pharmaceutical research organisation, that more training in information literacy is required. Bawden and Robinson (2001) describe a pilot training programme for research workers in a multinational pharmaceutical company. The intention was that this would become a certificated competence for all research workers, but in the oral presentation of this paper (at the Online 2001 conference) it was implied that this universal plan for certification had not been implemented. The pilot programme was evaluated by comparing participants' use of information tools before and after training, by interviewing

participants and their managers, and by asking participants to self-assess their competence after training.

Donnelly and Carey (2002) describe an information literacy initiative at the multinational Unilever. They describe the process of formulating a strategy and of developing two workshops, *Information Discovery* and *Information Management*. A key part of the strategy is to deliver the workshops to project teams, tailoring them to each team's needs. Donnelly and Carey note how they consulted with experts from different sectors, public and private, before drawing up this strategy. The benefit of cross sectoral collaboration on information literacy emerged also as a theme at a seminar organised by TFPL in December 2002 (where Donnelly and Carey, and one of the authors of this paper, were amongst the speakers). A presentation by Davies (2001), describing the use of the SCONUL Seven Pillars model of information literacy at a pharmaceutical company, illustrates how ideas produced in one sector may benefit another.

Nevertheless, Mutch (1999) questions whether the manner in which information literacy is currently dealt with in higher education is really preparing people for information management in the workplace. Reporting on a study of 18 managers, he notes the shifting context for information use at work (contrasted with the situation at university, where information is required for a prescribed task). He sees the answer in "stressing information as part of a process, a process of the creation of meaning." (p327) Drawing on critical realist theory, he posits a model of the process of information creation.

### 3 Conclusions

The main barriers to Information Literacy in the UK appear to be:

- Social and educational policies not "joined up" by government, despite some fine rhetoric. The fact that there is no official Information Policy makes progress even more difficult.
- Lack of focus and consensus on information literacy as a substantive domain and field of research, education and social action.
- Overemphasis on the technological dimensions of ICT and the internet as the dominant facets of debate and action in relation to macro political and economic constructs such as the knowledge economy.

There are opportunities for educators and practitioners who wish to take up the challenge, although they need to avoid the barriers mentioned above. At the moment, as has been clear, there is great potential for information literacy to be recognised and developed, but outside the library and information community, it is a cause waiting to be discovered. Local communities and some institutions are developing pragmatically but usually without a clear consciousness of Information literacy. Library and information practitioners need to be persistent, confident and assertive in order to achieve progress.

We see our holistic definition, stated in 1.2 above, as a democratic idea for Information Literacy. Our vision stands in direct line of development from an earlier democratic ideal of mass education as the essential, enabling factor of citizenship and economic activity. This ideal has not been achieved yet, but, as we have indicated, there are developments which may prove valuable in their own spheres, even if they do not achieve a unified information theory and practice in the near future.

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