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What is This?
Information literacy: The link between secondary and tertiary education project and its wider implications

JOHN CRAWFORD and CHRISTINE IRVING

The study reviews a research project which, inter alia, is constructing an information literacy framework linking secondary and tertiary education and arises out of research conducted in both the secondary and tertiary sectors. The Project is firmly situated in a Scottish context but draws on UK and indeed worldwide experience. It began in October 2004 and still continues. It benefits from the support and experience of project partners in both secondary and higher education. Since its beginning the Project has expanded into other areas: the role of information literacy in the workplace and work-based learning, and into advocacy for information literacy. Work undertaken includes focus groups with school pupils, university students and subject librarians, an interview-based study of the use of information literacy in the workplace, a petition to the Scottish Parliament on the subject of information literacy, and the submission of evidence to the Scottish Executive’s Digital Inclusion consultation. Contacts have been established with relevant NGOs including Learning and Teaching Scotland, learndirect scotland, the Scottish Credit and Qualifications Framework (SCQF), Ofcom Scotland (not discussed) and the Scottish Centre for Work-Based Learning. In pursuit of the core objective a framework is being constructed based on SCQF aims, structure and key features.

KEYWORDS: advocacy; digital inclusion; information literacy; lifelong learning; media literacy; school libraries; university libraries; workplace learning

BACKGROUND

The Department of Learner Support at Glasgow Caledonian University has a substantial background in research into library and information use and recently this work has focused on the information literacy agenda as a result of the Drumchapel Project and of the evaluation of the usage of electronic information services by staff and students at Glasgow Caledonian University.

The original aim of the Drumchapel Project (McLelland and Crawford, 2004) was to evaluate the ICT skills of pupils there but the outcomes suggested the need for a strong focus on information literacy training among secondary school pupils.

The study of students’ electronic information services (EIS) usage (Crawford et al., 2004) found that there was a hierarchy of usage of EIS by subject with paramedicine at the top, Business School subject areas in the...
middle and science and technology at the bottom. Subject was therefore the main determinant of EIS use, followed by integration into the programme. Part-time and non-traditional students were more likely to be registered with Athens than full-time students with the consequence that off campus use was growing and was segmenting into different components with a growing emphasis on workplace access. The link between IT skills and the intensity of EIS usage was found to be in decline, an indication presumably that IT skills have now reached the level where they are less of an issue. Gateways and links were little used and the catalogue was found to have sunk to third place as the preferred method of accessing EIS. There was a clear link between EIS usage and student progression and retention. Students in subject areas with a good progression rate through the levels and who completed their programmes were also likely to be the heaviest users of EIS. The converse was also found to be the case. There was also a link between EIS usage and innovative learning and teaching methods. Students studying in subject areas where innovative learning and teaching methods were used were also found to be heavier users of EIS than those studying in subject areas where more traditional methods were employed. EIS usage was therefore found to be indissolubly linked to the teaching and learning process as a whole.

A follow-up study (Crawford, 2006) reviewed the link between EIS usage and information literacy by administering questionnaires to both current students and alumni. The outcomes from both questionnaires were used to create a longitudinal picture and establish key indicators. It was found that respondents broadly understood the concept of information literacy although this was much more marked among alumni as a result of the experience of work. The relationship of work activity to information literacy was found to be central and alumni felt that an understanding of information literacy gave them an advantage in job finding and seeking promotion. Unemployed alumni are correspondingly disadvantaged. In many cases information-seeking skills, learned at university, could be directly applied to the workplace, and scholarly methods were found to be spreading there although the attitude of employers was variable.

The result of all this research has been to focus attention on an information literacy strategy which links secondary and tertiary education and encourages the secondary and tertiary sectors to work together, and also looks at the impact of information literacy training on the world of work.

A research project was therefore developed and put into operation in October 2004 and is still continuing. The Project is essentially based within the Scottish educational system although it has links with the rest of the UK and indeed worldwide. The Project is in regular touch with relevant agencies including Learndirect scotland, Learning and Teaching Scotland and the Scottish Credit and Qualifications Framework. The first two are additionally Project funders.

**PROJECT AIMS**

While the overall aim of the project would ideally be to develop a seamless curriculum-based information literacy framework which begins in secondary education, continues in higher education and forms inter alia a preparation for the world of work it is recognized that this is an enormous task which in Scotland can only be pursued at Scottish Executive level. What is therefore aimed at is an innovative pilot project which will develop an information literacy framework with secondary and tertiary partners which, at the end of the project, can be rolled out to other participants. It will aim to produce secondary school leavers with a skill set which higher education can recognize and develop or which can be applied to the world of work directly.

**SPECIFIC OBJECTIVES**

1. Will work with partners to develop a ladder of information literacy (IL) skills framework extending from secondary into higher education.
2. The developed framework will be piloted and tested with identified partners in both the secondary and tertiary sectors.
3. Barriers to and constraints on the development of a national IL framework will be identified.
4. Focus groups will be held with first-year students at GCU.
5. Interviews will be held with subject librarians in at least two universities to identify what IL skills, if any, they believe new students bring from secondary education.
6. The desk research exercise showed considerable variation in and uncertainty about exact IL terminology. Project reporting will progress standardized vocabulary.
7. A further tranche of participants to engage in further work will be identified.

**INTENDED OUTCOMES**

1. The introduction of a structured innovation in Scottish secondary education;  
2. To contribute to the teaching and learning of IL skills (Barrett and Danks, 2003) within education;  
3. To developed a viable, tested and piloted draft framework;  
4. To create expertise which can be rolled out further in the secondary and tertiary sectors;  
5. To contribute to the development of the secondary/tertiary interface by encouraging partnership activity;  
6. To raise awareness of the IL agenda;
7. A contribution to improving the UK’s currently poor performance in IL developments;
8. A contribution to the employability and development agenda;
9. A pilot model of HE’s understanding of current school IL and ICT information literacy skills.

Since the Project began two new issues have strongly emerged: information literacy in the workplace and policy formulation for information literacy development at (Scottish) national level. These are discussed further below. Full details of the Project are available (Glasgow Caledonian University, 2006).

There are many international declarations and national strategies on information literacy, notably the *Prague Declaration: Towards an Information Literate Society* (2003) which proposed basic principles on information literacy as a key to social, cultural and economic development of nations, communities, institutions and individuals (IFLA, 2003). The Alexandria High-Level Colloquium has reinforced this (see further below). Although there are UK policy statements, it is acknowledged within the UK that Britain lags behind the US and Australia in practical implementation of information literacy policies. The potential role of Scotland is discussed below.

While there are numerous models, both at national and international level, there is a dearth of frameworks derived from the models which are directly curriculum based. In higher education some action frameworks are being developed based on the SCONUL Seven Pillars, notably at the University of Abertay in Dundee, Southampton and other higher education institutions (SCONUL, 2004). Some useful comparable models may be found abroad. The Australian and New Zealand Institute for Information Literacy (ANZIIL) (2004) has the ANZIIL Framework – Principles Standards and Practice which support the embedding of IL in the design and teaching of educational programmes across the curriculum. In the United States AAASA (American Association of School Librarians) (American Association of School Librarians and the Association for Educational Communications and Technology, 1998) has developed *Information Literacy Standards for Student Learning* which ‘provide a conceptual framework and broad guidelines for describing the information literate student’ while in the tertiary sector the Association of College and Research Libraries (ACRL) (2000) has published the *ACRL Information Literacy Competency Standards for Higher Education* which ‘provides a framework for assessing the information literate individual. It also extends the work of the American Association of School Librarians Task Force on Information Literacy Standards, thereby providing higher education an opportunity to articulate its information literacy competencies with those of K–12 so that a continuum of expectations develops for students at all levels. The competencies presented here outline the process by which faculty, librarians and others pinpoint specific indicators that identify a student as information literate’.

There is, however, no activity in Scotland which compares with all these initiatives. A comprehensive desk research exercise has shown a fragmented picture of valuable local initiatives, but no overall co-ordination as indicated below.

**RELEVANT LINKED WORK**

For post-16/lifelong learners there is an Information Handling Skills (IHS) interactive online course (Scottish Further Education Unit, 2004; Scottish Library and Information Council, 2005a) and national unit qualification Information Handling Skills – Intermediate 11 (DF9J) (Scottish Qualifications Authority, 2004). Carol Stewart (Learning Resource Coordinator at St Modan’s High School, Stirling) carried out a small pilot project using the IHS course material with an Intermediate 2 Modern Studies class with a view to them obtaining the IHS qualification; unfortunately the project was not completed but valuable lessons were learned. In addition a new initiative funded by the Scottish Executive will enable the Scottish Library and Information Council (SLIC) to work with partners (e.g. schools, colleges, public libraries, community education, prisons) to equip 2000 learners with key skills for life in the information age, which should boost the uptake of the qualification (Scottish Library and Information Council, 2005b).

Meanwhile Learning and Teaching Scotland is working on material for the 5–14 curriculum which will be available through the NGfL (National Grid for Learning) (Learning and Teaching Scotland, 2005a). Another key development for the NGfL Scotland is the Scottish Schools Digital Network (SSDN) recently renamed Glow (Learning and Teaching Scotland, 2006a) which aims to connect all the schools in Scotland and provide links to FE and HE. Learning and Teaching Scotland (2005b) have also created a Masterclass programme for local authority teachers and librarians to further develop their ICT skills on from the NOF (New Opportunities Funding) training, contributing towards their CPD framework and passing their new skills onto their school colleagues. In 2004 a two-day focused programme on Information Literacy was organized by SLIC. One of the key elements to come out of this programme was the need for further training in these skills for teachers, a finding reflected by previous research (Coles, 2004). Teachers’ and pupils’ information literacy skills are reflected in several research studies. However, it is interesting to note the level of these skills and how teachers use them for teaching purposes but do not generally transfer their skills to their pupils (Merchant and Hepworth, 2002), and young peoples’ information-seeking skills in conjunction with the Internet – real and perceived (Herring, 2004; Pickard, 2004; Shenton, 2004). Dorothy Williams’ research study (Robert Gordon University, 2006) indicates below.
University, 2005) throws further insight into teachers’ understanding of information literacy and the relationship between information-related tasks and student learning. This in conjunction with Sheila Webber’s (Sheffield University) and Bill Johnston’s (University of Strathclyde) research into ‘UK academics’ conceptions of, and pedagogy for, information literacy’ should start to give us a clearer picture of the education professional’s information literacy outlook. Outcomes of this work are becoming available (Webber et al., 2005).

PROGRESS TO DATE

In pursuit of the objectives outlined above and recognizing the modifications noted the Project has undertaken the following activities:

1. identification of information literacy skills, if any, which students bring to university;
2. involvement with the Curriculum Review in Scotland;
3. petition to the Scottish Parliament;
4. discussions with SCQF (Scottish Credit and Qualifications Framework).

Identification of information literacy skills, if any, which students bring to university

Interviews with seven subject/academic librarians from Glasgow, Strathclyde and Glasgow Caledonian Universities concluded that the level of skills varied depending on the student, the course and the school they came from plus home life. Skills are generally limited or poor in the following areas:

- knowing the different types of information; where information comes from; how it is generated, published etc. and how to use it;
- search strategies, searching in depth or beyond what’s available;
- evaluating information found plus critical thinking.

These findings concur with other research in this area (Andretta, 2005) and therefore came as no surprise, reinforcing our belief that information literacy skills should begin at school.

Organizing focus groups with first-year students proved problematic. Although universities have a large cohort of first-year students, access to them is restricted by many schools particularly during term time, probably as a result of the number of requests to carry out research on them. Fortunately a friendly academic gave us access to his second-year full-time and third-year part-time property management students. From these two focus groups we found the following:

- information sources – have access to lecture material and reading list, plus pointed in direction of websites and other sources but tend to use the Internet/search engine with little or no use of databases. (One group showed more knowledge of specialized websites and that independent use produced better results. Other group seemed to pick things up haphazardly and tended to stick to what they knew.)
- sources used at work (part-time students) – different from those used at university;
- evaluation techniques – e.g. matching/skimming for key words, ‘sort of know what you are looking for’;
- skills developed since coming to university – ethics i.e. the need to reference everything, copyright.

Again the findings did not produce any startling revelations.

In addition in December 2005 we gained access to sixth-year pupils in two North Ayrshire secondary schools and subsequently ran a focus group in each school. All the pupils except one (who had applied to go to a Further Education College) had applied to go to university to study a range of disciplines. The main findings highlighted the following:

- information literacy skills were generally taught in first and second year (aged 12–13) but not subsequently reinforced within the curriculum resulting in fragmented levels of knowledge and usage for their remaining years at school;
- pupils were also learning from fellow pupils, teachers, the librarian or parents, family and friends;
- the indication was that the higher levels of skills were developed through personal interest and subject/teacher related;
- books and the Internet were their main sources of information with one pupil seeing Google as their friend with a success rate of 98 percent. Closer questioning (in relation to reliability) highlighted a worrying logic in that because Google retrieved David Attenborough websites for this pupil and David Attenborough is a reliable source then Google searches retrieved reliable sources.

Curriculum review in Scotland

We became involved in the Scottish curriculum review (Learning and Teaching Scotland, 2006b) as a result of the project outcome to map information literacy skills to the curriculum and then to an information literacy framework. However, as news of the review reached us we decided to have a meeting with the curriculum review team to investigate what was happening and to ascertain the role of information literacy within the curriculum.

The outcome was that:

- the curriculum was being fundamentally changed with the main focus being a move towards a 3–18 curriculum that will declutter the curriculum (which is
currently very prescriptive) and have cohesion and progression;
● we need to demonstrate a link between information literacy and cohesion and progression for information literacy to be considered as part of the new curriculum;
● we need to clarify the confusion about study skills, library skills, information skills, information-handling skills, information literacy;
● those interested in information literacy need to input into the curriculum review, raise information literacy’s profile and lobby for its inclusion in the curriculum.

Welcome support has come from an unexpected quarter in a recent interim report by HM Inspectors of Education in Scotland on the Integration of Information and Communication Technology. Information literacy was specifically mentioned along with a definition of the term and its importance plus lack of application. The report identifies that ‘Few schools had systematic approaches to developing information literacy to ensure that all pupils acquired this set of skills progressively as part of their passport of core and life skills’. As part of the conclusions relating to curriculum planning it states that:

Schools should ensure that:

● pupils ultimately achieve a cohesive ICT skills set, to prepare them for the world of tertiary education or work including information literacy skills. (HM Inspectors of Education [Scotland], 2005)

The report was published in advance of an invitation to Directors of Education and other senior personnel in education authorities by Learning and Teaching Scotland, SEED (Scottish Executive Education Department) and HMIE to an ‘ICT Summit’. Hopefully it will act as the Chief HM Inspector states ‘stimulate thinking at that event and more generally among all with an interest and responsibility for this area’ (HM Inspectors of Education [Scotland], 2005).

Petition to the Scottish Parliament

This idea had been mentioned by Chris Milne (University of Abertay) and was subsequently investigated by the authors who identified that before a citizen can petition the Scottish Parliament the issue has to be raised with the Scottish Executive department concerned or the citizen’s MSP (Member of the Scottish Parliament). The Scottish Parliament has a petitions mechanism which allows any Scottish citizen to raise issues which he or she considers important and of potential importance to the Scottish Executive. The petition can be submitted electronically or on paper. The electronic route was chosen because the petition can be posted on the Scottish Executive website and signatures gathered electronically.

The petition text as agreed with helpful Scottish Parliament civil servants was: ‘Petition by Dr John Crawford calling on the Scottish Parliament to urge the Scottish Executive to ensure that the national school curriculum recognises the importance of information literacy as a key lifelong learning skill’ (Crawford and Irving, 2006).

The ground for the petition was prepared carefully. A short presentation was given to the CILIP (Chartered Institute of Library and Information Professionals) Lifelong Learning Panel on 15 November 2005. The Panel received the petition idea enthusiastically and gave it their wholehearted and unanimous support while CILIPS (Chartered Institute of Library and Information Professionals in Scotland) Council subsequently agreed to support ‘the principles behind the petition and urged members to support it’. Messages requesting support for the petition along with the URL were posted on lis-link, lis-CILIP, lis-info literacy and other library lists. The message was also passed to educational lists and contacts.

In late October 2005 the petition was posted as an e-petition on the Parliament website and attracted 710 signatures in total (about twice the average figure), as a direct result of the above process of electronic lobbying; 415 were from Scotland, 186 from England, 31 from Wales and the rest from other parts of the world including Canada, the United States and Australia. Signatures included the names of some leading figures in the information literacy movement worldwide, an indication that the initiative enjoyed international recognition and support.

The Petitions Committee met on 21 December 2005 to consider the petition. One of the authors (John Crawford) made a short opening presentation in which he drew attention to the international interest in the petition, then along with Chris Milne and Christine Irving answered questions for about half an hour.

After listening to the evidence the committee decided to seek comments from the following organizations: the Scottish Executive, the Scottish Qualifications Agency (SQA), Her Majesty’s Inspectorate of Education (HMIE) and Learning and Teaching Scotland (LTS) plus the relevant trade unions in the teaching profession and the overarching university body (Universities Scotland). A full transcript of the committee meeting is available (Scottish Parliament. Public Petitions Committee, 2005). The UNISON’s section for school librarians, the School Library Association and the Scottish Further Education Unit also expressed interest in responding to the consultation. The Petitions Committee met further on 31 May 2006 to review the responses which have now been passed to the petitioners for further comment. This is currently under way. Some responses have been favourable but it is clear that the need to identify information literacy as a separate issue in the curriculum is not universally recognized. The responses can be accessed via the Project website (Crawford and Irving, 2006).
Discussions with SCQF (Scottish Credit and Qualifications Framework)

As the Project could no longer map information literacy skills to the existing curriculum, alternative strategies needed to be identified and investigated. One alternative is that of the existing SCQF (Scottish Credit and Qualifications Framework, 2007). A useful meeting took place with the SCQF development officer and discussions are ongoing regarding using their framework to create an information literacy framework. SCQF partners include key players within Scotland; the framework is nationally recognized so it would lend authority to our framework.

Interestingly new guidelines have been produced for recognizing prior learning (RPL) (Scottish Credit and Qualifications Framework, 2005). Having read over the guidelines we feel there are similarities with information literacy in that we see the SCQF providing the opportunity for:

- gaining recognition for learning that is happening but is not credited;
- defining this learning in terms of statements of skills, knowledge and understanding (the provision of evidence to support this learning is already used for assessment purposes for the subject matter which in many cases has been provided through information literacy skills and competencies e.g. within learning activities, assignments, project work etc. through information retrieval, research activities, bibliographies, references, evaluation of information, communication of findings);
- supporting a continuing learning process through identifying a learning pathway within the context of SCQF as part of an educational guidance or personal development planning process;
- mapping the existing learning that is taking place within the context of SCQF, allocating a notional level to learning outcomes utilizing relevant reference points such as the SCQF generic level descriptors with the intention of providing a general shared understanding of each level which can then be linked to academic, vocational or professional practice;
- the notional levelling process and outcomes becoming transparent and clearly understood by other learning providers, receiving organizations and/or employers to meet the needs of the learner more effectively.

The majority of learning with reference to information literacy is taking place in all sectors – secondary, tertiary and lifelong learning as stated above – without receiving credit for the learning. This learning is being achieved through sessions offered by librarians/learning resource co-ordinators within the sectors, material and online learning objects designed to facilitate learning as outlined earlier in addition to recent initiatives by:

- North Ayrshire Education Resource Service – Information Literacy Toolkit (provides a progressive outline of the literacy and information literacy skills expected at levels A–E within the 5–14 curriculum and provides a range of generic classroom materials to reinforce skills being taught by teachers and the Primary Education Resource Co-ordinators in North Ayrshire Council);
- City of Edinburgh Education Resource Service – ExPLORE (Plan, Locate, Organise, Represent, Evaluate), new model developed to provide a framework and standards for competencies in information handling linked to the 5–14 curriculum.

There have also been developments in crediting information literacy learning, e.g.

- SQA’s Information Handling Skills Intermediate Level 2 national qualification (provides automatic certification of the Complete Core Skills for the Unit: Problem Solving Intermediate 2);
- University of Abertay’s degree programme now has information literacy embedded within its degree course and students will graduate with information literacy included in the degree. Glasgow Caledonian University is currently looking at the development of a formal information skills programme for students and staff.

For the creation of the IL framework we envisage therefore that we could use the Information Handling Skills Intermediate 2 = SCQF level 5 as a starting point and develop the other levels from there using the skills and competencies identified by the CILIP information literacy group to develop the level descriptors and show progression. This progression would then be of relevance to the 3–18 curriculum which is currently being developed. In addition practitioner initiatives identified earlier could also be linked to and/or included in the framework.

ACTIVITIES IN PROGRESS OR PLANNED

The link between information literacy, progression and retention and the employability agenda is still to be tested and explored to see whether information literacy supports these agendas. Learning and Teaching Scotland has provided some funding to undertake research within the work environment. This has taken the form of semi-structured interviews with six individuals over a two-month period (middle of February to the middle of April 2006) on a one-to-one basis with people in a spread of occupations and interests to collect data about their experience of using information literacy in the workplace. This is a small-scale project which aims to collect research questions to inform a more extensive piece of research. Discussions are already underway with GCU’s Scottish Centre for Work Based Learning on how to progress this.
INFORMATION LITERACY IN THE WORK PLACE

Although generally employers are not explicitly looking for information literacy skills and competencies by name, they are assuming that employees will come with these skills – particularly for professional positions. Whilst people generally think they have the skills and competencies they need for their information-related activities (as defined by CILIP, 2005), the reality is that:

- individuals are learning these skills to varying degrees at work, further education or university in an ad hoc manner;
- most people generally cope with what they already know and do not realize that there are invaluable skills and resources that could greatly assist them both in the workplace and in life.

Given that these skills and competencies are considered to be important in the workplace, an individual’s prior learning or lack of learning of information literacy skills and competencies is of paramount importance both to the individual and their employer. It is important therefore to dispel the assumptions that everyone has these skills and competencies at a level that they need, that they are explicitly and uniformly taught within education or are learned in conjunction with ICT or by osmosis. If employers are looking to education to equip individuals with the necessary skills for employability, then information literacy needs to be explicitly included as a key life skill in the learning and teaching that takes place in school and then further developed from there onwards in further or higher education and in the workplace.

Although this is a small-scale study of an exploratory nature and more research needs to be carried out in this area, many of the findings reflect the literature (lifelong learning and information literacy) and indicate the importance of information literacy skills and competencies in education through the curriculum and in the workplace explicitly recognized and included in CPD (Continuing Professional Development) programmes.

As Lloyd (2003) highlights:

in a knowledge driven economy, employees who are able to develop information pathways and to create corporate knowledge provide the strategic difference between a highly successful business and those that remain mediocre.

DIGITAL INCLUSION

CONSULTATION RESPONSE

The experience of the petition has pointed up the need for advocacy to encourage policy making at a national level and the Project has submitted evidence to the Scottish Executive Digital Inclusion Consultation. This emphasized that although the Digital Inclusion document (Scottish Executive, 2005) dwelt at length on skills, information literacy was conspicuously absent. It was also felt that the consultation document showed insufficient awareness of current research in this area. The authors contributed evidence to the review (Scottish Executive, 2006) but the outcome for information literacy was unfortunately disappointing.

DISCUSSION

Scotland is a suitable ‘laboratory’ for research in information literacy because of its inclusive educational values. Recent research has shown that it has, after Norway, the least socially divisive educational system in the world (Schofield, 2006). Over 50 percent of the eligible population continue from school to university, making strategies which link the secondary and the tertiary sectors feasible. The organization of the school system is both simple and uniform throughout the country. Most children are educated by the state beginning at primary schools (5–11 years) followed by secondary school (11–18) which are all run on the comprehensive non-selective system. This means that both employers and educators can expect to receive a fairly uniform ‘product’ with similar expectations and experience. The Scottish Executive has both a lifelong learning policy (Scottish Executive, 2003) and an e-government policy which seeks to involve citizens in the democratic process, the above mentioned petition system being an example of this.

The project has, where possible, participated in and supported comparative work. The student/alumni information literacy study is being replicated at a university in California and the comparative outcomes are awaited with interest.

The need to address issues of policy and advocacy has been supported by Christine Bruce who, in an interview, published in Library + Information Update (Newton and Boden, 2006) said, in identifying priorities for the next five years:

We need a lot more lobbying on the importance of IL on the political front, with industry, with very senior people. We need money to flow to the IL agenda... People need to concentrate on finding out who we should lobby and who should do the lobbying. We need people with political and marketing skills... 

On an international basis the 2005 Alexandria High-Level Colloquium on Information Literacy and Lifelong Learning (Garner, 2006) supports political lobbying and urges ‘governments and intergovernmental organisations to pursue policies and programmes to promote Information Literacy and lifelong learning’. The British government’s report, Skills, Getting on in Business, Getting on at Work (Great Britain. Department for Education and Skills, 2005, vol. 1: 1) emphasizes the need for a skilled
workforce and although only ICT skills are specifically mentioned there is a clear need for information literacy skills to be promoted within this context. The report notes:

Skills are fundamental to achieving our ambitions, as individuals, for our families and for our communities. They help businesses create wealth, and they help people realise their potential. So they serve the twin goals of social justice and economic success.

In January 2006 one of the authors (Crawford, e-mail to Guy Daines) approached CILIP to enquire if CILIP staff had any knowledge of the above report and whether they had been asked to contribute to it. The answer to both questions was in the negative, an indication perhaps of the difficulties advocacy faces.

Linked to information literacy is knowledge and whilst for many employees their knowledge is only recognized as they prepare to leave their employer’s organization, some employers and information professionals have recognised the importance of capturing and managing the knowledge of the workforce. This move towards knowledge management defined as:

the capabilities by which communities within an organization capture the knowledge that is critical to them, constantly improve it and make it available in the most effective manner to those people who need it, so that they can exploit it creatively to add value as a normal part of their work. (Kelleher and Levene, 2001: 15)
lends support to the importance of information literacy both in the workplace and therefore within education as previously highlighted.

Webber et al. (2005) have shown that there are clear differences in academic disciplines in identifying and using information literacy skills. Marketing academics were found to be comfortable with using a wide range of information sources including electronic sources and prized the ‘text’ (particularly books) much less. Marketing academics also valued physical contact with the library much less than English academics. Marketing academics also saw information literacy as being much more integrated with their discipline than English academics. The implication would seem to be that those students who have received a vocational education are much better prepared to deploy information literacy skills in the workplace than those who have received a traditional Humanities education.

**PROGRESS AGAINST INTENDED OUTCOMES**

In terms of developing the information literacy framework, which was the original core of the project, progress has been made mainly around examining the existing secondary school curriculum and identifying relevant developments. Following the granting of funding from Eduserv the drafting of the framework is under way and research data collected for the exercise has contributed to the teaching and learning of information literacy skills within education. Progress has been made in creating partnerships although more has to be done in implementing them. Partnerships already created undoubtedly helped the lobbying process in promoting the petition to the Scottish Parliament. The process of researching, writing and petitioning has certainly raised awareness of the information literacy agenda. It can also be said that the project has been successful in identifying barriers and constraints on the development of an information literacy framework. Lack of advocacy at a sufficiently high level is undoubtedly a factor. Terminology is clearly another. NGOs (Non-Government Organizations) and funding bodies approached for support have frequently expressed confusion and uncertainty as to what information literacy is while, as Webber et al. (2005) have shown, practices which are part of the information literacy agenda are found to a greater or lesser extent in different disciplines even if they are not recognized as such. Of all the aspects identified at the beginning of the project perhaps the one to come through most strongly recently is the employability agenda and the importance of the workplace in the information literacy agenda. This suggests linking with the work-based learning agenda and relating more to the knowledge management agenda (Abell and Skelton, 2005).

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