

JISC i-skills Exemplification

An investigation of the staff development issues relating to i-skills development
of Higher Education non-academic staff

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EXECUTIVE SUMMARY	4
1. INTRODUCTION.....	6
1.1 Nature and purpose of the project.....	6
1.2 Background.....	6
1.2.1 What are i-skills?	6
2. RESEARCH METHODOLOGY.....	8
2.1 Participants.....	8
2.2 Information audit	8
2.3 Interviews.....	8
2.4 Focus groups	9
2.5 Data analysis	9
3. DISCUSSION.....	9
3.1 Understanding i-skills	9
3.2 Differentiation.....	10
3.3 The relevance of i-skills in the workplace	12
4. SKILLS NOT EXPLICIT IN THE I-SKILLS MODEL	18
4.1 Time management and information overload.....	18
4.2 Networking.....	19
4.3 Teamwork	22
5. STAFF DEVELOPMENT	23
5.1 Challenges	23
5.2 The University of Leeds experience	23
5.3 Designing staff development.....	26
5.3.1 Attitudes to skills development.....	26
5.3.2 Using the i-skills model	27
5.4 Identifying appropriate interventions	28
5.4.1 Case study 1: Skills mapping.....	29
5.4.2 Case Study 2: Staff Development Drivers	36

6. ACTIONS AND RECOMMENDATIONS	39
6.1 An enhanced i-skills model	39
6.2 Recommendations	41
BIBLIOGRAPHY	44

Executive summary

Introduction

This report produced was produced by University of Leeds and Loughborough University. The aim of the project was to help staff developers and information skills professionals to support the development of i-skills in their colleagues. Research on the i-skills experience of staff in two support units was conducted at Loughborough and work on the staff development aspects of i-skills was largely done at Leeds.

i-skills

This research takes as its starting point the i-skills cycle published by the JISC (2005) based on the Big Blue model (2002). The JISC introduced the concept of staff i-skills in an attempt to resolve confusions arising from the multiplicity of terms in this area. i-skills are typically defined as: 'the ability to identify, assess, retrieve, evaluate, adapt, organise and communicate information within an iterative context of review and reflection.'

Findings

The project found that:

- administrative staff are typically not involved in every stage of a cyclical i-skills process
- time management, networking and teamwork skills are essential adjuncts to i-skills
- i-skills vary at different levels of seniority
- personal contacts are a very important source of information
- understanding the context within which an i-skills task sits is key to its successful completion
- delegation of individual stages of tasks is common

Additionally, work with Loughborough staff suggested that:

- line managers were probably best placed to guide the i-skills development of their staff
- there was a need for a clear career development structure
- it did not much matter who provided training as long as the quality was good
- courses (preferably short), informal contact with colleagues, or the web were seen as ways of finding out how to do something
- tailored approaches to skills development would probably be useful

Outcomes

- A structured review of staff skills against the headings offered in the JISC I-skills cycle.
- A discussion of the nature of i-skills in the workplace as exemplified in two surveyed groups.
- An adapted i-skills model showing possible 'gateways' between traditionally Library based staff skills training provision and mainstream institutional staff development provision.
- An indicative staff development programme based on the Leeds approach.
- Recommendations for possible areas of partnership working.
- Recommendations for three of the i-skills stakeholders – Librarians, Staff development professionals and JISC

Recommendations for staff developers:

- Staff developers should use the adapted i-skills model to identify areas of partnership working in the delivery of staff development support in the following skills: time management and information overload, networking, teamwork and meetings.
- Staff developers should work with librarians to examine existing provision and to identify and integrate i-skills into staff development programmes designed for specific groups e.g. leadership

development programmes, training for first line managers and committee servicing. Thereby making i-skills training more relevant to specific groups of staff.

- Staff Development units should encourage departments and units to actively review their structures and opportunities for internal communication and networking to identify positive approaches.
- Staff Development units should actively support and facilitate cross campus networks around work themes. Where there are specific institutional issues which create barriers to networking, such as physical space, new technologies including web based forums, blogs and community space online may be used to create new opportunities and environments for networking.

Recommendations for librarians:

- Librarians should work with staff developers to target training towards specific departments as part of team development, e.g. via departmental away days, or preparation for 'Quality marks' such as Investors In People., ensuring the inclusion of i-skills in these events.
- Librarians should work with Human Resources departments to explore how the staff development and review process is managed within their institution and establish whether i-skills are explicitly identified in job descriptions and review procedures.
- Librarians should make their expertise in creating e-learning objects available to staff developers where required.
- Librarians should actively widen their understanding of i-skills to consider how issues such as time management, information overload, networking, teamwork and meetings, and the presentation of data (not just bibliographies) relating to the more traditional i-skills themes.

Recommendations for partnership working:

- i-skills training providers across institutions, be they from the library, staff development unit, computing service, learning development unit, e-learning, VLE or careers services, should examine their current staff development provision and map it against the adapted i-skills model. They should work together to embed i-skills into courses which will be highly relevant, appropriate and appealing to staff.
- i-skills training providers should explore options for delivering support for staff in this area in forms other than attending courses and investigate further the role of peer assisted learning and workplace mentoring for i-skills development.
- Institutions should take advantage of support offered by JISC and Netskills, e.g. 'Making Information Work for You' workshops and the i-skills self-audit tool to kick start and focus their staff development programmes in this area.

Recommendations for the JISC:

- Training sessions or materials which ask staff to audit or self-assess their i-skills (e.g. Netskills' Making Information Work for You), should include specific opportunities for personal reflection and action planning.
- JISC should make funding available to promote excellence in institutional i-skills collaboration.
- In light of this research, JISC should revisit the i-skills model in order to make it more relevant to the workplace and consider, in particular, issues such as the model's cyclical nature and the broader, related skills which impact but are currently missing.

1. Introduction

1.1 Nature and purpose of the project

This project has been funded by the JISC as part of their ongoing work in the field of staff development and information literacy. It is a joint project carried out by the Universities of Leeds and Loughborough. This research takes as its starting point the i-skills cycle published by the JISC (2005) based on the Big Blue model (2002). The report which follows looks in detail at the i-skills of two groups of non academic staff working in higher education. Recommendations for the development of an appropriate staff development programme drawing on Mackenzie's (2005) 6 step model, and suggested areas for future research and partnership working are also included in this report.

Aim

The aim of the project is to help staff developers and information skills professionals to support the development of i-skills in their colleagues and to test and develop the model in this context.

Objectives

- A report of the i-skills profile of two groups of non academic staff, taking full account of the context within which people are working.
- Recommendations on possible strategies for supporting skills development in context.

Outcomes

1. A structured review of staff skills against the headings offered in the JISC I-skills cycle.
2. A discussion of the nature of i-skills in the workplace as exemplified in two surveyed groups.
3. An adapted i-skills model showing possible 'gateways' between traditionally Library based staff skills training provision and mainstream institutional staff development provision.
4. An indicative staff development programme developed in response to the needs of a specific group of staff with provision by each of the major training providers on campus
5. Recommendations for possible areas of partnership working.
6. Recommendations for three of the i-skills stakeholders – Librarians, Staff development professionals and JISC

1.2 Background

1.2.1 What are i-skills?

The (Joint Information Systems Council) JISC introduced the concept of staff i-skills in an attempt to resolve confusions arising from the use of terms such as information skills, information literacy, information fluency, knowledge literacy, and knowledge management.

'Information skills' is a term that has been used increasingly in further and higher education (FE & HE) in the last five years. There is a wealth of literature that exists on this subject. A cursory glance at this shows that information skills is a concept which has many definitions, almost all of which tend to be context specific.When describing information skills, there exists a tendency

to conflate it with ICT skills and whilst ICT skills do play a part they are not the whole picture. There is also a tendency to regard their development as only applicable to learners. Again, this is a misconception. They are, in fact, skills that can be applied to all areas of modern life, including the workplace. As a result of the potential confusion over what these terms mean and how they apply to the workplace a new term has been introduced, i-skills.

These are defined as the ability to...

...identify, assess, retrieve, evaluate, adapt, organise and communicate information within an iterative context of review and reflection.

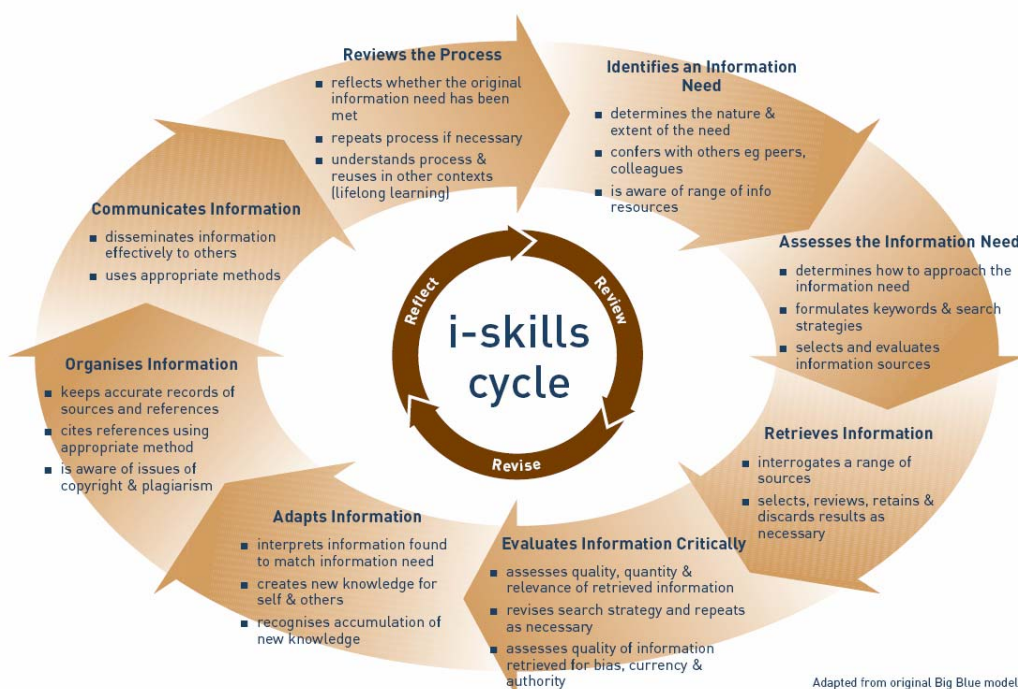
JISC (2005a) Investing in Staff i-Skills

At a time when University staff are under increasing pressure from many different directions, it is vital that they are given the opportunity to develop the skills necessary to be as effective in the workplace as possible. Creating and sustaining the development of an information literate staff, is a major challenge to large institutions of higher education.

Educational institutions function across networks, transferring and sharing information, knowledge and good practice. How successful an institution is, how its 'quality' is judged, is dependent on a number of variables, including stakeholder perceptions. The flow of information and knowledge from and between departments of an institution and beyond informs the quality of relationships between an institution and its key client group (students); employers; research funders; government departments; quality assurance agencies and other bodies.....i-skills can play a significant part in an institution's aim to enhance its excellence in teaching, learning, and research, and its reputation with employers, external funders, quality assurance agencies and the local community.

JISC (2005a) Investing in Staff i-Skills

The JISC has offered to institutions a model of an i-skills cycle (see below) and encouraged institutions to invest in staff development in this area.



Adapted from original Big Blue model

Fig 1: JISC i-skills cycle

In order to explore how the cycle can be used by staff developers to design a programme of appropriate staff development interventions, it was felt that a number of exemplifications should be developed to be offered as indicative models to staff developers in HE institutions.

2. Research Methodology

Two groups of staff from Loughborough University were selected: staff in the Finance Office and staff in the Research Office. These groups provided contrasting exemplifications, given the research-based nature of many of the roles in the Research Office and the system-based nature of roles in the Finance Office. The differences and similarities of these groups are discussed in section 3 of this report.

The two groups were explored using the same methodology. The purpose of the job function of the target group, the goals and roles were identified. This was done via interviews between the researcher and the senior members of staff and a review of available documentation. Roles were linked to specific goals, and this provided a focus enabling the survey to concentrate on key roles and tasks, which were critical to the success of the job function of the target group. Once key roles were identified and understood, job descriptions were collected in order to orientate the researcher to the work, and to identify information intensive aspects of the jobs. Specific interviews were then conducted with members of staff, at which an audit of information tools in the work environment took place. Interview data was then analysed. The i-skills were identified and coded. Focus group sessions were then held with both groups to further explore their attitudes to skills development in the context of ongoing professional development.

2.1 Participants

In both groups members of staff were chosen at three, comparable levels of seniority. In total 11 staff were involved in the study.

All participants were informed of the purpose of the study. (See appendix 1 for details of the communities and key roles.)

2.2 Information audit

The information audit was carried out prior to the interview. The purpose of the audit was to discover the range of tools and sources used; the purpose of their use, and to identify levels of information competency. The audit involved collating a list of reference sources, documentation and ICT tools used by staff (see appendix 5).

2.3 Interviews

The interviews focused on specific tasks associated with roles. Participants were asked to identify a comprehensive set of information intensive tasks i.e. those that include the use of data, information and knowledge; the use of information communication technology (ICT); the use of paper based and electronic sources of information; other external bodies that may provide data, information and knowledge. These were then investigated in depth. The information needs (the data, information, knowledge they require) and the information behaviour associated with these tasks e.g. using ICT, databases, completing forms, talking to people were identified. To help members of staff recall what happened in practice, they were asked to concentrate on specific situations they had experienced while undertaking tasks. An adapted form of the critical incident technique was used to identify what led up to

the situation, how it was resolved focusing on what information was needed, what helped, what barriers were encountered and how the information was used (see appendix 6).

2.4 Focus groups

The focus group sessions were structured around a set of open questions designed to explore attitudes towards, and strategies for skills development in the workplace. Participants were asked to reflect on how they go about identifying and meeting their own i-skills training needs, and the factors which affect their uptake of staff development opportunities. Participants chose to respond to those questions in a range of different ways. Some chose to generalise, some to list, some to identify specific critical incidents, and some to draw conclusions for themselves from their experience. This resulted in a rich data set. Themes arising from the interview data were also explored in more detail, giving opportunities for clarification and comment. (See appendix 4 for focus group questions).

2.5 Data analysis

The process of analysing data was as follows. Data was assigned to themes under the headings provided by the JISC i-skills cycle (see appendix 2). Examples of comments which did not fit into a particular theme, or which seemed out of place within the context of what the researcher expected to see were examined and reasons suggested for the appearance of these comments. The data was also grouped by office RO and FO, to identify differences between the two groups (see appendix 2, sections 2.2 and 2.3). Finally, data was mapped across both groups across levels of seniority in an attempt to identify i-skills specific to these work hierarchies (as discussed in main report, section 3.2).

During the course of the interviews participants discussed a range of issues and skills which do not explicitly fall under the JISC i-skills model or sub-headings. However, participants perceived them as having a large bearing on their management of information, so they should therefore be considered alongside the i-skills categories outlined above. These skills not explicit to the i-skills model are discussed in section 4.

3. Discussion

The findings from the data analysis allow conclusions to be drawn as to the opportunities which exist for supporting i-skills development in these work contexts.

3.1 Understanding i-skills

i-skills was a new term for all of those who participated in the interviews and focus groups. In the interviews several respondents commented that this was the first time they had had the opportunity to think and talk about these tasks and processes. Even when the findings were presented, people found it hard to relate to the abstract descriptions of information behaviour. Furthermore, as with most people and their work, respondents tend to focus on how every day is different rather than identifying the common underlying processes. This creates a significant challenge for those who want to facilitate people with these processes.

When asked about their i-skills within the focus group setting, there was a need to review what was meant by the term, and many found it difficult to grasp the concept as a whole:

“We keep interpreting that as IT skills.”

“As soon as I see it, I just think computers.”

It is possible that a lack of consciousness of i-skills is exacerbated by the fragmented nature of teamwork. One focus group participant felt that her professional qualification had covered all aspects of i-skills development, and that this, in addition to occasional on-the-job training was more than adequate in fulfilling her i-skills needs within the workplace. It is possible that some of the misunderstandings of i-skills in the workplace stem from the mismatch between the language used in the model and the reality of workplace tasks. The JISC i-skills model has its roots in research conducted with students working towards a set of academic goals (Big Blue, 2002) and uses language appropriate to that context such as citing references appropriately and being aware of plagiarism issues. While these issues do not disappear in the workplace, other information skills become more important. Many staff who work in higher education have already completed a first, and possibly higher degree or professional qualification. As long as the language of i-skills remains rooted in a library or study skills style, many professionals will see them as skills they have already mastered with new computer systems offering the only new challenges. This suggests that the cycle should be expanded in its detail to use different language to identify skills characteristic of the workplace.

3.2 Differentiation

By organising the data into responses given by participants of the same seniority, it is possible to identify some common themes which arise. The participants work at three levels of seniority. The i-skills of the most senior members of staff in both groups were very similar. They keep on top of what is happening in their sectors, read professional literature, search the web, evaluate, analyse and synthesise information. They have responsibility for guiding others in accessing, using, communicating and managing information. Networking was an important means of gathering information for this group. At this level there was an emphasis on using information rather than finding it, although there is an implicit skill in knowing who would have the information.

“I see my job as more using information than finding it. I end up co-ordinating the production of things but don’t actually do it myself”

“If I want any significant amount of information out of the systems I would ask people who spend their time using the systems”

It may be that, in the context of i-skills, sources of information beyond IT systems or documents should be considered more formally. The importance of other people as sources of information, in particular, should be considered, given the clear emphasis placed on colleagues and networking.

Participants in roles at the second level of seniority employed a number of similar i-skills. They keep on top of what is happening in their sector, read professional literature, search the web, evaluate, analyse and synthesise information. It is at this level that differences appear between the two offices. In the Finance Office, members of staff search the web but the range of sites used by individual members of staff was far narrower than the range used in the Research Office. Members of staff in the Research Office search a wider range of websites more frequently. Finance Office staff accessed much of their information from the various finance systems, and references to evaluating the information found were fewer. Information on the system was unequivocally accepted.

There were noticeable differences in the i-skills of participants employed at the third level of seniority. Participants described their roles as routine and straight forward. Information needs were routine and

easily defined with no need for planning and search strategies were routine. Information/data was accessed mainly from existing systems and individuals followed a set routine. Once accessed, information was then analysed, reformatted and put back into the system. There was less direct communication of information. The nature of the roles meant that staff had a good knowledge of people employed throughout the university but little personal contact with them, and no networking was evident. The Research Office again made more references to evaluating information than the Finance Office at this level. Much of the information accessed in the Finance Office came from specific finance systems and was accepted without question.

There was a more marked difference in the use of current awareness services/alerting services. Only two of the more senior members of the Finance Office referred to using a current awareness service whereas three of the four participants in the Research Office did so, reflecting the specific nature of the roles within the latter.

There was a greater frequency of referral to knowledge of appropriate resources from participants in the Finance Office. This could be explained by the fact that participants often knew exactly where to look on the system for information. It is therefore not surprising that more referrals were made to selecting the most appropriate resources by the same participants.

There was more discussion of adapting information by participants from the Finance Office. Working as they do with numerical data, there is an awareness of the need to present information in a user friendly format. There was, however, little variety between exemplifications in the ways that information is communicated. The most frequently cited means of communication were reports and emails. There was a general feeling that too many emails are received. Participants thought that they often received emails which were not relevant to them. One reason cited for using email was the necessity of having an audit trail.

Mackenzie (2005) suggests that since student information skills programmes are based on the premise of progression of an individual through an academic course, this model may not be applicable to workplace needs. Not only will staff in particular departments specialise in specific areas out of necessity, many staff rely on the expertise of others rather than develop expertise across the whole suite of information skills. The results of both the interviews and focus groups suggest that many staff work within a team where the i-skills are shared across many individuals, just as tasks are. In many cases, staff did not see a specific task through from its conception to completion, reflecting perhaps the reality of real-life workplace scenarios. In the light of this it is important to be able to offer i-skills support to staff which does not impose unnecessary hoops to jump through, such as a need to consider all the i-skills areas, as this is likely only to exacerbate the problem of staff not seeing the relevance of i-skills to their work.

It is possible, in the workplace, to identify training needs which are generic, such as managing your inbox, and others specific to different roles and levels of seniority. Library skills provision has not, traditionally, been targeted at different levels of staff, but staff development programmes often are. Many universities offer staff development programmes targeted to groups such as first time line managers, middle management and heads of department, and thus there is a clear opportunity to use these existing programmes to offer contextual applications of i-skills specifically to staff at different levels of seniority. Staff development units are also often involved in facilitating departmental away days or planning meetings, using events such as these to target i-skills development opportunities towards departmental teams in the context of team development, supports delivery of specific projects or institutional initiatives.

3.3 The relevance of i-skills in the workplace

In the work environment i-skills takes a very different form to that in the academic context. In the academic context, common conceptions of information literacy describe the process a researcher or student follows in completing an individual task or assignment. This conception of i-skills and information literacy is reflected in the SCONUL (1999) and CILIP (2005) models of information literacy. These models have been recognised as being relatively simplistic and to some extent a Library and Information Science (LIS) abstraction. Authors, basing their ideas on empirical studies, such as Kuhlthau, (1993), Leckie et al., (1996) and Marchionini (1997) have emphasised the iterative nature of these processes and that i-skills and information literacy may be more fruitfully perceived as conceptions (Bruce 1997) or situations experienced by the individual (Hepworth, 2003). This implies that i-skills, stemming from the academic context, rather than being a generic phenomena commonly understood by all may be context specific – although similar labels may be used to describe such phenomena. This needs to be borne in mind when communicating about and conducting training in i-skills.

In the workplace individuals do not, generally, start with a self contained topic that leads them to identify and assess an information need; retrieve information; evaluate information critically; adapt information; organise information; communicate information and review the process (as defined in the i-skills model). In some cases the singular nature of the role and also lack of time did mean that delegation was not possible and the task was more self contained, in general, work was fragmented. It also involved a team of people, and hence delegation, repetition and collaboration. Tasks may start with one person and elements of the task may go to another, come back to the same person, go on to another and so on. Nevertheless, as Cheuk (1998) pointed out, there are common underlying information processing situations, and these are recognised by the i-skills model, although one should bear in mind that these may not be how the individual would refer to them.

Rather than one person completing this sequence of tasks, either in a linear or circular form, parts of the overall cycle are delegated by senior staff. An individual may, therefore, be asked to organise and present information; they may be asked to find some information. Hence the i-skills cycle was found not to reflect the reality of the workplace. This was borne out in the focus group sessions where the results of the investigation were presented to staff in the research department. Staff commented that to present their i-skills as a continuous process with one stage leading to another was too formulaic and an abstraction. In addition it was found that respondents were largely unconscious of their information processing activities and found it hard to relate to the abstract i-skills model. This raises a fundamental problem when library and information science (LIS) practitioners or academics, who have spent much time identifying and talking about such processes, then try to communicate with non LIS practitioners.

The initial stages of the i-skills cycle, '*identifies an information need*', tend not to relate closely to the non-academic environment. This is partly because tasks tend to be given to staff by their manager, either by phone, e-mail or face-to-face, and it is likely to be relatively well defined. There is therefore little identification or definition of the topic or the information need. Definition of the topic is primarily through listening, questioning and possibly through discussion with colleagues, and makes these skills essential.

Furthermore, although a similar label could be used to describe i-skills in the non-academic environment, such as '*retrieves information*', the content of this process was very different from that implied by the library and information science models of i-skills and information literacy. The latter focus on the use of materials traditionally held, or given access to, by the library i.e. secondary sources of information. In the workplace very little emphasis was given to secondary sources of information and generally staff were dealing with data and not information. This included gathering internal data

concerning, for example, the RAE exercise or salary structures. However there were cases where such internal data was compared with external data of a similar nature, acting as benchmarks. Nevertheless the point is that data rather than information was key, and knowledge of internal data and information storage systems (RAS data, salary data, HESH etc) was crucial, rather than a knowledge of external secondary sources or indexes to such information. However, tools such as search engines were used to identify resources but the impression was given that this was quite straightforward.

With regard to '*evaluates information critically*,' again rather than applying criteria implied in other i-skills/information literacy models such as 'respected journal/author etc. the source of data tends to be internal and hence the authority is known, and classical evaluative criteria relating to secondary sources do not apply. During the work process most validation, as well as clarification, took place through colleagues (i.e. other people were consulted to see whether something made sense or not). Validation, particularly in the Finance area, also tends to be based on professional training i.e. subject knowledge such as accounting, rather than those with evaluating sources of information.

The process of '*adapts information*' or using information is again rather different to that envisaged in the i-skills cycle. Again, in the i-skills cycle the idea of pulling together information from different sources is envisaged. This did take place to some extent i.e. information could be obtained from the web sites of different organisational bodies but generally not from published secondary sources. Furthermore, junior staff may be given data and very specific instructions of what to do with it, with little scope for choosing how to adapt the information or data. However, certain thinking skills associated with using information were important. These include analysing information and data, identifying gaps, collating material, and manipulating data and information in an appropriate way. These types of thinking skills tend to be unrepresented in i-skills and other information literacy models.

'*Organises information*' is a label that could be used to describe an activity, but again not in terms of 'keeps accurate records of sources and references' (which relate to the academic literature review part of the research process). Nevertheless organising information was a significant issue and area of concern to staff. Respondents did not have any obvious method or structure for organising the information, data or knowledge associated with their work. How to manage e-mails was a commonly cited problem. No systematic approach was taken to the management of the desktop, files and folders etc. nor to managing external information resources, such as organisations and their web sites that could be important sources of information or data. Little systematic management of or access to published sources such as professional magazines was evident.

'*Communicates information*' again implies some form of report, thesis etc. as in the study/academic context. In the workplace it is evident that data or information intensive tasks do not necessarily result in a 'report'. The output could be in the form of a spreadsheet for example or a PowerPoint presentation. Nevertheless appropriate methods had to be used, and thought was given to the purpose of the data or information and who the intended 'consumer' was. The production of larger scale reports where a wider range of data and information were pulled together tended to be the function of senior rather than junior staff.

'*Reviews the process*' was considered useful but a luxury. It was something the respondents felt they should do but didn't have the time. Generally reviewing the process tended to be a form of checking whether the task had been completed successfully, and this involved talking to colleagues. It was not a reflective process that looked at the overall task and how they had gone about it but more to with whether their work was correct, accurate and related to the expectations of their managers.

As indicated above, similar labels can be used to categorise people's activities in the work place. However they tend to be applied in a different way to that in the academic context. In particular '*organises information*' has a far broader remit involving the organisation of data, information and

knowledge that is part of the working environment. This encompasses the use of ICT to help manage this environment.

One of the few tasks that did involve the use of secondary sources, i.e. the type of resources that LIS professionals are concerned with, was current awareness. Staff, particularly senior staff, did feel a need to keep abreast of development in the academic sector as a whole, and professional developments and changes that may have an impact on their work. In this case, professional magazines, such as the Journal of Research Administration, Accountancy Age; organisations who produced documentation that may affect practice or create opportunities, such as Higher Education and Research Opportunities, Arts & Humanities Research Council Trade Unions, Chartered Institute of Public Finance and Accountancy; discussion lists, such as British Universities Finance Directors Group or ARMA JISCmail. Certain tasks would also need people to refer to institutional policies and guidelines internal to the organisation such as Committee Minutes, Whistle Blowing Policy etc. Mapping this data and information landscape was therefore a necessity. Senior management in both the Finance Office and the Research Office, (although it was more widespread in the latter), were particularly conscious of this role.

In addition to the different nature of tasks that could be given the same i-skills labels such as retrieving information, other activities were evident that had an impact on their information behaviour. These included time management, networking and teamwork. Diagrammatic representations of i-skills in the workplace:

Fig 2: The delegation of ‘i-skills’ tasks

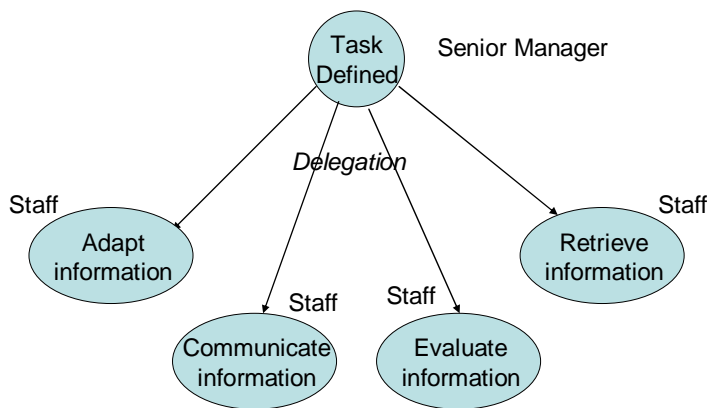


Fig 3: i-skills sharing

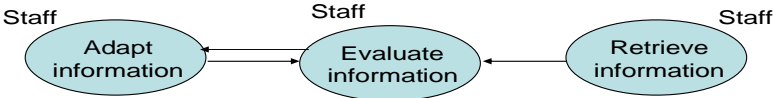


Fig 4: The process of confirmation and validation
Identifying information need / assessing information need /evaluating information

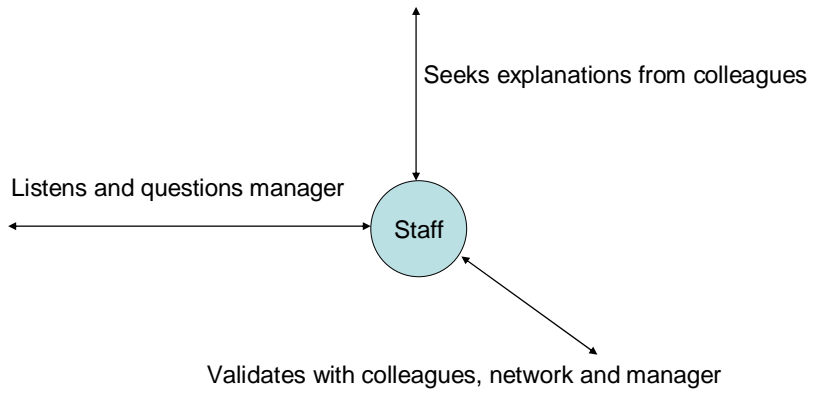


Fig 5: Information behaviour: use of sources

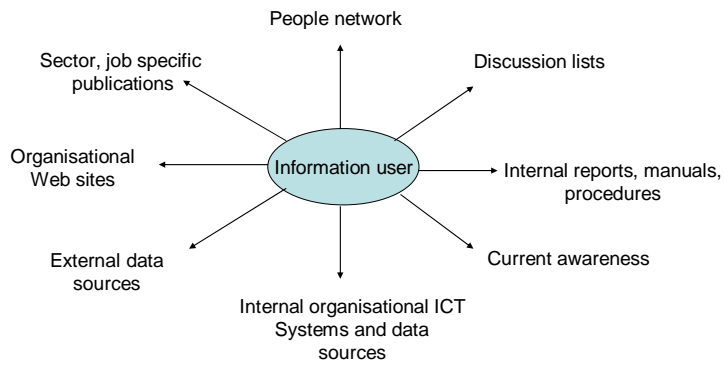
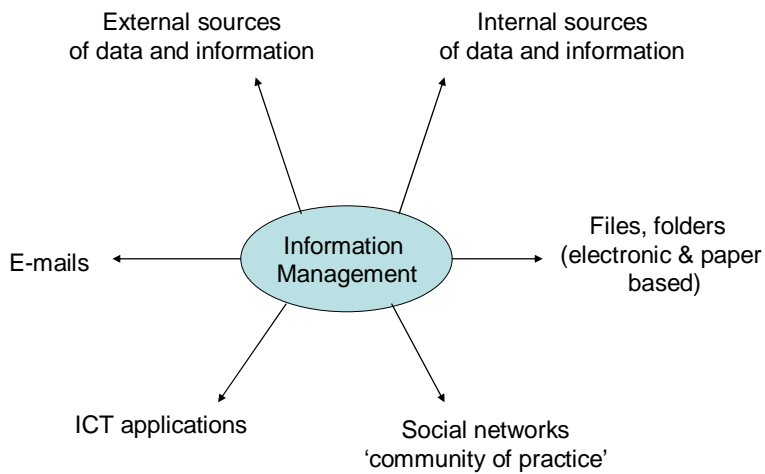


Fig 6: Information management



4. Skills not explicit in the i-skills model

In mapping the data against the JISC i-skills model, comments were identified which did not easily fit into the headings offered by the model, but which nonetheless had a significant bearing on staff management of information.

These themes are:

- time management and information overload;
- networking;
- teamworking;

This indicates that keeping i-skills separate from other work skills is an artificial dichotomy. For example effective time management at work depends in part on good information management and good time management frees up resources for more thorough resource investigation. These skills are very familiar to staff development practitioners and are often covered by professional development provision outside of the library. It is clear that discussions of i-skills have much to offer to more mainstream staff development and that there are areas in which partnership working in training provision can meet institutional goals as well as the JISC i-skills agenda. Mackenzie (2005) suggests that:

“collaborating over the delivery of information skills has the potential to enhance recognition of information skills as a professional activity, improve the content and relevance of materials and, in avoiding duplication of effort, maximise existing resources and expertise” .

The following areas clearly offer opportunities for collaboration between internal institutional training providers.

4.1 Time management and information overload

Although not mentioned by every participant, there were repeated references to time management in interviews and focus groups. Time management had an impact on information behaviour in that the extent that any i-skills type task was conducted, such as ‘*adapts information*’, was determined by the amount of time the person felt they had available. Hence people needed to constantly make judgements about how thorough their information behaviour could be depending on the time available. Time management had an affect on how efficiently and thoroughly all aspects of information management were carried out. Pressure of time determined the length of searches carried out. Lack of time presented challenges when it came to organising information.

“One frustration of my role is not always being able to do developmental things because the day to day work is of a huge volume relative to the number of staff in the office...it takes you away from being able to pursue certain things in a more proactive way.”

“Having the ability to receive information, file it and archive it with easy personal access to the archives would help me as would having the time to carry out good housekeeping routines e.g. weeding my electronic records. Time can be a barrier.”

All participants had their own systems for managing information in hardcopy and electronically, though difficulties arose with the volume of information which required organising. Electronic storage of information and the ability to archive emails was an issue. Some participants found maintaining the

organisation of information difficult. The primary reason for this was lack of time; a secondary reason was an inability to determine what should be kept and what should be discarded.

The amount of information received which needed to be read and absorbed presented challenges:

“I think information overload is horrendous. I think it’s worse than it was five years ago.”

“It is necessary for me to keep on top of what is happening in the sector so I have to read quite a lot that can be difficult at times due to pressure of work.”

“There is a lot to absorb. It is keeping up to date with everything that is a problem.”

“I found a lot of sources, in fact too many depending on which ones you looked at you seemed to get a different answer rather than there being a definitive answer. You feel like you are reaching the point where there is information overload. You almost wish you hadn’t looked too closely and just taken the first version at face value.”

“Keeping on top of all the information and keeping up to date with what is going on in the sector is vital. Information overload is one of the biggest problems. You need to be careful not to become blinded by too many sources of information. You need to be clearly focussed on what is most relevant to your needs.”

Keeping abreast of all new developments in their sectors was an issue for many participants, especially those employed at a senior level. This was done by reading professional literature, magazines and newspapers, accessing information from the web and in some cases using discussion lists and alerting services. There was, however, a level of anxiety in some cases that this was not being fully addressed. All but one participant demonstrated the need to keep up to date with new developments in their sectors:

“I read Payroll Pensions Review for specific information e.g. details of pension changes from April 1st.”

“I usually start the day with a list of tasks, prioritised. I routinely check a whole variety of info sources on a weekly basis as part of my work.”

i-skills have positive contributions to make to better time management in the workplace, and should not be seen as entirely separate. Investment in i-skills is being promoted to institutions as offering returns in terms of ‘time saving’ (JISC, 2005a). Linking specific i-skills explicitly to potential time saving strategies under the cycle headings, would coincide with institutional priorities for organisational development. Since many staff are concerned about time management issues, the linking of this within the cycle may make i-skills a more accessible concept for them.

4.2 Networking

Networking, both inside the institution and outside of it, was cited as a very important means of gathering information. In many cases it was seen as the only means of obtaining particular information. People were the main sources of guidance in terms of determining what a task should entail. Networking was also required to help identify and gather data and information. It was therefore necessary to build a mental map of people who could have an impact on any stage in the completion of work. This involved both a knowledge of who and what was available, but also the interpersonal skills to build and make use of a network of people. This was sometimes problematic due to the lack of

physical meeting places where people could build their network, and a work culture at the University that was not perceived to be highly collaborative.

A need to be knowledgeable of what data and information systems were in place in the workplace and how to use them was fundamental. However, little formalised training seemed to take place covering these systems and generally problems were dealt with on an ad hoc basis by asking colleagues for help.

“I use people a lot to find out information. More face to face contact would help...the amount you are likely to get out of someone is dependent on the nature of the relationship.”

This was seen as vital by the most senior members of staff:

“networking with people there is far more productive than anything that comes out of meetings... I found myself sitting on a table with eleven Vice Chancellors for most of the day. It might not kick in for five or six months but there are now eleven other people I can pick the phone up to speak to.”

“Networking is a key part of my job, it is very useful. I make contacts at conferences and seminars I attend, with people I have dealt with e.g. when negotiating contracts that are collaborative with organisations, people I have worked with in the past. It is useful to have people you can ring up and find out what is going on at other institutions and how they are tackling problems, to compare notes with. It keeps you abreast of all the new developments and what is going on and helps you to focus on what is important for the university strategically and if you need information on particular thing you always know someone who can point you in the right direction or give you the information or do you a favour that is very important.”

“Networking is very useful. Having people you can ring up about issues that you are both having to deal with is very helpful. For instance I have been invited by USS to sit on a panel four times a year as an Institution adviser so that is a very good way of networking.”

One participant had a network of personal contacts, friends and ex colleagues, to whom he turned for information but he did not favour the social networking that took place at conferences.

“Conferences can be useful for the formal presentation but I don’t tend to derive much from the social networking that goes on in the bar afterwards.”

The need to build up networking systems was recognised but it was not always considered easy to do:

“I need to build up some networking systems within the university e.g. with core people in the Registry.”

“I do need to network quite extensively with people. It is quite hard for me. When I was a [job title] it was easier I had regular meetings with people set up. Now I will have to put systems in place to do something about that. It is an important part of the job knowing who is where, who is doing what and what they are thinking. I do meet people from other universities when I attend training sessions. I don’t have relations with management accountants at other universities that I can phone up. I don’t really network. I am fairly shy and find it difficult.”

There was clearly a perceived importance of physical location which assisted or hampered good communication and networking. The value of networking and the opportunity to pursue it were welcomed:

“I would like contact with other people in the same role as me working at other universities. They might well be encountering similar problems to me. It would be good to be able to share problems. I am not aware of any forums where this contact can be made”.

“Networking is very useful I do attend conferences. More opportunities to do this would be beneficial but with pressure of work this is difficult.”

All participants demonstrated the need to know staff throughout the university. The more senior the member of staff the greater the need to know members of staff was and what their responsibilities were:

“We need to make sure that all invoices from everyone on campus are on the system before the cut off date. I email the timetable to all departments I tell them what information I require from them.”

“They were asking for Loughborough University to identify world wide centres of excellence in research in this area and I was asked to harness that information and let them know who the relevant people to speak to were. I was able to identify the relevant people to speak to through my knowledge of university staff.”

Networking skills have a close relationship to headings in the i-skills cycle even though they are not explicitly mentioned. The skills of recognising, identifying, evaluating, communicating, sharing and interpreting information, are key to networking. The difference perhaps, is the emphasis on interpersonal skills. Interpersonal skills are not mentioned in the current cycle and are perhaps considered to be beyond the remit of library trainers. In many universities questioning and listening techniques are taught in professional development provision around counselling skills, supervisory management or interviewing techniques. If the I-skills model is extended to recognise people as sources of information, libraries must consider involving trainers from varied backgrounds in their skills training programmes or linking their provision to that outside the library.

The ability to ask precise and accurate questions in order to elicit the required information was a significant and necessary skill recognised particularly amongst the more senior members of staff. Connected to this was the ability to listen carefully picking out the main points, and sifting the relevant information from the irrelevant.

“The meeting was really a fact finding session. I needed to find out why the contract wasn’t signed, why three large invoices were outstanding, why they were issued late basically what the issues were and why the company were not paying. It was vital for me to get information from the HOD in order for me to get back to the company and argue our case.”

“I ask them for an outline of who they are applying to i.e. what funding bodies and under what scheme.”

Because of the large number of comments around networking which appeared in the interview data, participants in the focus groups were asked specifically to make suggestions as to how their institution could facilitate social networking in a work context. Their responses covered some generic suggestions about work practices:

“We create a physical meeting when we put on lunch and pay for it, to actually get people to come together who wouldn’t normally do so. We have to physically create that environment or it wouldn’t ordinarily happen.”

Others focussed on institutionally specific issues of campus layout, lunch breaks and provision of common room space, and creative approaches to overcoming problems such as these need to be employed. There are some examples of networking skills being taught to students, for example at University of Leeds as part of the postgraduate skills training programme. Where an institution recognises a specific demand for training in this area it may appear in the staff development programme. More often staff development units play a role in facilitating workplace networks either specifically around a topic- for example a student support network incorporating staff working in services which contribute to pastoral support; or by providing structured opportunities to meet colleagues from across the institution- for example in the action learning sets associated with a programme such as leadership training.

4.3 Teamwork

The issue of teams was not considered when developing the student i-skills model (Big Blue, 2002), which concentrated on the skills needed to become an “information literate person”. The workplace application of i-skills is characterised by the spread of skills across teams, where one person may specialise in a particular skill area out of necessity, and by the need to mentor and support skills development across a team. Tasks are distributed amongst the team, data and information is identified to some extent from the community of practice and problems are solved on an ad hoc basis with the help of others rather than in isolation, through the systematic application of a knowledge of process (either cognitive or behavioural).

Participants in positions of responsibility for other members of staff, referred to the need to be able to guide others in accessing, using, communicating and managing information:

“A lot of this job [monitoring expenditure in all departments] is me managing the process rather than doing it.”

“For instance when finding information there are some things I would expect others to be up to speed on but if I am asking them to look at a whole new area then I will give an indication of what we should be doing or where to look then they would come back to me and I would look at what they had found and consider what I thought we should be getting and make sure we hadn’t missed anything.”

The members of staff employed in the more senior roles needed to have an overview of their departments. They needed a mental map of where information was kept and an information profile of their staff in order to know who to access information from quickly. They also needed the ability to guide others in the access, use, communication and management of information.

Different attitudes to, and use of shared information were displayed. It was clear that where shared information existed, agreements about how this would work had not been made in advance or even considered. For example, participants mentioned a possible lack of version control, and some felt they were not able to “trust” information in a shared space.

Developing effective teams is a high priority for every institution, and ensuring that staff have the skills to work in teams and make the most of meetings is the objective of much staff development provision,

along with supervisory skills and mentoring. It is not clear the extent to which '*confers with peers and colleagues*' in the i-skills cycle refers to team working, as it only appears under one heading, '*identify an information need*'. Withholding information is well known as bad teamworking behaviour, so for staff skills, '*confers with peers and colleagues*' could be present at each stage of the cycle, with particular detail under '*communicates information*', emphasising 'sharing' rather than just 'dissemination'.

5. Staff development

5.1 Challenges

Key findings from JISC's earlier projects exploring staff development offer the following challenges for developing staff development provision around i-skills:

Defining i-skills

- General confusion exists over definitions and terminology used to describe information skills
- There is a tendency to conflate i-skills with ICT skills
- These issues mean that i-skills needs tend not to be recognised and addressed in their own right by staff

Skills gaps

- i-Skills for non-academic staff (other than librarians) are not currently addressed

Lack of strategic framework for i-skills

- There is no precedent in place to allocate responsibility for i-skills development
- There is little evidence to indicate that i-skills provision is part of an institution-wide strategy for development of staff core skills
- There is a lack of institution-wide ownership of i-skills issues; it is seen as a 'library thing'
- It is not accredited or linked to career progression or recognised by any of the main professional organisations eg HE Academy
- There is little or no evidence to suggest that staff developers either recognise i-skills as a priority or as a development area for an institution

Fragmented provision, poor take-up

- Existing training provision is fragmented with ad hoc courses and events run mainly by libraries and a small number of external agencies
- Courses tend to take a 'one-size fits all' approach in the absence of any defined progression path for i-skills

A full list of findings is available in *JISC (2005a) Investing in Staff i-Skills* and many of these coincide with finding in this project. If these challenges are to be met there will need to be significant investment in identifying areas in which i-skills can be interpreted and linked to mainstream staff development via existing career development structures to meet institutional priorities.

5.2 The University of Leeds experience

At the University of Leeds, ‘*staff development*’ refers to the development of the individual's potential and career in terms of knowledge, skills, personal abilities, competencies and understanding, in line with the aims and objectives of their faculty, school or department. It includes a wide range of learning experiences, both within and outside the workplace, and is a continuing process that can help individuals

- To identify and develop their potential
- To respond positively to change, uncertainty and conflict
- To increase their job satisfaction
- To improve their self-confidence, motivation and initiative
- To extend their range of performance.

Development can take place on-job or off-job. On-job development includes learning through the experience of doing one's job, reflecting on that experience, discussing it with a manager, mentor, coach, colleagues, receiving feedback on one's performance, reviewing and evaluating one's performance, being coached and supervised. Off-job development includes participation in courses or conferences, undertaking a qualification, open or distance learning, secondment, placement, shadowing, exchange visit, study leave etc. Staff development thus helps to create professional staff who are skilled and effective in their performance.

In order to ensure that information skills are part of an institution wide strategy for development of staff core skills the University of Leeds created the Information Literacy group for Staff in 2002, with a membership drawn from a range of training providers across the University and representatives from academic departments. The group has been chaired by the university librarian and a senior staff development officer in turn.

The University's human resource strategy recognises the importance of these skills to institutional goals, and the range of ways in which skills development can be supported.

To create the academic output needed to achieve the University's vision we need to create time for academic development. This can be achieved through strong teamwork and effective use of professional staff, with supporting activities being performed by professional administrative, technical and clerical staff. These staff also have an important role to play in helping to improve our core systems and processes. The quality of our systems experienced by students and staff will improve as staff are trained in their use, with all tasks being done just once, in the most appropriate place. We also need to develop a stronger internal customer care culture in which there is mutual trust and respect between administrative, support and academic roles. To achieve these aims we will:

- Promote:
 - Internal and external staff development programmes for professional and support staff, using progressive development pathways such as NVQ, work-based degrees, leadership development, the Leadership Foundation's project to develop a national framework for the professional development of technical staff who support research and teaching
 - The LOGIK Centre and ensure that the Centre and the *Learning for Life* programme complement each other
 - The Springboard and Women's Development programmes to female staff, who form the majority of support and professional staff
- Encourage and contribute funding for relevant staff to undertake professional qualifications and further education and training to improve professionalism

- Help Faculties and Schools/services to develop bespoke staff development to support team building, quality and customer care and to help them to explore the most efficient deployment of support staff time to relieve academic staff
- Provide IT and information literacy training for maximum efficiency in a modern organisation. This includes finding, accessing and sorting information sources, publishing and disseminating new information in appropriate formats and through appropriate channels, and systems training in finance and purchasing, Banner, SAP and COSTA.
- Work with Faculties and Schools/services to provide training in staff review as a means of improving processes and systems for staff management and development
- In the longer term review training and development provision and link to the HERA competencies.

“VALUING AND DEVELOPING ALL OUR STAFF”: A STRATEGY FOR HUMAN RESOURCE MANAGEMENT AND DEVELOPMENT University of Leeds (2006)

Responsibility for staff development is shared, as outlined in the institutional staff development policy:

Staff development is the joint responsibility of

- The individual member of staff
- His/her adviser (if on probation) or reviewer (if not on probation and hence participating in the staff review and development scheme)
- The line manager (if not the reviewer)
- The head of faculty/school/department/unit
- The University through its Staff and Departmental Development Unit, Information Systems Services, The Library and other providers of training and development.

THE UNIVERSITY OF LEEDS POLICY STATEMENT ON STAFF TRAINING AND DEVELOPMENT (2006)
<http://www.leeds.ac.uk/sddu/policy.htm>

It is considered that individual staff have a responsibility to keep themselves informed about developments in their own field or area of work. They should give thought to their own training and development needs and career aspirations, and be prepared to devote time and energy to meeting those needs. The University and its faculties and schools have a responsibility to ensure that mechanisms are in place to facilitate the continuing professional development of all staff. The Staff and Departmental Development Unit offer a wide range of opportunities for development including events tailored to specific groups or sections such as: organising, co-ordinating or facilitating departmental study or ‘away’ days; providing courses tailored to the needs of particular departments and ‘bespoke’ workshops for groups of staff in departments or for whole departments. Examples of the most popular workshops are "Teambuilding", "Offering a Quality Service", "Communication Skills" and "Supervisory Skills". Departmental away days or courses are usually based around a specific theme related to institutional priorities, or outcomes of a review. Care is also taken to ensure that staff development opportunities are not only seen as being accessed via ‘courses’. The leadership development programme, for example, takes a variety of forms including both formal and informal learning, internal and external programmes and courses, faculty-based initiatives, e-learning and reading, use of psychometrics, 360 degree feedback, mentoring, coaching, PDP and learning sets.

In recognition of the nature of workplace skills development, the Information Literacy for Staff Group includes representatives not just from the staff development unit and library, but also from central computing services who provide training in the use of university systems and web space, representatives from academic faculties and the learning development and virtual learning environment services. The

involvement of learning technologists makes it possible to identify best practice in making i-skills training available to work place learners.

Given the general confusion which exists over definitions and terminology of information literacy in the workplace rather than develop an explicit programme of i-skills for staff the University of Leeds approach has been to identify firstly the extent to which i-skills are embedded in existing training provision and secondly areas in which partnership working between training providers can ensure more effective provision. The priority is to encourage staff to keep abreast of changes; help them to identify relevant training for themselves, and to make that training easy to find and access. To achieve this aim, the group focused on six key areas of development:

1. To look at existing staff development programmes to identify opportunities for Information Literacy delivery in them.
2. To develop a shared booking portal for staff training courses to enable those seeking training to find and book it more easily
3. To bring together Information Literacy training materials authored by different providers in one place online
4. To consult over the development of training courses to identify gaps and opportunities
5. To develop self-audit questionnaires to assist staff in identifying their own training needs
6. To encourage staff to use the internal campus news services and networks to locate institutional information.

5.3 Designing staff development

In designing an appropriate staff development programme for the development of i-skills, it is important to identify staff attitudes to their own skills development. Providing a programme tailored to a specific group can be complex and may involve a range of different interventions. The Loughborough staff were interviewed in focus groups by staff developers from the University of Leeds. The questions in the focus groups were similar to those used at the University of Leeds when designing a departmental development or bespoke programme, and the resulting data is similar to that gathered from similar groups in Leeds implying that to some extent these findings may be generalisable across institutions. The focus group findings in this study are summarised in appendix 3, and the implications for staff developers using the i-skills model are discussed below.

5.3.1 Attitudes to skills development

Focus group participants were asked open questions relating to the factors which influence their take up of staff development opportunities in relation to i-skills. A prominent concern for many was the perceived lack of career development structure for administrative staff. Participants reported an ad-hoc laissez-faire attitude which may result in staff with valuable skills seeking employment elsewhere. They sought a system for career development and progression which would enable them to move through the ranks of the administrative structure and move up the organisation. Participants found the question of whose responsibility this would be was more difficult to address, given that their employer is a big organisation. They considered that line managers would probably be best placed to guide the career and i-skills development of their staff.

While some colleagues are naturally reflective, practitioners most need support and structure to facilitate workplace reflection. The data suggests that for these HE staff the process of developmental reflection is facilitated by either a) a staff development intervention structured to include time for reflection and

review, b) participation in a staff development and career review type process, perhaps linked to promotion or c) preparation of a CV. It was not clear that the outcomes or benefits of training were formally reviewed in relation to specific courses or interventions.

When asked where they would look for skills development opportunities both groups identified the staff or professional development unit and the library as i-skills training providers, although this may have been influenced by their knowledge of the nature of the research project and the fact that it was being carried out by staff developers and librarians.

Important factors in the uptake of training were; that it was offered by a trusted training provider; or accredited; and that the skill could be quickly applied in a work context. There was no evidence that participants minded which provider offered which type of training, just that they were perceived as offering quality provision. They trusted that the staff development unit would ensure that their programme of courses offered was up to date and relevant, and acknowledged Librarians as a source of professional expertise in information literacy. They made repeated reference to software packages, training for which would most likely be provided by central computing. For these staff the division between information literacy training and IT training is an artificial one. Far from identifying i-skills as 'a library thing' exclusively, participants identified central computing services as a key provider, and email networks and professional bodies as sources of information and training. In order to access externally accredited training they expected that the staff development unit or their managers would be able to access funding to pay for attendance on external courses. Recommendations from peers and guidance from managers featured strongly underlining the importance of leadership in skills review.

In terms of the preferred format in which to learn new skills, courses were mentioned as providing opportunities to focus, to access good practice guidance, and as a source of materials for reference and a record of skills development. Both groups agreed that the nature of the knowledge determined their approach to learning the answer. The take up of courses was influenced by all of the common factors- time of year, length of course, funding, perceived relevance. Time away from the office for skills development such as days away was thought to be something desirable but that may be institutionally frowned upon, and sometimes perceived to be impossible. Short courses were welcomed. It was also clear that skills were often developed through day to day working with colleagues rather than formal training, and that the web, or similar information sources, could be used to quickly find information on how to do something.

Focus group participants were asked specifically about issues of time management and networking in response to the interview data. Lively discussion ensued, largely concerning issues of the built environment and institutional culture. While the detail is institution specific, these issues will be common in many large institutions.

5.3.2 Using the i-skills model

Despite having previously been interviewed at length, participants found it very difficult to identify any training needs that might fall within the i-skills area, suggesting that they struggled both with the terminology of the model, and with relating to them in a real-life work situation. The nature of the JISC model presented to them by Loughborough researchers seemed troublesome, it was not clear that the model offered a useful tool for individuals. In a worst case scenario, it might even create a barrier. Staff needed to see training interventions as very relevant to them and their job. Experience of working with students indicates that i-skills training is most effective when targeted at a curriculum based level because it meets their immediate task related needs. Focus group responses suggest that similar factors come into play with regard to training for staff, and it may be better to work within departmental or

institutional priorities to tailor i-skills provision without the need to make the model explicit to participants.

Another problem for staff developers in using the JISC model is that as it stands, the i-skills cycle prompts staff to review their **process** and identify information needs. *‘As with all processes, the last step is to review and reflect on the outcomes, the effectiveness and efficiency of the process, and whether any improvements or additional information are needed.’* (JISC,2005b) This relates to the completion of an information research task not reviewing ones own skills or identifying skills gaps.

The model seems further confused as it is unclear as to whether the ‘reflect, review, revise’ in the centre of the model relates to the acquisition, development or application of the skills. Reflection on the development of skills is an important part of promoting and developing i-skills within the workforce, and good practice in this area should be based on established theories of adult and work based learning. Wherever we see ‘review’ indicated in a model it is clear that something must come before it, but it is not clear that in the workplace any one individual will complete all stages of the cycle offered by JISC for each information based task (see section 3.3). As such the ‘cycle’ offered can be seen as unhelpful to staff development providers who may not wish to ‘chase’ staff around the cycle unnecessarily.

Self-assessment tools such as that provided by Netskills, are a useful starting point for stimulating individuals on a process of developmental reflection. Tools such as this, enable training providers to assist staff in translating generic i-skills categories into real-life work place activities. The initial process of self audit should be followed closely by personal action planning to identify appropriate training opportunities. This would maximise the benefit of the tool and promote reflective practice. It is important to build in explicit opportunities for review with a line manager or peer following a training intervention to ensure that its impact is maximised.

5.4 Identifying appropriate interventions

Data gathered in this project discussed above provides the basis for staff developers and library professionals to develop a programme of appropriate training interventions in response to identified needs. Initial reluctance on the part of most conscientious staff to take a whole day away from the office for training is not uncommon, and can be overcome to some extent by involving the whole group in identifying the purpose of an away day and ensuring that the managers are present. Linking the topic to the delivery of departmental priorities or institutional goals may go some way to showing that being ‘closed to business’ for the day is acceptable and understood by ‘customers’.

The role of peers in supporting i-skills development links to issues of networking, time management, teamwork and reflection and review offers opportunities to take a new approach to staff development beyond the delivery of ‘courses’, and to draw on the use of new technologies and theories of online communities, communities of practice, peer assisted, and situated learning. Similarly the role of managers in identifying and reviewing skills development suggests that staff review processes are ideal places to promote i-skills as a skill set.

Leadership programmes offer vital opportunities for participants to explore how they gather and use information for decision making. A vital part of leadership is being able to effectively find and evaluate information and make the decision as to when to act with an incomplete information set and being aware of the consequences of doing so. The way in which tasks are delegated in teams will vary from team to team and the roles played by individuals in teams will often vary from task to task. This maybe decided by the manager but more research is needed into the profile of i-skills used in leadership situations as valid conclusions cannot be drawn from this small sample.

5.4.1 Case study 1: Skills mapping

What follows is an indicative training programme for Loughborough staff in the University Finance office based on data gathered in interviews and focus groups but drawing on existing i-skills training provision at the University of Leeds. It covers development for groups, specific job roles, new staff and experienced staff. A range of provision is covered, including, courses, online courses, networking opportunities and structures for reflection and review.

The programme includes a bespoke departmental away day of the sort often facilitated by the staff development unit. The away day is themed around the issue of student fees, but obviously this would depend on the group involved and the nature of current institutional priorities.

By focussing part of the day on planning the development of a new set of departmental web pages the group would have a chance to explore issues of finding, evaluating and organising information along with plans for communicating new information to an audience. An indirect result of this process is likely to be the discovery of how colleagues within the department organise information and the skills they use to manage it. The programme also includes the use of the Netskills self evaluation tool which can form the starting point for a discussion of individual training needs. The other interventions listed are all drawn from existing provision offered by either the staff development unit, library or central computing services. The description of the course content or learning outcomes provided by the trainer (not listed in full here) has been used to identify which i-skills are addressed in the content.

For many of these courses, especially those offered outside the library, the skills are not listed explicitly as i-skills. In putting together programmes such as this, it is important that staff developers are aware of the categories of i-skills to ensure that any gaps can be identified and filled. The programme includes job specific knowledge such as data protection, IT skills such as using email effectively and generic information management skills such as mindmapping and speed reading. It assumes that an individual member of staff has been assigned the departmental webmaster role as is the convention at University of Leeds, but this may not always be the case. Other opportunities such as ‘Springboard’ programmes although not dealing with i-skills per se, may offer valuable opportunities for informal networking as would user groups around specific tools such as the ‘SAP users group’. Experience at Leeds indicates that involvement in programmes such as ‘Springboard’ or ‘Tomorrow’s Leaders’ which are facilitated through the use of action learning sets, provide participants with valuable structured networking opportunities.

Each of the interventions is listed with explicit timetable for follow up to monitor impact on behaviour. This programme also highlights the ‘gateways’ included in the adapted i-skills model (see fig. 6). The gateways exemplify the ways in which i-skills are seen as underpinning effective behaviour in time management, teamwork and leadership and in which skills provision can be best delivered with input from both staff development professionals and librarians.

Participant	Training intervention	Provider	i-skills/Gateways covered	Mechanism for review
Finance Office (all staff)	Themed departmental away day e.g. Student Fees Programme includes: - Facilitated group discussion activities e.g departmental information flow audit and creative problem solving - Presentations by PVC for Students and Staff, the Finance and Commercial Director and Student Union representative - Lunch - Student Fees website; structure, navigation, content - Departmental action planning (SMART), review of the day	Staff development unit	i-skills and gateway to broader effective team working and networking skills	6 week review of SMART objectives Line managers review outcomes of the day with participants in monthly meetings
Finance Office (all staff)	Netskills i-skills self-audit: - Reflective exercise for individuals and groups - Action planning and prioritisation to improve specific i-skills	Netskills	Identifies an information need Reviews the process	Review and discussion with line manager and staff development link person
Finance Office (all staff)	Student data and data protection - The legal situation with regard to handling student records and data - Examples of how to put this into practice.	Staff development unit with University Legal adviser	Identifies an information need Assesses the information need Retrieves information Adapts information Communicates information	Post-session participant feedback Monitoring of internal data protection practice
Finance Office (all staff)	Outlook: Collaborative working using exchange server - Organising messages into	Central computing services	Organises information Communicates information	Post-session participant feedback Discussion with colleagues

	<p>folders,</p> <ul style="list-style-type: none"> - Mail filtering using Rules Wizard - Creating a rule to forward messages with a certain subject to a particular person. - Assigning a task to more than one category, - Different ways of organising your tasks, - Creating tasks in your Calendar 			during the session and in team meetings
Finance Office (new staff)	<p>Introductory sessions for new staff: Induction</p> <ul style="list-style-type: none"> - A view of the 'bigger picture' - ie developments and issues in the University at large. <p>(Alternative) Online induction course</p>	Staff development unit	<p>Identifies an information need</p> <p>Retrieves information</p>	<p>Post-session participant feedback</p> <p>Discussion with line manager and probation mentor</p>
Finance Office (new staff)	<p>Departmental induction</p> <p>-Introduction to departmental systems and colleagues/mentor</p> <p>(Alternative) Departmental induction checklist</p>	Finance Office	<p>Identifies an information need</p> <p>Assesses the information need</p> <p>Retrieves information</p> <p>Organises information</p>	<p>Discussion with line manager, probation mentor and colleagues</p>
Selected staff	<p>Handling information overload programme:</p> <ul style="list-style-type: none"> - Effective time management - Communicating assertively - Memory training - Speed reading - Mind Mapping <p>Intelligent websearching:</p>	<p>Staff development unit</p> <p>Library</p>	<p>Organising information (including gateway to broader time management skills)</p> <p>Identifies an information</p>	<p>Post-session participant feedback</p> <p>Line managers review outcomes of the training with participants in monthly meetings</p> <p>Post-session participant</p>

	<ul style="list-style-type: none"> - Finding useful resources on the web - Access good quality web sites and search tools from the Library website - Perform a search of the web using basic and advanced search techniques - Evaluate the information you retrieve - Access information gateways to find good quality web resources - Use available services for keeping up to date with new web content <p>Getting your next job:</p> <ul style="list-style-type: none"> - Skills audit - CV writing - Personal development planning <p>Delivering effective presentations:</p> <ul style="list-style-type: none"> - Using audio-visual aids - Presentation technique - Dealing with questions 		<p>need Assesses the information need Retrieves information Evaluates information critically Reviews the process</p> <p>Organising information Evaluating information Adapts information Communicates information Reviews the process</p> <p>Organising information Evaluating information Adapts information Communicates information Reviews the process</p>	<p>feedback</p> <p>Post-session participant feedback</p> <p>Post-session participant feedback Discussion with line manager</p>
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	<p>Writing for the web:</p> <ul style="list-style-type: none"> - Navigation - Content - Structure - Accessibility 	Central computing services	<p>Organising information</p> <p>Evaluating information</p> <p>Adapts information</p> <p>Communicates information</p> <p>Reviews the process</p>	<p>Post-session participant feedback</p> <p>Usability testing and user feedback</p>
Management accountants	<p>Current awareness alerting:</p> <ul style="list-style-type: none"> - Accessing current awareness services from the University Library web pages - Receiving alerting services from professional literature e.g. Business School collection journals FT etc - Set up customised alerts with a number of services to receive regular updates from a variety of different kinds of publication - Understand how to use some of the latest current awareness web technology, including RSS news feeds 	Library	<p>Identifies an information need</p> <p>Assesses the information need</p> <p>Retrieves information</p> <p>Organises information</p> <p>Reviews the process</p>	<p>Post-session participant feedback</p> <p>4 week review of participants' continued use of resources</p>
Webmaster (Finance Office)	<p>Essential skills for creating accessible websites (online course):</p> <ul style="list-style-type: none"> - W3C guidelines <p>Using content management system and University Portal (online course)</p> <p>Online webmasters community</p>	<p>Central computing services</p> <p>Central computing services</p> <p>Staff development</p>	<p>Communicates information</p> <p>Organising information</p> <p>Communicates information</p> <p>Identifies an information</p>	<p>Online feedback form</p> <p>Usability testing and user feedback</p> <p>Online feedback form</p> <p>Post-course online self-assessment</p> <p>Assess usage levels via</p>

	bulletin board for questions, discussions and updates on issues	unit and central computing services	need Assesses the information need Retrieves information Communicates information (including gateway to broader effective team working and networking skills)	tracking and monitoring software
Financial accountants and departmental finance contacts	Departmental finance managers network online community bulletin board for questions, discussions and updates on issues	Staff development unit and central computing services	Identifies an information need Assesses the information need Retrieves information Communicates information (including gateway to broader effective team working and networking skills)	Assess usage levels via tracking and monitoring software
Deputy director	Tomorrow's Leaders: <ul style="list-style-type: none"> - Workshops and action learning sets - Delivering on institutional priorities - Understanding leadership skills and roles. - Making effective networks - Information resource models 	Staff development unit	Adapts information Communicates information (including gateway to broader effective team working and networking skills) Reviews the process (including gateway to broader management skills and leadership)	Post-programme participant feedback Line managers review outcomes of the programme with participants in monthly meetings
Director	Leading and managing in an academic environment: <ul style="list-style-type: none"> - Workshops and action learning sets - Delivering on institutional priorities 	Staff development unit	Adapts information Communicates information (including gateway to broader effective team working and networking skills)	Post-programme participant feedback Line managers review outcomes of the programme with participants in monthly

	<ul style="list-style-type: none">- Being an effective leader- Using information for decision making		Reviews the process (including gateway to broader management skills and leadership)	meetings
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5.4.2 Case Study 2: Staff Development Drivers

What follows is a pair of diagrams suggested by Loughborough University based on a model developed from a parallel JISC project on staff development drivers. That project, building on earlier work by Gordon, Schofield and Taylor, provides a systematic way of analysing the drivers for particular activities and the positions of different stakeholders. It uses a "radar" diagram within Excel (sometimes called a spider or web diagram) to indicate the forces associated with a series of dimensions. These dimensions will be different in different situations, but in the context to context, but in the context of a staff development initiative they are likely to include such things as:

- power
- interest
- expertise (which may be further divided, perhaps into content, process, and technical)
- reliability
- political astuteness
- etc

The process is then to rate each stakeholder for each of the variables. This then produces a diagram that highlights similarities and differences between stakeholders. It does not, of course, solve any problems that might arise from these differences but it does highlight them. In this case, the model has been used to conduct a reciprocal analysis between, one librarian and one staff developer at Loughborough University. i-skills, like many current areas, requires a team drawn from different parts of the organisation. Many problems within projects arise from a mismatch between the expectations of the project partners. Such a reciprocal analysis of drivers would highlight many potential differences at an early stage and allow them to be addressed.

Staff often carry informal and implicit versions of this around in their heads. Librarians might think...

Library staff have a strong interest in helping staff enhance their i-skills and spend time developing courses to achieve this. Despite promotion of such courses, librarians sometimes struggle to attract audiences and often feel they lack influence to encourage policy change in this area.

Staff developers might think...

Staff developers have an interest in helping staff enhance their i-skills, but it might not be a hugely high priority. It might be difficult to persuade the institution of the importance of this topic.

But such thoughts are often not made explicit and are unlikely to be shared between partners. Here is the start of a reciprocal analysis, using the diagram, conducted by a librarian and a staff developer on the broad area of i-skills. It uses the following variables:

- power
- interest
- content expertise
- process expertise
- technical expertise
- reliability
- political astuteness

...and rates the two stakeholders as low, medium or high (1, 2 or 3).

Here the ratings by librarians...

By librarians of...	Librarians	Staff Developers
Power	1	3
Interest	3	1
Content expertise	3	1
Process expertise	1	3
Technical expertise	2	1
Reliability	2	2
Political astuteness	2	3

...and these are the ratings by staff developers...

By staff developers of...	Librarians	Staff Developers
Power	1	1
Interest	3	1
Content expertise	3	1
Process expertise	2	3
Technical expertise	2	1
Reliability	2	2
Political astuteness	2	3

These ratings can be displayed by the diagrams in various ways to help promote discussion on roles and expectations.

Here are the views that librarians and staff developers have on librarians.

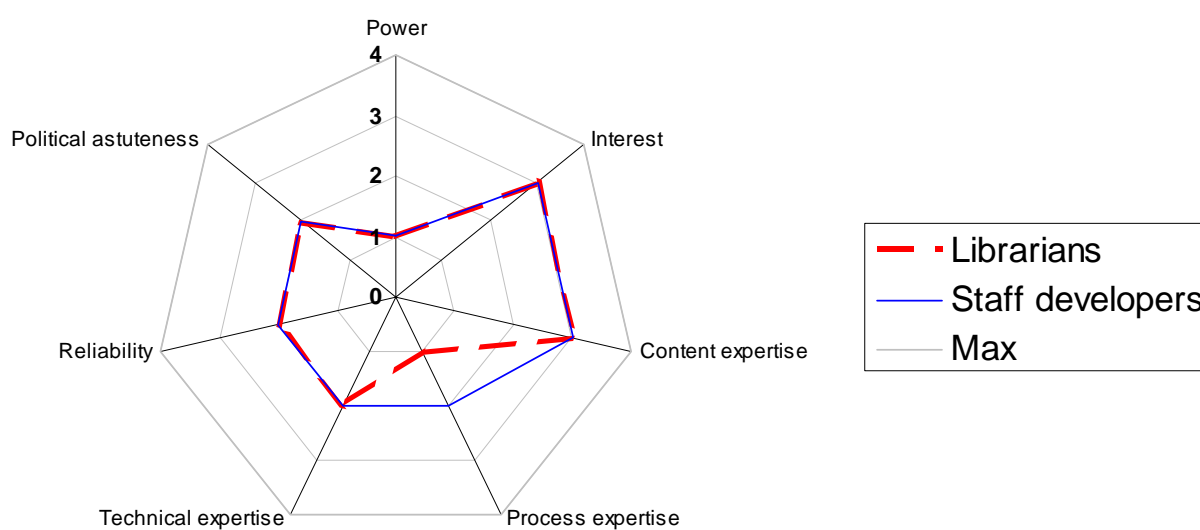


Fig 7 Perceived views on Librarians

This shows a very considerable agreement, the only variation is that staff developers rate librarians' process skills a little higher than librarians do.

And here are the views of librarians and staff developers on staff developers.

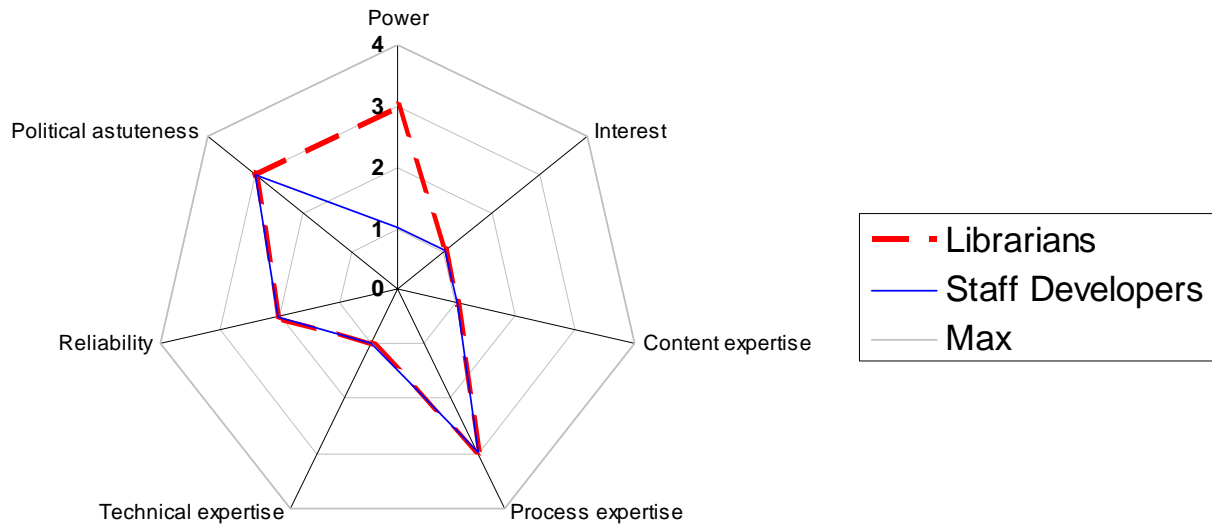


Fig 8 Perceived views on Staff Developers

Again there is very considerable agreement, but the librarians invest the staff developers with much more power than do the staff developers. This difference of opinion could have a significant impact on librarians' expectations of what staff developers could achieve and would certainly warrant further discussion between the partners.

Other diagrams, dimensions and stakeholders could be analysed in this way, but the key message is that there is advantage – before any initiative – in an explicit discussion of such issues.

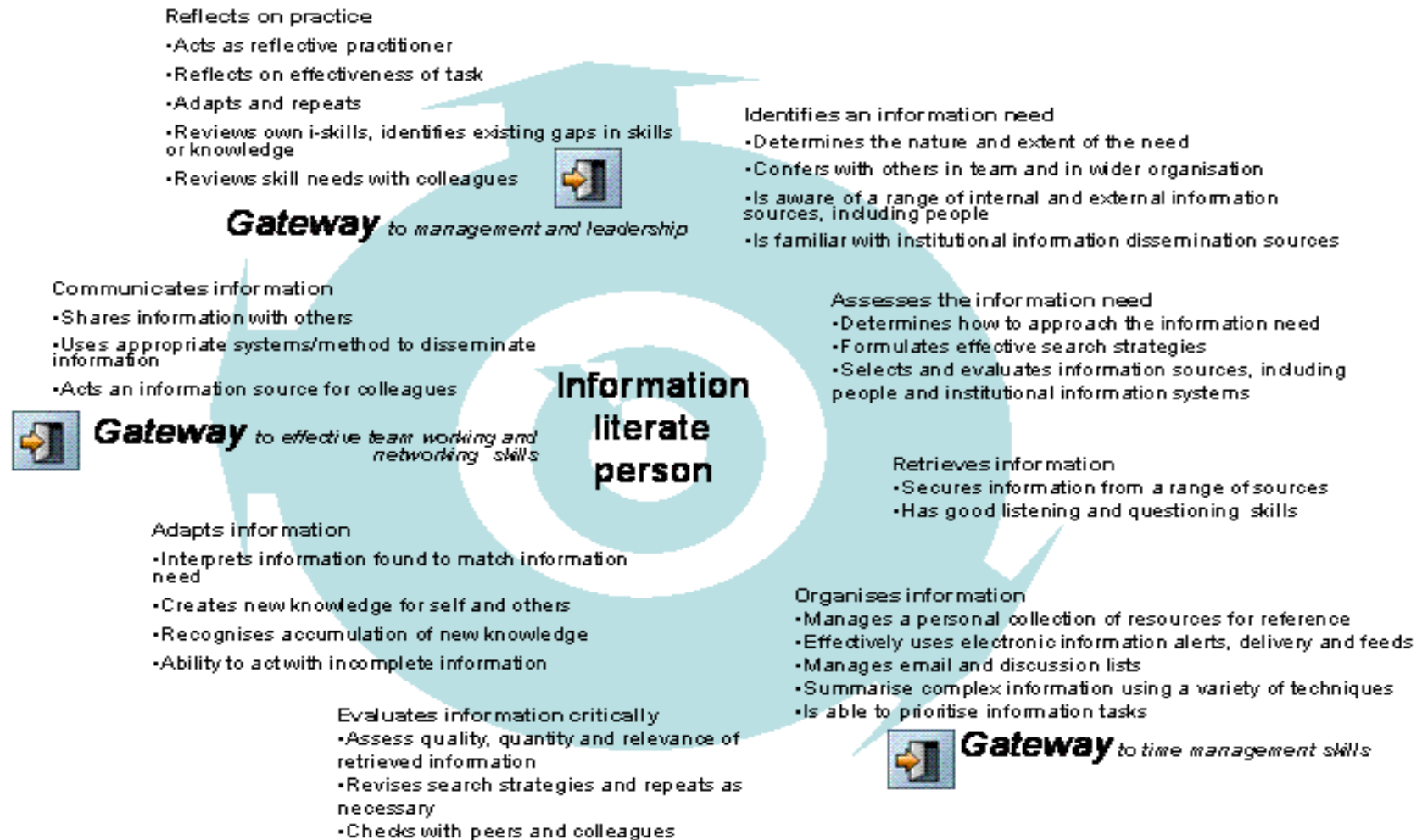
6. Actions and Recommendations

6.1 An enhanced i-skills model

As a result of the findings of this research project, it is clear that to effectively represent the i-skills used by non academic staff, the existing cycle must be adapted to create a non-cyclical model which features gateways linking out to other highly relevant workplace skills which have a strong relationship with specific i-skills.

A usable i-skills model for the workplace must not impose rigid or inappropriate structures on everyday tasks, and this adapted model is therefore not intended to be viewed as a continuous cycle. Rather it represents the various aspects of i-skills relevant to teams and individuals, as they undertake tasks which may require the use of one, a selection of, or all of the i-skills described.

Fig 8: Adapted i-skills model



The revised i-skills model has the following features:

- “Gateways” which offer opportunities for partnership between traditional library provision and traditional staff development provision, have been identified under the headings; *‘organises information’*, *‘communicates information’*, *‘reflects on practice’*.
- *‘organises information’* includes workplace information management strategies: Manages a personal collection of resources for reference, effectively uses electronic information alerts, delivery and feeds, manages email and discussion lists, summarises complex information using a variety of techniques, is able to prioritise information tasks.
- *‘is aware of information resources’*, *‘retrieves information’* and *‘communicates information’* are adapted to indicate that ‘sources’ includes people.
- *‘retrieves information’* is expanded to include questioning skills.
- *‘confers with others’* and *‘communicating information’* is extended to include practices which support and promote teamwork.
- *‘Adapts information’* is expanded to include *‘Ability to act with incomplete information’*
- *‘Evaluates information’* is expanded to include *‘checks with peers and colleagues’*
- *‘reviews the process’* is changed to *‘reflects on practice’* and includes *‘reviewing i-skills’* and *‘Reviews skill needs with colleagues’*
- Institutional objectives are supported by being explicit in linking i-skills with effective teamworking, making reference to peers and colleagues throughout the cycle.

6.2 Recommendations

Mackenzie (2005) emphasises the importance of collaboration between staff development providers, in order to ensure the acceptance, relevancy and inclusion of i-skills within staff development support. A six step model is offered as a framework for the development of an information skills programme for staff, with step 2 ‘establish a group of champions’ being critical to success in order to mainstream and broaden ownership of i-skills.

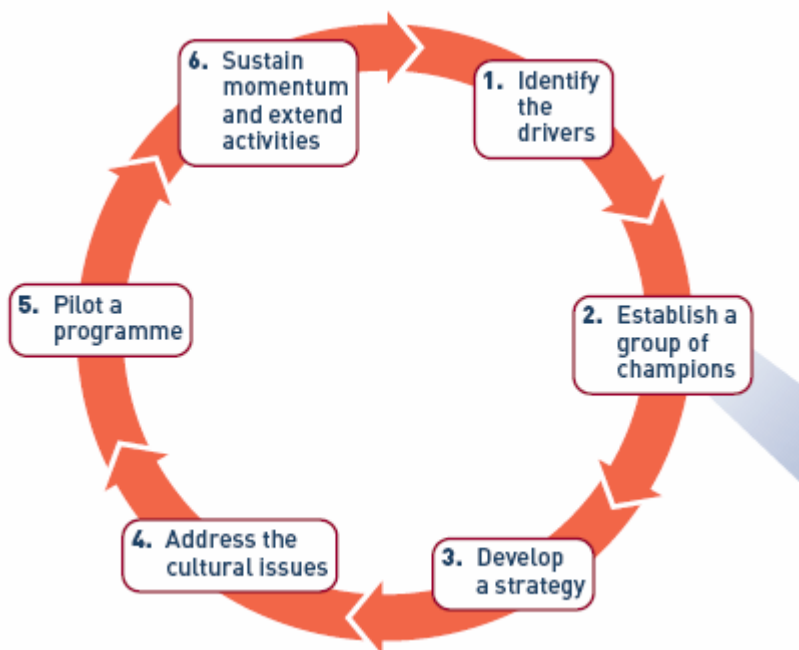


Fig 9: Mackenzie's six-step model for staff development

Library professionals should work with staff development units to target areas of i-skills development which offer opportunities and potential for providing integrated programmes.

Recommendations for staff developers:

- Staff developers should use the adapted i-skills model to identify areas of partnership working in the delivery of staff development support in the following skills: time management and information overload, networking, teamwork and meetings.
- Staff developers should work with librarians to examine existing provision and to identify and integrate i-skills into staff development programmes designed for specific groups e.g. leadership development programmes, training for first line managers and committee servicing. Thereby making i-skills training more relevant to specific groups of staff.
- Staff Development units should encourage departments and units to actively review their structures and opportunities for internal communication and networking to identify positive approaches.
- Staff Development units should actively support and facilitate cross campus networks around work themes. Where there are specific institutional issues which create barriers to networking, such as physical space, new technologies including web based forums, blogs and community space online may be used to create new opportunities and environments for networking.

Recommendations for librarians:

- Librarians should work with staff developers to target training towards specific departments as part of team development, e.g. via departmental away days, or preparation for 'Quality marks' such as Investors In People., ensuring the inclusion of i-skills in these events.

- Librarians should work with Human Resources departments to explore how the staff development and review process is managed within their institution and establish whether i-skills are explicitly identified in job descriptions and review procedures.
- Librarians should make their expertise in creating e-learning objects available to staff developers where required.
- Librarians should actively widen their understanding of i-skills to consider how issues such as time management, information overload, networking, teamwork and meetings, and the presentation of data (not just bibliographies) relating to the more traditional i-skills themes.

Recommendations for partnership working:

- i-skills training providers across institutions, be they from the library, staff development unit, computing service, learning development unit, e-learning, VLE or careers services, should examine their current staff development provision and map it against the adapted i-skills model. They should work together to embed i-skills into courses which will be highly relevant, appropriate and appealing to staff.
- i-skills training providers should explore options for delivering support for staff in this area in forms other than attending courses and investigate further the role of peer assisted learning and workplace mentoring for i-skills development.
- Institutions should take advantage of support offered by JISC and Netskills, e.g. ‘Making Information Work for You’ workshops and the i-skills self-audit tool to kick start and focus their staff development programmes in this area.

Recommendations for the JISC:

- Training sessions or materials which ask staff to audit or self-assess their i-skills (e.g. Netskills’ Making Information Work for You), should include specific opportunities for personal reflection and action planning.
- JISC should make funding available to promote excellence in institutional i-skills collaboration.
- In light of this research, JISC should revisit the i-skills model in order to make it more relevant to the workplace and consider, in particular, issues such as the model’s cyclical nature and the broader, related skills which impact but are currently missing.

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