AN INVESTIGATION INTO THE CONCEPTIONS OF INFORMATION LITERACY AMONG EDUCATIONAL ADMINISTRATORS IN THE UNIVERSITY OF SHEFFIELD

A study submitted in partial fulfilment of the requirements for the degree of Master of Science in Information Management at THE UNIVERSITY OF SHEFFILED

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Abstract

This dissertation aims to investigate the varying ways in which information literacy is experienced amongst educational administrators in the University of Sheffield. It explores how the participating education administrators see and experience information literacy in terms of their working contexts, develops descriptions of information literacy among these groups of people using relational, or more specifically, phenomenographic approach and compares the conceptions held by participants in this research with those uncovered in Bruce’s work and further investigates the underlying reasons for these differences.

In this dissertation research totally eight valid in-depth interviews were conducted with the administrative staff who are at middle to senior level of management from seven different administrative departments. The data gathered from the interviews was analysed and resulted in four categories of information literacy description, which represent the varying ways these participants conceptualised information literacy. The four categories are the information sources conception, the information process conception, the information control conception and personal quality conception. The first three of these conceptions have also appeared in Bruce’s “the seven faces of information literacy”, while the personal quality conception is the distinct one in this study. Meanwhile, some of the conceptions identified in Bruce’s work were not discovered in this research. This variation to some extent indicates the context and individual dependent nature of information literacy and reveals how information literacy is manifested in the workplaces.
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1. Chapter 1 Introduction

1.1 Research background

Information literacy has been an area of increasing interest to librarians, educators and information professionals since it was first introduced by Paul Zurkowski in 1974, and there is a huge amount of literature on the topic. Bruce (2002) gives an exact summary of information literacy in one of her paper:

_The idea of information literacy, emerging with the advent of information technologies in the early 1970s, has grown, taken shape and strengthened to become recognized as the critical literacy for the twenty-first century. Sometimes interpreted as one of a number of literacies, information literacy is also described as the overarching literacy essential for twenty-first century living. Today, information literacy is inextricably associated with information practices and critical thinking in the information and communication technology environment. (Bruce 2002)_

There have been numerous institutions, conferences and projects launched during information literacy movement, especially in the United States and Australia, including U.S.’s National Forum on Information Literacy in 1989, the Institute for Information Literacy in 1998 and Australia’s national conferences on information literacy from 1992, Australian and New Zealand Institute for Information Literacy (ANZIIL) in 2001. There can also be seen some outstanding efforts in the Europe, such as the establishment of SCONUL (Society of College, National and University Libraries) Advisory Committee on Information Literacy, and the projects EDUCATE and DEDICATE funded by the European Commission.

Education sector is the major setting information literacy initiatives have taken place. With the advent of the Internet, exponentially increasing information can be accessed online. Not only the quantity but the quality of electronic resources becomes a challenge for students and academics. The information literacy education starts to grow from the late 1990s, with work predominantly completed in the U.S.
and Australia. Key library and information professional bodies in these two
countries, the U.S.’s Association of College and Research Libraries (ACRL), and
Council of Australian University Librarians (CAUL), have both produced standards
for information literacy competency (ACRL, 2002; CAUL 2001). In the UK,
SCONUL (1999) released the “7 Pillars” information literacy skills aiming to assist
higher education institutions in facilitate graduates with essential skills needed in
their future work. These frameworks attempt to assist educators and practitioners to
incorporate information literacy education into various kinds of educational venues,
like curricula, programs and services.

Although most information literacy issues are discussed in the educational context,
recently research in the business world, begins to merge. The importance of
information literacy has been capturing more and more attention within workplace
settings. Employers and recruiters gradually recognise that it is necessary for them to
have workers who know how to deal with information and use it for both personal and
work success in the nowadays dynamic global business environment. In the early
1990’s, the US Department of Labor Secretary’s Commission on Achieve Necessary
Skills (SCANS) identified information literacy as one of the essential competencies
for solid job performance.

In the Information Age characterized by the advancement of information technology,
employees are required to work in teams and share their knowledge, to be creative and
innovative; they are encouraged to make mistakes and to learn from their experience
(Cheuk 2002). To meet these expectations information literacy is a prerequisite
competence because employees need to handle information effectively. This is also
the reason why information literacy is rapidly gaining recognition as the underpinning
for both the concept of knowledge management and learning organization.

According to Bruce (1999), three groups of people likely to be interested in
workplace experiences of information literacy:
1. Managers who concern staff’s professional development and ability to respond to change.

2. Information managers interested in educating their clientele to effectively use the organisation’s information services.

3. Trainers and educators who wish to prepare learners for their chosen profession. (Bruce 1999:34)

In the Progress Report on Information Literacy by ALA (1998), two recommendations were made with regard to information literacy in the workplace context. The first is to identify ways to illustrate to business leaders the benefits of fostering an information literate workforce, and the secondly is to carry out research on how information literacy is manifested in the work settings and the degree to which it enhances workplace productivity.

1.2 Motives for the research

The present study arises from the researcher’s own interest in the concept of information literacy in the workplace and the suggestion from the researcher’s supervisor that some research on the education administrators can be carried out, exploring their understanding of information literacy. This topic also somewhat caters to part of the second recommendation of the Progress Report mentioned before, which is researching on how information literacy is manifested in the work settings.

This research aims to investigate the administrative staff’s conceptions of information literacy working in various administration areas in the University of Sheffield, which intends to replicate Bruce’s well-known “the seven faces of information literacy” which is the most original and authoritative work applying phenomenography, but in another working context. This is a topic recommended by Bruce herself in her book, and thus forms another motive for the current study.
1.3 Aims and objectives

Aims

To investigate the conceptions of information literacy amongst educational administrators in the administrative services of the University of Sheffield

Objectives

1. To explore how the participating education administrators see and experience information literacy in terms of their working contexts.
2. To develop descriptions of information literacy among these groups of people using relational, or more specifically, phenomenographic approach
3. To compare the conceptions held by participants in this research with those uncovered in Bruce’s work and investigate the underlying reasons for the differences if there is any.
4. To suggest possible directions for further research.

1.4 Scope of the research

First of all, this research attempts to develop descriptions of information literacy, rather than other problems associated with information literacy. Secondly, the results of the research are not descriptions of information literacy itself, nor are they descriptions of people, but the ways in which the participants experience and understand information literacy or effective information use. Thirdly, the scale of the study is rather limited, and only a small amount of staff in the administrative services within the University of Sheffield are surveyed. Although the conceptions identified in this study is likely to appear in other studies with a larger sample size or in a different context, people’s perception of information literacy needs to be further explored and different patterns of descriptions are expected to be uncovered. Last but not least, this study is conducted in 2004. With time going on, and more
importantly, with the rapid development of the information society, it is believed that people’s conceptions of information literacy may vary and new understandings will possibly occur.

1.5 Structure

This study begins with the current overview of the research conducted, mainly including a brief introduction of research context and a statement of its aims objectives and research scope. Following is the chapter of literature review, which looks at the key topics relating to the theme of the present study. Methodology and methods adopted are introduced and discussed in the third part. In the fourth chapter presentation as well as discussions of the research results is provided. Finally, conclusions drawn from previous analysis are given along with recommendations for future study.
2. Chapter 2 Literature review

2.1 Introduction

The idea of information literacy and its development has been briefly introduced in the previous chapter. This chapter attempts to probe these topics to a further step in order to better understand the background of the current study. It should be clarified that this literature review only concentrates on the themes conceivably associated to the present research due to space constraint. It begins by reviewing various descriptions of information literacy in the literature; then it looks more specifically at information literacy within the workplace context; this is followed by an examination of theoretical frameworks that have been adopted in studying information literacy.

2.2 Descriptions and development of information literacy

The term information literacy was first cited Zurkowski in a report to the US National Commission on Libraries and Information Science. Information literates, he said, are who “have learned techniques and skills for utilising the wide range of information tools as well as primary sources in moulding information solutions to their problems” (Zurkowski 1974, cited in Bawden 2001:230). It can be seen that at that moment information literacy was associated with the effective use of information, and particularly with problem solving in the working environment.

The use of the term became widespread in the 1990's following the publication of the American Library Association's Presidential Committee on Information Literacy: Final Report. The notion of the concept was then established. In this report, information literacy is described as:

*To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use*
Effectively the needed information... Ultimately, information literate people are those who have learned how to learn. They know how to learn because they know how knowledge is organized, how to find information, and how to use information in such a way that others can learn from them. They are people prepared for lifelong learning, because they can always find the information needed for any task or decision at hand. (American Library Association Presidential Committee on Information Literacy 1989)

Information literacy in this definition is clearly associated with learning to learn, and more significantly, lifelong learning, which is always an important conceptual influence on information literacy. Information literacy is thus regarded as a prerequisite for lifelong learning and a means of personal empowerment (CAUL 2001; ALA 1989). All these ideas changed the meaning of the term when it was first used and the concept has been attracting great attention of scholars and educators across all educational sectors.

A significant characteristic of information literacy is, there have always been debates of its meaning throughout its development, and currently there is still no agreement on it. One reason could be the lack of consensus of the term information literacy itself. Whilst information literacy is recognised by some as a multifaceted topic or as an inclusive term, others prefer to use it in a specific context. In the early usage, information literacy was revolved around information skills or bibliographic instruction occurred from the educational domain (Bruce 2000). The relationship between information literacy and bibliographic instruction has been discussed by many authors. For example, Rader (1991, cited in Bawden 2001) suggests that information literacy is a broader concept and bibliographic instruction is a stage in the evolution of information literacy.

Since the 1990s, electronic facilities such as World Wide Web, online databases, emails, library networks and telecommunication services becomes more and more commonly available in universities, workplaces and everyday life. Computer literacy, that is, understanding what computer hardware and software can do (Horton 1983), and more broadly, information technology literacy, the competence for using these
technological tools, have been recognised as an outstanding feature of information literacy.

While some authors tend to use these terms interchangeably, Bruce (2002), however, insists that the concepts of information literacy and information technology literacy are usually distinguished: the capabilities involved in using information, and the capabilities for using technologies that deliver information. This distinction is in fact also mentioned in the Final Report:

*Information literacy initiates, sustains, and extends lifelong learning through abilities which may use technologies but are ultimately independent of them.*

(ALA 1989)

Obviously information literacy has much broader implications, which means provision of ICTs and related training in the use of various facilities, is only a starting point in achieving information literacy and desired reforms (Bruce 2002).

Historically, scholars and practitioners tend to describe information literacy rather than to define it. One account for this is given by McCrank (1992), who points out that information literacy is an abstract concept which is characterised by an ability or behaviour rather than a specific subject domain. This point of view is reflected from both explanations of information literacy by either Zurkowski or the ALA mentioned above. In fact, most of the existing descriptions of information literacy have followed the same way, namely, they are essentially concerned with interpreting what it means to be information literate, or, the information skills of individuals who are information literate. A typical example is that of Doyle (1992). She describes an information literate person as one who:

- Recognizes that accurate and complete information is the basis for intelligent decision making
- Recognizes the need for information
- Formulates questions based on information needs
- Identifies potential sources of information
- Develops successful search strategies
• **Accesses sources of information including computer-based and other technologies**
• **Evaluates information**
• **Organizes information for practical application**
• **Integrates new information into an existing body of knowledge**
• **Uses information in critical thinking and problem solving (Doyle, 1992)**

In contrast, Shapiro and Hughes provide a broader vision, in which information literacy is referred to:

> a new liberal art that extends from knowing how to use computers and access information to critical reflection on the nature of information itself, its technical infrastructure, and its social, cultural and even philosophical context and impact (Shapiro and Hughes 1996)

A notable in the above citations is the term “critical thinking” or “critical reflection”, which is regarded as an important component of information literacy (Bruce 1997, 2002; Bawden 2001; ACRL 2000). Critical thinking involves the application, analysis, synthesis and evaluation of information, and leads to self-construction of knowledge (Jones 1996). Obviously these abilities are essential in dealing with the ever growing tidal wave of information. Among the five ACRL’s information literacy competency standards, there is one explicitly expressing this point:

> **Standard 3:** The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system. (ACRL 2000)

Based on the way in which information literacy is described as a set of information skills, some scholars attempt to focus on exploring personal attitude and various kinds of knowledge about the information system. Hubbard (1987) describes information literacy as “Dependent upon acquisition of such attitudes as persistence, attention to detail, and a degree of skepticism or caution”. Bruce (1997) indirectly cites Gratch’s four components of information literacy in a broader view:

• **an attitude that appreciate the value and power of information**
• **an awareness of the diversity of information forms and formats**
• **an understanding that information is not necessarily knowledge until it**
has been analyzed, questioned, and integrated into the existing body of knowledge

• a process to access and assess information critically and effectively

(Gratch, cited in Bruce 1997:33)

Another well-known information literacy model is Eisenberg and Berkowitz’s “Big 6 skills”, which advocates problem-based learning. Two sub-stages are under each of each of the stages:

1. **Task Definition**
   1.1 Define the information problem
   1.2 Identify information needed in order to complete the task (to solve the information problem)

2. **Information Seeking Strategies**
   2.1 Determine the range of possible sources (brainstorm)
   2.2 Evaluate the different possible sources to determine priorities (select the best sources)

3. **Location and Access**
   3.1 Locate sources (intellectually and physically)
   3.2 Find information within sources

4. **Use of Information**
   4.1 Engage (e.g., read, hear, view, touch) the information in a source
   4.2 Extract relevant information from a source

5. **Synthesis**
   5.1 Organize information from multiple sources
   5.2 Present the information

6. **Evaluation**
   6.1 Judge the product (effectiveness)
   6.2 Judge the information problem-solving process (efficiency)

(Eisenberg & Berkowitz, 2001)

Although it can be viewed as a set of basic, essential information skills, the Big 6 is preferably considered as a process of people seeking or applying information to solve a problem or make a decision. The idea of seeing information literacy as a process is represented many times in the literature. For example, a common citation of this understanding is:

> **Information Literacy is a transformational process in which the learner needs to find, understand, evaluate, and use information in various forms to create for personal, social or global purposes.** (Abilock 2004)
Actually the content of the description using the information processing approach is identical to that of information skills, but perhaps the first approach lays some emphasis on the ability to learn (Bruce 1997).

Overall, descriptions of information literacy previously reviewed are basically belonged to the behaviourist and information processing approaches, emphasising attributes of an information literate person and processes of information use, rather than information literate itself. Bruce (1997) ascribes this trend to the skill-based curriculum models that can be derived from the descriptions. However, these descriptions of information literacy can not bear scrutiny. Various limitations and flaws have been captured. Johnston and Webber (2003) criticises on the mechanistic nature of information skills and process view of information literacy that such strategies as that of ACRL and Big6 result in a “tick the box” approach, which reduces a complex set of skills and knowledge to small, discrete units. Moreover, considering the rapidly changing social, political, and economic environments, such approach will certainly lead to an ever expanded list of skills and attributes. Problems related to the framework of describing information are further explored later in this chapter.

Accordingly, Bruce (1997) suggests describing information literacy from the ways in which it is experienced by people, or, their conceptions. These varying experiences of information literacy are qualitatively different relations between people and some aspect of the world. Through her empirical research she outlines seven conceptions of information literacy among higher educators in her doctoral thesis:

1. The information technology conception
2. The information sources conception
3. The information process conception
4. The information control conception
5. The knowledge construction conception
6. The knowledge extension conception
7. The wisdom conception (Bruce 1997:110)
This alternative approach is significantly distinct from the more limited, skill-based description of information literacy. Rather than master a set of information skills, learning to be information literate in Bruce’s model, as she (2002) explains, involves “becoming aware of different ways of experiencing information use through engaging in relevant information practices and reflection”. More discussion of Bruce’s work is provided later in this chapter.

2.3 Information literacy in the workplace

Various descriptions of information literacy have been reviewed in the previous section. Taken together, they reveal characteristics of information literacy as well as people’s various understandings of it in the changing information environment. However, up to now discussions about information literacy is largely confined to the educational sectors, initiated by librarians, academics and educational institutions. With regard to information literacy in the workplace, efforts that have been put are rather limited although the origin of the term is associated with effective information use within the working or commercial environment (Zurkowski 1974, cited in Bawden 2001).

The importance of information literacy in the corporate environment is unquestionable: in an age characterized by rapid change, a global environment, and unprecedented access to information, organisations can only survive and succeed if they can access to and use good information for business effectively and efficiently, and this is just what information literacy concerns. While much of the investment organisations spend on information technology, in order to keep pace, make profit, is not being returned, there is interestingly little attention paid to information literacy. With the enormous expenditure on information technology, IT skills have received much more attention than information literacy does in the workplace context (Bruce 2000). When information literacy is discussed, IT skills are often emphasized (Kanter 1991, cited in Mutch 1997; Daniels 1994, cited in Bawden 2001). This tendency is
criticised by Mutch (1997), who argues that indeed not all users will be required to master such a high level of IT skills; meanwhile, it “fails to recognise that information existed before, and can continue to exist without, computers” (Mutch 1997:379). These issues will be further looked at later in this section.

Nevertheless, the relevance of information literacy to the business world is not undiscovered. In fact, ALA’s Final report (1989) has already identified the importance of information literacy to businesses and people involved in them. More significantly, the US Secretary's Commission on Achieving Necessary Skills (SCANS) Report, published in 1991, has also included information literacy as an essential competence for effective work performance although the term information literacy is not explicitly mentioned. In the report five competences are recommended for American people entering workplace. They are the competence to:

1. identifies, organizes, plans, and allocates resources
2. works with others
3. acquires and uses information
4. understands complex inter-relationships
5. works with a variety of technologies (SCANS 1991)

It can be seen that number three directly addresses information competence; more significantly, there is actually conceivable connection between the concept of information literacy and all the other competences.

Several individual information professionals have discussed the concept of information literacy in the workplace context from various aspects, for example, Cheuk (2002) examines how the lack of information literacy skills can affect operational efficiency and business opportunities in the workplace context. He (1998) also establishes an information seeking and using process model in the workplace, which focuses on information users' perceived situations at a particular time and place. It is believed that the model enables transformation of current practices into information literacy education, information systems design and information management. Rosenberg (2002) stresses the importance of information literacy to
small businesses, which do not have resources to have information professionals on staff, and the advantage for them to get and keep information literate employees in the new global, networked marketplace.

Information literacy is generally seen as a critical factor on organizational effectiveness and efficiency. In particularly, it is often associated with two other concepts—knowledge management and learning organization—all of which are hot topics in today’s business world.

Information literacy and knowledge management

The important of information literacy in carrying out knowledge management (KM) is obvious, since the latter concept essentially involves:

... organizational processes that seek synergistic combination of data and information processing capacity of information technologies, and the creative and innovative capacity of human beings. (Malhotra 1998)

Malhotra gives this definition after comparing the characteristics of knowledge management in the “old” information era, when organisational environment is relatively stable and predictable and KM is based primarily on “rules and procedures embedded in technology”, and in the new, dynamically changing world of business, where knowledge management emphasizes on people, and the process of social interaction. However, most organisations seem not to understand or realise this “transition of economy”, and assume increasing investment on information technology will result in improvement in business performance.

This gap of understanding has also been mentioned by O’Sullivan (2002) and Cheuk (2002) when they discuss the concept of information literacy in businesses complementing knowledge management. Cheuk (2002) further points out the gap of information literacy at corporate level:

...the bottleneck is a lack of information literate workforce who can access,
organize, filter, use and present/create information effectively to achieve their goals at work. As a result, no matter how fast computers can store and process information, and to generate reports, the ultimate limitation lies in the employees’ inability (and unwillingness) to turn information into valuable resources for value-adding business decision-making and problem solving. (Cheuk 2002)

In this particular context, the role of information literacy is seen by both of them as enabling knowledge management to move beyond the technical infrastructure it builds and helping to realise the value from the investment. This is because information literacy can help organisations with “identifying the human processes and skills necessary for successful interaction with information, and enabling staff to take advantage of the structures and processes developed as part of a knowledge strategy” (O’Sullivan 2002:12).

From an extensive international research project, the UK consultancy TFPL (1999) results in a set of knowledge management skills, and the updated version (2000) of them includes seven core competencies for a knowledge management culture:

1. Ability to learn - curious, seeks new knowledge
2. Self-initiation - acts like a business of one, does not wait to be told
3. Collaborative - a team player, positive regard for other people, not status driven
4. Intellectual linking - sees the big picture, makes connections
5. Humility - recognises that other people know things, learns from mistakes
6. Ability to think and do - with a focus on outcome
7. An appreciation of information management techniques (TFPL 2000)

Clearly information literacy is a key component among these skills. Oman (2001) suggests organisations define what information literacy means for themselves, namely, contextualised information literacy competency. It is certain that as managers look more closely at their employees’ ability to contribute to the knowledge management, information literacy will definitely receive full attention and be seen as a critical characteristic of the workforce.
Information literacy and learning organisation

The learning organisation has been widely discussed and experienced significant development. This is largely due to the increasingly intensive pressures on organisations from the business environment which is dramatically changing with factors such as rapid technology, globalization, economic bases, natural resources and workforce (Bartell 2001). It is believed a learning organisation can learn faster and adapt more quickly and effectively to the new situation than its competitors. Pedlar et al. (1991, cited in Rowley, 1998:16), define it as ‘an organization that facilitates the learning of all its members and continuously transforms itself’.

In the learning organisations learning is vital; perhaps it is learning that most obviously connect learning organisation with information literacy, since information literacy is always associated with learning to learn. By some it is seen as the capacity to learn (Bruce 1997), and information literate people are “those who have learned how to learn” (ALA 1989). Consequently, information literacy is a prerequisite to the construction of a learning organization. The concept of lifelong learning makes the relationship between the learning organisation and information literacy even closer: staff of learning organisations are necessarily lifelong learners, and it is because of lifelong learning that information literacy is seen as essential. Mutch (1997) reviews how information literacy might be employed within the business field, and claims that “this relates in turn to concerns about the learning organisation, as information literacy has been identified as a key component of moves towards lifelong learning” (Mutch 1997:378).

Through investigating into experiences of information literacy among various types of professionals, Bruce (1999) identifies seven faces of information literacy, all of which can be linked to key information processes in the workplace. She shows the relationship between them in Table1:

Table 1: Workplace processes that correspond to seven faces of information literacy

21
<table>
<thead>
<tr>
<th>The seven faces of IL [Individual]</th>
<th>Workplace processes [Organisational]</th>
</tr>
</thead>
<tbody>
<tr>
<td>The information technology experience</td>
<td>Environmental scanning</td>
</tr>
<tr>
<td>The information sources experience</td>
<td>Provision of inhouse and external information resources and services</td>
</tr>
<tr>
<td>The information process experience</td>
<td>Information processing; packaging for internal/external consumption</td>
</tr>
<tr>
<td>The information control experience</td>
<td>Information/records management, archiving</td>
</tr>
<tr>
<td>The knowledge construction experience</td>
<td>Corporate memory</td>
</tr>
<tr>
<td>the knowledge extension experience</td>
<td>Research and development</td>
</tr>
<tr>
<td>The wisdom experience</td>
<td>Professional ethics/codes of conduct</td>
</tr>
</tbody>
</table>

Source: Bruce 1999:43

According to these correspondences Bruce (1999) establishes information literacy as an essential element of “the character of ‘learning organisations’, as well as of ‘life-long learners’”, because these corporate processes, enabled by information literacy, can help individuals as well as organisations with “maintaining currency, networking, problem-solving and maintaining a client-orientation”. Detailed discussion of this work by Bruce is provided later.

As long as information literacy gap exists, the learning organisation is difficult to employ. As Daniels (1994, cited in Bawden 2001:238) points out, “relatively few people are information literate and even fewer understand the relevance of information to their business visions”. However, in his opinion, IT skills are an emphasis in the business information literacy. This has again, returned to the problem discussed before, which is the lack of appreciation of individual capacity and contribution.

In conclusion, without information literacy neither knowledge management nor the learning organisation is possible to implement. While the importance of information literacy in the business world is undoubted, its development is proving to be a challenge for organisations. According to Winterman, Skelton and Abell (2001), currently barriers to promote information literacy in the workplace settings include:
• Most managers feel that suggesting to employees that their information literacy skills need improving will imply a poor level of basic literacy.
• The scope and content of the concept is not well defined at the organisational level. Exactly what skills are relevant, and at what level they are needed, differ widely between organisations, and between roles and responsibilities within organisations.
• Effective development is felt to be highly personalised, both to the organisation and the individual.
• There is difficulty in coordinating information literacy development effort with other skills development.
• There is the question as to whether information literacy benefits the organisation or the individual.

2.4 Paradigms of information literacy research

Key paradigms that have been influencing information literacy research are behaviourist and information processing, constructivist and relational. They are briefly examined in the following parts, and emphasis is on their applications of describing information literacy, which is the main purpose of this study.

Behaviourist and information processing paradigms

Behaviourist and information processing are the dominant paradigms of information literacy research, emphasising on “attributes of individuals, that is knowledge, skills and attitudes, or processes of information use which individuals need to master” (Bruce 1997). Most of the descriptions of information literacy introduced earlier in this chapter fall into this framework. Some of the problems associated with these descriptions have been discussed before. On the whole, on one hand they represent views of information literacy researchers or other information professionals rather than the common information users; on the other hand, behaviourist and information processing paradigms are dualist, and thus they attempt to search for the universal
applicable attributes of information literate persons, neglecting the variation of individual and context. As a result, the validity and generalisability of this framework is questionable (Eisenberg and Small 1993).

Constructivist paradigm

In constructivist paradigm information literacy researchers focuses on understanding information use in particular situations (Dervin and Nilan 1986). A noticeable difference from the dominant one is that this framework adopts a user-oriented perspective, namely, information users are the interest and start of research. On the ground that knowledge can not be taught but be constructed by the learner, constructivism emphasises on elements, such as critical thinking, decision making, problem solving and learning to learn, of information literacy. This view has had a great influence on programs of information literacy (Bruce 1997); however, it is still a dualist approach, which means individuals are separated from the information environment. So problems in the traditional paradigm are not resolved to a large extent.

Relational paradigm

Corresponding to the weaknesses of the current frameworks of information literacy research, Bruce (1997) proposes the relational approach to describe information literacy, that is, to study people’s conceptions of, or the varying ways of experiencing information literacy. The significant differences of this approach from the other two are:

- **Experiential, based on the lived experience of people interacting with the world around them**
- **Relational, it focuses neither on the person, nor on the object of interest, but on the relation between them**
- **Second order, it represents the views of information users, through their discourse rather than the views of experts (Bruce 1997: 40)**

Within this framework, information literacy is interpreted as a complex of the
different ways people understand and experience it rather than a list of attributes; further more, it is described in the particular context of people involved rather than context-independent. This implies that information literacy programs, either in the education sector or in the workplace, should adopt the relational approach accordingly, namely, they should aim at facilitating the learners to explore alternative conceptions of information literacy and develop skills that relate to the conceptions.

The present study also employs a relational paradigm to investigate education administrators’ varying conception of information literacy. The specific research approach used is called phenomenography, which aims at uncovering the qualitative differences or variation of the ways in which people see certain aspects of the world. Bruce adopts it as well in her famous empirical research “the seven faces of information literacy”, which has contributed as a fundamental to the understanding of information literacy within the relational framework.
3. Chapter 3: Methodology

3.1 Introduction

This chapter first examines phenomenography, the research approach employed to explore educational administrators’ conceptions of information literacy. It describes the specific data gathering method, the process of investigation including questionnaire construction, sampling, interview scheduling and conducting, and the profile of participants. It then explains the data analysis techniques used for identifying and establishing thematised categories comprising conceptions of information literacy from primary data. Attention is focus on justifying the methodological decisions made through the research.

3.2 Research approach

3.2.1 Using a phenomenographic approach

Phenomenography is a qualitative research approach concerning investigating the qualitatively different ways in which people experience certain phenomena or certain aspects of the world. This object can be achieved through attending to variation in what is called the “relation” between people and the phenomenon of interest (Bruce 2000). So phenomenography is often referred to as a relational approach. Marton, one of the founders of phenomenography, and Pang define it as:

...a distinct research specialization which aimed at describing qualitatively different ways in which people experience, understand, conceptualize, make sense of, etc. various kinds of phenomena in the world around them. (Marton and Pang 1999:3)

These descriptions, as Marton (1981) points out, are a statement from a second order perspective, namely, about people’s ideas about the world or about their experiences of it rather than the world itself, which is from a first order perspective. This means it
is irrelevant if these ideas are considered “correct” or “incorrect” by current standards.

Marton (1981) also gives two related reasons for conducting research which adopts a second order perspective. Firstly, he argues that to find out the different ways people experience, understand etc is “sufficiently interesting in itself”. The second reason is that the descriptions from the second order perspective are “autonomous in the sense” that the other kind of research cannot perform similar functions.

Marton (1981) believes that there are a limited number of qualitatively different ways in which different people experience a certain phenomenon. This makes possible using phenomenography to fully understand people’s idea about certain phenomena. Bruce (1997) uses phenomenography to explore higher educators’ conceptions of information literacy in her doctoral thesis of “the seven faces of information literacy”, which has exploited a new path to information literacy research. The reason for the selection is that the focus of her research conformed with the overall relational perspective being adopted. She further summarises the advantages of using phenomenographic approach to describe people’s various conceptions of information literacy both from ideas of other key researchers and her own:

- *It has the potential to provide us with direct descriptions of a phenomenon*
- *It aims to describe conceptions in a holistic and integrated way*
- *It has the potential to capture a range of conceptions due to its focus on variation in people’s experiences*
- *Its purpose is to produce descriptions of conceptions which are useful in teaching-learning contexts*
- *It focuses on groups of people rather than individuals*
- *Its research outcomes are generalisable (Bruce 1997:84)*

Similarly, the present research aims to identify the different conceptions of information literacy held by administrative staff in the higher education sector and investigate the qualitative variations in these conceptions. This suggests that an attempt to use the same approach in the current study is appropriate and can be successful. As a result, it can be regarded as a replication of Bruce’s work but in a
different setting, and the results arrived at this research is comparable to Bruce’s work. Given that Bruce’s “the seven faces of information literacy” is the original and dominant study in applying phenomenographic approach to information literacy research, in this chapter it is frequently referenced in discussing methodological issues raised the current research.

3.2.2 Research outcome

Through a phenomenographic study different conceptions are captured and communicated in categories of description, logically ordered and related to each other, which are called the “outcome space” of the phenomenon being studied. So it should be noticed that phenomenographic research involves more than identifying different conceptions—it also aims at investigating their underlying meanings and the relationship between them.

Since phenomenography attempts to describe the different conception of a phenomenon, it is important to understand the nature of a conception. Marton (1992, cited in Bruce 1997) believes a conception comprises both a referential aspect, which refers to “what is conceived?”, and a structural aspect which refers to “how is it conceived?”. Accordingly, both of these two components should be included to adequately describe conceptions identified in the phenomenographic research.

Bruce (1997) identifies seven different conceptions of information literacy in her study, which are specified in the previous chapter. She primarily describes the referential component of the conception through the category labels, in the statements how information is viewed and further in the description of the structural component, which are captured in the meaning structures, awareness structures, and the ways in which information is perceived.

Bruce presents the outcome of the data analysis in two parts: in one part, the outcome space is graphically depicted to explore the structural relationships amongst the seven
conceptions of information literacy identified in the analysis; in the other, the individual conceptions are described under three subtitles: meaning structures, awareness structures, and the ways in which information is perceived.

In contrast, the outcomes of data gathering and analysis in this research are presented only in thematised categories of description, each one of which is depicted in a separate section. These separate sections are not further subdivided, and the three elements Bruce discusses individually in the description of conceptions are examined together. It can be seen that the format of outcome in this research is much simpler than Bruce’s work. The foremost account for this is the discrepancy of the scale between the two studies. The current study involves eight participants compared to sixty in Bruce’s. It is believed that the concise presentation used in this research is sufficient to illustrate and communicate educational administrators’ conception of information literacy.

3.3 Methods of investigation

This study uses in-depth interview as the primary data collection strategy. The section following describes the process of the empirical study with explanations and justifications for every decision made throughout the process.

3.3.1 In-depth interview

Phenomenographic studies attempt to discover the different ways people understand or experience a certain phenomena. These understandings or conceptions can be revealed from different sources of information, but they are accessible particularly through language. Consequently, the common method in the phenomenographic research is an open, deep interview (Marton 1986). Bruce (1997) uses interviews as the primary strategy in her thesis research, but she makes use of written responses through mailing questionnaires and seminars as well, in order to obtain “more focussed, less extraneous material” and get access to “a geographically dispersed
Interviews are conducted as the basic data gathering technique in the present study mainly for the following reasons: first of all, only through face-to-face conversations can participants’ understanding and experiences towards information literacy in their awareness be fully probed compared to written responses in which the correspondents easily tend to only provide superficial ideas that first come to their minds when they read a question on the questionnaire; secondly, the flexibility of interview allows the researcher be able to follow up with request for further elaboration as soon as a theme is identified from the interviewee’s previous utterance; another consideration is that all the participants are employees in the various administrative offices of the university rather than information professionals or academic staff, therefore it is expected that many of them are not familiar with the term such as information literacy and may have difficulty in understanding the questions being asked. When these circumstances occur, the researcher is able to give some explanation throughout the interview. Furthermore, due to time and effort constraint, mailing questionnaires are not utilised in the research. However, considering the strong advantages of interview in the context of the current study, it is believed that adequate and meaningful information can be obtained through this data gathering technique.

3.3.2 Pilot Study

After the questionnaire is constructed, a pilot study was carried out with the help of the researcher’s supervisor. This proved especially useful for the researcher who is a novice to conduct interviews. Through the pilot study some initial questions were changed in order to grasp every opportunity to best explore the interviewees’ conception of information literacy while trying to make them most comfortable with the questions. Some queries about the interviews were solved and suggestions and reminders of the notables during the interviews were also given to the researcher in
the pilot study.

### 3.3.3 Questionnaire design

The nature of phenomenographic research and its expected results achieved determine that it is most appropriate to ask participants open-ended questions in the interviews, which allow the interviewees to develop ideas and speak more widely on the issues raised by the researcher. Adequate openness is regarded as the foremost criteria in the questionnaire construction stage, and there is no prompt, contained in the questions, for any particular way in which information literacy is perceived and experienced according to previous research. As a result, participants are expected to give their own idea about information literacy rather than anyone else’s, particularly the researcher’s view. This strategy is consistent with what Marton (1981) describes as the second order perspective towards a phenomena employed in the phenomenographic approach.

Emphasis on exploring the relation between information literacy and the interviewee in his or her particular work context is also revealed in the questionnaire designed. This objective is achieved by including questions that enquire about the participant’s own experience related to information literacy in addition to the question that directly ask their conception of information literacy. This strategy can firstly help the researcher understand the interviewee’s points more deeply; secondly, there is possibility to discover complementary information from their experiences to their interpretation of information literacy.

The questionnaire (see Appendix I) is made up of three sections, each of them comprising three to four questions which correspond to one purpose. They are depicted as follows:

- **Work context** The first part work context aims to gain a general idea of the interviewee’s work and most important, to help interviewees orient
themselves towards themselves as well as their particular workplace so that they can get some “prompts” of the research context.

- **Conceptions of information literacy** Questions in this part are intended to investigate participants’ view of information literacy. According to the ways in which information literacy is described in the literature, in addition to directly asking “what does information literacy mean to you?”, the interviewees are also asked to describe an information literate person in their minds. However, as mentioned before, it is possible that many participants are not familiar to “information literacy”. For this reason an optional question (Q5) to Q4 is designed in order to explore their implicit perception towards information literacy from another way. Similarly, the term “information literate” might also be confusing to the participants, so it is replaced by “effective information user”.

- **Experiences of information literacy** The main purpose of questions in this categories is already described in the previous explanation for the questionnaire design. Moreover, this section also includes questions (Q9, Q10) that aim to examine the requirements for information skills in various administration departments in the university as well as their current situations in terms of information literacy. These two questions aim to provide some useful information for graduates, information professionals or further study.

### 3.3.4 Sampling

In order to acquire most comprehensive understanding of administrative staff’s view towards information literacy within the limited time and effort constraint, staff in all administrative departments were invited to participate in interviews except those in the Information Services Division because the present study aims to focus on the conceptions of non information literacy professionals. Thus the population size is the
total number of staff in the eleven departments mentioned above, which is about 1800, and this number is provided by the Human Resource Department of the University. The number of staff invited to participate in the research from any particular department was determined by the total staff number in that department. Furthermore, also for the reason of time constrain it was decided to invite administrative staff at a fairly senior management level, as a means of gaining an overview of issues related to information literacy within the context of the department’s work. This strategy can be described as purposive sampling with which people are “selected with a specific purpose in mind, and that purpose reflects the particular qualities of the people or events chosen and their relevant to the topic of the investigation” (Denscombe 1998). However, any individual who took part in and the number of staff involved was dependent upon his or her director’s recommendation and their personal willingness and availability rather than the selection by the researcher. From these points of view, the sampling method also falls into the label of quota sampling, which is on a “first to hand” basis.

3.3.5 Interview schedule

All the administrative departments except Information Services Division within the University of Sheffield were contacted by sending electronic mails to their directors or heads. In the letter, the main purpose of the current research was briefly described, and the directors were requested for help in inviting themselves and their staff members whose posts were at “fairly senior level” to participate in the interviews. Totally fourteen directors and head managers in various administrative divisions of the university were written to and some of them, from whom there was no response for the first e-mail, were contacted for one more time. After request for the second time, altogether there were eleven respondents who agreed to help with the interview, either directly by themselves or their colleagues. Nevertheless, some of these prospective participants had already been on their holidays when the researcher contacted them to arrange the interview. Finally ten respondents were interviewed
over the period of four weeks.

3.3.6 Participants

Ten administrators from eight out of eleven administrative divisions within the University of Sheffield constitute the sample of the present research, and none of these participants are information professionals in terms of the nature of their job. Details of individual participants are not provided here, but their division, the acronym of division and gender are indicated in Table 2.

Table 2: Department and gender of participants

<table>
<thead>
<tr>
<th>Int. No.</th>
<th>Department/Division (Acronym)</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Careers Service (CS)</td>
<td>Female</td>
</tr>
<tr>
<td>2</td>
<td>Academic Division (AD)</td>
<td>Female</td>
</tr>
<tr>
<td>3</td>
<td>Division of Corporate Marketing, Recruitment and Communications (CMRC)</td>
<td>Female</td>
</tr>
<tr>
<td>4</td>
<td>Division of Corporate Marketing, Recruitment and Communications (CMRC)</td>
<td>Male</td>
</tr>
<tr>
<td>5</td>
<td>Development and Alumni Relations Office (DAR)</td>
<td>Male</td>
</tr>
<tr>
<td>6</td>
<td>Human Resources (HR)</td>
<td>Female</td>
</tr>
<tr>
<td>7</td>
<td>Resources Division (RD)</td>
<td>Male</td>
</tr>
<tr>
<td>8</td>
<td>Student Services (SS)</td>
<td>Male</td>
</tr>
</tbody>
</table>

All of the participants in the interviews are at middle to senior management level within their department, and thus their conceptions of information literacy can reflect their colleagues in the same work context to some extend. On the other hand, as the number of participants is rather limited, the sample shown above can not be regarded as strictly representative of staff in administrative department within the University of Sheffield, and this is also the case that participants can not represent their colleagues in the same department either. However, since the present research follows a relational approach that concerns the relation between an individual and a phenomenon, the extent of sample representative is not a critical factor that affects the
validation of research results.

Sandberg (1994, cited in Bruce 1997) suggests a phenomenographic study should include approximately twenty participants in order to achieve sufficiently rich description of varying views related to the phenomenon. Obviously the number of interviewees in the present research is not enough, which constrains the study to yield sufficient and intensive descriptions of educational educators’ conception of information literacy. While admitting the lack of adequacy, the researcher would argue that the anticipated descriptions are diverse and meaningful enough because these participants come from a variety of workplace contexts and take a range of responsibilities within the university’s administrative services.

### 3.3.7 Conducting interviews

All the interviewees were informed of the purpose of the interview before the appointments. Each interview last between 25-45 minutes, and the availability of the participants make all the interviews take place over one month. All of them are recorded by electronic device under the permission from the interviewees. The interview was conducted under a casual atmosphere, and the researcher tried to make the interviewee most comfort with the conversation. The interviewees were encouraged to speak as much as they could and were not interrupted at most occasions except that the researcher found their speech had gone far away from the point. The researcher was also prepared to follow up any unexpected response given by the interviewee. According to Bruce’s experience in her empirical research, questioning styles like “Can you explain…?” “Can you say more about…?” and “Can you give me an example?” were used by the researcher for the latter situation. These strategies allowed the interviewees to develop their own ideas and speak more widely on their conceptions of information literacy, and they are believed to be able to lead to fruitful research outcomes.

At the same time, the questionnaire was also used by the interviewer, who had little
experience in conducting interviews. The question list functioned as a guideline to make sure the whole interview process can go towards the right direction so that relevant information can be exploited to the maximum extent within the limited schedule. Additionally, while it was ensured that all the topics were covered during the interview, the number and order of questions asked were fairly flexible, often inconsistent with what was designed in the questionnaire, depending on the interviewees’ actual response. For these reasons the interviews in this research can be labelled as semi-structured.

3.3.8 Data analysis

As mentioned before, in this research the aim of data analysis process is to devise qualitatively different categories that describe educational administrators’ conceptions of information literacy identified from the primary data gathered through interviews. The data analysis methods in this study are based on Bruce’s work (but much simpler) and commonly used procedure for analysing qualitative data (Denscombe 1998). The whole process is specified in the following parts of this section.

Firstly, all recorded files were fully transcribed, and information that may disclose the identification of the participants was replaced by suspension points (See Appendix II). It happened that two of the recorded files were damaged due to the malfunction of the researcher’s recorder. As a result, only eight interview transcripts are provided in the appendix. All the primary data prepared was then carefully read by the researcher several times in order to get a general understanding.

The second step was to establish the categories describing conceptions of information literacy. This was achieved by three phases: 1. Code extracts from the transcripts where the interviewee’s discourse can be believed as describing their conception or experience of information literacy; 2. Categorize these coded units by looking for both similarities and differences among them; 3. Re-examine the initial
categories constructed to make sure it is sufficiently indicative of the data. The third phase will continue until the above objective is achieved.

The next step is to compare the categories of description discovered in this study with those in Bruce’s work-To identify their differences and similarities, and investigate the underlying reasons for the differences if there is any.

3.4 Discussions of methodological limitations

There are several limitations or problems associated with the methodology and methods used in this study. Perhaps the most obvious limitation lies in the small sample size. As discussed before, a sample size like the current study, which is eight, is difficult to yield sufficient and intensive research results. Moreover, the limited amount of primary data leads to more difficulty in analysing data because there is lack of further evidence to support certain conceptions identified by the researcher from the interviewees’ interpretation. During data analysis, it is common that one category or subcategory of conception is only attributed to one or two sentences. As a result, it is often a dilemma for the researcher whether to separate such short discourse as one conception or not.

The second problem relates to the time constraint of the interviews. Since all of the participants are from workplaces other than academic institutions or information services, their knowledge about information literacy is rather limited. Most of them have never heard of the term before the interviews were conducted. Thus more time is needed to help them orient themselves towards the interest of the research. Although the first set of questions is designed for this purpose, it is felt that they are not enough. Another problem with these questions is, interviewees usually spent a lot of time answering them perhaps because these are things they are most familiar with. Consequently there is small amount of time left for the central questions for the interviews. Although all the questions designed were raised in most of the interviews, it is often felt that there should be more time available for the researcher to explore
their conceptions.

During the interviews although the researcher tried to build a comfortable atmosphere and encourage the interviewees to think and talk as much as they can, occasionally the pressure on them still existed. This pressure might be due to the interview itself, and tape-recorder as well. It happened that one participant had difficulty to speak when the tape-recorder started to work although this was under her permission. As a result, it took a long time for her to adapt herself to the interview.

The last limitation comes from the researcher herself. As mentioned before, although the questionnaire is utilised, in order to full investigate the participants’ experiences and understanding of information literacy, the researcher should be prepared to follow up any unexpected response given by them during the interviews. This strategy has adopted, however, the competence of the researcher to “follow up” is rather limited, which may lead to superficial interpretation. The main reasons for this are the lack of experience of the researcher, and the barrier of language.
4. Chapter 4: Findings and discussions

4.1 Introduction

This chapter describes the outcomes of data analysis, that is, conceptions of information literacy among education administrators who participated in the present study. According to the nature of phenomenographic studies (Marton 1981), these descriptions reflect the varying ways in which information literacy appears to the participants, rather than the phenomenon information literacy itself. Altogether four conceptions of information literacy are identified in this study:

- **Category one: the information sources conception**
  Information literacy is seen as the ability to find information

- **Category two: the information process conception**
  Information literacy is seen as the ability to execute a process to implement an information task

- **Category three: the information control conception**
  Information literacy is seen as the ability to control information for information use

- **Category four: the personal attitude conception**
  Information literacy is seen as having a set of personal attitudes

Taken together, these four categories of conceptions form the outcome space of this phenomenographic study. In the rest parts of this chapter, detailed explication and analysis of the individual conceptions is provided, with emphasis on how they are distinguished from the others through the interpretation of the participants. Every statement of results is supported by quotations from the interview transcripts, and each of the quotations is followed by an indication of their source, including the
interview number, page number of the transcript, acronym of the department and gender of the interviewee. For example, “QUOTATION” (Int.1, p.2, AD, male) means the quotation is extracted from interview 1, page 2 of the transcript, and the interviewee is a male staff from the Academic Division.

4.2 Categories of description

4.2.1 The information sources conception

Information literacy in Category One means being able to get the information required from information sources. Information sources are the focal attention in this conception. Surrounding this focus, there are two elements identified in the experience of information literacy:

- Knowing the information need
- Knowledge of information sources

Every participant has mentioned the importance of the ability to find the right information in their work more or less; for example, when being asked what information literacy means, a participant answers directly:

*Just somebody who knows how to find out where about, you know, electronically and verbally, find out information we may need. (Int.3, p.2, CMRC, female)*

Moreover, it is found that the participants’ emphasis vary between the two elements. For example, most of the participants have not mentioned the element of “knowing the information need”, perhaps because they assume that happens naturally, and knowing where to find information is their start to get information:

*In my job, to be information literate means I know where I need to find information from. So I search the web, the government pages that tell me about employment legislation, I need to be able to know where they are, to check on regularly and to analyse that information quickly in order to tell...*
senior managers in the department. (Int.6, p.2, HR, female)

Note that the emphasis of the above participant is on the knowledge of information sources rather than the process she usually goes in handling information. In contrast, another participant points out the importance of identifying the required information, which should be focuses on the particular business decision, when being asked the meaning of information literacy:

*I think one of the problems I think I have in the university maybe also in other organisations that... they don’t necessarily know why they want it, they just want more and more information, rather than having information focus on particular business decision.* (Int.7, p.2, RD, male)

Based on this problem, he further describes his view of an effective information user:

*I think the most important aspect you need to stand back and really think about what you want to achieve at the end of the day, and then make a decision about what can help you achieve that. So that is clarified thought really wanted rather than a really straight way to gain much information or as much as you can. Just you need to decide exactly what better support you need to do.* (Int.7, p.3, RD, male)

The necessity to identify the information need is seen as a result of customer-focused strategy by the participant from Marketing Department:

*Information literacy... I am supposed to need to identify which information is needed. We always try to and base on customer feed back.* (Int.4, p.2, CMRC, male)

In contrast, the knowledge of information sources, no matter in what format, is emphasized by some other interviewees. For example, one participant gave the following answer when asked to explain information literacy:

*Well, I think it is being aware of the different format, I mean, whether it is paper-based, whether it is electronic, that information can appear in, and fitting in order to optimise the process itself.* ... (Int.2, p.2, AD, female)
The attitude towards the different information formats is explained in more detail by another participant:

_The majority information I look at is from the internet. The reliability of information depends primarily on the source rather than its format, for example, information from the government is important, more important than the institutional policies, because although they are interesting and possibly useful, we don’t have to do it whereas to the government legislation we have to do it because it’s the law. So I prioritise basically on the legal implications for the university._ (Int.6, p.3, HR, female)

The reliability of information sources is also mentioned by a participant who is working in the area of public relations. As she sees, information literacy means find accurate, reliable information, which requires checking out its original source:

_We need to know how to find things out, usually very quickly. You need to be accurate, so you have to check out its source. You can’t just believe what you read in the paper. So you need to go back to source._ (Int.3, p.2, CMRC, female)

Further more, the technical capability of the information user is irrelevant to his or her knowledge of information sources. As one participant believes, it is the later ability that makes the person information literate:

_Information literacy is... I think it’s having an awareness of the areas that is available to you to looking, to be able to find out the information that you may want to know. So I don't think that requires any particular technical expertises. But I think it does require some sort of knowledge, what is out there and what it is likely to be useful to you._ (Int.1, p.2, CS, female)

Another participant has talked about his view on information technology, which is that it should stand at a supportive role in dealing with information and business:

_I suppose probably information technology... it can be a bad thing in that it can provide you with so much information that you are a sort of swamped. It can also be encouraging you not just step back that think about what you really want to achieve, because it can be quite easy, to just sort of download information and subject really focus on about what your objectives are...I
suppose it should play a supportive role, and say, sometimes people should not get carried away with what IT can do for you. I think it should be really just that support what you need to do to do your business, you know, focus on business role. (Int.7, p.3, RD, male)

On the other hand, the knowledge of information sources is considered to partly come from previous experiences of information use:

I think it is also to be aware things you use in the past that are good for your particular purposes...You might think you know someone suggests why you don't look at X. You think, well, no. I've looked at it in the past and I know it might be good for your certain sorts of research. Particular it might not be going to help me, with this particular thing I need to find out. (Int.1, p.2, CS, female)

It is argued that the participant intends to stress the awareness of information sources in her concept of information literacy rather than the construction of knowledge base through using information, taken into the context of her discourse.

Moreover, although many of them have mentioned their experience of online search, particularly searching information on Google, no participants have explicitly talked about the requirement of skills to access to information sources in order to retrieve information in their conception of information literacy.

In this category, knowledge of information sources is the distinctive element, although the importance of understanding information need is also identified by some participants. As can be seen, information literacy conceived in this way by the participants is much simpler than the corresponding conception found in Bruce’s (1997) research: the ability of using information sources, or the information retrieval skills have not appeared. Moreover, it seems that information technology is not a necessary experience or even a negative influence for information finding in this conception. It is the intellectual side in finding information is emphasised: It is essential in their work to (1) identify what information is required before finding it in focusing on the need of both the business and customer; (2) know various sources which may contain the information they need for a particular task; (3) understand the
reliability of different sources.

### 4.2.2 The information process conception

In category two, information literacy is seen as the ability to execute a process for finding or using information in order to make a decision or solve a problem. Obviously the importance of information processes is the distinguishing feature in the conception. However the processes implemented are different, and they depend on the information user and particular situation. Although information processes are not straightforward from the participants’ interpretations, they can be quite easily identified since most of them involve three important elements:

- Awareness of information need
- Critical evaluate the usefulness of information for the particular problem
- Synthesis information from a variety of information sources
- Understand the underlying meaning of information received
- Effective represent information to others

These elements can be seen from the following participant’s description of an information literate person:

> You need to know what information you need, where to look for it. You need to be able to read, to analyse information, to condense that information to make it understandable either for you or somebody else you will communicate on. (Int.6, p.2, HR, female)

The awareness of information need in the above quotation is the same to that in the information sources conception. However, information need in this conception often arises from a problem or knowledge gap. For instance, the same participant as above gives an example when she thinks she has dealt with information effectively:

> We have to write a policy of how we will handle ... and we didn’t have any in
the university at the time so what I did was, I collected the information from
the research council, information they have about how we should be handling
allegation and I looked at other universities, to see what policy they have and
I got all the information from the web, I took the best ideas from all of them,
and develop our own policy based on that information. (Int.6, p.2, HR,
female)

Another participant describes her ability to use processes to find information she
need in her work when she is asked to give an example of her effective information
use:

*It is just a CV about engineer and nothing much more, and you need to get a
lot of information from this. This is the start. But sometimes you even get
nothing. So then you have to go back to the theses, or perhaps go to the
people who know them. You have to go through a corresponding process to
find them...You know it is not general to do, but it is the one when I have to
find things out. (Int.3, p.2, CMRC, female)*

Confronting these information problems or knowledge gap, information users may
adopt different strategies in the information process:

*There are so many sources the information now are available. One has to
manage that process because it’s very easy to be diverted by the information
that is not particularly helpful, and my view is you need to do, recheck quite
broadly to collect information from a whole, you must pull it into one source
which can provide the central resource for other people to use. (Int.5, p.2,
DAR, male)*

*I found that there is more information than I needed, so I then have to unpick
what was the most useful base, and discard, throw away the one off use
because obviously I was looking at lots of different policies and some of them
I didn’t think are very good or they would suit the university. So I have to
discard information that wasn’t useful. (Int.6, p.2, HR, female)*

In both cases above, the information problem is that there is too much information
and one has to identify the most useful resource, which can be resolved through a
process executed by the particular person. One distinguishable element in this
conception is the ability of information literate individuals to critically evaluate the
appropriateness of information found from the sources before using it. This can be
seen as an extended stage of finding information in the previous category, where the result of information retrieval depends on the need of identification of information need and knowledge of information sources. These steps are part of an information process, which means the conception of information literacy in this category represents a somewhat higher level view than that in the information sources conception.

In various information processes, being able to synthesise information from a variety of sources is also mentioned by several participants. For example, one participant describes his experience of effective information use, when they run formal hearings for students who are performing badly in their study:

> it would involve collating a range of different sources of information so at that committee, we will have that student in person presenting their case, we will have somebody who comes from academic department concerned, also speaking, we will have written information, summary of the student’s academic record, written something to the committee to say..., and written judgement from the academic department. ...do it well and effectively will assimilate all that information, the written information, the student’s record, the verbal commentary. We are keeping a careful record, and giving the decision to the students. That’s quite a complex exchange of information. (Int.8, p.3, SS, male)

Another outstanding elements or steps in the information process, is the ability to understand the underlying meaning of information that is received, and to make information that is provided to others understandable. The above participant gives the following answer to the meaning of information literacy:

> ...who are able to relate to individual face to face, understand the information they are being provided with, and know how to respond appropriately. ... who can do the same sort of thing over the telephone, we need staff who can express themselves clearly and in writing and receiving information particularly from students it can be quite difficult for students to express clearly what they want, what they asking isn’t what they need so we need staff who can interpret their needs, as opposed to necessarily they presenting problem. (Int.8, p.2, SS, male)
The necessity for understanding, or taking actions to understand the actual meaning can be learnt from another example given by a participant working in the Career Service:

One of the problems we get in terms of the information literacy aspect here is,...the students gives a title named “dispatcher”. When you see the word dispatcher you would normally he must be working on a production line, wrapping things, boxing things and sending them off ..., something like this. Once we started to search the dispatcher in the context of that, type in the employment, we found that it is to do with scheduling the departures, which is a quite technical job. So that was quite important for us because the coding of the graduates is a hierarchical system... (Int. 1, p.2, CS, female)

Meanwhile, there is one interviewee who has mentioned the ability to represent information concisely for others:

You don’t have to write a report 50 pages long. You can write a report that is 50 lines long. And actually it would much better document than the one of 50 pages long. (Int.5, p.3, DAR, male)

Another participant expresses a similar idea when he is asked what information literacy means. Instead of directly answering the question, he points out the problems occurring in some management teams he is working with:

Many of..., when they are asking about either the student numbers or other information relating to every expenditure, they want to analyse in a lot of different ways, putting onto diagram, charts, whatever. But really at many times, I want to question why they want to see information displayed in different ways when we really could be a lot more precise about how our delivery actually supports the decision needs to be made. I think there’s general problem in management feeling that quantity rather than quality of the information that they receive. (Int.7, p.2, RD, male)

The second category features information processes, and most of the experiences of this conception are associated to decision making and problem solving, both of which are necessary capabilities in the work context. Although the information processes may vary, their outcomes seem the same: all of the problems mentioned by the participants have been resolved in the end. This reflects the meaning of
information literacy in this conception, which is, being able to implement an appropriate information process to resolve a problem or make a decision.

### 4.2.3 The information control conception

In this category information literacy is conceptualised as controlling information using different storing tools and following certain ethical rules. As a result, information can be managed effectively for later retrieval, either for oneself or others. Together there are three subcategories in this conception:

- Information literacy is seen as controlling information using electronic databases
- Information literacy is seen as controlling information using human brains
- Information literacy is seen as controlling information ethically

Although the importance of information technology is not stressed by the participants in the interviews, some of them do mention the advantage of electronic databases and the requirement for effective information user to manipulate them:

...you must pull it into one source which can provide the central resource for other people to use. So the example I will give is, before I started in the university certain department has their own databases. So all these information is scattered all over the university in different places. But there isn’t one central source you can go to, that is what my office is trying to do. So information literacy is... one should compress that information into readily accessible sources, and obviously that has to be done electronically. But it has to be a sophisticated system so that you can have the information to form a cake, and you must cut the cake in different ways, whether it is based on age, professional area, geographic location, city, subject, age, sex, all of these things, and computer would be there to help do that many times over. (Int.5, p.2, DAR, male)

As this participant sees, electronic format of information is the most appropriate source for storing and retrieval. Additionally, the sophistication of the electronic
databases is also necessary. The following description is given by a participant, who is asked what information skills are required in his division:

we need people to be skilful in relation to the university’s specific databases of information about students, so the corporate information systems I was talking about. We need people to be effective in using that system, maintaining it, drawing information from it... (Int.8, p.4, SS, male)

Although the above quotation is not directly related to information literacy, it is believed that under that circumstance when information literacy is the main theme, this answer can reflect the participant’s understanding of effective information use to some extent.

For the second subcategory, human brain is the focus of attention. For some participants, it is human brain that can best store and organise information because it can create links from the memory and then retrieve more valuable information. This is largely due to the distinct nature of human brain:

...while we do have computers, we also have our own very computable brain. So they have to be able to think literally. Sometimes computers can’t do that where human brain can. Computers works well then you ask them specific questions. Human brain can work very well when you are suddenly making connections between different pieces of information that might together make something very interesting. (Int.5, p.4, DAR, male)

He further explains the information skills required in his division, that is, having good memory, and moreover, staff should remember and spot useful information all the time, not just in their work:

They have to be extremely good at spotting pieces of information, even when they are not working. They might be listening to radio at home, watching television, reading a magazine, anything like that. Even they are out of the office, they are all able to be thinking in a professional way to pick up information. So their job should be 24 hours a day. (Int.5, p.4, DAR, male)

Another quotation, although it has appeared in the previous conception, is still suitable to use here, because it can reflect the characteristic of human brains well:
I think it is also to be aware things you use in the past that are good for your particular purposes... You might think you know someone suggests why you don't look at X, you think, well, no. I've looked at it in the past and I know it might be good for your certain sorts of research. Particular it might not be going to help me, with this particular thing I need to find out. (Int.1, p.2, CS, female)

The third subcategory, which is controlling information ethically, is not associated with storing tools of information, but referred to ethical rules that information users, or more specifically, information keepers should conform with. For example confidentiality is an important aspect in handling information for the Department of Human Resources:

...being able to do that quickly, confidentially, because a lot of information we hold about individuals is covered by the data protection act, privacy laws, so we have to treat all the information with confidentiality. And sociality as well because a lot of information we have is what’s wrong with people, information salary information which is very sensitive, so keep them all confidential. (Int.6, p.3, HR, female)

It should be aware that conception of information literacy in this subcategory is different from the wisdom conception that Bruce uncovers in her study. This is because the underlying meaning in the above quotation is the necessity to conform to certain formal act or law and keep information confidentially. This is unlike the conception of using information wisely for the benefit of others, in which information is transformational. However, experiences related to this subcategory are rather limited amongst the participants, and this might be largely due to limited scale of the current study. With the extent of research becomes wider and deeper, it is believed that conception of this perspective towards information literacy in the workplace will reveal its richness.

4.2.4 The personal quality conception

In this conception information literacy is perceived as having a set of personal characteristics, which can facilitate information users in engaging with information.
These personal qualities involve skills, personal values and attitude. Note that they are different from those specific abilities referred in the previous conception. What is focused in this conception is a set of general, abstract idiosyncrasies, just as a participant says:

There’s more personal quality rather than particular skills that would be needed to make some good information literate people in terms of what I need. (Int.1, p.3, CS, female)

Curiosity is the most referred characteristic of effective information users:

…who has a curiosity that they want to keep on checking information where they can… (Int.5, p.4, DAR, male)

I guess one of the characteristic that I would think would make somebody a good user in that way would be somebody who is very curious person… (Int.1, p.3, CS, female)

Other things within the brain are they have to have very natural curiosity to want to find out more… (Int.5, p.4, DAR, male)

The interest in the work that one is doing is also mentioned:

I think it means being able to enjoy about, to find things out. (Int.3, p.2, CMRC, female)

That really in the context I working in require basic common sense and an interest in what you are doing and an interest in what is the employer doing. (Int.1, p.3, CS, female)

The way of thinking is an important element as well:

They are all able to be thinking in a professional way to pick up information. (Int.5, p.4, DAR, male)

And, lateral thinking. You know, you have to be able to just see something that might give you an idea. So you have to use your brain and think ground, you know, should come to the dead-end, think in different ways you might approach it. It is about lateral thinking I think is important. (Int.3, p.2, CMRC, female)

Moreover, some valuable features for learning such as persistent and determination is described as elements of information literate persons by a participant:
somebody who has got a lot of interests in dealing, researching into areas, isn’t afraid or frightened, looking very broadly, in order to be able to refine method to get exactly what they what. I think it has to be somebody who is also quite persistent, who isn’t necessarily going to be satisfied the first things they find, who is got the discretion to be able to see what is suitable for their needs and what isn’t.... (Int.1, p.3, CS, female)

Additionally, there is one participant who has mentioned the distinct attitude of an effective information user towards information and information technology:

It is something to come within them to realise using information properly enables them to make something happen quickly. (Int.5, p.3, DAR, male)

So information literacy is being aware, you should be, er, that the information has power... (Int.5, p.2, DAR, male)

There is someone who has prepared to embrace information technology, and who has a curiosity that they want to keep on checking information where they can. So the first an information literate person would do is to go to the Internet, to go to Google search, just to see what might be out there. Subsequently they might go to a directory or to a library. But first they will go straight away to the Internet because there will provide them very interesting leads. (Int.5, p.2, DAR, male)

Shortly he points out another requirement for the staff in his division to be an effective information user:

...because my office is dealing with people and people have a whole variety of different reasons for why they might want to be in touch with the university and support it. And that we have to have extremely good understanding of human nature. ... At different point of the life, they (the alumni) may have completely different views about what the university can do for them. So my staff has to be able to relate to people who are in all age ranges, different nationalities, and also religions. Therefore, we have to be very flexible in how they use information they got because what might be proper for someone from Muslim country, might be completely improper for someone from catholic country. (Int.5, p.4, DAR, male)

In this conception personal characteristic is the focus of attention. Information literacy is perceived as having a set of personal values and attitudes. In this study, qualities such as curiosity, interest, persistent and so on, and attitudes towards information and information technology have been uncovered. Paralleled
descriptions of information literacy also exist in the literature, as examined in the literature review. It can be seen that the personal characteristics stressed by the participants are relatively similar with those in the literature. Nevertheless, this category of conception does not appear in Bruce’s work, and this perhaps reveals the variation of people’s understanding of information literacy from different workplace contexts.

### 4.3 Information skills required in various department

It is found that most of the participants’ response to the question that “what information skills are required in your division?” is consistent with what they say about an information literate person or the meaning of information literacy. This reveals that most of them believe information literacy is a requirement for their work, although their perception of the information literacy is not the same.

It is obvious that there is strong link between the nature of their work and their requirement of information skills, for example, staff in the Student Service are require to have good communication skills because they need to face with students who have enquiries for whatever reasons, moreover, they need to understand what the students really want rather than what they have asked for the reason that often student may have difficulty to express themselves clearly; staff from Development and Alumni Relations Office need to being able to spot any information that may be useful for their work at any time, to think in a professional way. This is because the information they deal with for their work, which is about the university and its alumni, may appear anytime and anywhere.

One participant, when being asked if there is any challenge or difficulties to incorporate information literacy in her division, believed nothing in her area because what they deal with is “quite specialised narrow range information” (Int.1, p.4, CS, female), but shortly she compared the work in her area and that of the information manager’s area, and pointed out that the requirement of information literacy levels
are different between different working areas. Due to space constraint, further examples are not provide here, but one point is certain, that is, information literacy is not a fixed idea, and its meaning varies according to the specific context.

4.4 Challenges and difficulties to incorporate information literacy into the workplace

The answers to this question can be divided into two groups: one group of the participants, which includes fewer number of people, regarded their staff as well as themselves as information literate, and few challenges or difficulties exist; another group, the majority of the participants, admitted that there are actually some challenges there (note that most of them referred to challenges rather than difficulties). Their opinions varied, again, related to the nature of their area, but the most common challenge among them rest with the explosive availability of information resources, which caused problems with both the quantity and quality of information they deal with in their work. As a result, many of them pointed out the importance of staff to be able to critically qualify, evaluate and sift information they received and effectively compress and represent information for either themselves or others.
5. Chapter 5: Conclusions and recommendations

5.1 Introduction

The objectives of this research which have been given before are:

1. To explore how the participating education administrators see and experience information literacy in terms of their working contexts.
2. To develop descriptions of information literacy among these groups of people using relational, or more specifically, phenomenographic approach
3. To compare the conceptions held by participants in this research with those uncovered in Bruce’s work and investigate the underlying reasons for the differences if there is any.
4. To suggest possible directions for further research

The first and second objectives have been achieved in the previous chapter, although they are still reviewed shortly. This chapter mainly deals with the last two objectives, which is comparing the results in the current research with Bruce’s work and providing recommendations for further research.

5.2 Conclusions

Through exploring how the participating education administrators see and experience information literacy in terms of their working contexts, varying conceptions are discovered. They are iterated below:

- **Category one: the information sources conception**
  Information literacy is seen as the ability to find information

- **Category two: the information process conception**
  Information literacy is seen as the ability to execute a process to implement an information task
• **Category three: the information control conception**
  Information literacy is seen as the ability to control information for information use

• **Category four: the personal attitude conception**
  Information literacy is seen as having a set of personal attitudes

Each of the conceptions represents a distinct way information literacy is conceived, and each of them can be best applied to a particular context. For instance, when the information user confronts with a knowledge gap or certain problem, it is better to focus on conceptualising information literacy as executing a process. So it can be seen there is no inappropriate conception among these categories. Further more, every category of conception reveals collective experiences from the participants, in other words, none of the conceptions results from any one individual. At the same time, a single person might understand information literacy in a range of ways, and this can be best learnt from the previous chapter: it is common that discourses from the same participant appear in different conceptions.

Due to time and effort restriction, the scale and sophistication of this study can not parallel Bruce’s work. As a result, these conceptions are only represented in thematised categories, and the relationship or structure among them is not a major concern. However, the difference of complexity between certain categories is identifiable. For example, as discussed before, the information process conception is more complex than the information sources conception because the former requires not only the ability to find information but a more holistic view in handling with information. In addition, as to the personal quality conception, it is difficult for the researcher to discuss its complexity since it compasses a different set of capabilities, which involve skills, personal values and attitude, from that in the other conceptions.

5.3 **Comparison of results with Bruce’s “seven faces”**

Categories of description about information literacy identified in Bruce’s “seven
faces” are compared with those in the present research in Table 3. It shows that part of the categories in Bruce’s work is also discovered by this study, and one category of description in this study has not appeared in Bruce’s work. In the following parts a discussion of the major differences between the two results is provided.

**Table 3:** comparison between Bruce’s “seven faces” and the current research

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<thead>
<tr>
<th>Bruce’s “seven faces”</th>
<th>Current research</th>
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<tr>
<td>The information technology conception</td>
<td>The information sources conception</td>
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<td>The information sources conception</td>
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<td>The knowledge construction conception</td>
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<td>The knowledge extension conception</td>
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<td>The wisdom conception</td>
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One of the most outstanding characteristics in terms of the participants’ experiences of information literacy is their attitudes towards information technology. None of them has stressed the importance of information technology skills when they talked about information literacy. The emphasis of the participants is actually on intellectual manipulation of information and this is also pointed out by Bruce (1999) although the information technology conception is discovered in her research. This trend seems to be conflicted with the description of information literacy in the literature, where information technology skills are often regarded as an essential part of information literacy. This indicates the necessity for either information literacy education or research to divert from information technology skills to intellectual aspects of information handling.

Another notable of this study is the absence of the other three conceptions: the knowledge construction conception, the knowledge extension conception and the wisdom conception. Bruce places these three conceptions at the highest level of the outcome space, and information in these categories appears subjectively or has a transformational character to the information user. Conceptions identified in this
study are those where information is seen as objective or part of the external environment. Perhaps the main reason for this is caused by the difference between the working contexts. Participants in Bruce’s research are mainly higher educators who are obviously more concerned with knowledge and learning, while in this study, participants come from various administrative offices, who may have more focus on decision making and problem solving skills. It should be noticed that this is not to say people from the latter working areas can not experience information literacy as building up knowledge base, as gaining novel insights or as using information wisely for others. It is believed that with the expansion of research scale, there is great possibility that similar conceptions will be uncovered. However, these conceptions might not be the major concern that most people have. From this point, it is advised that information literacy education that is designed either for graduates or employees should attend to skills such as information finding, information process and information controlling.

The last difference lies in the conception of personal qualities. This is the distinct conception in this study. Information literacy is perceived as having a set of personal values and attitudes. Personal characteristics such as curiosity, interest, persistent and so on, and attitudes towards information and information technology have been uncovered. From literature review it can be seen that there are paralleled descriptions of information literacy in the literature. Conceptions in this category indicate that not only the information skills but other personal quality can also attribute to information literacy, and this may provide a broader research area for information scholars and practitioners.

5.4 Recommendations for further research

Recommendation one

To carry out similar research on a larger scale within the University of Sheffield or other educational institutions. The participants can include central administrative
staff as well as those in the academic departments. This may help establish a more holistic picture of conceptions of information literacy amongst educational administrators.

Recommendaition two

To carry out similar research in other workplace contexts, especially those where information literacy is considered important. Through studies like this kind, conceptions of employees from different working area and culture can be explored. This can help to better understand how the experiences and understandings of information literacy vary according to different context and individual.

Recommendaition three

To carry out similar research on graduate students. Through investigating their conceptions of information literacy, educators and recruiters can better understand the current situation so that information literacy education can be better designed and help graduate students prepare themselves to enter into workplaces.

Recommendaition four

To investigate the relationship between information literacy and knowledge management, information literacy and learning organisations. These studies may help understand the application of information literacy in organisations. Organisations that are implementing knowledge management and organisational learning can better incorporate information literacy into their policies and everyday context.

Word account: 15,566
References


Appendix I: Interview questions

Research context

1. Could you describe the services provided by your division and the main work procedure?
2. What is your responsibility as a …?
3. How do you deal with information in your daily work?

Conception of information literacy

1. Generally, what does information literacy mean to you?
2. (Optional) Imagine you need to write a report. Can you describe the skills you would use?
3. How would you describe an effective information user?

Experience of information literacy

1. Can you give me an example of a time when you used information effectively?
2. Can you describe your experience of being (or trying to be) an effective information user?
3. What information skills do you think are required as far as staff in your division is concerned?
4. What are the challenges and difficulties to incorporating information literacy into your work?
Appendix II: Interview transcripts
Interview 1

Could you first describe your services this division provides to our university?

Right, I am working in the section of the Career Services, which looks after quite a few specific areas. One is the collection of graduate destination statistics. That is an annual survey about all graduates, which looks at what they are going on to do after they left the university. So that is one area. The other main area, the staff now work with, is with the employers, and that includes the things like management organisation recruitment fairs and publication of vacancy information for students, and they organise other events like employer presentations, the sessions where employers come into chat students about work opportunities. So there are two main areas that my section, the Career Services, work for.

So what is your particular role in this division?

My particular role in this division is that I have responsibility for the destination of Higher Education Survey. There are other people working on it. But I actually manage it, oversee it, and responsible for the end project on that. I also manage staff who do a lots of work on employer liaison. So I can not say much about work myself, but other people are doing for me and I manage them. I might be the person who has to advise on particular situations, say, an employer wants to advertise a vacancy with us. It would go to one of my colleagues, it would be that person who will look at the vacancy and extract the information from it and put it into format so that the students can read it on Career Services website. It is very much management.

How do you deal with information in your work?

Right, the main information I personally deal with are the national questionnaires. We have about five and a half thousand students every year we need to follow up, and they have filled the questionnaire. This is the national questionnaire, not our questionnaire. On it they have to describe, if they are working, they have to tell about the employer, they have to tell about the kind of work they are doing. One of the problems we get in terms of the information literacy aspect here is, if the graduate doesn’t fill that form in, they will get a telephone call and the students fill in the questionnaire like that. One of the issues we have is, this is an example here, particularly good because it is clear about what their employer do. Very often there will be the name of the employer there and nothing about what the organisation does. We have to assign a code which describes the nature of the organisation. If there is nothing there, we have to go searching to find out what that organisation does. Equally graduates are asked what the job they are doing, again we have the code of that information. Very often it is straight forward, but sometimes graduates or their relative will give a description of their job, which doesn’t mean very much, or they use terminology that perhaps isn’t commonplace. We haven’t heard of it before, and
again in that case, in order to be able to allocate the code we would have to do some
research in order to understand what the graduates are doing, and how best to code
then. That is the main area in which we would say sort of depending on information
literacy to work out what is happening to graduates once they have left. What we
intend to do is we go on if we have this more usual situation, we don't understand
what the employer does, the manufacturer or what is involved with. A few years ago,
before the Internet, the classic response would be we have to look through the
reference books, things like street, things like the campus and it is a long job. Now
with the Internet we go on to the Internet and we see the details of the employer's
name and we begin looking the things in that way. We might often have other things
to check up, for instance we've got the location the employer is based. Sometimes
we don't have a lot of information there. We are going to search the location for them,
and it is Internet we go to. In terms of what the graduate does. I give you an example.
We had an interesting one last year, where we have a graduate who was. First of all,
work for a company that its name means nothing to us. We have to discover what
that was. But where we ask the job description, the students gives a title named
“dispatcher”. When you see the word dispatcher you would normally he must be
working on a production line, wrapping things, boxing things and sending them off,
or perhaps they develop to stock control and they send the items from the
warehouses and distributing, something like this. In naturally fact we actually looked
at this for particular person. They were working in an area connected with the
airlines. Once we go that far, then we looked at the dispatcher again. Once we started
to search the dispatcher in the context of that, type in the employment, we found that
it is to do with scheduling the departures, which is a quite technical job. So that was
quite important for us because the coding of the graduates is a hierarchical system.
So if he works in basic wrapping and packaging job that would be describing low
level job. Because we were able to find out in fact this is a higher level job, despite
his name, we were able to code this student to a better level. This causes it better for
the university and for the department that student belongs to. But virtually all about
our research work in that way is always all from the Web.

I see. Personally speaking, what does information literacy mean to you?

I think it's having an awareness of the areas that is available to you to looking, to be
able to find out the information that you may want to know. So I don't think that
requires any particular technical expertises. But I think it does require some sort of
knowledge, what is out there and what it is likely to be useful to you. I think it is also
to be aware things you use in the past that are good for your particular purposes. That
is, it is being able to remember resources you used in the past and which one, where
and when is useful to you. You might think you know someone suggests why you
don't look at X, You think, well, no. I’ve looked at it in the past and I know it might
be good for your certain sorts of research. Particular it might not be going to help me,
with this particular thing I need to find out.
So as far as this division are concerned, what does this concept mean?

It is probably the same thing for the people who work here. It is about the knowledge where they should be looking, what sorts of websites are likely containing some information that they seek. For instance, we have somebody who was working for contracts here last year to help out this work. He has never done it before and so he knew nothing about the graduates’ employments, graduates employer, very little anyway. With him, it’s a case that was trying to get in an acquaintance of the kinds of websites likely to help him. The kind of terms to put in, in order to be able to make sure the right side were coming up.

How would you describe an information literate person or effective information user?

I guest one of the characteristic that I would think would make somebody a good user in that way would be somebody who is very curious person, somebody who has got a lot of interests in dealing, researching into areas, isn’t afraid or frightened, looking very broadly, in order to be able to refine method to get exactly what they what. I think it has to be somebody who is also quite persistent, who isn’t necessarily going to be satisfied the first things they find, who is got the discretion to be able to see what is suitable for their needs and what isn’t.

At what degree or at what extent do you think you are satisfied with this particular search result? Can you give me an example?

Personally I am quite happy with, if you probably aware this is quite narrow use of information literacy, and I have been doing it for a long time now. So I am at the stage now, aware where to look for a lot of organisations, I might not have to do much search around. For me, I am now fairly confident that if I am looking for organisations I will get a list up out of google, and there are a few options in fact. I will be able to pick up the ones that most likely to be able to give me the information that I am seeking. But what I do I think in terms of information literacy, isn’t particularly complex.

What information skills are required for the staff in this division?

Right, so in my area rather than in the whole Career Services? (Yes, yes) In actual fact, they probably don't have to be highly developed. It is more about having enough an attitudes and an interest than having particular required skills. You don't need to come in with any pervious experience necessarily. But you do need the ability to be able to see when the information you are finding is not the right information that is in fact incorrect. If you are searching for an employer, so you got an employer that calls something like Smith. If you look start looking for an employer called Smith, you find lots, lots of them. It is the person who will ask, what
do I need to be able to do, define this search, to refine this search. That really in the context I working in require basic common sense and an interest in what you are doing and an interest in what is the employer doing. Yes, just the ability to identify what clearly isn’t right. It is not taking the first things you find, being able to say, right, I may have to look for this for the next half hour until we find the right specific information. So there is patience there as well, and determination. There’s more personal quality rather than particular skills that would be needed to make some good information literate people in terms of what I need.

**Can you say something about your experience you have tried to be an effective information user?**

I guess it builds the experience. It is quite difficult for me to sort of answer the questions you originally asked because I haven’t been doing that job for a quite long time, and I started in fact before a lot of information is actually on the web. So at very early stage I was working here I was quite used to having to do quite a lot of work and trying to work out what the employer did, because there weren’t any easy route to find some of the data. I say the World Wide Web started to become available, my job became easier. I would say also one time graduates tend to work for a much smaller range of employers who did a much narrower range of things. A few years ago, some of the organisations haven’t been existent there since they wouldn’t be existed. I give you an example. If you go back 15 years or so, there wouldn't a huge number of organisations involved in conservation issue, neither lots, lots, lots of them. Equally certain types of jobs didn't use to exist nowadays do. So things easier familiar to find is because of the World Wide Web. But equally now the range of work students caught on get wider and wider. Everyday I’ve got a colleague who works along side on it where we always have to ask each other in a sort of, do you know what company does. There are some companies you can’t find them on the web. Sometimes it may be because the person who gives you the information has been misspelled it. Sometimes it might be just a small organisation which didn't have a website and they can’t tract them either. But by and large we would say we are quite successful in finding out the relevant and correct information in order to first ensure the data we put together to Sheffield graduates is accurate that can be given the raw data we got to work with.

**Ok, I see. Do you think there are any difficulties and challenges to incorporate information literacy into your work?**

Nothing in my area. I honestly don't think they are because staff who is doing it, having to look at it, it is quite specialised narrow range information. If however you see an information manager here. Now he’s information manager and his information literacy requirement for himself and his staff are of much, much different order for the one third I need to use here, they might be asked anything by students, you know, some really, really interesting, complex problems, where quick
search on the Internet doesn’t show anything. He would probably have to take it back to the office and spent considerably amount of time, trying different strategies in order to be able to work the particular data they want. So there are people in the Career Services whose information literacy skills have more in-depth requirement and perhaps a need for people to have some sort of training to make them effective in the work they do. But you couldn't really say that for the work with them here it is relatively simple.

So do you think the information skills or information literacy levels are different between your division and the division downstairs like information managers”?

Yes, definitely. I suppose that goes back to the whole issue about what people do, if you want some information literate, I think one of those things is very, very dependent on many cases on the job you need to be done. If we may refer information literate person in other area is quite different to what is information literate person in my area. You know, there are different levels of skills required there. I would ask quite simple, but… quite complex.

Ok, that’s all. Thank you very much.
Could you describe the services this department provide to the university?

My department is part of teaching and learning support unit in assistance part of the unit that support the work of faculties in relation to learning and teaching and the way we do that is by supporting the committees of the faculties, the second faculties of the university. So we support the board, the policy committees, the teaching affairs committees, the teaching quality committees of the seven faculties of the university. A lot of our work is paper-based, to do work with the committees, and I am just trying to give you more ideas about sort of things we deal with. Obviously the teaching and learning is about the degree that the university provide, so a large part of our work is to do with the academic approval of proposals for new modules, and for new degrees. What we do is we work with department on their proposal, to give them advice, guidance about preparation of all documentation they need to bring to the committee. Er, what else do we do? Every year we also take through the approval process all the regulations that actually describe those degrees, you know, what kind of modules you can take, how many credit you have to get. Every degree in the university has such regulations, and those are formally approved every year, including any changes the department may wish to make, like new modules, restructuring etc. So we work with them from regulations, and we also work with them on a new related set of documentation, which is actually a national requirement the university has to publish.

What is your role within the department?

I am the … of this faculty section, and I also have a specific responsibility of faculty of arts.

What kind of information do you mainly deal with in your work and how do you use them?

Well, I deal with regulations. They are all on the web now, if you want to look at them, but we also publish them. We set out a very structured format, what modules the students have to take, what modules they can choose, dissertation, and then any other requirements, the number of credits you have to get. So you see we work very detailed, and obviously it is important that they are correct. So we work a lot of work with the departments every year to ensure they are as accurate as possible. I have a senior secretary who is responsible to turn the word file we work from into publish file on the web. The most information I deal with is paper-based. Here is an example, this is a proposal for a new module, we call them ‘unit’ confusingly, now departments can find this form on the web, and they can download it as a word document. They fill it in, print it out, and they send it to CiCs. So we take this paper form to the approval process through our faculty committees, but what we are
looking to do is to have this web form so that the department can actually complete this empty form on the web. Once they submit it, the process becomes wholly paper-based, very inefficient really. For example, in CiCs, some information that they take out of this form, like the descriptions of modules the students will be doing, will be actually manually typed into the database. What we want to do is to move to the system where the information is approved it can automatically be uploaded into the database. So one of the theme that is running through our work at the moment is the recognition of the media, to reengineer our processes, to move towards more sort of more electronic processes that manage the better keep track of these approval processes we try to manage because the volume of theses things is increasing all the time. You know, we have to move away from these rather old fashioned and inefficient processes.

**What does information literacy mean to you?**

Well, I think it is being aware of the different format, I mean, whether it is paper-based, whether it is electronic, that information can appear in, and fitting in order to optimise the process itself. I mean choose the best format for the purpose really. Does that make sense?

**What information skills do you think are necessary for the staff in this section?**

In this department we have administrative staff like me, and we also have clerical staff, I mean there is a lot overlap between the works we do. The sorts of skills required are a bit different. So I think, on the sort of IT side, the clerical staff probably develop more advanced skills than we do because the nature of the work they are doing, because they need to develop databases, they need to publish information on the web because the fact that we look to them sort of complex word processing. For the administrative staff in this department, I think one of the most important things is to understand that we work in a very complex organisation and to be aware of all the information that you may need to know about, to be able to refer to in order to do a specific task. And that isn’t necessarily information that will be internal to institution, as I said it might be external guidance you might need to know about where to refer to, or it might be information that specific to a particularly academic subject you are working with. Or, you know, it could be information internal to institution like the individual regulations for specific degrees. They exist within the overarching framework, which is set out in general regulation which prescribes things like how many credits there are in a master’s degree, how many credits you need to get a dual that sort of thing. So when you look at the proposal for the individual, new program study, you have to be thinking: does it fit in the framework? If it doesn’t, you know, there’s something we can do to make it fit. I think the ability to be aware of, to refer appropriately to a wide range of information is what characterise our work. Our clerical staff need to do it some extent, but they probably don’t need to range that widely, and we wouldn’t expect them to be aware
Please give a typical example of the processes you go to write a report.

(It’s about the way the university classifies undergraduate degrees. The university used to classify all the degrees on a single system but would not be popular within some departments who felt this system didn’t really reflect their subject culture. So it was agreed that we would review it. The outcome is that we had considered a new proposal the way we classify the degrees. So what we did was we start by sending questionnaires to departments to find out what kind of method they favoured, and we analysed results, and we found basically there were two schools of thought in the university, one of which want to stay with the system and another school of thought want to have a new system.) …This is something I’ve not written. I am going to write it soon. This is about variation, about different in policy to do with the assessment. It’s something that we are aware of can be confusing students. For example, if you registered with a dual degree, and you work with two departments, and they have different rules relating to the assessment, and that’s particularly difficult to deal with department that crosses two faculties, so one of the sections in my report will be looking at the rule for progressing from level one of undergraduate degree to level two with less number of credits. At the moment, there are different practices across our faculties. So I would start off by comparing the different practices, and I will find them in the faculty examination convention which we publish every year on the web. Then I will do some research to find out what the university used to do, I will go back to old committee papers to find out why it was changed. I will do some research on the web, finding out what other universities do. So I will pull all this information together, and on the basis of it, I will think of some proposals for possible ways forward, but I don’t know what they are yet. And I will fill all this in a paper form, and the committees will then look at it.

What are the challenges or difficulties to incorporate information literacy into your work?

I think the challenge, a key pin on top of the amount of information that’s relevant because you know there’s tons of bit out there and of course a lot more of bit accessible, within the media accessible. I mean I can sit by my desk and get the whole of all kind of things but the danger is you can just get so side-tracked or keep so much information. For example, if you take something like learning outcome, which I mean, when the department proposes a new module or a new degree, they have to set out what they things students will learn in terms of skills and knowledge by the time they finish the degree. There are a lot of academic literature out there about how to write them and how to link them with the assessment that sort of thing. There is a vast of literature, and you know, you can spend a lot a lot of time looking through them. So I think that is a challenge. Really sort of being able to evaluate information there to know what’s relevant and what’s useful. With the advent of IT,
there is a big move towards transparency. I think the ability to make things available makes such question more why we don’t make something so thinkable. I mean of course the whole legislative development as well is associated to that in term of freedom of information. When I first worked for the university, there were all kinds of things that it just wasn’t felt appropriate to make available to most people in the university. That has changed enormously, and I think the question now is most information can be made available. So that presents great challenges to us because obviously we deal with a lot of this information and actually the process is making it available. It becomes quite challenged because the volume of it.
**Interview 3**

**Could you please describe the services this division provides to the university?**

The public relation office is a neighbouring and supporting office. We help academic departments for whatever reasons or whatever purposes. I do a lot of research for the honouring degrees we put together the orators to do the speeches for the degree ceremonies, we get orators are public speakers, you know, senior member of the university, we will deliver about the graduates.

**How do you deal with information in your daily work?**

I get all the cuttings here, press cuttings. We use an agency that scans all the papers for us everyday for mentions of the university. It might be somebody who is appearing in Octagon I decide which is to archive. Because we put together the archive for the university, we have a big photographic library here. We have a photographer, so anybody who wants to photograph can come to us. We can take the commission photograph, we store them, we keep the archive, daily archive, and if you like what is happening and that is part of it. At the moment the university will be 100 years old next year. So there is a lot of work to do with that. There is a book being written about the university. This office is involved in production with that. So we are writing the book. There are all the archives can be used for, all the publications having been done, the story and things happened. The agency has pick readers to get the information. They gather it in and send it to us. These are everything coming from publications, titles of stories. We are keeping in touch with what is happening with the university. It can be anything, such as cancer research, anything. So I have a lot of micro-copies of them. The agency looks for the University of Sheffield. I don't know how they do it. We also have an electronic headlines coming around about universities, not Sheffield University, all universities. So it is more and more next door for media. We used to do media. So we get the electronic scanning the university. We are all kind of this. We are next door. They will keep them for years. So anybody wants to know anything about the press. They can rent them up. Say, how many cuttings about my story. They can tell them. They (next door) just keep them temporarily. Then I will get it all back and I will go through it. I have decided what I am going to keep. They have to be indexed. It is a very big job indeed.

**Can you say something about how you decide they are relevant or irrelevant? Can you give me an example?**

I am much interested in all of these stories because I am not interested in what the broadsheets have to say about it. The main newspapers are not … ones. So I don't want to use it. I don't need it at all. I know this is about Sheffield University. The research and report suggest. You can see this is interesting. The research is going on
electronic engineering. They have to develop. There is a lot of research at the moment, they helping with the Olympic team to improve their bicycles. They start to design the better equipments for people to use. So it can be seen from the cuttings. So I don't want to know what is going on the Octagon, what group is playing, that is not important to the university. But in fact it is about what is happening at the university. This is previous Vice-Chancellor. He was a very important man and he died in his 60. So we would like that reference. I decide what’s going into the archive. I decide it according to my experience. I think I save less now than I used to. If it is in the paper like Daily Telegraph, which is quite good, you get mentioned an important newspaper like that. Then I do keep it. But if it’s a little mentioned, I won’t. I do keep more than I need. But when you look through the archive, you should do get very interesting picture of the university, stories, things happening. If you forget about, it is interesting to look back.

**Generally speaking, I mean, personally what does information literacy mean to you?**

I think it means being able to enjoy about, to find things out. We need to know how to find things out, usually very quickly. You need to be accurate, so you have to check out its source. You can’t just believe what you read in the paper. So you need to go back to source. So we have to get information very quickly or we go to the library, we need to get the theses very quickly for somebody, for one of the orators, for somebody who’s a student here getting a degree, and they have the theses we are going to find it. So people can ring and say, can we borrow this, can you give me that?

**Can you say something about the process you usually go through?**

Write report, newsletter. Whether you bring material to work from or whether you have to create, it depends. I have information, principal material from the professor, and I will perhaps have to talk to him, I will perhaps be practical things, about the story. So I can combine them, and the professor then say, ok, then it is published. That is what I used to do when I saw an article. Or it might just be an idea you got something you saying. It is a lot of creative. So you can’t research printed material, the information for the extra created stuff you get it back. Keeping changing shape. You know the job is not we never know what job will be in this office, like accident, emergency, except with paper and not body but unpredictable, we never know.

**How would you describe an information literate person or effective information user?**

Just somebody who knows how to find out where about, you know, electronically and verbally, find out information we may need. And, lateral thinking. You know, you have to be able to just see something that might give you an idea. So you have to
use your brain and think ground, you know, should come to the dead-end, think in different ways you might approach it. It is about lateral thinking I think is important.

So now can you give me an example when you have to deal with information effectively?

Probably one thing I have to do is to find out information about the honoured graduates. It can be just got from the CVs. This can be nothing much interesting on the CV to find out information for writing an oration. That’s we have to do natural thinking, you know I use a lot of Google and then go to learn the papers. It is how we use the groups well finding it quite interesting and quite critical. It is just a CV about engineer and nothing much more, and you need to get a lot of information from this. This is the start. But sometimes you even get nothing. So then you have to go back to the theses, or perhaps go to the people who know them. You have to go through a corresponding process to find them It is very particular request. No body in the university does this. Not many people in the country do this. You know it is not general to do, but it is the one when I have to find things out.

So could you describe your experience that you have tried to be an effective information user?

I just have been saying about finding out about the honorary graduates and finding out all the materials I can find out then. That’s I usually uses them all. But sometimes you need to find out information about the particular what helps know you, or which universities there are. If they are there, you can use it to find out anything we need to know very symmetrically, we have to be accurate in this office.

Accuracy is very important in this office, do you think this is the most important characteristic of the information you provide?

Yes, I think so.

So which information skills you think are required in this office?

To find information quickly I think is most important…. 

Do you think there are any challenges to incorporate information literacy to the job of the staff in this office?

I don't know. I don't quite understand how to relate them.
Interview 4

Could you please describe the services your division provides?

The marketing department is very new. It didn’t exist until around 12 months ago, just over a year. Our services really exist strategic qua. We work with the central university through the vice chancellor, the registrar, and the management structures, to ensure the university has a marketing approach. We try to work with the management of university, for instance, with doing work on branding, on visual identity, on running out a website content management system across the university. So a lot of work we do is centralised, we try to be strategic. So it aims at giving university competitive advantage, and it aims at trying to make university more customer-focused. I mean, talk about customer, a lot of the university’s departments, they prefer to students we are doing students we deal with business and search departments. But by having a marketing viewpoint, it means we are offering the best service, and hopefully the best university. In terms of more direct services, the most important thing try to be strategic in our approach, but we also work directly with department to offer them sort of hearing now kind of services, so say department is producing undergraduate recruitment brochure and a leaflet, try to find an example, and what we might do is to provide them consultancies services, provide them advice or take what best practice, what should have in the leaflet. In other occasions we might actually write the leaflet for them.

Can you describe your responsibility as a … manager?

I am not an IT person. We have the CICS, the corporate information computing services who perform the role of being IT department. So they ensure that the website is always operational and the technology is there. What I am concerned about is what goes on the web pages how content is written, how is represented. So my role is again, strategic across the university for instance, the introduction, the content management system is key responsibility of mine. Again, this is the project happening before around the university, but from the point I arrive are able to implement into, how we get out into academic department, get in and how to write the web, giving them advice and guides to produce our own website to help them. We also do work very closely with individual departments, we provide the training and if someone comes and says we don’t think our website is very good, can you help us then we try to.

How information is used in this division?

Sorry I am not clear precisely which information do you mean? As to the information I need in my work, Things like information need a clear introduction of what we mean to be doing. So the objective of the department, the objective of the vice chancellor, how we receive that information is really sort of … verbally, I
suppose really. The vice chancellor would meet with the registrar, or the senior management group, that my head of department, would meet with the registrar, and also with those groups performs the top level management of the university and their instructions of what need to be achieved. For instance, the content management system, within that we’ve been told to focus on academic department not administrative department, not the central pages, not any particular audiences, but getting academic department into the content management systems services. So that is the instruction coming down verbally in that way. If we look at the content management system project we are working on, my team need to know information how the system operates, so we work very closely with the cics, and they have a web master who produce number. so from him we have regular meetings once a week but also contact on the phone and using email, to get to know with the system, to report books. Does that make sense?

**What information literacy mean to you?**

Interesting, a good question. What does it mean? I don’t know it’s not a term I am familiar with. It sounds a bit sort of academic, sort of specific. I am not clear precisely which information do you mean. I am supposed to need to identify which information is needed. We always try to and base on customer feedback. So one of the teams of the department is marketing research team, at the moment conducting research that covered staff, student in a very wide range. It just compares, say, what member staff in the academic department, someone who might think the reputation of the university, compared to someone living in Manchester considering which university to attend. One example is, if I am working on our prospects, I will consider, in the Chinese market, people will look globally, in Malaysia, people will look at American universities, English universities. If I need something I don’t know much, I will use Google, because it’s very easy and straightforward way in finding out everything. But usually I don’t go beyond third pages of the searching result, and I try to be intelligent about the term used for search, try to use a combination of terms. With the final search results, one or two results, maybe I will go to ask my colleague about them. Another thing is, we need to the information accessed to easily for students who want to know our university. We also do research for the printed prospectors, to show what information they want to see there. With the online prospectors, we have a feedback form. We also conduct use testing of the website. We would set scenarios, asking students to, for example, find information about medical degree but we don’t tell more than that. We just give them computer show them the home page and we note down where they struggle at the end we will interview them ask them questions about how they found it what we identify problems. Then we can find the problems with the layout of the undergraduate prospects, and we make some modifications

**How would you describe an information literate people?**
I think information literacy is something happening in the modern workplace. You know, you’ve got a computer on your desk, and you do rely information and you got email coming in as well. It feels like, you know, I’m sure it’s something quite…existed process going on, because you still got old-fashioned, you still got piece of paper, you still get telephone, you still get the in-tray, but you get the computer as well. While in the past, perhaps you need to write a memo, or a letter, and it goes out one day. It seems to slow the kind of things down I think a lot of people, you have to have the kind of, basic level, if you like, what I guess an information literate person, one should be able to, kind of take the information, make decision about it, make judgement about it in order to manage it effectively, I think it’s the most difficult task. I think it’s very easy to remove your focus from what you should be working on.

**What information skills are required in your division?**

I think, I just have two member staff working as web editors, while more widely in the department, we have designers, publications, press officers, it’s more diverse. I think you need to have very good level, particularly in this department, literacy, the ability to sort out, every good English. I think you have to have an interest in higher education, its news, reading the news papers, keeping informed of the current affairs, such level of things. I think that’s where the overload comes from. I think they are should be able to manage, receive or request information from so many different departments. I think it’s not like sort of finite skill which is kind of … I don’t know. Maybe you can give me some prompts.
Interview 5

First, could you please describe the services your department provides to the university?

I am mastering some university’s directory development and my office set up two years ago and is quite a new office. Purpose of my office is to look after former students, the alumni. The university has about 120,000 former students in 130 countries, and they range aging from 21 graduated up to people who are 100. We keep in touch with that group of people. Now obviously they are resources for the university, because many of them have very fun memory of the university and there are many ways they can help our university. They can help university in recruiting students, in promoting the university, and acting as ambassadors, who have professional links and contacts, and many of them will make donation, voluntary donation to support university, to provide scholarships. So the university has to keep in touch with these students and it’s very important.

What is your particular role in this division?

My role is the … of this office. My office has seven staff dealing with these responsibilities. Obviously, each of these members of the staff is specialised in different area of alumni relations. From obvious the university’s viewpoints, it can raise additional funds like American universities do. That is another income stream for the money of the university. So since we start we have generated one and half million pounds or additional resources for the university. Some of them can be cashed, and some of them just people putting something in their will when people have a right weal before they died they could decide how the states were used. Many graduates might remember the University of Sheffield gives them weal. But the money perhaps goes to scholarship what support for the building of the department.

How do you deal with information in your work?

First, what we have to do is to know where our alumni are, because the universities can’t communicate with their graduates to find out where they are located. So we have to do a huge amount of work over last two years and try to tracing our graduates. Now we have a small database having some very basic information and we started to send out the information in hard copy magazines. We have sent questionnaires. We have set up the websites. We sent out emails. We now manage to have confirmed information for 25,000 graduates to deal with, a great deal of detailed information about where they live in, what they are doing, how much they are earning, what are their interest thought, were they are students or not. We also started to go through a lot of professional directories. So there is a lot of information in the public domain, in the publication like “Who Is Who”, which is a directory of leading people in the UK or people today, and we have gone through each of these directories using CDs,
putting in the key words, “University of Sheffield” or “Sheffield University”, to identify these people. We have been in things like the university’s calendar, this is the rule book of the university, it includes all the staff and also where they have studied. That enables us to pin out more Sheffield University graduates. We add them into our database, and then use that information. I have information manager who is a key member staff in my team and his job is to ensure we have good quality of data and also we increase the quantity of the data we have. So if we start it from the basic we will have very limited information of the graduates, their names, the subjects they studied, when they graduated, they want to move it from the academic address, the qualifications, what jobs they are doing now, their level interested in the university, and his job is to process who is the team student labour, raw information for questionnaires in the system via the Internet. So that can go through internal database, and his job is also to do research almost people. So if the Vice Chancellor would be incident by chance to visit Hong Kong, if he might ask me how many do we have there, what subjects they studied, what is their age profile, are there any who are particular interested in, who are particularly senior? If we might report someone who is very senior, he might ask my office to produce a brief thing, you know, one side or all we know about Mr X or Ms Y.

Ok, personally speaking, what does information literacy mean to you or you can say some about your opinion about effective information use?

There are so many sources the information now are available. One has to manage that process because it’s very easy to be diverted by the information that is not particularly helpful, and my view is you need to do, recheck quite broadly to collect information from a whole, you must pull it into one source which can provide the central resource for other people to use. So the example I will give is, before I started in the university certain department has their own databases. So all these information is scattered all over the university in different places. But there isn’t one central source you can go to, that is what my office is trying to do. So information literacy is being aware, you should be, er, that the information has power, and one should compress that information into readily accessible sources, and obviously that has to be done electronically. But it has to be a sophisticated system so that you can have the information to form a cake, and you must cut the cake in different ways, whether it is based on age, professional area, geographic location, city, subject, age, sex, all of these things, and computer would be there to help do that many times over.

How would you describe information literature person or effective information user?

There is someone who has prepared to embrace information technology, and who has a curiosity that they want to keep on checking information where they can. So the first an information literate person would do is to go to the Internet, to go to Google search, just to see what might be out there. Subsequently they might go to a
directory or to a library. But first they will go straight away to the Internet because there will provide them very interesting leads.

**Can you give me an example you have dealt with information effectively?**

Yes, I will give an example then. In October 2002 I visited Hong Kong for an alumni graduation ceremony where they have Hong Kong students who have been welcomed into the family of alumni and I met there someone from the British Council who advised me one of our alumni, a man, who owns a company called “Good Designer”, who is a very successful Hong Kong entrepreneur, and he was been used in British Council promotional material. Although in Hong Kong for two days, I wasn’t able to meet this graduate. But when I went back to UK, I used the database to find out more about him and use the Internet to find out a lot more about him. When I next time went out to Hong Kong, I arranged a tracking down and I interview him and invited him into our alumni events. The university’s recruitment office has a DVD to recruit student where they have little films of students talking about what current lives are alike. They now want to interview some alumni for them to be able to say I studied in Sheffield, this is how I viewed my degree, this is what my company is like, and they also hope to interview him for that. So from just being advised by someone one of our graduate students is doing well, we now use that information to get to them better and to use our own information channels in order to stretch the university can do

**Right, can you say something about your experience you have tried to be an effective information user?**

Yes. You have to train every member staff has to learn themselves to do it. It is something to come within them to realise using information properly enables them to make something happen quickly. Like just mentioned going to the Internet first rather than walking across the library looking through the books. They should be using the tools to make it easier. In the past, they publish hard copy volumes, “Who Is Who” and “Medical directory”, now you can get on the CD. So we start to be spending extra money on getting on the CD so you can use it properly.

**So what do you mean by use the information properly?**

Get information quickly, get information succinctly. You don’t have to write a report 50 pages long. You can write a report that is 50 lines long. And actually it would much better document than the one of 50 pages long. So this is the problem with the university. They tend to like words and they tend to use too many words rather than actually reducing it to a small number of words. So I am always very keen, for example, in my office, if I am writing a report for the Vice-Chancellor, for the head of the university, I would say to all my staff do it on a one-side paper, don’t make it 50 pages long, and we made it. So to summarise information I think is very
important. So much information is out there, we don’t have the time to read it. So a good example that is with a newspaper, if you wish to read every single word in the newspaper from page 1 to page 30, it would take you 2 hours or 3 hours. People do not have time to do that. So they would dip into information. Therefore, to get your message, you need to make it short, short term sweet. In English, a word called KISS, keep it simple stupid, which is a nice one to say there is no you can make it complicated.

So as far as the staff in this division is concerned what information skills, I mean, in addition to just what you have said, what information skills are required?

They have to have an extremely good memory, because while we do have computers, we also have our own very computable brain. So they have to be able to think literally. Sometimes computers can’t do that where human brain can. Computers works well then you ask them specific questions. Human brain can work very well when you are suddenly making connections between different pieces of information that might together make something very interesting. They have to be extremely good at spotting pieces of information, even when they are not working. They might be listening to radio at home, watching television, reading a magazine, anything like that. Even they are out of the office, they are all able to be thinking in a professional way to pick up information. So their job should be 24 hours a day. Difficult, but it can make them professional and spot something that is interesting outside the work. I would very much hope they would do that. So I can give you an example that one of my team is very interesting in football, and he spot out one of our graduates is a football manager, in a very successful football team. But unfortunately he was just sacked from his job. But the member of the staff told me that he has been given 1.5 million pounds payoff. I have picked that up. But obviously 1.5 million pounds raises me to get to the graduate better.

So you have just mentioned human brain. I think that sounds quite interesting. Do you just refer brain to the memory?

Other things within the brain are they have to have very natural curiosity to want to find out more, because my office is dealing with people and people have a whole variety of different reasons for why they might want to be in touch with the university and support it. And that we have to have extremely good understanding of human nature. And obviously, with the alumni, they are graduates of the university until they die; there are links to the university. They are very different in their age 20, from the age 40, or 60, or 80. And therefore it’s a long-term relationship between these people in the university. At different point of the life, they may have completely different views about what the university can do for them. So my staff has to be able to relate to people who are in all age ranges, different nationalities, and also religions. Therefore, we have to be very flexible in how they use information.
they got because what might be proper for someone from Muslim country, might be completely improper for someone from catholic country.

So do you think there are any difficulties or challenges to incorporate information literacy into your work?

In my office I have been very pleased to be able to have it to be incorporated. The problem would be we have so much information. The problem is the quantity of information coming through. So we would everyday be receiving press typing about graduates. Some of this information will be obviously very interesting. If the graduate wins the Noble Prize, it would be interesting. Some of that information may be very colloquial. It may interest people who are in small area. For example, we might see the graduate has got married. Useful to know, but it is not particularly a shattering story. You have to be able to sift the information coming in to what is, where it should go. That would be a big problem having huge quantity. So when we send out the questionnaires, we will have 25,000 questionnaires being returned. This is a huge amount of raw data to be processed. In order to help to do that we fast tracked certain people so there will be certain countries that will process quicker than others, because that was used in another part of the university in the recruitment. And if somebody who earns a particular large salary or they want to make a gift to the university, or they want to leave legacy in their will to the university. That information would be put into the system quicker since there is such a simple response. So I think you have to qualify the information coming in to work out, what is an immediate use for the office. So you can’t treat everybody in exactly the same way. So that is the problem with the quantitative information coming in.

Ok, that’s all. Thank you very much.
Interview 6

Could you please describe the services your division provides?

I work in the department of human resource and we are support department. We provide all human resource-related services across the whole university, and that includes personnel services such as contract administration, discipline agreement, advice and guides on those issues to managers. We provide staff recruitment and selection service. We have an equality challenge unit, pay and reward division which deal with job evaluation, and you know, salary and things like that, and grading issues. We have training development through the staff development unit. So that’s the services we provide.

Can you tell me something about your responsibility?

My role within that is I am the … through sort of policy and systems. So I research on employment registration, and base on that I develop hr policies, and I also manage the human resources system service. The system is where we store personnel information about all the staff, like day of birth, salary, address and all the contractual details we store within the electronic system, which is a massive database. I manage that area as well; she’s the IT person in this department. I manage her, but I am not the IT expert

What information do you use in your work and how do you handle it?

The two key areas of information I deal with are staff data, and probably employment legislation. The way we use employment legislation is that obviously we collect it, check on it, understand it, and then use it to base the way we manage staff in the university. So revise policies based on the legislation for example, they are bringing in changes to the issues to the discipline staff, the new legislation in October bringing in staff issues, disciplinary procedures, which mean we need to look at it, analyse it and then amend our existing disciplinary procedure according to the new regulations. So we look at the new employment legislation, and amend or introduce new policies base on it. We’ve got a dedicated human resource webpage, where all the information we communicate is essentially located towards our policies and procedures. At the moment we are reviewing the webpage represented, and we’ve got a group who will look at it and discuss the way we presented to make sure it is presented in a use-friendly, accessible way to all staff. Obviously we use personnel information. We collect information from staff, store it in our systems, and then we monitor it basically on the behalf of our department. We have contractual information like what contract they have, temporary or permanent contract, the salary level, then we need to give the information to the finance department, they pay individual. So any information about the individual is stored on a personnel record, which is a paper file, and that’s kept in the department. Any
letter, for example, is sent to individual, if it is contractual letter, or it is a disciplined, or they have a salary change, there will be a copy of the letter on the file. But we also kept some information on the electronic system.

**What does information literacy mean to you as a person?**

I have thought about that, for me, I would say that information literacy would be able to understand and use information effectively. Find information you need, analyse it and be able to use it for any purpose you need to use it for.

**What does it mean to you as a personnel officer?**

In my job, to be information literate means I know where I need to find information from, so I search the web, the government pages that tell me about employment legislation, I need to be able to know where they are, to check on regularly and to analyse that information quickly in order to tell senior managers in the department if any changes need to be made and if there are other resources of information I will gather it.

**How would you describe an information literate person?**

You need to know what information you need, where to look for it. You need to be able to read, to analyse information, to condense that information to make it understandable either for you or somebody else you will communicate on.

**Can you give me an example when you think you have dealt with information effectively?**

Within this role, an example would be I need to write a policy on what we will do about the research misconduct. There’s somebody with doing something wrong, lying about the result about the test or something, we have to write a policy of how we will handle any allegation of the research misconduct and we didn’t have in the university at the time so what I did was, I collected the information from the research council, information they have about how we should be handling allegation and I looked at other universities, to see what policy they have and I got all the information from the web, I took the best ideas from all of them, and develop our own policy based on that information.

**Can you describe your experience you try to be an effective information user?**

I found that there is more information than I needed, so I then have to unpick what was the most useful base, and discard, throw away the one off use because obviously I was looking at lots of different policies and some of them I didn’t think are very good or they would suit the university. So I have to discard information that wasn’t
useful. I have paper base journals I receive, because I am the member of institution of personnel development, which is a personnel professional body. The majority information I look at is from the internet. The reliability of information depends primarily on the source rather than its format, for example, information from the government is important, more important than the institutional policies, because although they are interesting and possibly useful, we don’t have to do it whereas to the government legislation we have to do with it because it’s the law. So I prioritise basically on the legal implications for the university.

**What information literacy skills are required in the hr department?**

I think people need to be able to find information quickly. Obviously there is more information than you can deal with, so you should be able to find information from the limit amount of information you are looking at so that it is manageable to find information, to discard what you don’t need, being able to do that quickly, confidentially, because a lot of information we hold about individuals is covered by the data protection act, privacy laws, so we have to treat all the information with confidentiality. And sociality as well because a lot of information we have is what’s wrong with people, information salary information which is very sensitive, so keep them all confidential. And, in terms of information management, it is handled generally by our computer information services because they lead on data protection and free information act and all kind of management information and the legal side of that.

**What are the difficulties or challenges do you think to incorporate information literacy into your work?**

Time constrain, in term of being busy, having a lot of work to do, having to do it fast. And there is too much information available because of the internet, I mean, there is no time to look at all of it, so the challenge is being able to just look at the information you need to look at and being able to do it quickly.
Interview 7

Could you please first describe the services your department provide to the university?

My section is business system section within now the resources division, originally a part of finance department, founded last year. The finance has emerged with the accommodation campus services, a big division that includes human resources, which exceptionally students accommodation all the central catering and the finance functions. Finance is looking at the whole university account, business account whatever. My role within that is to ensure at all the computer systems are doing work you need to do whatever area department. We are talking about so I worked from the payroll system which are my system to paying all the staff for solve the billing students, for the accommodation and also residents solving accounts assistants, to assist final customer, I mean university solving central accounts, whole range different assistants, and I gonna make sure or my team make sure they are all working, they are doing what we need to do to the university.

How do you handle with information in your work?

It's generally to do with, I suppose two actually. One is to do with people whether it is staff or whether it is student or business applies customer services, such information surrounding dealing with account, sort of employee paying or students taking money off, for a business area where buying thing from or selling things to, and also it’s the general information surrounding the budget areas of the university, such as research budget, research account, so across all range different information within the business areas. (So all these information are maintained in the database?) Yes, yes. The university’s administration generally works on one database, Oracle database, so all systems work from that. But we do have other one as well. We try to put everything in one place, but it’s not that tidy.

So the information you deal with not only includes the electronic resources, but also the printed resources?

Yes, but less and less. We are trying to get away from them. There are a lot of paper records. We do keep some documents committing to the university. We have to keep certainly for time purpose, for legal reasons, or for Inland Revenue reasons. For instance, main invoices coming out from paper provides something we have to purchase invoice and keep them for so many years for tax purposes. So we have to sort these, actually we generally put them on to I think lonely use microfilm behind the time. We haven’t scheduled them yet. But we produce microfilm storing them, and we do keep records like that. But mainly electronic data within the database within different sections in the department keep them records.
Can you say something more about how you deal with information or give me an example?

What I would like to say is the simplest example is the purchasing invoice. Well, I suppose the whole process around that is we raise somebody within the university raises the purchase order to supplier we want to a new computer, we have to write the purchase order and I am writing the purchase order at the moment for a new system, computer system. So I produce some paperwork, which I have to send off to the supplier to say we want this. They deliver the computer system whatever it is. Then they send the purchasing invoices the documents we receive. Generally to receive in the department and then we take a copy and send on the documents to central finance. We use the documents to key into a computer system, the information, and then we spend time we pay the supplier the invoice amount. One of the issue, one of the project is we want to get rid of the paper we will be around. So we are looking to try printing the documents scanning so the document is scanned first so we have electronic records when the invoices come in. at the moment we won’t say we have paid it, paid the invoice. We microfilmed and when we destroyed the invoice we keep the microfilm record.

What does effective information use mean to you?

I think one of the problems I think I have in the university maybe also in other organisations that people want more and more information all the time. But they don’t necessarily know why they want it, they just want more and more information, rather than having information focus on particular business decision. I think, an important aspect, that is in my job is trying to encourage people to focus on what they really need to do their job, really, and so to, rather than float people with excessive information that perhaps they don’t really need where is not relevant to their business decisions, just trying to focus people or focus the users on the idea what they really need to support their decision-making, and trying to get information focused on the particular area.

Ok, can you give me an example?

Many of the senior management committees, when they are asking about either the student numbers or other information relating to every expenditure, they want to analyse in a lot of different ways, putting onto diagram, charts, whatever. But really at many times, I want to question why they want to see information displayed in different ways when we really could be a lot more precise about how our delivery actually supports the decision needs to be made. I think there’s general problem in management feeling that quantity rather than quality of the information that they receive.

So as far as the staff in your team is concerned what information skills do you
think are required?

I think it is important my staff and myself understand the business practice, the business needs. So we can advise people to what they might need or perhaps suggest what they think they want aren’t gonna to be really very helpful to them. It’s all sort of debate because not everybody has the same opinions. But I think it is most important that my staff understand what’s going on business. So they can actually give advice and support to the rest of the department or the rest of university. So we can work with the people outside the department. And I think there’s a lot of much intervene to daily contact with various people in different departments. We spent a lot of time talking to people around the university. It is often difficult to start with to understand why, well, you have to eventually try to understand why people think they need to understand certain aspect certain information, and you have to then get into interview, not formally used to actually get to know people and talk to problems we look what’s going on that department, so then perhaps be able to understand more to know what we need and might be needed. Therefore we can hardly supply and suggest alternatives whatever, whatever aspects.

How would you describe an effective information user? I mean, general speaking, not just your work, related to your work.

I think the most important aspect you need to stand back and really think about what you want to achieve at the end of the day, and then make a decision about what can help you achieve that. So that is clarified thought really wanted rather than a really straight way to gain much information or as much as you can. Just you need to decide exactly what better support you need to do.

I see. How does your work concern with information technology? Do you think information technology relates to the effective information use closely?

I suppose probably information technology… it can be a bad thing in that it can provide you with so much information that you are a sort of swamped. It can also be encouraging you not just step back that think about what you really want to achieve, because it can be quite easy, to just sort of download information and subject really focus on about what your objectives are… I suppose it should play a supportive role, and say, sometimes people should not get carried away with what IT can do for you. I think it should be really just that support what you need to do to do your business, you know, focus on business role.

Can you give me an example you think you have handled information effectively in your work?

We are in the middle of the project at the moment for redesigning, perhaps the way the university handles its budgets, which is then we got a tool now for manipulate
and looked for helpfully how to use that software system. But we are standing back really taking an objective refused how we want to switch down the university’s accounts, restructuring the department accounts, restructuring central accounts, and to provide concise information for planning business purposes. It made a problem in short term loan at the moment. So it’s not really getting carried away with two with fantastic it can do what we need to very precise that was we use info. So I actually can say I think my team now currently working on redefining the structure of the accounts with the use the department themselves and in area of managing accounts area to actually turn up with the concise information break down the support university budget planning practices.

Can you describe the experience you try to be an effective information user?

I think it can be done to simplicity really trying to generate a concise simple of view of a situation, to make a decision base on that information.

Right, ok, do you think there is any challenge or difficulty to incorporate information skills to the work in your section?

It is general difficulty in trying to focus on people, customer if you like, people we work for, try to support what they need rather than what they want. So we have conflicted about not always doing what people ask us to do, and we have to question why people want that and then perhaps suggest alternatives we feel they are not actually asking for right things. So it’s a matter of discipline and respects our opinions and our suggestion to be taken seriously.

Ok, that’s all. Thank you very much.
Interview 8

Could you please describe the services your department provide to the university?

The student services department principally provide services to students, front line services like student registration, student record, issues, information desk for student requires, and also we offer support services like financial support, support for the disable students, international student support, cancelling and university health service. And we also provide support for staff in academic departments who are in turn supporting their own students. So we provide training to academic staff and other staff in the academic departments, and information to help them to support their own students.

The training may be using the information system we have, where the staff can get the details of their students for example. Maybe a new member of staff in the departmental office who doesn’t understand much about student services and student support, we provide training to help them do their job. We work with colleague in the human resource department, but we delivery the training.

What is your role in this division?

I am the … of student services, first of all I have operational role in managing three areas of the department’s business- an office called the taught program office which is basically the central of the student records function for the university; an office that looks after the ceremonial events called the ceremony office, organises all the degree ceremonies for students but also other ceremony events things like special lectures that we run on high profile event. Another smaller unit called the service quality unit which focuses on services relating to students’ right on the one hand and responsibility on the other hand. So for example, the student charter that the universities have, that unit looks after the student’s charter, on the responsibility side it also looks after the university’s committee, and that’s the formal body which responsible for the case of student’s MIS. So I get the operational responsibility, I also work with the director of the department in managing the department as a whole. We have a hundred and fifty staff in the department, so there may be personnel issues, structure issues, and we meet regularly and discuss those in the agree the way forward. And I also have a series of particular responsibility across the department, for example, I am responsible for staff development within the department, the planning system, working with the heads of the different sections on their own plans for the next year, monitoring those plans how well they will achieving their objective and so on so forth.

How do you use information in your work?
What sources of information or what media, or do you mean both? Well, within the office, there is a lot of information relating to individual students, which could be paper-based that student may be writing to us, or e-mailing to us, asking us to do certain things. Then we look after the central students’ records system for the university, so the staffs in this office here are maintaining 21,000 individual student records, but we don’t look after research students’ record, that’s a very small group. Each of the records on the corporate system contains many pages of information, about student, academic related information, assessment, modules, results, degree award and so on. We also delivery quite a lot of information on the web, my job and my colleagues’ job involve searching for information on their website or keeping the website up to date with the information we provide.

Because I have a staff development role, I am involved quite a lot in developing written materials for staff in doing their job for example, handbooks for members of staff so that they know the different activities they are responsible for. And then we also use the network to develop template and standard document for staff so we have a whole area of a shared drive document folder on the network, so the different member of staff, for example, need to write a letter to a student about something, they can go to that shared area, and they just put the student’s detail in and so it’s all standardised and the quality is assured. I think that’s the broad area.

We also get a little telephone and personal contact, that’s also the information, isn’t it? In this particular office, we are not front lining query appointments, so we only get student turning at the front lining counter, if they are referred to someone else, or they have been very clever to actually find us, because it’s not easy to find us—that’s deliberate, because we have a front query point in the student union. But the student presents the counter I suppose the information is given verbally. That’s the verbal information, isn’t it? We get a very few now formal letters and correspondents, which, probably when I started in this university ten years ago, most the correspondents are by formal letters, or written memorandum, we didn’t have email while now it’s much more email and telephone conversation. We also need to find information ourselves. Last week, for example, we were thinking about some potential structure changes within the department, perhaps we are aligning one or two sections, and one of the things I did then was I searched, compared the university’s websites, both in the UK and in the United States, to look at the way in which student support systems appeared to be delivered, then I was able to identify series of websites that would be useful to us and I sent them to the director and we are going to discuss what each of us think about those in a couple of days time.

What does information literacy mean to you?

I guess it’s perhaps something that might have to be used in professional circle like yours for example. I mean, I suppose there something what is getting at is in a working environment, people being effective in dealing with the range of information that they are presented with. So I would like to think, for example, a
member of staff trying to effectively handle information that they receive across broad ranges of media. So we need to be employing, for example, staff who are able to relate to individual face to face, understand the information they are being provided with, and know how to respond appropriately we need people who can do the same sort of thing over the telephone, we need staff who can express themselves clearly and in writing and receiving information particularly from students it can be quite difficult for students to express clearly what they want, what they asking isn’t what they need so we need staff who can interpret their needs, as opposed to necessarily they presenting problem. Students will frequently present an issue and ask to do something for them and you need to investigate the thing far more deeply and then you discover what they asked is not what they want at all. What they need is something quite different. So there’s a certain amount of invalid interpretation, and almost it’s more like investigation and detective work that we need staff to be able to understand. Then I suppose very simply to able to presenting information to inquiries, for example, to send an email to say you need to look on page 45 of the student’s handbook and you will find information you need there or go to this website and give the person the link in the email you will find what you want, download this form and do whatever, come back to me if you need any further help. So in fact sort of effective use of the information both on the receiving and giving information to enquiries I think it’s what we need.

**How would you describe an information literate person?**

It would be pretty much like what I’ve said somebody who is able to make effective use of information they need to use in their job, somebody who is comfortable with a range of media, but I think particularly our work it can’t be somebody who is just, for example, very good at searching website and finding out information and dealing with that sort of media it also needs to be somebody who is able to relate to people because the information we are providing, using and receiving all relate to individual students.

**Can you think of an example when you have handled information effectively?**

A good example would be the formal hearings we run for student. This might be, for example, students who are performing very badly in their academic programs. A student’s case is reported to the faculty, and it’s part of this department, which then responds to that information, and handle that matter by way of hearing the committee of panel of academics, who will consider the student’s case and make decision and it would involve collating a range of different sources of information so at that committee, we will have that student in person presenting their case, we will have somebody who comes from academic department concerned, also speaking, we will have written information, summary of the student’s academic
record, written something to the committee to say this is what I think about my program I want to continue doing it I don't want you to exclude me; and written judgement from the academic department. The panel of staff members considering the case will need to be effective and adept at drawing information out of the students. Students will be able to speak, receive questions and answers; there will be someone from this department recording what’ve been said, either on the computer or in writing. A decision will need to be made, the panel will need to discuss what happens, then the decision will need to communicate to the students formally in writing. Forget all of that write, and do it well and effectively will assimilate all that information, the written information, the student’s record, the verbal commentary. We are keeping a careful record, and giving the decision to the students. That’s quite a complex exchange of information I think, if we could do it effectively, which I believe we do, and the outcome will be both good to the students and the university. The students feel their cases have been considered carefully, they have the opportunity to all the information, to speak, to listen to, and they ultimately they get a clear notification of the outcome.

Can you describe your experience of trying to be an effective information user?

Ok. Maybe I can say something about the use of e mail. I think the exchange information by email is the way which you can draw more details easily out of somebody on the written basis. The difficulty of the letter is it’s the fixed document, isn’t it? A piece of information that was received, probably written by somebody quite sometime ago, and you then receive it. If it doesn’t give you all the information you need, then you need to go back to the person, perhaps again by letter or over the telephone. I think email has transferred that sort of rather delayed exchange to a much more interactive exchange, and you can also have a record on it.

What the information skills do you require your staff in this department to have?

In this area of work dealing with student administration in particular, we need people to be skilful in relation to the university’s specific databases of information about students, so the corporate information systems I was talking about. We need people to be effective in using that system, maintaining it, drawing information from it and that’s the training we have to provide here because this system is only used in this university. So when we recruit staff, we expect the staff to have that knowledge. What we do with is a way of working, I suppose, which is open to the use of that sort of systems, we then want to employ somebody who is generally we want somebody with good IT skills. And then I would also expect the personal human interaction aspect as well and the exchange of information in a humane way when students are not necessarily asking the
Do you think there are any challenges or difficulties to incorporate information literacy into the work of this department?

Well, I suppose staff development is in general a challenge. We play such an emphasis here on developing our staff, making sure that individuals are competent in their roles they have. I don’t see that sort of thing a particular problem. It’s just a constant. We continually need to make sure that staff skills in relation to information literacy or anything else, continually improving and brought up to date. So we have all the time staff being involved in a range of staff development activities to enhance their skills. We have a formalised structure which involve annual interview with individual members of staff, between them and their managers, which considers their development and results in a written records of a training plan for their next year, and then it’s up to that individual and that manager to make sure that plan is delivered effectively. That might involve individual member of staff attending a conference or seminars, or maybe participating some particular training program, something like that. As to the informal structure, that staff may just speak to the manager on a regular basis, and say this is the area you ask me to do but I don’t really understand what I should be doing, you need to show me more. So that’s the informal, regular training by nature.

Ok, that’s all. Thank you very much.