An Investigation into the Role of Subject Librarians in Delivering Information Literacy Skills Support at Sheffield Hallam University

A study submitted in partial fulfilment of the requirements for the degree of Master of Arts in Librarianship

At

THE UNIVERSITY OF SHEFFIELD

By

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September 2008
Abstract

This investigation explores the role of the subject librarian in delivering information literacy skills support. Current approaches to information literacy education are explored through an examination of practices at Sheffield Hallam University, with a particular focus on the types of services and provision delivered by librarians within the Health and Wellbeing faculty team. By adopting a case study approach, the research was also able to explore in detail the librarians’ views and conceptions of information literacy, and identify to what extent the team have a shared conception of information literacy.

The research was conducted using questionnaires and semi-structured interviews. All findings in the study are analysed using a combination of information literacy theory and current models of best practice. The findings revealed that the team delivered a consistent level of service across all subject areas. The teaching methods used to deliver information literacy education varied from Adviser to Adviser, however overall the most popular methods of support were found to be face-to-face teaching. The research also discovered that whilst the librarians share a conception and view of information literacy, the conceptions of information literacy as evidenced in teaching practices varied between team members. The study concludes with reflections upon the importance of institutional information literacy strategy for the effective delivery of information literacy education and makes recommendations for further study in this area.
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Acknowledgements

I would like to thank my supervisor, Sheila Webber, for her help and support throughout my dissertation. I would also like to thank all the Information Advisers at Sheffield Hallam University who kindly participated in my research, without which this study would not have been possible.
Chapter One: Introduction

User education has always been an important element of the subject librarian role. Traditional models of bibliographic instruction have focused on locating printed information within the library building to support student learning. However, with advances in technology, electronic journals, databases and e-resources are increasingly the norm, and students are expected to have the essential information skills to be able to access and utilise these collections effectively. Furthermore, the growth of the World Wide Web as an alternative information source for students has meant that critical appraisal and evaluation skills have become essential information skills and a key component of any library skills training programme. As a result, traditional models of bibliographic instruction have been replaced by a broader conception of user education, namely information literacy.

The growth of electronic information and the Web has impacted upon all aspects of society, most notably the workplace, where the ability to access, evaluate and communicate information is an essential skill. This skill is also vital for individual life long learning to enable the individual to interact with and engage in wider society. As a result, traditional ‘library skills’ now have an increased pertinence and relevance to all aspects of society and as such information literacy is increasingly recognised as ‘a key competency for the 21st century’ and ‘a core graduate competency’ (Bundy: 1999:12)

Although all universities recognise the importance of information literacy skills, the way in which training is delivered varies greatly from institution to institution. Information literacy skills support can be delivered informally at the point of need through enquiry desk services or online tutorials, or can be taught more formally through information literacy classes. Classes can be either integrated into a module, or delivered as an optional class outside the core curriculum. Similarly, session content can either be generic or tailored to the individual degree programme. Moreover, institutions can opt to deliver skills training using just one or a variety of the approaches outlined above. This research project looks at how Subject Librarians deliver information literacy skills support at one UK University.
Definitions

For the purposes of the study two key terms are defined here.

- **Information Literacy (IL)** –

  Information Literacy is a multi-faceted term, with precise definitions varying from practitioner to practitioner, as the Chartered Institute of Library and Information Professionals (CILIP) describe: ‘IL has no agreed universally accepted definition…. [and] will mean slightly different things to different communities’ (CILIP: 2006). Basic conceptions of IL view information literacy as essentially a set of library skills, whereas more complex definitions emphasise the broader functions and advanced skills associated with information literacy. From these perspectives IL has a wider significance beyond the immediate academic context, with relevance for both the workplace and society at large. A principle aim of this study is to explore different conceptions of information literacy and investigate how individual institutions define information literacy.

- **Subject Librarian** –

  Subject librarian refers to a particular role which is carried out within academic libraries. Whilst the precise nature of the role will vary from institution to institution the subject librarian’s responsibilities typically include liaison with users, enquiry work, collection management, managing materials budgets and user education (Pinfold: 2001:33). The term is just one of many titles that refer to the same or similar role (ie. Liaison Librarian, Information Specialist, Assistant Librarian etc). For the organisation included in the study, the term ‘Information Adviser’ is used to describe the role of the Subject Librarian. Consequently for the purposes of this study the term ‘Information Adviser’ should be considered as equivalent to, and interchangeable with the ‘Subject Librarian’ title.
The Current Study.

Rationale for research

Much previous research in the field of information literacy has focused on establishing a definition of the term (Bawden: 2001; Webber & Johnston: 2000). Much literature is also devoted to identifying and describing key skills and competencies associated with information literacy, with both national and international professional library organisations and bodies such as CILIP, SCONUL and American Library Association (ALA) publishing extensively on the subject. However practical examples and case studies of current practices in information literacy are less prevalent. In 2004 the Society of College National and University Libraries [SCONUL] published a series of case studies with the aim of presenting ‘the full picture of what is involved in implementation [of information literacy]’ (SCONUL: 2004:7). These case studies explore different models of information literacy provision and practices through individual studies of six major UK universities. SCONUL acknowledges the need for similar types of research in this area.

Similarly the evolving role of the Subject Librarian has been discussed at length (Gaston: 2001; Pinfield: 2001; Biddiscombe: 2002), yet few studies examine the role of the Subject Librarian explicitly in the context of information literacy. This study proposes to address this issue by examining the types of information literacy provision at one UK University and the role of Subject Librarians in delivering skills support. It is hoped that the findings will be of interest to both library professionals and the broader academic community.
Aim

To investigate the role of the subject librarian in delivering information literacy skills support at Sheffield Hallam University, with a particular focus on the work of the Information Advisors within the Health and Wellbeing faculty team.

Objectives

Four key objectives have been identified:

i. Explore and describe current practices in information literacy provision
ii. Examine how current practice corresponds to information literacy theory and models of best practice
iii. Identify how librarians contribute to skills delivery and their perceptions and views on information literacy
iv. Identify whether there is consistency in practice and approach within the organisation and to what extent librarians have a shared conception of information literacy
The Research Context

Background Information - Sheffield Hallam University

Sheffield Hallam University is the 6th largest University in the UK with a student population of over 30,000 students, and offers a range of 650 courses supported by 4,000 staff. The University is comprised of four faculties; the Faculty of Arts, Computing, Engineering and Sciences (ACES), Faculty of Development and Society (D&S), Faculty of Health and Wellbeing (HWB) and Faculty of Organisation and Management (O&M). Library and information services are delivered through the department of Learning and IT services (LITS) which combines library, IT and teaching support services and is part of the Information Services Group.

Within LITS four faculty teams of Information Advisers work to support the information needs of staff and students within a faculty. Each faculty team of Information Advisers is headed by an Information Specialist, with teams varying in size between 5 and 8 Advisers. Information literacy support at the University is delivered principally through the work of the Information Advisers, who run a range of induction and formal and informal information literacy training throughout the academic year. Each Adviser has specific course responsibilities and acts as the primary faculty contact for staff and students within that subject area. Information Advisers are also responsible for managing and developing collections in their subject area and play a key role in course planning and programme support.

i. The Faculty of Health and Wellbeing.

The Faculty of Health and Wellbeing is the second largest faculty in the University with 6,138 students studying a diverse range of health and related programmes including biosciences, diagnostic radiography, nursing and midwifery, occupational therapy, operating department practice, paramedic studies, physiotherapy, radiotherapy and oncology, social work and sport and active life styles. The Faculty currently has the largest team of Information Advisors in LITS and for this reason was selected for inclusion in the study.
Information Literacy at Sheffield Hallam University

The importance of information literacy for the University at a strategic level is reflected in the 2008 Learning, Teaching and Assessment Report, which states that information literacy is a key attribute of the Sheffield Hallam graduate. However despite also being a key objective in the University’s Learning Teaching and Assessment strategy, the University currently has no formal information literacy strategy. As a result there are no set of guidelines or frameworks governing information literacy provision.

Under the current model information literacy is either delivered informally via the enquiry desk or drop-in referrals, or more formally through liaison with academic staff and integration into the programme of study in the form of information literacy workshops and classes. Significantly the latter is arranged entirely on a voluntary basis, with academics able to choose to what extent they collaborate with Information Advisers and are also able to determine how far information skills are embedded into the curriculum. Although this has the benefit of allowing for greater flexibility and tailoring to meet the needs of individual staff and groups of students, this approach also results in an inconsistency of service both within and across faculty teams.

In response to these issues, the University is currently developing a digital fluency strategy that aims to redefine and relaunch information literacy within the organisation. In the 2008 Learning Teaching and Assessment Report digital fluency is defined as ‘encompass[ing] information literacy, IT competencies, online interaction skills and critical thinking ability’ (Sheffield Hallam University: 2008:3). As such the digital fluency initiative aims to presents a more holistic view of information literacy, encompassing broader concepts such as media literacy and visual literacy. However the current working definition clearly foregrounds information literacy skills and competencies as core attributes of the ‘digitally fluent’ individual, indicating that information literacy will underpin all aspects the digital fluency initiative.

The digital fluency strategy is currently at the developmental stage and various models for implementation are being explored. In terms of curriculum content digital fluency aims to be flexible, with the opportunity to have skills training tailored more closely to specific degree
programmes. For Health and Wellbeing students training may be focused on developing the specific digital fluency skills needed by health professionals. As each graduate will require a different set of skills in the workplace, the content delivered to these students might vary to the training delivered to students following Law or Education programmes for example. Other possibilities being explored are a reworking of the role of the Information Advisor in delivering information literacy support. Rather than continue to deliver information skills training direct to their students, an alternative model is being explored whereby Advisors act as consultants to academic staff advising on matters such as course design and curriculum content, thereby enabling digital fluency to be fully embedded into course curricula.

Therefore current information literacy provision at Sheffield Hallam is not fixed; the University is currently working to develop more effective models and definitions of information literacy that reflect the needs of both staff and students. This project aims to provide an overview of current practices and conceptions of information literacy based on a study of the Health and Wellbeing IS Faculty Team, highlighting areas of best practice and possible ways that an information literacy strategy could improve existing services. By doing so it is hoped that the study will be of interest to the University and can help inform and develop the digital fluency initiative.
The Structure of the Report

This report is made up of 6 chapters. This introductory chapter has introduced the research area and summarised the aims and objectives of the study. The subsequent chapters are as follows:

**Chapter 2** consists of a literature review of the research area, focusing on those aspects that are most relevant to the study.

**Chapter 3** explores the methodological approach and methods used to collect and analyse data for this investigation. It explains the process undertaken and highlights ethical considerations relevant the research.

**Chapter 4** presents the results collected from the study and highlights the key findings from both the research instruments.

**Chapter 5** discusses the research findings, examining them with reference to the literature review and to the original aims and objectives of the study.

**Chapter 6** summarises the conclusions of the study and makes suggestions for possible future research topics.
Chapter Two: Literature Review

Information Literacy: Definition and development

Many writers identify information literacy as a phenomenon developed from the library context and rooted in the higher education environment, with Frank et al dating the emergence of library instruction to the 1960s/70s (Johnston & Webber; Andretta: 2007; Frank: 1999). Early models of bibliographic instruction focused on teaching students basic information retrieval skills to support student learning, such as how to access catalogues of library holdings, abstracts and other reference sources.

With advances in technology and the advent of the internet, students’ information seeking behaviour is changing, as SCONUL describes ‘undergraduate students are using the internet as their first port of call beyond the reading list’ (SCONUL: 2003). In addition to standard library skills training, students now also require a broader, more complex set of skills in order to effectively access information. Without the complex quality-assurance processes associated with print collections through rigorous editorial practices and reputable publishers, critical appraisal and evaluation skills become particularly important in the electronic environment, as ‘the onus is on the user to apply the critical faculty’ (SCONUL: 2003). Consequently contemporary user-education programmes typically deliver a combination of technical information searching and retrieval skills with higher level analytical and evaluative skills. For these reasons, information literacy is related to and yet separate from bibliographic instruction, as Andretta describes, in contrast to information literacy programmes ‘library education does not teach students how to be information literate’ (Andretta:2007:7)

As outlined in Chapter One, information literacy is more than a basic set of library skills or competencies and has a wider significance in the information society. Clearly the ability to retrieve, manipulate and evaluate information is an essential skill in the context of higher education and is key to supporting student learning. However these skills are also increasingly becoming directly relevant and transferable to the workplace.
In the modern information society an information-literate workforce has become an economic necessity, with information literacy skills essential to ensure productivity and competitiveness (Andretta: 2005; Bundy: 1998). The widespread availability of electronic information has resulted in an ‘information over abundant society’ in which individuals are unable to readily access information and thereby work and operate effectively in the workplace (Bundy: 1999:5). Bundy describes this condition as ‘information fatigue syndrome’ and argues that ultimately a lack of information skills can lead to ‘information stress’ and ill health in employees (Bundy: 1999:3). Andretta echoes this viewpoint, arguing that ‘the problem of information anxiety... and the lack of information skills [has become] a global phenomenon’ (Andretta: 2005:8). Therefore information skills are not just important to promote economic productivity, but are also important to prevent ill health and stress in employees. Without the prerequisite information skills training individuals are unable to work effectively and meet both the needs of employers and the wider economy.

Information literacy has further benefits for society in terms of promoting an active citizenship and facilitating lifelong learning. The 2003 Prague Declaration and 2005 Alexandria Declaration reflect an international recognition of the economic and social benefits associated with information literacy. Not only is the capacity for lifelong learning crucial to enable individuals to respond to the ‘rapidly changing, complex and information abundant environment’ but information literacy is also able to address broader social issues such as social inclusion, career development and unemployment (Bundy: 1999:6). Information literacy has become a ‘prerequisite for participating effectively in the information society’ and a hallmark of the modern democratic society (Prague Declaration: 2003).

Thus information literacy can at once have a variety of roles, be viewed in numerous ways and serve a range of purposes, as Andretta describes the ‘nature of information literacy is multifaceted... there is no single definition of this concept’ (Andretta 2005:13). Information literacy is essential for the individual for academic success and lifelong learning, as well as contributing more broadly to active citizenship and economic productivity in the information society. Information literacy can be viewed exclusively as a ‘library issue’, applicable only to the higher education context in which it originated or more broadly as a transferable range of skills as relevant to the workplace as to higher education. Although all interpretations are valid, there
is recognition that in the modern information society the more complex definitions of IL are necessary. Furthermore, as more holistic conceptions of information literacy become accepted, there is a growing need for more formalised information literacy programmes to be integrated into the higher education curriculum in order to ensure an information-literate population. As a result, information literacy is increasingly viewed as a ‘primary educational outcome’ of university education. (Bundy: 1999:3)

Models of Information Literacy

As the preliminary literature review has highlighted, information literacy is a complex concept with a multiplicity of meanings, contexts and applications. A range of information literacy standards and models have been developed in order to better define and articulate information literacy in the higher education context. The models outline and describe the skills and competencies demonstrated by an information literate individual, and are designed to provide a framework to facilitate the integration of information skills into the higher education curriculum.

The Seven Pillars model is arguably the most influential model in the UK, with many universities directly citing the framework in their information literacy strategies (Newcastle University, University of Bristol, Lancaster University). Produced by SCONUL, the seven pillars reflects a behavioural framework of information literacy and aims to provide a practical working model of information literacy that is useful for programme design in higher education. The SCONUL Seven Pillars model is outlined in Figure 1 and details the seven headline skills required to be information literate, namely: the ability to recognise a need for information; the ability to distinguish ways in which the information ‘gap’ may be addressed; the ability to construct strategies for locating information; the ability to locate and access information; the ability to compare and evaluate information; the ability to organise apply and communicate information; and the ability to synthesise information and create new knowledge.
As the diagram illustrates the SCONUL model represents a linear skills-based interpretation of information literacy. Library and IT skills are depicted as essential foundation skills necessary to be able to function effectively as part of the academic community. Once these skills have been mastered the student is then able to progress from ‘novice’ to ‘expert’ through the acquisition of seven skills or competencies, portrayed diagrammatically as the seven pillars. The SCONUL briefing paper outlines the skills expectations for different groups of students: ‘first year undergraduates will largely be at the bottom of the arrow, perhaps only practising the first four skills, whilst post graduate and research students will aim to be towards the expert end, and will be aspiring to the seventh’ (SCONUL:1999: 8). Therefore, although all seven skills are equally fundamental to information literacy there is the recognition that students progress will be restricted by their level and year of study.
Other influential models have been produced by the Association of College and Research Libraries (ACRL) and Australian and New Zealand Institute for Information Literacy (ANZIIL). Like the Seven Pillars framework, the Information Literacy Competency Standards (ACRL) and the Information Literacy Standards (ANZIIL) share an understanding of the core standards of information literacy with a focus on the stages of information need recognition, search formulation, source selection and information evaluation, information synthesis and use. Behavioural models of information literacy specify measurable and quantifiable learning targets, and as such are easily assimilated into the assessment-driven and target-focused higher education curriculum.

However limitations in the behaviourist conception of information literacy are highlighted by Bruce, who criticises the focus on measuring and developing specific static skills and competences at the expense of developing a more holistic understanding of information literacy. For Bruce it is the ability ‘to learn and relearn in the face of constant change’ that is the true defining characteristic of information literacy (Andretta: 2007:17).

In *Seven Faces of Information Literacy* Bruce pioneers an alternative to behaviourist models of information literacy. Central to her relational model of information literacy is the recognition that ‘people see information literacy differently’ (Bruce: 2006:2). According to this view, information literacy is understood not as a set of skills but as an interaction between the user and information. Unlike the skills-based approaches represented in the SCONUL, ACRL and ANZIIL frameworks, the emphasis is upon the individual developing critical thinking and problem solving competences by constructing their own representation of information literacy. In the relational model, learning of information literacy occurs when individuals experience new and more complex conceptions or ‘faces’ of information literacy. Bruce identifies seven different ways in which individuals experience information literacy, ranging from an information technology conception to a wisdom conception (See Figure 2).
Therefore Bruce’s model represents a more holistic view of information literacy. By encouraging the critical use of information and ‘a personal information style that facilitates the learner’s interaction with the world’ the objective is not only to enable individuals to succeed in higher education, but to also promote an understanding of the role of IL in the wider social world (Andretta: 2007:17).

In Six Frames for Information Literacy Education Bruce further develops the relational model of information literacy. The Six Frames for Information Literacy Education presents a practical framework to shape IL provision in higher education and ‘applies theories of learning to information literacy education’(Bruce et al: 2006:1). The expectation is not that institutions’ or individual practitioners’ conception and delivery of information literacy will correspond to one particular frame. Rather information literacy provision is typically a hybrid of two or more frames. Similarly to the Seven Faces of Information Literacy framework, information literacy education is most effectively delivered by ‘learning through widening experience’ and developing understanding of more complex views and interpretations of information literacy (Bruce et al: 2006:6).

<table>
<thead>
<tr>
<th>Category one:</th>
<th>Information literacy is seen as using information technology for information retrieval and communication.</th>
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<tr>
<td>The information technology conception.</td>
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<tr>
<td>Category two:</td>
<td>Information literacy is seen as finding information located in information sources.</td>
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<tr>
<td>The information source conception.</td>
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<tr>
<td>Category three:</td>
<td>Information literacy is seen as executing a process.</td>
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<tr>
<td>The information process conception.</td>
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<tr>
<td>Category four:</td>
<td>Information literacy is seen as controlling information.</td>
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<tr>
<td>The information control conception.</td>
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<tr>
<td>Category five:</td>
<td>Information literacy is seen as building up a personal knowledge base in a new area of interest.</td>
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<td>The knowledge construction conception.</td>
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<tr>
<td>Category six:</td>
<td>Information literacy is seen as working with knowledge and personal perspectives adopted in such a way that novel insights are gained.</td>
</tr>
<tr>
<td>The knowledge extension conception.</td>
<td></td>
</tr>
<tr>
<td>Category seven:</td>
<td>Information literacy is seen as using information wisely for the benefit of others.</td>
</tr>
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<td>The wisdom conception.</td>
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</table>
The six frames of information literacy education can be summarised as the Content Frame, the Competency Frame, the Learning to Learn Frame, the Personal Relevance Frame, the Social Impact Frame and the Relational Frame. Each frame is associated with a particular view of information literacy, curriculum focus, content and mode of assessment. For example, the Learning to Learn frame reflects a view of information literacy as a skill for the workplace and is associated with collaborative learning practices, whilst the Competency Frame is associated with the behaviourist model that views IL as a set of skills or competencies with assessment methods seeking to specify what level of skill has been achieved. (A more detailed explanation of each of the six frames is provided in Appendix 1).

The seventh ‘relational’ frame is arguably the most complex and exemplifies the relational model of information literacy. As the frame through which the content, competency, learning to learn, personal relevance and social impact can all be mediated and brought together it represents the most powerful and complex way of experiencing information literacy. According to this view information literacy is a complex of different ways of interacting with information. The ultimate aim of information literacy education is to bring ‘about learning through widening experience and thus revealing variation’ and by doing so develop an ability to use each frame appropriately in a variety of contexts (Bruce et al: 2006:6).

Both the relational frameworks developed by Bruce et al and the SCONUL Seven Pillars model provide a strong conceptual framework with which to assess IL programmes and compare and contrast different conceptions of information literacy. Bruce et al recognise the value of frameworks for this purpose, stating that ‘the frames may serve as an analytical tool’ for identifying, describing and analysing forms of information literacy (Bruce et al: 2006:14). As a result these conceptual frameworks will be central to the investigation of information literacy practices at SHU and inform the development of the methodology and research instruments, as well as facilitate the analysis of data in the project.
Information Literacy and Higher Education: theory and current practice.

So far this chapter has outlined definitions of information literacy and explored different models ranging from behavioural frameworks that view information literacy as a set of skills or competences to the relational models that interpret information literacy as a complex of different ways of seeing information use. Each theoretical perspective is associated with different teaching practices, different levels of integration into the curriculum, content and approaches to assessment. For example, relational models of information literacy require interactive learning and assessment methods to encourage reflection and engagement with more complex and powerful ways of experiencing information literacy. In contrast, behaviourist models are more suited to highly assessed and structured programmes. Despite the dominance of the SCONUL Seven Pillars models there still exists great diversity in information literacy programme design and provision across the UK. The rest of this chapter explores the current debate on how information literacy is best delivered in the higher education environment.

i) Curriculum Content

Traditional models of user education have focused on developing basic information skills, such as information searching, retrieval and referencing skills. However, as more complex understandings of information literacy become popular in higher education there is a need for information literacy programmes to include a broader skills curriculum. This may include, for example, a curriculum that covers all key aspects of the SCONUL seven pillars framework, beginning with the more basic competencies of ‘recognising the need for information’ and ‘accessing and locating information’ and moving towards the more complex skills of critical appraisal and evaluation.

As discussed earlier in the chapter, the availability of electronic information via the internet has radically altered students’ information-seeking behaviour. In the 2004 Learning Outcomes and Information Literacy report commissioned by SCONUL, many universities reported that ‘students demonstrate an over reliance on the internet to meet their information needs’ (SCONUL: 2004:10). Given the questionable reliability and authenticity of many internet sources
it is important that information skills programmes focus on developing the necessary skills for students to access and use electronic information effectively. This may, for example, involve training in the ability to structure online searches through correct manipulation of search vocabulary and strategies, as well as the assessment of the search results and the selection of relevant information. Andretta views the inclusion of internet and higher information skills training in information literacy programmes as the solution to students’ over-reliance on internet sources stating that ‘these problems are addressed by ensuring that the user understands the process of information retrieval’ (Andretta: 2007:10).

Reflecting on the growth of electronic information, Webber & Johnston suggest that ‘the popularity of search engines [has] made information retrieval less of a minority interest’, with students increasingly using information skills to locate information for personal or leisure use (Webber & Johnston: 2000:387). As a result students are beginning higher education with a diverse range of skills and knowledge: some students will already possess well developed information literacy skills, whereas other students will lack confidence and expertise in this area. In this context, given the diverse skills of the student population, developing a curriculum that meets the individual skills needs of every student will prove challenging.

The University of Bradford highlights these issues in its evaluation of information literacy provision at the university, stating that ‘feedback was mixed with some students resenting the content, which they claimed they had already covered in school... other responses were extremely positive about the benefits’(Hudson: 2004:48). The situation is further complicated by the fact that ‘many [students] later admitted that the [sessions] had in fact enhanced their skills, which did not prove to be of the standard they had originally considered’ (Hudson: 2004:48). Therefore additional issues affecting curriculum development include students’ false confidence in their abilities. The question of how to manage student expectations whilst catering to the needs of a diverse student population is a key challenge to developing an effective information literacy programme.

Bridgland & Whitehead further highlight the difficulties of developing a sustainable information literacy programme ‘given that there will always be changing emphasis in what students need to know’, citing plagiarism and digital copyright as examples of current ‘hot
topics’ in information literacy education (Bridgland & Whitehead: 2005:57). The information literacy curriculum must be flexible and respond to the changing needs of the information society. A major criticism of behaviourist models of information literacy is the focus on specific fixed skills and the corresponding failure to meet the evolving needs of the information society. Therefore it is essential that the curriculum content of information literacy programmes engages with both the needs of individuals and wider society.

ii) Delivery: information literacy models of integration

Peacock identifies three models of information literacy delivery, namely supplemental, integrated and embedded (Peacock: 2003). Andretta also distinguishes between ‘stand alone’ and ‘curriculum integrated’ models of information literacy (Andretta: 2005). According to Peacock, supplemental information literacy provision is evident where information literacy content is taught via interactions that are generic (i.e. discipline neutral) and non-targeted (i.e. not aligned with any unit or course). Integrated skills teaching is characterised by being contextualised within a unit curriculum and timetable (i.e. discipline related), targeted to meet the broad but immediate needs of students and delivered at the discretion of the academic and librarian. Peacock also identifies embedded information literacy practices which see information literacy teaching as discipline driven and delivered, assessed and evaluated via collaborative partnerships between academic and library teaching staff. Reviewing all three models, Peacock concludes that ‘information literacy [is] most effectively understood, learned and applied when contextualised and embedded within discipline-based learning’ (Peacock: 2005:164).

Embedded integration of information literacy education within subject curricula is viewed as good practice for the purpose of providing a necessary context for information literacy and enhancing students’ perceptions of relevance and student motivation (Andretta: 2007). The American Commission on Higher Education (CHE) argues that ‘students must ‘buy into’ the importance of information literacy, and they are more likely to do so if they perceive its relevance to their future success’ (Andretta: 2005:50). Similarly Bruce et al recognise that training is ‘often ignored because [it is] spoken about in abstract terms without providing the student with the opportunity to use them’ (Bruce et al: 2006:7). By contextualising skills within
programmes of study students are more likely to recognise the value and relevance of information literacy for their studies as well as for their personal and professional lives.

At the University of Abertay, Dundee the timeliness of the curriculum is viewed as crucial to enhancing the relevance of information literacy for the students. Whilst the university provides a framework for skills delivery (minimum entry standard, base line, intermediate and advanced stages) the levels ‘do not necessarily equate to a particular year within a degree programme’ (Milne: 2004:12). As a result it is possible for training to be delivered at a time when it is most relevant for the individual groups of students. For example training in information searching and retrieval can be delivered to coincide with tutors distributing first assignment titles to a group of first year undergraduate students. Advanced critical appraisal and training in the use of bibliographic management software can also be most effectively targeted to support students researching dissertation projects in their final year rather than at an earlier point in their university career. This will provide the students with an incentive to interact with the sources of information. Whilst there is the expectation that most courses will develop ‘baseline’ skills in the first year, there is complete programme flexibility, with the opportunity to develop intermediate and advanced skills in the second or third years as appropriate. In this view information literacy is best taught in the context of the programme curriculum, where subject context and relevance can be exploited to deepen student understanding and engagement with the subject matter.

However, Johnston and Webber challenge the view that information literacy can only be delivered effectively when integrated into course curricula. In 1998/99 Johnston & Webber piloted a stand alone module in Information Literacy at Strathclyde University (Johnston & Webber: 2000). The course was delivered as an elective module over one semester and offered to undergraduate students within the Business School. Formal methods of assessment were included in the curriculum and the module aimed to develop students’ understanding of and engagement with all aspects of information literacy.

Similar approaches to information literacy delivery have been adopted at the University of York and the Open University. Both institutions support the view that information literacy can be delivered autonomously as an assessed stand-alone module. At the University of York, information literacy education is delivered through the Iliad programme and consists of two
strands - Iliad for University and Iliad for Work (Hodges: 2004:57). The programme is designed to enable students to become proficient in retrieving, processing and presenting information and aims to be of relevance to both their academic studies and their future careers. The Open University runs a similar stand-alone module, MOSAIC (Making Sense of Information in the Connected Age). MOSAIC is a credit bearing year one module and uses portfolio-based assessment methods. The module explores seven key areas of information literacy including understanding information, searching for information and evaluating and organising information.

The modular approach to information literacy is particularly effective at facilitating a holistic teaching of information literacy and supports a deeper understanding of the wider applications of information literacy in the information society. Reflecting on the benefits of MOSAIC at the Open University, Parker describes how ‘the module does not have a subject context and [therefore] goes deeper into the concept of information literacy’ (Parker: 2003:226). However, whilst these examples demonstrate the viability of delivering information literacy as a ‘subject for teaching and learning in its own right’ the courses fail to address how information literacy training can be delivered to large numbers of students on this basis (Webber & Johnston: 2000:388). As optional modules, the courses sit outside the core curriculum and therefore are only able to reach a relatively small number of students. Since all students would not experience the training, an alternative model would be necessary to reach the wider student population. At the Open University online information literacy tutorials and curriculum-integrated information literacy teaching operate alongside the MOSAIC programme (Parker: 2003).

The delivery of stand-alone information literacy modules therefore poses numerous questions and challenges. For instance, is it preferable to aim to develop skills iteratively and progressively over a three year degree programme, or via an information literacy module? And is it possible to describe a student as information literate once they have completed an information literacy module? In terms of delivering information literacy training, integrating provision into the curriculum still remains the most popular strategy in higher education, as Hardy & Corrall describe ‘most practitioners see full integration as their goal’ (Hardy & Corrall: 2007:81). Thus best practice is widely interpreted as having information literacy embedded into

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1 The MOSAIC module has recently been renamed as ‘Beyond Google: Working with Information Online.'
the curriculum. Many writers develop this further by recommending that information literacy is also integrated into a wider institutional strategy (Bridgland & Whitehead: 2005, Andretta: 2005, Webber & Johnston: 2004). Andretta also emphasises the ‘importance of integrating information literacy within the institution’s mission, goals and IT initiatives’ (Andretta: 2005:50). Without an institutional information literacy policy ‘instruction activities [are] driven by the needs of individual academics’ leading to variations and inconsistencies in information literacy provision (Bridgland & Whitehead: 2004:56). By identifying information literacy as an educational goal and providing institutional endorsement of information literacy, academics will be obliged to include information skills training as part of the core curriculum.

iii) Teaching Methods

A major debate in information literacy education relates to which methods are most appropriate for teaching information skills. Bridgland & Whitehead summarise the key issues surrounding the debate when they pose the question: ‘when is face-to-face group instruction the most effective method’? (Bridgland & Whitehead: 2005:57). With advances in technology greater opportunities exist for the development of more creative teaching techniques. Biddiscombe champions the use of alternative teaching methods and argues for the creative use of ICT in programme delivery, citing Blackboard, WebCT and other virtual learning environments as opportunities for developing interactive teaching and learning resources (Biddiscombe: 2002).

In Biddiscombe’s view modern students have become ‘an increasingly computer literate population’ (Biddiscombe: 2002:229). Teaching practices in information literacy education should therefore exploit students’ new and developing skills base and explore ‘new ways of learning and teaching’ particularly in terms of virtual learning support (Biddiscombe: 2002:229). SCONUL advocates the use of ICT in programme delivery, identifying the ability to ‘make valid use of new technology and other innovations’ as an example of good practice (SCONUL: 2003:10). The University of Bradford is an example of a higher education institution that utilises the virtual learning environment to deliver information skills training. An undergraduate module in ‘information skills’ is delivered to all year one students though the university’s virtual learning environment (VLE), Blackboard. The university identifies the flexibility offered through the VLE...
as a key benefit of online teaching methods, particularly the opportunity to reach larger numbers of students than through traditional classroom teaching (Hudson: 2004:48).

However, Parker questions the usefulness of electronic teaching packages, emphasising the need to achieve the correct ‘balance between using the technology for technology’s sake, and the delivery of the learning point’ (Parker: 2004:226). A further consideration is that not all students may possess the necessary skills to utilise electronic learning methods effectively. Bridgland & Whitehead express caution about relying too heavily on learning methods that require high levels of computer or information literacy, reflecting that too often ‘students are not as information literate as lecturers expect’ and therefore struggle to access the curriculum effectively (Bridgland & Whitehead: 2005:57). Interestingly, research conducted at the University of Melbourne discovered that the ‘mode of delivery had no discernable impact’ on students’ acquisition of knowledge (Bridgland & Whitehead: 2005:57). The study concluded that students learn as effectively from online teaching methods, such as online tutorials, as they do through more traditional face to face teaching methods. Therefore perhaps the ideal solution is to provide access to both types of learning, to enable students to select the method that best meets their learning needs. This mode of delivery reflects current practices at the University of York and the University of Bradford (Hudson: 2004:47; Hodges: 2004:57).

A further challenge in information literacy education is how to facilitate the learning of higher level information skills. Whilst librarians are experienced in teaching the lower level skills which traditionally formed the corner stay of user education programmes, librarians lack similar levels of experience in the teaching of higher level information skills. The advanced skills associated with the behavioural and relational models of information literacy that prioritise critical thinking, reflection and knowledge synthesis and creation competences do not readily lend themselves to conventional teaching methods, such as lecturer-led presentations, demonstrations or worksheet-based exercises. Rather students need to be taught in a way that empowers them to make the connections between different models of IL and develop and create their own understanding of information literacy. The challenge facing the librarian is how to include teaching and learning methods that develop students’ competencies in these areas.
Much of the research in this area suggests that active and collaborative teaching methods are most effective for engaging students in higher level information literacy skills (Webber & Johnston: 2000, SCONUL: 2004). For example, Andretta argues that using an active learning approach encourages the development of critical thinking through self discovery and learning-by-doing strategies (Andretta: 2007:11). Ideally learning and teaching methods should enable students to actively engage in tasks, collaborate with other students and reflect on what they have learnt. This can be achieved by including formative and summative assessment in the information skills curriculum. For example, the MOSAIC information skills module at the Open University includes formative assessment that requires students to produce an annotated bibliography and an evaluation of the sources and search strategies used in the assignment (Parker: 2003). This enables students to achieve all of the higher learning competencies as outlined in the behavioural and relational frameworks.

In developing the information literacy module programme at Strathclyde University, Webber & Johnston explored the most effective ways to teach advanced information skills. In line with relational models of information literacy, Webber & Johnston adopted reflective teaching practices to encourage active information-seeking approaches and understanding and knowledge retention. As the course was run over one semester class students were able to review and demonstrate progress over time, and ‘exercise different aspects of information literacy in different contexts’ thereby demonstrating a complex relational understanding of information literacy. As part of formal module assessment students were required to produce ‘reflective accounts of their learning processes’ (Webber & Johnston: 2000:389).

As such the teaching methods adopted by Webber & Johnston echo Bruce’s theory of reflective learning being that students learn by experiencing difference and by being presented with new ways of seeing information literacy. In the case of teaching information searching skills, the techniques are learnt most effectively when the student is able to discern the difference in searching based on using the techniques and structures, and searching without understanding those processes. This approach is compatible with reflective modes of learning and with a problem-based approach to aspects of the curriculum.
This case study suggests that in order to develop information skills students require prolonged engagement with the subject matter over many weeks or during a semester. This will also enable meaningful formative and summative assessment strategies to be included in the information literacy programme, possibly in the form of an essay that reflects on the students’ progress or analyses and evaluates different information sources. Therefore whilst it is debatable as to whether ‘lower’ level skills can be acquired in short sessions, it is clear that the learning of higher level skills and competences cannot ‘be picked up in a few hours’ or through ‘one-off sessions incorporated in other classes’ (Webber & Johnston: 2000:394,2003:343). Ideally skills need to be delivered as part of a degree programme rather than on a piece-meal basis.

iv) Liaison

Active engagement between librarians and academics is widely perceived as a marker of successful information literacy development (Peacock: 2005, Andretta: 2007, Bundy: 1998). Librarians have traditionally been the sole providers of library skills training. However with the development of information literacy and the integration of IL programmes into the core curriculum librarians are increasingly contributing to all aspects of course planning, assessment and teaching resulting in a need for greater collaboration between academic and library staff. The SCONUL briefing paper further emphasises the importance of liaison and collaboration for the delivery of information literacy programmes, stating that ‘information literacy requires a collaborative and integrated approach to curriculum design and delivery’ (SCONUL: 1999:2). Pinfold develops the concept further by proposing greater collaboration between librarians with other university departments, in particular ‘other organisations in the university [that] also carry out IT training... and also academic teaching’ (Pinfold: 2001:36). Pinfold argues that effective liaison within and across departments will result in a more ‘coherent experience’ and enhance student learning (Pinfold: 2001:36).

Bridgland & Whitehead emphasise the importance of ‘social capital’ and collaboration between academics and librarians (Bridgland & Whitehead: 2005:57). They propose a reworking of the subject librarian role with a move away from librarians directly teaching information skills,
towards information professionals ‘acting more as consultants’ by advising on information skills assessment and assignment design (Bridgland & Whitehead: 2005:58). A similar approach is advocated by Bruce who suggests that whilst librarians have played ‘a key role’ in teaching information literacy programmes ‘this scenario is changing as lecturers and staff are developing greater interest in the contribution of information literacy to education’ (Bruce: 1997:4). Does this model represent a realistic or desirable approach to information literacy programme delivery? According to Johnston & Webber many librarians are critical of ‘the ability of some academics to teach information literacy’ and feel that ‘academics often do not have any information skills themselves and have little idea how to teach them’ (Johnston & Webber: 2003:343). Although Johnston & Webber acknowledge that these views are perhaps an oversimplification it is still likely that many academics would not possess the necessary skills and competencies to teach information literacy as effectively as their library colleagues. Therefore in this context, revision of the role of the subject librarian from active information literacy instructor to information literacy consultant as proposed by Bridgland & Whitehead and Bruce may still be some way from becoming a reality.
Chapter Three: Methodology

This study has adopted a qualitative and inductive methodological approach as the principal mode of investigation. Qualitative approaches to research are characterised by a focus on description, interpretation and evaluation of the social world and typically adopt a holistic approach to a research problem. Unlike quantitative research, which seeks to create generalisable results from numerical data, qualitative studies investigate complex social environments and aim to develop new insights, concepts or theoretical perspectives relating to that particular phenomenon (Leedy: 2005). The aim of this study is primarily to identify current information literacy practices at Sheffield Hallam University and explore librarians understanding and conceptions of information literacy. The project is looking at a range of complex inter-related factors that relate to a specific context, and therefore lends itself to a qualitative mode of investigation.

The aims and objectives of the study are also consistent with a case study methodology. As Pickard describes, the purpose of a case study is ‘to provide a holistic account of the case and in-depth knowledge of the specific through rich description situated in context’ (Pickard: 2007:86). Pickard further differentiates between three different types of case study, namely intrinsic, instrumental and collective studies (Pickard: 2005). Intrinsic case studies aim to ‘acquire a deeper understanding’ of the case, and Pickard cites investigations into individual services or departments as examples of the intrinsic methodology (Pickard: 2005:86). In contrast instrumental case studies focus on a particular phenomenon, rather than the case itself. For instance, the purpose of an instrumental case study may be to investigate information literacy programmes at a higher education institution, rather than the institution itself. A collective case study approach is adopted when a researcher investigates more than one case to investigate particular phenomena.

This research project therefore combines aspects of the intrinsic and instrumental case study methodologies. Whilst the overall aim is present a comprehensive account of information literacy practices at SHU, in keeping with an intrinsic methodology, aspects of the instrumental case study are reflected in the broader aims of the project, namely, to examine the extent to
which librarians’ conceptions of information literacy relate to information literacy models and theory.

The advantages of a case study methodology are summarised by Powell & Connaway who state that ‘the case study is well suited to collecting descriptive data’ and can be ‘used as an exploratory technique’ (Powell & Connaway: 2004:61). Case studies allow the researcher to identify the common and unique features of the organisation and identify how processes interact and influence how the organisation functions (Bell: 2005). The case study approach therefore reflects the overall aims and objectives of the research. Further advantages of a case study approach are highlighted by Gorman & Clayton, who argue that ‘it is possible to derive knowledge of the wider phenomenon from intensive investigation of a specific case’ (Gorman & Clayton: 2005:50) Whilst the findings and conclusions of an individual case study are unlikely to be directly transferable to the wider population the researcher can hope to produce ‘cross contextual generalities’, meaning that the findings will be relevant and transferable to similar contexts and organisations (Mason: 2002:1).

Observations and interviews are cited as popular and effective methods for case study research (Bell: 2005; Leedy & Ormrod: 2005). Whilst observations facilitate the collection of authoritative descriptive data this approach was rejected on the basis that it would be impossible to conduct individual observations for every participant in the time available. Instead, semi-structured interviews were selected as the principal method of data collection. The main advantage of an interview is its adaptability, allowing ideas and responses to be explored in detail and in context. Furthermore the literature review highlighted examples where the interview method can be used to great effect for the purposes of qualitative studies (Hardy & Corrall: 2007; Mogg: 2002; Taylor: 2005).

A limitation of the qualitative approach is that the data produced is often highly subjective and specific to the individual research context. Whilst the primary objective of this research is to investigate and explore information literacy practices and perceptions of Information Advisers within a specific faculty team, a secondary aim is to develop conclusions that will also be reflective of and relevant to wider practices at the university. Denscombe highlights the production of ‘soft data’ as a major limitation in the qualitative approach, as this
provides an unreliable base upon which to develop credible generalisations (Denscombe: 2007:45). Therefore in order to meet this second objective, a quantitative approach was also incorporated into the methodology. A questionnaire was selected as a secondary research tool, which is traditionally associated with quantitative research and used to collect ‘hard’ factual data to establish context and practices. The use of a questionnaire as a secondary research tool therefore aims to complement the subjective data collected via the research interviews.

The use of both qualitative and quantitative approaches represents a triangulation of research methods. According to Denscombe, methodological triangulation enhances the validity of research by corroborating data and reinforcing research findings. By contrasting qualitative with quantitative and selecting data collection techniques with different biases and strengths the research will ‘produce complementary data that enhances the completeness of the findings’ (Denscombe: 2007:138). In this project questionnaires are used to collect factual data to establish the research context. For instance, the questionnaires establish the specifics of how teaching is delivered, to which groups of students and the content of the information literacy curriculum. Research interviews are also conducted to allow the researcher to explore conceptions of information literacy and librarians’ opinions on the purpose and value of information literacy. By combining multiple data collection techniques this approach will improve accuracy, corroborate findings and enhance the validity of the research data.

**Sampling**

Purposive sampling has been used in this study. In contrast to probability sampling techniques, purposive sampling does not seek to obtain a representative sample but rather is based entirely on the researcher’s ‘knowledge of the population and objectives of the research’ (Powell & Connaway: 2004:94). Leedy & Ormrod define purposive sampling as the selection of ‘those individuals or objects that will yield the most information about the topic under investigation’ (Leedy & Ormrod: 2005:206). By allowing the researcher to focus on specific people and events, this method of sampling is particularly suited to qualitative and case study research, as Powell & Connaway describe ‘case studies involve intensive analyses of a small number of subjects rather than gathering data from a large population’ (Powell & Connaway: 2004:61)
For the project, an individual faculty team was selected to take part based on prior knowledge of their potential contributions to the research. The Health and Wellbeing faculty team is regarded as being particularly active in the area of information literacy education and at the forefront of creative teaching and learning strategies at the University. Furthermore, with eight part-time and full-time Information Advisers in the team, the Health and Wellbeing team represents the largest Information Adviser faculty team in the University. Denscombe states that ‘all case studies need to be chosen on the basis of their relevance to the practical problems or theoretical issues being researched’ and it was these factors that influenced the selection of the Health and Wellbeing Information Advisers for inclusion in the study (Denscombe: 2007:40).

Before the Information Advisers were invited to participate in the research, the two Information Specialists who head the Health and Wellbeing team were approached to discuss the research project in detail and gain institutional approval for the project. Consent was also sought from the Academic Services Manager, who manages and oversees the work of the Information Services Faculty Teams. Once institutional approval had been granted, the individual Information Advisers in the Health and Wellbeing faculty team were contacted via email and invited to participate in the study.

**Methods of Investigation**

i) **Literature Review**

A comprehensive literature review was conducted using the major library and information science databases including Library literature & information science full text, Emerald and LISA. As far as possible it was decided to focus the search on UK-based articles and on those published more recently, as these are of greater relevance to the study. Other search tools included the Google scholar search engine and the Sheffield University catalogue. After the preliminary literature review had been carried out, the bibliographies of the relevant articles were also studied to find further articles of interest. Sheffield Hallam University’s Learning and Teaching Institute (LTI) also provided invaluable background information and information literacy documents that were used in the project.
ii) Questionnaire

Initially, semi-structured interviews were proposed as the sole data collection method to reflect and meet the qualitative aims and objectives of the study. However once the interview questions were developed and mapped against the research aims, there was a recognition that many quantitatively based questions would need to be asked in order to gain an accurate understanding of the research context. For example, questions such as ‘Which groups of students do you deliver information literacy training to?’ and ‘Do you include formative or summative assessment in your sessions?’ naturally lend themselves a quantitative methodology. Including these questions in an interview was felt to be impractical given the impact that this would have upon increasing the overall length of time required to conduct an interview. The requirement for participants to be involved in lengthy interviews was recognised as creating a possible barrier to participation. This was viewed to be a particularly pertinent issue given that the project was reliant on individuals volunteering to participate in the study. Including a questionnaire and making the interview process more focused and purposeful was therefore perceived to be beneficial for both the participant and the researcher.

A further benefit of developing a questionnaire alongside the interviews was the potential benefit of encouraging and enabling wider staff participation in the project. It was hoped that by developing two complementary but independent research instruments, individuals who might be reluctant to participate in an interview might be more willing to complete a questionnaire at their own convenience. This is reflected in the overall response rates, which equated to 87.5% for the questionnaire and 62.5% for the interview.

Designing the Questionnaire

The questionnaire was designed to reflect the wider objectives of the research project, with three main sections relating to conceptions of information literacy, models of information literacy and teaching practice. A key aim of the questionnaire was to identify and provide informative and comparative data relating to Advisers’ conceptions of information literacy. As a result, questions included reference to major information literacy models and frameworks, such as the SCONUL Seven Pillars model and respondents were encouraged to engage with and
reflect upon their relevance to their information literacy work. Later questions asked participants to identify which teaching methods they use in their sessions and also what challenges and obstacles, if any, they experience in delivering information literacy support.

The questionnaire was structured with extensive use of closed questions and tick boxes to facilitate quick completion and encourage a high response. Closed questions were also used to allow for direct comparisons to be made between participants, which in turn would enable the researcher to gain an accurate overview and draw conclusions of current practices in the organisation. However, a number of open questions were also included to allow respondents to develop their answers where appropriate. It was hoped that this would result in a mixture of qualitative and quantitative responses. Whilst the use of closed questions ensures that the resulting data is more transferable and conducive to generalisation, it is recognised that a possible weakness in this approach is that participants may overlook certain responses and select answers to questions that they may not otherwise have given. To overcome this, respondents were given the option of adding additional comments to all closed questions on the questionnaire, and no questions in the survey were mandatory. The questionnaire was also rigorously piloted to identify and clarify any ambiguity in the questions.

The questionnaire was designed to take no longer than 15 minutes to complete and was created using the online survey tool, Survey Monkey (see Appendix II). The questionnaires were distributed to participants one week before the interviews and as far as possible individuals were encouraged to complete the questionnaire before their interview. Primarily this was to enable the researcher to allow the responses to inform the development of the interview questions in keeping with the grounded theory method of analysis favoured by qualitative researchers. However, a further perceived benefit was that, by providing participants with an opportunity to engage with information literacy theory and concepts prior to the interview, the quality and richness of responses in the follow up interview would be potentially enhanced.

The response rate for the questionnaire was 87.5%, which equates to seven out of the eight Information Advisers participating in the survey.
Piloting the Questionnaires

The questionnaire was piloted on two Information Advisers from different faculties at the University: the Faculty of Development and Society (D&S) and the Faculty of Arts, Computing, Engineering and Social Science (ACES). By selecting two Information Advisers for the pilot it was expected that they would possess a similar knowledge base and understanding of the research topic as the Health & Wellbeing Advisers and therefore be able to identify any potential problems with the research instrument. The pilots tested the length of time taken to complete the questionnaire, as well as the clarity of the questions and instructions given.

Interviews

Interviews were selected as the main data collection technique to reflect the qualitative aims and objectives of the research. From knowledge derived from the literature review and questionnaire, the main research tool was devised – a research interview. The interviews were semi structured to allow specific issues and topics to be addressed, whilst also allowing the ‘interviewee [to] develop ideas and speak more widely on the issues raised by the researcher’ (Denscombe: 2007:176). The interview questions aimed to develop many of the issues and concepts addressed in the questionnaire, and also explore key issues identified in the literature review. The questions were also rigorously piloted using the same strategy adopted for the piloting of the questionnaire.

An informal unstructured interview was conducted with a representative from the Learning and Teaching Institute (LTI). The LTI is part of Learning and IT Services and is the department developing the institutional strategy on information literacy through the digital fluency initiative. The aim of the interview was to deepen the researcher’s understanding of the organisation’s strategic view of information literacy, as well as the plans and proposals for the future development of information literacy at the University. The results from this discussion were used to inform Chapter One and to provide a detailed and accurate account of the research context. Whilst the interview was conducted separately to the interviews with the
faculty team, the knowledge and understanding gained from the meeting was useful for developing relevant and in-depth interview questions.

The interview script used for the Information Adviser interviews is included in Appendix III. The initial questions develop and expand upon many of the issues addressed in the questionnaire. For example, interviewees were asked to comment further on any assessment and evaluation strategies used in their teaching. Based on the issues identified in the literature review, additional questions were included that asked respondents to reflect on how the absence of an institutional information literacy strategy has impacted their work and to what extent first year students are becoming increasingly information literate as a result of the rise in popularity of commercial search engines.

The interview questions were circulated to each participant on average two days before the scheduled interview. This was to enable individuals to familiarise themselves with the questions and identify any terminology or aspects of the questions that were ambiguous or required clarification. It was felt that providing individuals with the opportunity to reflect on the questions at their leisure would be more effective than forcing them to do so in the more pressurised context of the interview. Whilst it was not expected that the Advisers should prepare for the interviews, the depth and quality of some of the individual responses clearly indicated this to be the case. Although this was an unintended outcome it was clearly beneficial to the research.

The interviews took place away from the librarian’s desk, typically in a meeting room in order to avoid any interruptions or distractions and therefore allow the respondent to develop a more open and considered response. With participants’ permission, the interviews were recorded and informed consent was sought from the participant at the start of the interview. The time taken to conduct the interviews ranged from twenty five minutes to an hour dependent on the length of the individual response.

Of the seven advisors who responded to the questionnaire, five also volunteered to be interviewed, which represents an overall response rate of 62.5%. Leedy & Ormrod state that a return rate of over 50% represents a good response rate (Leedy & Ormrod: 2005:193). However
in the context of this study, it is perhaps more meaningful to highlight that the majority of the Health and Wellbeing Adviser team contributed to both the questionnaire and the interview. As a result it is possible to claim that data collected accurately reflects the views and current practices of the Health and Wellbeing Information Advisers at Sheffield Hallam University.

**Data Analysis**

The research adopted a grounded theory mode of analysis. A grounded theory approach was used for this study as the technique is particularly compatible with qualitative research. Leedy states that methodology in a qualitative study should ‘continue to evolve over the course of the investigation’ and this is reflected in the constant comparative approach adopted in grounded theory analysis (Leedy: 2005:134). In grounded theory, data analysis is systematic and begins as soon as data becomes available, with the researcher identifying categories from the raw data and seeks to identify ‘themes that recur in the data that appear to be crucial for an understanding of the phenomenon’ (Denscombe: 2007:98). These categories are then developed through constant comparison with additional data. The process continues until saturation point is reached, whereby no new themes in the data are being collected.

For the purposes of this study grounded theory was used to rigorously analyse the data to establish and categorise themes and patterns as they emerged. Codes were first assigned to the raw data (questionnaires and interview notes) known as ‘open coding’. Connections and relationships were then identified known as ‘axial coding’, and finally selective coding was used to identify the core categories and ‘emerging story line’ based on the data collected (Thomas: 2003:9). These findings were then compared and contrasted against the quantitative data collected from the questionnaire.

A key benefit of using grounded theory as the principal mode of analysis is that, because the emerging theories are grounded in and derived from the data collected, the resulting theories should be meaningful to both the researcher and participants. Furthermore the conclusions drawn from grounded theory research have an inherent validity as the ‘explanations are grounded in reality’ (Denscombe: 2007:104). This approach is therefore consistent with the
overall aim of the study to produce data and conclusions that are both significant and useful for the researcher and the individuals and organisation involved in the study.

**Ethical Considerations**

This research has involved human participants, and it was therefore necessary to take ethical considerations into account. Ethical approval forms were completed, in accordance with University of Sheffield guidelines during the planning stage of the research. Informed consent was sought from all participants prior to taking part in the research, and participants were assured that all data would be made anonymous so that individual responses could not be identified. Participants were also advised that they were free to withdraw from the project at any point in the study.

**Limitations**

It is regretted that due to time and resource constraints the sample was limited to include only the Information Advisers in the Health and Wellbeing Faculty team. Ideally, Advisers from the other faculty teams would also have been included in the study to gain a broader and deeper understanding of the Information Adviser role in information literacy provision, and also make interesting and meaningful comparisons between faculty teams. The response rates of 87% and 62% for the questionnaire and interviews respectively are high and as result it is felt that the data collected accurately represents the views of the HWB team. How far these views are representative of the wider views of the Information Advisers at Sheffield Hallam University is unclear and beyond the scope of this project. Broader generalisations from the data are therefore not possible. However it is hoped the findings can provide an accurate ‘snapshot’ of practices at the University and that the research will be of interest in its own right as an academic study, as well of interest and use to the University.

As an employee of Sheffield Hallam University there is clearly potential for elements of researcher bias to influence and affect the validity of the research. As an Information Adviser currently working in another faculty team, the researcher would unconsciously be bringing a range of preconceived knowledge and expectations to the project based on the researcher’s
previous experience at that organisation. As a result it is difficult to claim that the research is entirely objective. However, whilst it is difficult to prove to what extent this may have affected the research, the researcher has taken numerous steps to overcome and counteract any bias. Throughout the study the researcher remained neutral and objective, which is reflected in the impartiality of the interview and questionnaire design. All conclusions and theories are derived solely from data collected and are carefully supported by statistics and direct quotations where appropriate.
Chapter Four: Results and Analysis

This chapter presents the results of the investigation. A quantitative analysis of the closed response questions in the questionnaires is first presented. This is followed by a combined qualitative analysis of the open response questionnaires and interviews. Some discussion and comparison of the results will be included where appropriate in this chapter. However, a further discussion referring to the literature review, and the original aims and objectives of the study will be presented in Chapter 5.

For the questionnaire a response rate of 87.5% was achieved, which represents seven of eight Information Advisers in the Health and Wellbeing team. For the research interviews, of the seven Advisers who responded to the questionnaire, five also volunteered to be interviewed which represents an overall response rate of 62.5%. For both the questionnaires and the interviews all respondents answered all of the questions. The answers to the questionnaire are presented in diagrammatic or graph form where appropriate. For the interviews, the responses to each question are summarised and where appropriate quotations are included to illustrate the key themes and issues arising. A more detailed discussion of individual responses to interview questions is included in Chapter 5 where appropriate.

Questionnaire Results

Question 1: Which description most closely matches your view of information literacy?

For the first question, respondents were asked to select which of the three definitions listed most accurately reflected their view of information literacy. Three contrasting definitions were presented with each one emphasising different aspects of information literacy. The statements were based on the definitions provided by CILIP, The Prague Declaration and Webber & Johnston. Participants also had the option of selecting ‘Other’ if they felt that none of the options accurately reflected their views.
Of the seven librarians surveyed, six chose the CILIP definition of information literacy: 'Information literacy is knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner' (CILIP: 2005). One respondent selecting the Prague Declaration description of information literacy: ‘Information Literacy, which encompasses knowledge of one's information needs and the ability to identify, locate, evaluate, organize and effectively use information to address issues or problems at hand, is a prerequisite for participating effectively in the information society, and is part of the basic human right of lifelong learning’. No respondents selected the definition devised by Webber & Johnston or selected ‘Other’.

**Question 2: What do you consider to be the primary purpose and function of information literacy in higher education?**

The second question asked respondents to select which statement most closely matched their view of the purpose and function of information literacy in higher education. Four different options were presented. The first statement emphasised the important role of information literacy in promoting academic achievement, whilst the second emphasised the importance of information literacy skills for the workplace. The third option focused on the social function of information literacy as a key skill for the information society. The final statement presented the most holistic view of information literacy, emphasising the broader functions of information literacy for all aspects of personal professional and academic development. Participants also had the option of selecting ‘Other’ if they felt that none of the options accurately reflected their views.

Responses to this question were divided. Four respondents selected the last statement, ‘to teach students to learn how to learn and contribute to their independent lifelong learning that will be relevant to all aspects of study and life’, whilst three respondents selected the first option, ‘to teach students the necessary IT and information skills to support and promote academic achievement’. No respondents selected the work based or social conceptions of information, or selected the ‘Other’ option.
Question 3: Which of the skills and competencies listed below do you expect an information literate student to be able to demonstrate?

This question asked respondents to select which of the skills listed they would expect an information literate student to be able to demonstrate. Each of the answers was based on one of the skills outlined in the SCONUL Seven Pillars model. For instance option one related to pillar one of the seven pillars: the ability to recognise the need for information. The results are presented in Figure 1. Although the graph maps the answers directly onto the seven pillars model, neither the framework nor the pillars were referred to in the wording of this question.

As the graph indicates, all of the respondents identified pillars 3, 4 and 5 as skills and competencies that they would expect an information literate student to demonstrate. The second pillar, ‘the ability to distinguish ways in which the information gap may be addressed’ received the lowest response, with only three respondents recognising this to be a key information literacy skill. The ‘higher’ level skills, pillars 6 and 7, also received a lower response.
Question 4: Based on your answer to Question 3, how would you describe the information literacy skills of students following your degree courses at point of entry (i.e. First year undergraduate)?

This question asked respondents to describe the overall standard of students’ information literacy skills at the beginning of their courses. Three options given were: basic, intermediate or advanced. Participants also had the option of selecting ‘Other’ if they felt that none of the options accurately reflected their views, for instance if they felt that students’ skills were a mixture of basic and intermediate or intermediate and advanced competencies. Five respondents (71.4%) described students’ skills as intermediate, meaning that students’ abilities vary; students struggle with individual skills identified in question 3 but demonstrate competence in other areas. Two respondents selected ‘basic’, meaning that students struggle with most of the skills identified in question 3.

Question 7: Do you feel you have enough time with students to develop information skills effectively?

Five respondents answered that they felt that they have enough contact time with students to teach information literacy effectively, in contrast to two respondents who felt that they do not.
Question 8: Which groups of students do you deliver information literacy training to?

This question asked participants which groups of students they deliver information literacy training to. The results are presented in Figure 2. All of the participants surveyed indicated that they teach information literacy skills to first year students. The majority of the participants, six out of seven librarians surveyed, also deliver skills training to second and third year students. Four librarians also indicated that they are involved in delivering training to access course and foundation year students.
Question 9: How do you deliver information literacy training?

The results are presented in Figure 3. As the graph indicates, all participants indicated that they use both scheduled and unscheduled face-to-face teaching methods to teach information literacy. Just over half of those surveyed (four out of the seven Advisers surveyed) indicated that they also use e-learning and online teaching. However one respondent did comment that although they do not currently use online teaching methods they are currently working to develop an online learning resource that will be available via the VLE. This suggests that the provision of e-learning and online teaching support is a developing area for the team. Another respondent stated that another method for delivering information literacy training was through other staff. The respondent commented that by ‘ensuring that all staff understand the
importance of information literacy’ they will be able to assert and reinforce information teaching to the students.

**Question 10: Which teaching method(s) do you think is most effective for teaching information literacy?**

![Figure 4](image)

Question 10 asked respondents to select which teaching methods they believe are most effective for teaching information literacy. The results are presented in Figure 4. All of the respondents surveyed stated that one-to-one support is an effective method for teaching information literacy. The majority of respondents (85.7%) also viewed small group teaching as an effective teaching method. The lowest responses rates were for drop-in session and enquiry desk support, which received response rates of three and one respectively. One respondent commented that electronic and printed guides were also important teaching tools. None of the respondents viewed large group teaching to be an effective teaching technique.

One respondent highlighted the importance of using a variety of teaching methods to best meet the needs of students, commenting that ‘small groups are good for getting students’ attention, but also having a librarian available at point of need is preferable for the student!’
Question 11: Which teaching methods do you use to deliver information skills training?

Figure 5 shows that all of the respondents use demonstrations and presentations to deliver information skills training. The majority of respondents (85.7%) also use exercises and group work in their training sessions. Three respondents also described a range of other teaching methods used in their teaching, including question & answer sessions, cephalonian teaching, interactive voting pods, post it notes, debates, jigsaw teaching and enquiry based learning.

Question 12: Would you describe current information literacy provision as generic, integrated or embedded?

All of the respondents described current information literacy provision at Sheffield Hallam University as integrated, meaning that ‘information literacy teaching is delivered as part of the curriculum, typically in the context of a unit module; content is related to the discipline’.
Question 13: Do you include formative or summative assessment in your sessions?

The majority of respondents, (four of the seven Advisers surveyed), indicated that they do not use formative or summative assessment in their teaching. However two respondents stated that they do use both formative and summative assessment. One participant also stated that they only use formative assessment indicating that assessment practices vary within in the team.

Question 14: Do you evaluate your teaching sessions?

All of the respondents surveyed indicated that they evaluate their teaching sessions.

Question 15: If yes please indicate which evaluation methods you use

Figure 6

Question 15 asked respondents to select which methods they use to evaluate their teaching. Three options were given: student feedback evaluation forms, feedback from academic staff, feedback from student rep meetings/ student forums. All respondents stated that they use student feedback evaluation forms. Three respondents stated that they use feedback from student rep meetings/ student forums to evaluate teaching. Only two stated that
they seek feedback from academic staff. One respondent commented that they use ‘self evaluation and peer evaluation’ to assess the effectiveness of their sessions.

**Question 16: How important are faculty partnerships to your work?**

Five respondents stated that they view faculty partnerships as very important to their work. Two respondents said that faculty partnerships were moderately important. No respondents identified faculty partnerships as not important to their work.

**Question 17: In what areas do you collaborate with academic staff?**

![Figure 7](image)

Respondents were asked to specify the ways in which they collaborate with academic staff to teach information literacy. The results are presented in Figure Seven. Six respondents answered that they collaborate with staff at course planning and subject group meetings. Four respondents indicated that they work with academics to develop information literacy curriculum design, and three respondents stated that they are involved in the team teaching of skills sessions.

From the responses to the question, collaboration with staff is an area that respondents would like to develop further. One respondent commented that ‘I would prefer more input from faculty staff, but thankfully I can usually deliver an effective session without too much input’.
Question 18: Do you feel that information literacy is recognised as a priority by your organisation?

Four respondents answered that they do feel that information literacy is recognised as a priority by the University, in contrast to three respondents who stated that they did not feel this to be the case.

Question 19: In your experience, what if any are the challenges and obstacles to delivering information literacy support for students?

![Figure 8]

Figure 8

Question 19 asked participants to select which, if any, of the factors listed presented challenges and obstacles to delivering information literacy support. Six options were given: student motivation, student participation/ attendance, gaining cooperation of faculty staff, developing a comprehensive and integrated skills curriculum, catering to the diverse skills needs of students and limited time. Participants also had the option of selecting ‘Other’ if they felt that none of the options accurately reflected their views. Respondents were asked to select all answers that applied to them.

Figure Eight indicates that the most popular response to this question was limited time, which received six responses. Four respondents identified student motivation and attendance as
challenges to delivering information literacy support. Catering to the diverse skills needs of students and gaining cooperation of academic staff received the lowest responses, polling two and one responses respectively.

**Question 20: Please indicate which subject area/ discipline you provide support for?**

Question 20 asked respondents to state the subject area/ discipline they provide support for in their role. To preserve the anonymity of the participants the researcher decided not to publish this information.

**Qualitative Analysis of Questionnaires and Interviews**

The results of the open-ended questions included in the questionnaire and the interviews with the Information Advisers have been combined to give an overall analysis of the librarians’ conceptions of information literacy and an overview of current teaching practices within the faculty team.

**Librarians’ conceptions of information literacy**

In the Interview participants were asked to describe why they think information literacy is important. Of the five Advisers interviewed, four emphasised the importance of information literacy for promoting academic achievement and in the questionnaire the majority of respondents stated that the CILIP definition of information literacy most closely matched their view of information literacy. These responses suggest quite a simplistic view of information literacy. However the interview revealed that the Advisers do share a more holistic view of information literacy. For example, all the Advisers interviewed were keen to emphasise the relevance of information literacy skills for the workplace:

‘information literacy is tied up with employability... especially with my students who are scientists and researchers and lab technicians. It’s not something that you just need in academic life. We need to give them skills that they need for their professional lives too.’ (Participant 3)
To a certain extent this may be expected, given the importance of information skills for evidence-based practice in the health professions. However it is interesting to note that Advisers working in other subject areas such as sport and biosciences also emphasised the importance of information literacy for the workplace. Two of the Advisers interviewed also commented on the importance of information literacy for the individual and the wider information society:

‘It’s important so students can survive in the real world when they leave... we need to equip individuals with the skills to survive in society. If they can’t cope then they’re not going to be able to participate in a democracy’ (Participant 2)

Models of information literacy – The SCONUL Seven Pillars

In the interview respondents were asked to comment on how they facilitate the learning of higher level information skills, in particular pillars six and seven of the SCONUL framework. Of the five librarians interviewed, one librarian commented that the teaching of the higher level pillars formed a major part of their training sessions:

‘I think that these are definitely the skills I focus on, so they definitely get the highest proportion of my time’ (Participant 1)

However the majority of the respondents indicated that they either do not directly contribute to the teaching of higher skills, or that this does not constitute an integral part of their curriculum. One participant attributed this to limited time and opportunities to teach information literacy:

‘with the undergraduates it’s a time issue... I think it is important to start with the basics, and I think the basics are actually finding the information’

(Participant 2)

Three of the five librarians interviewed questioned to what extent pillars six and seven are in fact part of the librarian role.

‘the ability to communicate and synthesise – that’s quite interesting, I don’t know whether it’s in our remit. Certainly academic writing is not something we’d embrace. Other than referencing and citation we don’t really approach the idea of how you should make an argument’ (Participant 4)
Two of the Advisers qualified this statement by commenting that aspects of the higher pillars, such as critical appraisal and organising, applying and communicating information, are skills that are mainly covered by another department within the University - Student and Academic Service (SAS):

‘I’m not sure if that’s something LITS do. I’m wondering if this is more something that Student and Academic Services (SAS) would do because it might be how to structure an essay, how to synthesis the information…. It is important, it is information literacy but I don’t think it’s what LITS here really focus on’ (Participant 2)

Although practices and attitudes towards the SCONUL pillars varied within the team, all the Advisers stated that they would be keen to extend and develop their teaching in this area:

‘I don’t think its something we do now. I would be happy to deliver it if I was trained properly I think’ (Participant 4)

‘I think it’s an area that we’re not quite there on and it’s an area of support that I’m trying to develop at the moment’ (Participant 1)

Teaching of information literacy

The open-ended questions included in the questionnaire were designed to gather data relating to the curriculum content of the information literacy programmes. Participants were asked to describe which skills they think students most struggle with and which particular skills they focus on in their teaching sessions. The responses indicated that developing search strategies and the evaluation of information were perceived to be the skills that students struggled with most. All the Advisers also described ‘constructing searches and finding information’ and ‘finding and evaluating’ skills as forming the main component of teaching sessions. This therefore suggests that sessions are based around meeting the immediate needs of students in the academic environment, rather than contributing to a more broader and holistic skills curriculum.

In the interview participants were asked to comment on what they think makes an effective information literacy session and also to describe what teaching methods are effective for developing student interest and engagement in information literacy. All respondents
emphasised the importance of subject relevance and having sessions integrated into the curriculum.

‘its best to make it applicable rather than generic, and try to get some level of specialisation even if it’s degree level or module level then that would be ideal’ (Participant 4)

‘I actually work with them on their assignments so they can see it has a direct benefit to their studies’ (Participant 1)

‘The key thing is to make it relevant. What’s really important is that they see the benefits of information literacy... Once they’ve got their assignments to do it won’t be boring if they can see that it’s relevant’ (Participant 5)

Advisers also emphasised the importance of creative and innovative teaching methods to ‘inspire’ and ‘engage’ students in information literacy. Group discussion, debates, enquiry-based learning, question and answer sessions, voting pods, cephalonian and jigsaw teaching were all described as effective ways to deliver and teach sessions (Participant 1& 2). However one Adviser commented that their sessions could also be quite traditional, and often follow a standard routine of presentation/ demonstration followed by students working through exercises to practice the skills taught (Participant 2). Time limitations were frequently mentioned as restricting the types of teaching approaches available.

‘I would like to do jigsaw teaching but haven’t had the opportunity to do that because the time I have with the students isn’t really long enough’ (Participant 2)

The interview also asked participants to discuss methods used to assess students’ information literacy skills. Participants described a variety of formative assessment techniques including group work, worksheets, debates, online discussion boards, and the creation of wikis on the VLE. Summative assessment was also used. Two Advisers described how their teaching sessions contribute to summative assessment by helping students to develop resource lists or bibliographies as part of formal modular assessment.

‘With [the first year] sessions, assessment is actually built into the module... what we’re doing is related to a piece of assessed work they’ve got to do’ (Participant 5)

‘The work I undertake also forms part of a summative assessment. It does go into a piece of coursework that they do’ (Participant 1)
Four of the respondents interviewed indicated that although information skills are formally assessed, the librarians are not directly involved in the assessment or marking of students’ work:

‘I personally don’t assess students’ information literacy skills... but I am preparing students for summative assessment’ (Participant 2)

‘Things I’ve taught have been used by the School for assessment.... [in a module] we’ve taught the basics and the lecturers have tested it further on’ (Participant 4)

One participant commented that they use no assessment methods in their teaching, indicating a diversity of practice within the team in this area.

The interview asked Advisers to describe any methods they use to evaluate the effectiveness of their skills sessions. The responses revealed that all Advisers are expected to evaluate their sessions and seek formal feedback from the students involved in the session. A standard team evaluation form has been developed for this purpose. However one Adviser was more sceptical about the practical benefits of using student evaluation forms:

‘sometimes it can be difficult to evaluate sessions. the feedback can be contradictory, some students say the session is too fast, and others say we’re telling them things they already know. so it can be difficult to know how to act on that really’ (Participant 5)

‘I like to get the academic staff involved and get their feedback because the students’ feedback can be things like ‘the chairs are uncomfortable’ so finding out from the member of staff if the session fulfilled their expectations is probably a better way to go’ (Participant 2)

Two Advisers emphasised the effectiveness of more informal methods of evaluation:

‘I tend to assess [sessions] a lot based on how the students are responding, whether they seem to be engaging and enjoying it’ (Participant 4)

‘I invite colleagues to come and assess my sessions. I’m quite keen on getting colleague’s feedback’ (Participant 1)

Interviews asked individuals to comment on whether they believe face-to-face or e-learning skills support was the dominant mode of practice at SHU. All of the Advisers interviewed described face-to-face as the dominant model of support. However there was
recognition of the increasing importance of e-learning and virtual support:

‘I think we have to move towards e-learning because the technology is there and we have the expertise that we could feed into it, and we just don’t have time to see all the students as much as we’d like. We need to have e-learning back up’ (Participant 2)

One respondent described recent work on a project to develop an online referencing object for the department. Another Adviser described current work to develop similar types of e-learning packages for healthcare students, indicating that this is perhaps a growth area in the department.

Information Literacy at SHU

The final interview question asked participants to consider to what extent the absence of a formal information literacy strategy has impacted on their information literacy work. The Advisers emphasised the opportunity to have complete flexibility in their work and to be able to tailor their sessions to meet the specific needs of their students and staff as a key benefit of the lack of a formal institutional policy or guidelines in this area:

‘I think it’s had an impact, it’s enabled me to be more flexible and I think it also supports subject specialisms’ (Participant 1)

‘...you do have the freedom to do what you want to do... different lecturers have different needs and I’ve been able to be quite flexible’ (Participant 5)

‘we’re free to use our own skills and abilities in whatever way we think best... its good to be able to do that, to have the freedom to get to know the staff and give them what they think their students need’ (Participant 2)

As a result some respondents were hesitant about whether a formal information literacy strategy would actually be of any benefit to the team:

‘if we had a formal information literacy strategy... it might be counter productive... it could be an end to being flexible’ (Participant 5)

However all Advisers commented that practices vary across the faculty teams and that an advantage of a formal policy would be to ensure equity of service across the subject areas.
There was also recognition of the wider importance of a formal strategy to develop equality of practice across the University:

‘each adviser faculty team does different things and has a different level of engagement... in Health and Wellbeing we engage a lot, we’re very faculty facing but there is not equality across the University in this respect’ (Participant 2)

Therefore despite concerns, Advisers were broadly supportive of the introduction of an institutional IL strategy, recognising further potential benefits such as its ability to ‘raise the profile of information literacy at SHU’ and provide further opportunities to imbed information literacy teaching into the undergraduate curriculum (Participant 1):

‘I think if the departments signed up to the strategy saying ‘yes you can have this level of contact’ then yes it would be useful rather than having to negotiate individually which is where we’re currently at. I don’t think there’s any guarantee it would happen but yes it would help to have guidelines they’ve signed into’ (Participant 4)
Chapter Five: Discussion

In this chapter results as presented in Chapter Four are discussed and evaluated, with reference to literature where appropriate. This discussion focuses on the aims and objectives of the study as outlined in Chapter One.

Conceptions of Information Literacy

This research aimed to explore the extent to which the librarians in the Health and Wellbeing team share a conception of information literacy and also to establish how librarians’ perceptions of information literacy compare to theories and models of information literacy as outlined in the literature review. The questionnaire revealed that the majority of librarians surveyed identified with the CILIP definition of information literacy. Analysis of the interview responses revealed that there was also a broad consensus regarding the overall purpose and function of information literacy. All of the Advisers interviewed emphasised the importance of information literacy skills for the workplace and individual personal development, in addition to the key role of information literacy in promoting academic achievement. As such the Advisers’ conceptions of information literacy reflect a view of information literacy as ‘a complex of different ways of interacting with information’, thereby reflecting the holistic relational frame as outlined in Bruce’s Six Frames for Information Literacy Education (Bruce et al: 2006:5) The Advisers recognise the importance and value of information literacy in a variety of contexts and for a range of purposes. According to Bruce this represents the most complex and powerful way of experiencing information literacy.

In contrast an analysis of the quantitative and qualitative data collected in the questionnaires and interviews indicates that information literacy teaching and practices within the team are not consistent with one individual framework. Aspects of the competency, learning to learn and personal relevance frames were evident in the team’s teaching practices. The extent to which each framework dominated varied from Adviser to Adviser. For instance, aspects of the competency frame were common to all Advisers surveyed, as reflected in the overall behaviourist approach to skills teaching, as Bruce describes ‘teachers analyse tasks into knowledge and skills; learners become competent by following predetermined pathways’ (Bruce
et al: 2006:4). Of the five Advisers interviewed, three also strongly identified with the learning to learn frame through the extensive use of enquiry-based learning in skills sessions and the aim to ‘foster the development of professional thinking patterns... [and] think like an information literate professional’ (Bruce et al: 2006:4). One Adviser described a view of information that was particularly compatible with the personal relevance frame:

‘the sessions I run work because I’m enabling the student to achieve whatever they want to achieve, rather than having my own agenda... [its about] working out how it works for them and letting them see how information literacy can work for them’ (Participant 1)

The application of theoretical analysis of information literacy to explain and describe practices in the team indicates that, although Advisers have a shared conception of information literacy, how this is implemented in their teaching varies from Adviser to Adviser.

Models of information literacy: The SCONUL Seven Pillars

The literature review identified the SCONUL Seven Pillars model as an influential framework that has been used to inform and develop information literacy programme design in universities across the UK. This study aimed to explore how current practices corresponded to the SCONUL framework and how relevant it was perceived to be by the Advisers delivering the information literacy programmes.

The questionnaire revealed that not all of the Advisers surveyed identified with all aspects of the SCONUL Seven Pillars framework. The librarians’ conception of information literacy typically centred on the middle pillars, with a focus on developing search strategies, locating and accessing information and critical evaluation skills. Pillars one and two received the lowest responses in the questionnaire, both in terms of the number of librarians who perceived these skills as being central to the definition of an information-literate student, and also in terms of how many librarians focused on these skills in their teaching. In the interview, participants suggested possible explanations for this oversight:

‘I don’t really know if I focus on deciding when you have a need for information because students I think know that when they have to do their assignments’. (Participant 2)
Whilst it is understandable that in the context of a time-constrained curriculum, Advisers may not be able to devote equal time to all seven pillars, neglecting the lower pillars may have a detrimental impact upon students’ ability to transfer information literacy skills and knowledge to new situations and contexts. For instance, pillars one and two represent the ability to recognise a need for information and the ability to distinguish ways to address the information gap. In the academic environment the information need and context may be clearly apparent – the need to find information on a specific topic for a coursework assignment for example. However this may not always be the case in other contexts such as the workplace. Since the Seven Pillars is a linear-based model, if students are unable to access the lower pillars they will therefore be unable to progress along the framework and effectively find access and locate information relevant to their search query. This is particularly significant considering the importance the team placed on information literacy skills to enable personal development and as a life-long professional skill.

In the interview respondents were asked to describe how they facilitate the learning of higher level information literacy skills, with particular reference to pillars six and seven in the SCONUL framework. Whilst all the Advisers interviewed were familiar with the framework, the majority of respondents required clarification as to what each skill might mean in practice and how this might be reflected in teaching practices. For example, one respondent commented that they found the terminology used to define the pillars to be 'too vague and woolly' to be of practical use for IL teaching (Participant 3). The literature review highlighted a range of literature that has attempted to elaborate and illustrate the seven pillars, most recently Webber’s *The Seven Headline Skills Expanded and Learning Outcomes and Information Literacy* (Webber: 2008; SCONUL: 2004), and where appropriate these documents were drawn on and discussed in the interview. However respondents’ answers to this question were clearly limited by their ability to comprehend and apply the framework, which some participants viewed to be too abstract and theoretical to be of direct relevance to their work.

Therefore the results of the questionnaire and interview indicate that although librarians identified with aspects of the SCONUL Seven Pillars model, this was not necessarily reflected in their teaching practices. The librarians’ responses showed that whilst they identify with the definitions outlined in the framework, the extent to which they are able to integrate
the Seven Pillars into their teaching is restricted by a time-constrained curriculum and the ability
to readily comprehend and apply the abstract concepts to their own unique context and
circumstances. The findings suggest that whilst the SCONUL model is useful for defining and
describing information skills the framework is difficult to implement on a practical level. In order
for the model to be more applicable and directly transferable to the higher education
environment, greater efforts need to be made to articulate it in a more practical, meaningful
way to allow librarians to engage more fully with the theories and concepts addressed.

Information Literacy: Current Practices at Sheffield Hallam University

A second aim of this dissertation was to explore and examine current information
literacy practices within the Health and Wellbeing team. In the questionnaire all Advisers
surveyed indicated that they deliver information literacy training to all first year students. Of the
seven Advisers surveyed, six stated that they also deliver training to second and third year
students. All Advisers surveyed stated that information literacy classes are complemented by a
range of informal face-to-face models of support, including drop-in sessions, enquiry desk
support and one-to-one sessions. This shows that in terms of basic service provision, the
librarians are delivering a similar range and standard of information education across the
different subject areas.

In the interviews the Advisers emphasised the importance of creative and innovative
teaching methods to engage students in information literacy. In particular Advisers emphasised
the importance of active learning methods to facilitate deep learning and effective skills
acquisition:

‘I do always make sure that at least half the session is hands on so that they’ve got an
opportunity to practice for themselves’ (Participant 5)

The questionnaire revealed that the Advisers routinely depend upon classical teaching
approaches to deliver formal information literacy classes. All seven Advisers stated that they use
presentation and demonstrations in their skills sessions, with six also claiming to make extensive
use of exercises and group activities. However, in the interview individual Advisers expressed a
willingness to experiment new teaching techniques and strategies, ranging from group
discussion, debates, enquiry-based learning, to question and answer sessions, voting pods, cephalonian and jigsaw teaching. The use of creative teaching methods, particularly techniques that foster reflective and critical thinking has been highlighted in the literature review as an example of best practice, and demonstrates a commitment in the team to develop a range of teaching methods to meet students’ diverse needs and learning styles.

As this overview suggests, the investigation found that more traditional teaching methods are most popular in the team. All the Advisers interviewed described the ‘face-to-face models of support’ as the dominant mode of delivery at the University. However, Advisers also expressed interest in improving online information literacy support and teaching within the team. Developing online support by increasing presence on the VLE, developing learning objects and including greater use of online teaching methods such as online discussion boards and wikis were all discussed enthusiastically in the interviews.

Assessment

Assessment was identified in the literature review as an important feature of a well developed information literacy curriculum. In particular formative and summative assessment of information literacy was seen as crucial for encouraging active engagement with the curriculum and facilitating the learning of higher level information literacy skills (Andretta: 2007). The results collated from the questionnaire indicate that assessment practices vary within the team. The questionnaire showed that two of the seven Advisers use formative and summative assessment, with one member of the team stating that they use only formative assessment in their teaching. The majority of the team therefore claimed to use neither formative nor summative assessment. The interviews provided an opportunity to explore and account for this variance within the team.

In an interview, one librarian described current levels of information literacy assessment in a first year undergraduate module. In the module students were required to demonstrate their knowledge and understanding of information literacy by completing a pro-forma exercise in class, which was followed up by an assessed coursework assignment. This approach meant that whilst the librarian was not directly involved in the assessment process in terms of marking
student work, information literacy skills were formally assessed and the librarian was contributing to formative and summative assessment of information literacy.

‘I personally don’t assess students’ information literacy skills... I don’t do formative or summative assessment but I am preparing the students in the module for summative assessment’ (Participant 2)

Given that the module described is core to a range of health and related programmes it is therefore likely that, due to the complexity of assessment practices, some of the librarians surveyed failed to recognise that their teaching contributes to wider summative assessments. As a result it is possible that the quantitative data gives an inaccurate picture of current assessment practices, and that summative assessment is in fact more widespread within the department than this might suggest.

Curriculum Integration

In the questionnaire, all Advisers surveyed described information literacy provision as integrated, meaning that information literacy teaching is delivered as part of the curriculum, typically in the context of a unit module: content is related to the discipline. In the interviews one Adviser described an undergraduate module that exemplified the integrated approach to information literacy teaching within the team; information literacy teaching on the course is fully integrated into the module programme; the content delivered is specific to the discipline and assessed using formative and summative assessment. Both academics and librarians collaborate to develop the course curriculum and programme design:

‘[The Information Specialist] is dealing with the lecturers at a higher level and co-ordinating the modules we run for the students’ (Participant 2)

The Adviser contrasted this model of support with the current information literacy teaching delivered to post-graduate students in their subject area. The provision described was less integrated than the undergraduate skills sessions, as the teaching was not part of summative assessment for the students and there was less collaboration evident between the academic member of staff and the librarian in terms of session content, design and delivery. This
more generic approach to skills provision created problems for effective delivery of the sessions:

‘The subject I was showing them was evidence-based practice. The academic was going to tell them about (evidence-based practice) beforehand and then I was going to show them how to find the evidence. But not having known exactly what the lecturer had told them meant that I didn’t quite know how to match it up. I didn’t know what they already knew’ (Participant 2)

Whilst this did not mean that the session was unsuccessful (the Adviser commented that ‘at the end the students said it was great and just what they wanted’) it did highlight the benefits of more integrated support to the librarian. These examples emphasise the importance of consultation and collaboration between academic staff and librarians for the effective delivery of skills sessions. Where there is less collaboration and integration the effectiveness of the session could be compromised, as was the case for the post-graduate students. This evidence therefore reflects the views of Andretta (2005) and Hardy & Corral (2007) as outlined in Chapter 2, who suggest that integrated or embedded models of support represent the most effective strategy for delivering information literacy education (see pages 23-26).

The responses of the Advisers highlighted here would appear to support the view that integrated provision of information literacy is beneficial for all those involved in information literacy teaching: librarians, academics and students. However, from the interview it was revealed that an overly prescriptive programme for information literacy education could be negative for the librarians involved in teaching the curriculum, who describe a lack of sense of ownership of the sessions and job satisfaction:

‘at one time we can be doing twenty five sessions so we’re working on the lesson plan written by [the Information Specialist] so I don’t really feel like they’re my sessions... they’re not what I’ve created’ (Participant 2)

The majority of the Advisers supported this view by emphasising the importance of flexibility in programme design and opportunities for individual librarians to be creative and innovative, and to be able to use their professional judgement and skills to modify or tailor sessions to the individual needs of academics and students. Discussing the importance of a flexible information literacy strategy, one Adviser commented that the ‘framework needs to be inspirational not instructive’ (Participant 1). This viewpoint was echoed by other colleagues who emphasised the ability to be ‘flexible and creative’ as being important (Participant 4).
Whilst this research has highlighted the benefits and importance of providing integrated information skills provision, the findings also emphasise the importance of balancing the need to develop a comprehensive information literacy curriculum with the opportunity to allow librarians to tailor sessions to the specific needs of individual degree programmes. As well as better meeting student needs, this will also enhance levels of job satisfaction for the librarians involved.

**Information Literacy Strategy**

A feature of current practice in the team is that the librarians are not subject to guidelines, frameworks or restrictions governing information literacy provision, as the university currently has no formal information literacy policy. Information Advisers are allowed the freedom and flexibility to deliver information literacy education in a manner that best meets the needs of individual programmes and students. As outlined in Chapter One, Sheffield Hallam University is currently in the process of developing a formal information literacy policy through the digital fluency initiative. As such, it was seen to be relevant to ask Advisers to consider how the absence of a formal information literacy policy has affected their work.

None of the Information Advisers indicated that this has had a negative impact upon their work. The survey of information literacy practices within the Health and Wellbeing team shows that information literacy teaching is integrated into the curriculum, and that librarians are working closely with staff to develop the curriculum to continue to meet the needs of students and staff. However, Advisers did state that practices in the Health and Wellbeing team were not necessarily typical of those across the University. The introduction of a formal information literacy policy would therefore ensure consistency in practice across the university.

Whilst information literacy provision within the Health and Wellbeing team was fairly consistent, with all team members surveyed indicating that information skills provision is integrated into course curricula, the librarians did express concern about particular aspects of information literacy provision. For instance, both questionnaires and interviews indicated that not all of the SCONUL seven pillars are included in their teaching. Due to a lack of formal guidance or strategy in this area, it is unclear whether this is something that the Advisers should
strive towards, and it is also unclear what the University’s expectations are. Clearly, an awareness of the University’s expectations with regards to basic levels of service would enhance the work of the Advisers in this area. For instance, in the interviews, pillar six in the Seven Pillars framework was seen to be particularly ambiguous. Pillar six represents the ability to organise, apply and communicate information and is currently taught by the librarians in the context of issues surrounding plagiarism, referencing and the use of reference management software. From a strategic standpoint, and also from the perspective of academic lecturers, is this really a broad enough interpretation of this skill to ensure that student needs are met? It is these types of questions and issues that could be formally addressed in an information literacy strategy or service level agreement.

In the interview individual Advisers commented that aspects of information literacy, namely critical appraisal and organising, applying and communicating information, are skills that are mainly taught by Student and Academic Service (SAS). This support is principally delivered through informal drop-in services as part of the learner development programme, however, subject to negotiation with individual departments, training can also be integrated into the student curriculum. Clearly this represents an overlap between the role of the Advisers and the role of SAS staff in this area. In order to address all the information literacy skills as outlined in SCONUL Seven Pillars framework, the University needs to decide who is best placed to deliver this training. To have this clarified in a document would enable Advisers to better meet their students’ needs, either by delivering the training themselves, or liaising with SAS colleagues to ensure that the training is more effectively integrated into the curriculum.

Therefore, the research suggests that whilst it is unlikely that the introduction of a formal information literacy strategy would radically alter current practices within the team, it is possible that a strategy would promote and ensure consistency of service across the faculty teams. Advisers would also benefit from greater clarity of service expectations, and would thus be able to develop their services to meet wider strategic objectives within the University.
Chapter 6: Conclusions and Further Work

This chapter will present the conclusions of the study, in the context of the original aims and objectives for the research and also make recommendations for further work.

Conclusions

This study set out to examine the role of the subject librarian in delivering information skills support at Sheffield Hallam University. The objectives, as outlined in Chapter One, aimed to explore and describe current information literacy practices in the organisation: to examine how practices compare with theory and models of information literacy; and to identify the extent to which librarians have a shared conception and view of information literacy. The Information Advisers in the Health and Wellbeing faculty team were selected for inclusion in the study, and the librarians were invited to participate in an interview and complete an online questionnaire.

The findings revealed that overall perceptions of information literacy and teaching practices were consistent within the team. The Health and Wellbeing Advisers incorporate a diverse range of teaching strategies into their skills sessions that are recognised as models of best practice in the literature review. For instance, all Advisers surveyed emphasised the importance of active learning methods, subject relevance and course integration for the effective delivery of information literacy teaching. Assessment and integration of information literacy into course curricula were also identified as exemplary areas of practice. However, the Advisers did indicate that these practices did not necessarily reflect wider practices across the other faculty teams.

The study also aimed to explore and describe librarians’ views and conceptions of information literacy. Overall it was found that the librarians shared a holistic view of information literacy, with all the Advisers interviewed recognising the importance of information literacy for promoting academic achievement and for the workplace. The significance of information literacy for lifelong and personal development was also emphasised. Whilst librarians’ views of
information literacy were most consistent with the holistic frame, depending on the individual Adviser teaching practices combined aspects of the competency, learning to learn and personal relevance frames. The findings therefore validate Bruce’s theory that ‘individuals and teams are likely to bring more than one frame to any aspect of information literacy education... evidence of more than one frame will usually be found in any one IL context’ (Bruce et al: 2006:14).

The final objective of the research, namely to examine how current practices correspond to information literacy theory, focused on a detailed exploration of the Advisers’ conceptions of information literacy as outlined in the SCONUL Seven Pillars model. Librarians were asked to identify which pillars they perceived to be core information literacy competencies, and also to describe how they facilitate the learning of higher level pillars. The findings revealed that although all the Advisers interviewed were familiar with the framework few were able to effectively assimilate the theory into their teaching, suggesting a need for information literacy models to be articulated in a more transparent and practical way to facilitate better integration of the theory into information literacy curricula.

At the time this research was conducted, Sheffield Hallam University was in the process of developing a formal information literacy policy with the aim of improving and developing existing information literacy provision at the University. This project has provided a ‘snapshot’ of current practices and attitudes towards information literacy in one of the IS faculty teams. In doing so, it is hoped that this study may help to inform and develop the information literacy strategy, as well as possibly provide a useful benchmark against which to assess the impact and success of the digital fluency initiative when it is implemented. In this way it is hoped that this research will be of interest and use to the University as well as the wider academic community.

**Recommendations for Further Research**

As outlined in Chapter Three, it is regretted that due to time and resource limitations, the project was restricted to a study of Information Advisers within the Health and Wellbeing team. Therefore a recommendation for further study is to investigate the role of subject librarians in delivering information literacy support in other faculty teams at Sheffield Hallam University.
University. This would indicate how representative this study has been and would also allow points of comparison to be made between different subject areas.

In terms of wider issues affecting information literacy education another interesting area to investigate would be the future of information literacy teaching and the evolving role of the subject librarian. As part of the digital fluency initiative, Sheffield Hallam University is exploring the possibility of re-working the Information Adviser role so that Advisers work more as consultants, rather than being directly involved in the teaching of information skills. Whilst it was not possible to explore this issue in any detail in this study, the literature review has highlighted this as an emerging theme in current literature, and is therefore likely to be of increasing relevance and interest to the library profession. (Bridgland & Moore: 2005; Bruce: 1997).
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Appendices

Appendix I - adapted from *The Six Frames of Information Literacy Education* (Bruce et al: 2006:19)

<table>
<thead>
<tr>
<th>CONTENT FRAME</th>
<th>COMPETENCY FRAME</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>View of IL</strong></td>
<td><strong>IL is a set of competencies or skills</strong></td>
</tr>
<tr>
<td><strong>View of Information</strong></td>
<td><strong>Information contributes to the performance of the relevant capability</strong></td>
</tr>
<tr>
<td><strong>Curriculum focus</strong></td>
<td><strong>What should learners be able to do?</strong></td>
</tr>
<tr>
<td><strong>View of learning and teaching</strong></td>
<td><strong>Teachers analyze tasks into knowledge and skills; learners become competent by following predetermined pathways.</strong></td>
</tr>
<tr>
<td><strong>View of content</strong></td>
<td><strong>Content is derived from observation of skills practitioners.</strong></td>
</tr>
<tr>
<td><strong>View of assessment</strong></td>
<td><strong>Assessment determines what level of skill has been achieved.</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PERSONAL RELEVANCE FRAME</th>
<th>LEARNING TO LEARN FRAME</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>View of IL</strong></td>
<td><strong>IL is learned in context and is different for different people/groups</strong></td>
</tr>
<tr>
<td><strong>View of Information</strong></td>
<td><strong>Valuable information is useful to the learners</strong></td>
</tr>
<tr>
<td><strong>Curriculum focus</strong></td>
<td><strong>What good is IL to me?</strong></td>
</tr>
<tr>
<td><strong>View of learning and teaching</strong></td>
<td><strong>Teaching focuses on helping learners find motivation. Learning is about finding personal relevance and meaning.</strong></td>
</tr>
<tr>
<td><strong>View of content</strong></td>
<td><strong>Problems, causes, scenarios selected to reveal relevance and meaning.</strong></td>
</tr>
<tr>
<td><strong>View of assessment</strong></td>
<td><strong>Typically portfolio based – learners self assess.</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SOCIAL IMPACT FRAME</th>
<th>RELATIONAL FRAME</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>View of IL</strong></td>
<td><strong>IL is a complex of different ways of interacting with information</strong></td>
</tr>
<tr>
<td><strong>View of Information</strong></td>
<td><strong>Information may be experienced as objective, subjective or transformational</strong></td>
</tr>
<tr>
<td><strong>Curriculum focus</strong></td>
<td><strong>Bringing about awareness of the critical ways of seeing and experiencing</strong></td>
</tr>
<tr>
<td><strong>View of learning and teaching</strong></td>
<td><strong>Teachers bring about particular ways of seeing; specific phenomena; learning is coming to see the world differently.</strong></td>
</tr>
<tr>
<td><strong>View of content</strong></td>
<td><strong>Examples selected to help students discover new ways of seeing. Critical phenomena for learning must be identified.</strong></td>
</tr>
<tr>
<td><strong>View of assessment</strong></td>
<td><strong>Designed to reveal ways of experiencing.</strong></td>
</tr>
</tbody>
</table>
Appendix II: Questionnaire

1. Information

This questionnaire is for a research project investigating the role of subject librarians in delivering information literacy skills support.

The survey involves answering a series of questions on how you deliver information skills training sessions and your views and perceptions of information literacy. The majority of the questions have tick box answers and should take no longer than 15 minutes to complete.

The results of the questionnaire may be presented as part of a dissertation which will be submitted in September. All data will be anonymised and participants will not be identified.

For more information and answers to any queries please contact Laura Lewis by email (lip05brl@sheffield.ac.uk) or the project supervisor, Sheila Webber (s.webber@sheffield.ac.uk)
2. Questionnaire

1. Which description most closely matches your view of information literacy?

- Information literacy is knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner (GRLIP, 2005)
- Information literacy, which encompasses knowledge of one’s information needs and the ability to identify, locate, evaluate, organize and effectively use information to address issues or problems at hand, is a prerequisite for participating effectively in the information society, and is part of the basic human right of life long learning (The Prague Declaration, 2002)
- Information literacy is the adoption of appropriate information behaviour to identify, through whatever channel or medium, information well fitted to information needs, leading to wise and ethical use of information in society (Webber & Johnston, 2003)

- Other (please specify)

2. What do you consider to be the primary function and purpose of information literacy in higher education?

- to teach students the necessary IT and information skills to support and promote academic achievement
- to enhance the employability of graduates by teaching a range of transferable skills that will prepare students for the workplace
- to teach students the necessary skills to engage in a fast changing information society and to develop skills to enable personal empowerment, participative citizenship and social inclusion
- to teach students to learn how to learn and contribute to their independent life long learning that will be relevant to all aspects of study and life

- Other (please specify)

3. Which of the skills and competencies listed below do you expect an information literate student to be able to demonstrate? (Please select all that apply)

- the ability to recognise a need for information
- the ability to distinguish ways in which the information ‘gap’ may be addressed
- the ability to construct strategies for locating information
- the ability to locate and access information
- the ability to compare and evaluate information obtained from different sources
- the ability to organize, apply and communicate information
- the ability to synthesize information and create new knowledge
4. Based on your answer to question 3, how would you describe the information literacy skills of students following your degree courses at point of entry (i.e. first year undergraduate)?

- advanced - students demonstrate competence with most of the skills identified in question 3
- intermediate - students abilities vary; students struggle with individual skills identified in question 3 but demonstrate competence in other areas
- basic - students struggle with most of the skills identified in question 3
- Other (please specify)

5. Which of the skills do you think students most struggle with? (Please describe)
3. Questionnaire

6. Which of the skills do you specifically focus on in your teaching sessions? (Please describe)

7. Do you feel you have enough contact time with students to develop information skills effectively?
   - [ ] Yes
   - [ ] No

8. Which groups of students do you deliver information literacy training to? (Please select all that apply)
   - [ ] Access course foundation year students
   - [ ] Undergraduate students - year 1
   - [ ] Undergraduate students - year 2
   - [ ] Undergraduate students - year 3

9. How do you deliver information literacy training? (Please select all that apply)
   - [ ] Face to face - scheduled contact (eg. classes, one to one support)
   - [ ] Face to face - unscheduled contact (eg. enquiry desk, drop in sessions)
   - [ ] E-learning/ online contact (eg. online tutorials, VLE )
   - [ ] Other (please specify)

10. Which teaching method(s) do you think is most effective for teaching information literacy? (Please select all that apply)
    - [ ] One to one support
    - [ ] Teaching small groups (<15 people)
    - [ ] Teaching large groups (>15 people)
    - [ ] Via enquiry desk
    - [ ] Drop in sessions
    - [ ] Other (please specify)
### 4. Questionnaire

**11. Which teaching methods do you use to deliver information skills training? (Please select all that apply)**

- [ ] powerpoint presentation
- [ ] demonstrations
- [ ] exercises
- [ ] group work
- [ ] Other (please specify)

**12. Would you describe current information literacy provision as?**

- [ ] generic (information literacy teaching is delivered via extracurricular classes and/or self paced packages; content is discipline neutral)
- [ ] integrated (information literacy teaching is delivered as part of the curriculum, typically in the context of a unit module; content is related to the discipline)
- [ ] embedded (information literacy teaching is fully embedded in the curriculum of the course and students have ongoing interaction and reflection with information; information literacy content is designed, delivered, assessed and evaluated via collaboration between academic and library teaching staff; content is discipline driven)

**13. Do you include formative or summative assessment in your sessions?**

- [ ] yes, formative
- [ ] yes, summative
- [ ] both formative and summative
- [ ] neither

**14. Do you evaluate your teaching sessions?**

- [ ] yes
- [ ] no

**15. If yes, please indicate which evaluation methods you use (Please select all that apply)**

- [ ] student feedback evaluation forms
- [ ] feedback from academic staff
- [ ] feedback from student rep meetings/student forums
- [ ] Other (please specify)
5. Questionnaire

16. How important are faculty partnerships to your work?
   - very important
   - moderately important
   - not important

17. In what areas do you collaborate with academic staff?
   - information literacy curriculum design
   - team teaching of skills sessions
   - course planning meetings
   - subject group meetings
   - Other (please specify)

18. Do you feel that information literacy provision is recognised as a priority by your organisation?
   - yes
   - no

19. In your experience, what if any are the challenges and obstacles to delivering effective information literacy support for students? (Please select all that apply)
   - student motivation
   - student attendance/participation
   - gaining co-operation of faculty staff
   - developing a comprehensive and integrated skills curriculum
   - catering to diverse skills needs of students
   - limited time
   - Other (please specify)

20. Finally, please indicate which subject area/discipline you provide support for:
Appendix III: Interview Script

1. Why do you think information literacy is important?

2. Please can you describe an information literacy session that you thought was particularly effective. This could either be a session that you observed or taught. What made the session successful?

3. Do you evaluate the effectiveness of your sessions? If so, how?

4. What methods do you use to assess students information literacy skills? For example, are information skills assessed as part of formal summative assessment for a module? Do students use formative self assessment activities to support learning and skills acquisition?

5. What impact, if any, do you think increased access to commercial search engines such as Google and Yahoo has had on students' acquisition of information skills?

   Follow up question: Are the ‘Google generation’ of students more information literate?

6. How do you facilitate the learning of higher level information skills? In particular skills six and seven in the SCONUL Seven Pillars framework (the ability to organise and apply information and the ability to synthesise information and create new knowledge)

7. SHU currently has no formal Information Literacy strategy. Do you feel this has had an impact on your information literacy work?

   Follow up question: For instance, has this enabled you to be more flexible and creative with your information literacy curriculum or has this made partnerships and liaison with academic staff more difficult to achieve?

8. From the questionnaire, student motivation and participation are identified as challenges to delivering effective information literacy support. What teaching methods do you find most effective for developing students interest and engagement in information literacy?

9. Methods for delivering information literacy support can be broadly identified as either face-to-face models of support (e.g. classes, one to one support, enquiry desk) or virtual online models of support (e.g. online tutorials, VLE). Considering the types of information literacy support offered at SHU, which support model do you think is most dominant?

   Follow up question: When do you think information literacy is best delivered through face-to-face interaction and when do you think it's best to deliver via virtual and online support?