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The Information-Seeking Behaviour of Distance Learners: a Case Study of the University of London International Programmes

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A Doctoral Thesis
Submitted in partial fulfilment of the requirements for the award of Doctor of Philosophy

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School of Computing Mathematics and Engineering
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p 30: **Fig 2.2.** Profile of the university of London International Programme Students., from QAA report.
p 66: **Fig 2.8**. The Al-Muomen extension for Wilson's model.
p 488: **Email address** in Participant Consent Form.
p 495: **Appendix 11.** Screenshots of Main Interface of University of London.

Abstract

Understanding the information-seeking behaviour of distance learners will lead to better-designed distance learning libraries that effectively support the information and learning needs of distance learners. It will also inform a debate on how national guidelines for distance learning library provision in the UK might be formulated. This study explores the information-seeking behaviour of distance learners registered with the International Programmes of the University of London, which is the second largest distance learning provider in the UK. The population includes both postgraduate and undergraduate students registered on six different social sciences and humanities programmes. All participants were registered library users.

The study discusses possible influencing factors and barriers that distance learning students may encounter while seeking, accessing and, to some extent, using information needed to complete their university studies. The kind of information activities that students engage in, the kind of information sources they use including those not provided by the library, the reasons why they use them, the challenges they face and the strategies they adopt to overcome these challenges are all explored. The study methodology comprised preparatory desk research including a thorough literature review in the areas of Information-Seeking Behaviour, including existing models, and an assessment of existing distance library provision in the UK.

The research uses a combination of quantitative (questionnaires both online and by post) and qualitative (laboratory-based observational study using think-aloud protocol) methods and one-to-one interviews using open-ended semi-structured questions. Statistical analysis using the chi-square test for independence revealed that the significant factors which influenced distance learners' information-seeking behaviour first of all directly relate to the learner him or herself, the individual context in which they work and the barriers that stem from that specific context, such as those imposed by time, distance and instructional approaches (pedagogy) as well as ease of access to required information sources. These are the variables that Wilson (1999) calls 'person-in-context' and 'intervening variables'. They include demographic, role-related / interpersonal, psychological, environmental and logistical variables as well as sources and their characteristics, the student's social networks and the student's information literacy skills. This leads to the construction and proposition of a new model of information-seeking behaviour that directly relates to distance learners. The study makes a series of recommendations for supporting the library and information needs of distance learners in the electronic age effectively. They include the following: the role of electronic provision; design for ease of access and ease of use; the need for access to physical libraries; the need for technical support; the need for student support in the broadest sense; the responsibility of the institution for full provision of information resources and for the provision of information literacy skills; the design of distance learning programmes with integral information design rather than merely a translation of on-campus programmes; the need for a communications strategy; and the role of the institution in education literacy skills for a better understanding and appreciation of the purpose of study.

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Dedication

This thesis is dedicated to my Dad, my hero-"Simoni Mwene Yona", the man of unequalled wisdom, and to all those people who God placed at every crucial stage of my life.

"With God All Things Are Possible" - Matthew 19:26

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Chapter 1: Introduction

This thesis examines the information-seeking behaviour of distance learning students at the University of London. It addresses a gap in existing research, relating to large communities of distance learners spread worldwide. Understanding the information-seeking behaviour of distance learners will lead to better-designed library and information services that effectively support the individual information and learning needs of distance learners. It will also provide valuable evidence to inform a debate on how national guidelines for distance learning library provision might be formulated.

1.1 Structure of the Thesis

This thesis is arranged in seven chapters. Chapter One is an introduction setting out the problem statement including the identification of the gap in existing research that my research seeks to remedy. The aims and objectives of the research and their importance are outlined together with the research questions which arise from them and the research hypotheses formulated to address these questions. There is a comparative assessment of existing distance library provision in the UK, establishing current practice as the context of the present research. The introduction also provides the context of this research in terms of my personal and professional experience, the motivation for the research, and the access to data that my professional involvement in distance learning afforded.

Chapter Two presents a review of the literature in the field of information-seeking behaviour (ISB), including definitions of terms and an evaluation of relevant models in order to assess their practical application to the distance learning context. The literature review identifies the questions already addressed in published research and the gaps in existing research, and it enables a model to be selected as a framework for further research. This chapter also places the target community for the research, the University of London distance learning programmes, into context.

Chapter Three contains a description and analysis of the methodologies employed. The chapter examines the broad philosophies and theoretical frameworks that underpin the research methodology, referring to any similar studies in the published research. The various strategies, including quantitative and qualitative methods, are discussed and assessed, and the selection of the most appropriate methods is explained. The conceptual framework of Wilson's 1996 model which informs this research is analysed in detail, taking into account the variables investigated by Wilson and breaking them down further to enable the formulation of a testable hypothesis. This is followed by an account of the detailed research design for the pilot and wider-scale studies, both quantitative (questionnaires, both online and by post) and qualitative (lab-based observational study using think-aloud protocol, one-to-one interviews and open-ended questions). The various changes and refinements adopted for the main study are noted and the reasons for those changes are given. The questionnaire design is analysed, with a discussion of each of the questions employed and the relevance of the data to be captured. Finally, the ethical issues of the research are addressed with reference to best practice.

Chapter Four is a description and analysis of a Pilot Study of 96 University of London undergraduate distance learning law students (92 completed questionnaires and 4 participants in observational studies / interviews). The pilot study contributed to the formulation of new ideas for the subsequent main study

and its methodology. The low response rate, even to the online survey (87 out of a sample of 500 students or 17%), was thought to be too low given the large student body of the University of London, and this established the need for a wider-scale study involving students on programmes other than the undergraduate law programme. Some conclusions drawn from the pilot study also led to the implementation of immediate developmental action and this is described both in terms of an early practical benefit of the study and the changed environment in which the main study was carried forward.

Chapter Five provides a comprehensive tabulation and analysis of the extensive data collated from the quantitative survey questions of the main study which are reproduced in the appendices. The data are presented in the order in which the questions appear in the questionnaire. Cross-tabulation is used to present the relationships between the data elements or variables. There is a commentary containing analysis of the data for each survey question including the cross-tabulations against other significant survey data which directly relate to the respondents' personal context. In each case the chi-square test is applied to identify significant variations.

Chapter Six is a comprehensive discussion and evaluation of the data established by the large-scale main study, the contribution they make and how they answer the research questions introduced under 'Aims and Objectives' in Chapter One. The discussion is arranged under the main themes identified in the research, drawing together all the relevant findings for each research question. Each research question is then answered with reference to the data and compared to findings in the major published research.

Chapter Seven gives the conclusions drawn from the analysis of data in the main study and the policy recommendations arising from them. It further analyses the elements that contribute to a model, comparing the findings to existing published research on more general information-seeking behaviour of students. It will contend that the findings of this research demonstrate that the application of existing models of information-seeking behaviour do not sufficiently take account of the different environment of distance learning and the different behaviour of distance learners. It finally proposes a new model of the factors influencing the information-seeking behaviours of distance learning students.

There is a single list of references for the work as a whole.

There are also appendices containing the questionnaires employed in the pilot study and the main study, the questionnaires administered before and after the observation study, the script used at the observational study, and the detail of the test used to establish the significance of the data.

1.2 Aims of the Research

This research was undertaken in order to gain a better understanding of the information needs and information-seeking behaviour of distance learners. More specifically, the research seeks to make an original contribution to the limited body of knowledge by undertaking an information-seeking study of a much larger and more representative sample of widely dispersed distance learners, undertaking different programmes, who predominantly depend on Online Library provision. In doing so, it addresses the gap in existing research described below in this chapter and identified in the literature

review in Chapter Two. The research is further aimed at developing a set of recommendations for effectively supporting the library and information needs of distance learners in the electronic age.

This study is aimed at providing empirical evidence for developing practical ways of improving distance learners' library and general academic experience both at the University of London and more generally.

As mentioned above, one of the aims of this research is to contribute to the development of best-practice guidelines for distance learning libraries in the UK in the electronic age. Despite the existing need, there are currently no adequate published national guidelines for distance learning library provision that work in the context of the electronic age. This research argues that the requirements and best-practice guidelines promulgated by accrediting bodies, such as the Joint Academic Stage Board (JASB 2012), which regulates the award of Qualifying Law Degree on behalf of the Law Society and the Bar Council, and the Quality Assurance Agency (QAA 2012), are essentially still rooted in campus-based provision and still do not sufficiently take into account factors particular to distance learning provision.

1.3 Objectives and Research Questions

In order to achieve the aims described above, the research explores the patterns of information-seeking behaviour of distance learning students and identifies the factors influencing the information-seeking process. The following objectives and research questions arose from the overall aims of the research: The first objective of the study was to identify the information needs of distance learners. This objective generated the following research question:

a) What are the information needs of distance learners at the University of London?

The second objective of the study was to establish how the information needs of distance learners are met. This objective generated the following research question:

b) What kind of information sources and information channels are used by distance learners and why they are used?

The third objective of the study was establish the challenges or barriers distance learners face when seeking and, to some extent, when using information sources and channels during the course of their studies. This objective generated the following research question:

c) What barriers do distance learners encounter when accessing and using online library resources?

The fourth objective was to establish the extent to which the information needs of the distance learners were met by the University of London's current Online Library provision. This objective generated the following research question:

d) To what extent does the online library meet distance learners' information needs?

The fifth objective of the study was to explore what possible solutions can be employed to help the learners overcome these barriers or improve their learning experience. This objective generated the following research question:

e) What practical solutions can be employed to help learners overcome the barriers they face when seeking and, to some extent, using information sources to complete set tasks?

The sixth objective was to make recommendations for supporting the information-seeking behaviour of distance learning students.

The research questions led to a series of research hypotheses to be tested in the research and these are listed below. The various factors that constituted elements of information-seeking behaviour, the characteristics of the distance learners and the potential barriers were elaborated into data elements to be explored in the research and are also described in Chapter Three and tabulated with the results in Chapter Five.

These questions were addressed through a variety of methodologies described in detail in Chapter Three, including interviews, talk-aloud exercises, an empirical study of information-seeking behaviour in distance learners based on a large and diverse group of distance learners, and an evaluation of existing information-seeking behaviour models in the context of distance learning. The University of London was chosen for the case-study because of the diverse nature of its distance learning community. The University had over 50,000 students distributed in over 180 countries (http://www.london.ac.uk/aboutus.html accessed on 21 July 2013).

1.4 Research Hypotheses

Drawing on the conceptual framework and the above research questions, the study generated a set of testable hypotheses in order to establish whether certain variables influence the information-seeking patterns and behaviours of distance learners. Those hypotheses are as follows:

1.4.1 Demographics

Hypothesis1 (H1): There is a significant relationship between distance learners' patterns of information-seeking behaviour and Demographic variables such as (a) Gender, (b) Age and (c) English language proficiency.

Null hypothesis
There is no significant relationship between distance learners' patterns of information-seeking behaviour and Demographic variables such as (a) Gender, (b) Age and (c) English language proficiency.

1.4.2 Role-Related / Interpersonal

Hypothesis1 (H2): There is a significant relationship between distance learners' patterns of

information-seeking behaviour and Role-Related or Interpersonal variables such as (a) Programme of Study / Discipline, (b) Level of Programme (e.g. undergraduate, postgraduate) and (c) Mode of Study (whether completely independent or in receipt of tutorial support).

Null hypothesis
There is no significant relationship between distance learners' patterns of information-seeking behaviour and Role-Related or Interpersonal variables such as (a) Programme of Study / Discipline and (b) Level of Programme (e.g. undergraduate, postgraduate), (c) Mode of Study (whether completely independent or in receipt of tutorial support).

1.4.3 Resource Characteristics

Hypothesis3 (H3): There is a significant relationship between distance learners' patterns of information-seeking behaviour and Resource Characteristics such as (a) Ease of Use, (b) Ease of Access, (c) Availability, (d) Reliability, (e) Previous experience, (f) Relevance, (g) Affordability and (h) their Awareness

Null hypothesis
There is no significant relationship between distance learners' patterns of information-seeking behaviour and Resource Characteristics such as (a) Ease of Use, (b) Ease of Access, (c) Availability, (d) Reliability, (e) Previous experience, (f) Relevance, (g) Affordability and (h) their Awareness.

1.4.4 Psychological Variables

Main Hypothesis4 (H4): There is a significant relationship between distance learners' patterns of information-seeking behaviour and Psychological variables such as (a) Motivation for doing the course and (b) Risks / Rewards (perceived benefits).

Null hypothesis
There is no significant relationship between distance learners' patterns of information-seeking behaviour and Psychological variables such as (a) Motivation for doing the course and (b) Risks / Rewards (perceived benefits).

1.4.5 Environmental / Logistical Variables

Main Hypothesis5 (H5): There is a significant relationship between distance learners' patterns of information-seeking behaviour and Environmental/Logistical variables such as (a) Country of Residence or Geographical Location, (b) Place of Access to library resources and (c) Economic / Technology infrastructure (availability of public and university libraries and tutoring institutions and wide access to the Internet).

Null hypothesis
There is no significant relationship between distance learners' patterns of information-seeking behaviour and Environmental / Logistical variables such as (a) Country of Residence or Geographical Location, (b) Place of Access to library resources and (c) Economic/Technology

infrastructure (availability of public and university libraries and tutoring institutions and wide access to the Internet).

1.4.6 Learners' Social Networks

Main Hypothesis6 (H6): There is a significant relationship between distance learners' patterns of information-seeking behaviour and their Social Networks such as (a) Tutors and Lectures, (b) Librarians, (c) Other students, (d) Family and friends.

Null hypothesis
There is no significant relationship between distance learners' patterns of information-seeking behaviour and their Social Networks such as (a) Tutors and Lectures, (b) Librarians, (c) Other students, (d) Family and friends.

1.4.7 Information Processing and Use

Main Hypothesis7 (H7): There is a significant relationship between distance learners' patterns of information-seeking behaviour and their Information Literacy Skills (Information Processing and Use) such as (a) Confidence in Accessing the University Online Library, (b) Confidence in Using Electronic Sources, (c) Confidence in Evaluating their Training Needs and (d) Knowing when to Seek Help.

Null hypothesis
There is no significant relationship between distance learners' patterns of information-seeking behaviour and their Information Processing and Use including Information Literacy Skills such as (a) Confidence in Accessing the University Online Library, (b) Confidence in Using Electronic Sources, (c) Confidence in Evaluating their Training Needs and (d) Knowing when to Seek Help.

1.4.8 Nature of Task

Main Hypothesis8 (H8): There is a significant relationship between distance learners' patterns of information-seeking behaviour and the Nature of the Task such as (a) Completing Coursework, (b) Passing Exams and (c) Writing a Dissertation.

Null hypothesis
There is no significant relationship between distance learners' patterns of information-seeking behaviour and the Nature of the Task such as (a) Completing Coursework, (b) Passing Exams and (c) Writing a Dissertation.

1.4.9 Role as Student as well as Distance Learner

Main Hypothesis9 (H9): There is a significant relationship between distance learners' patterns of information-seeking behaviour and their Student Role.

Null hypothesis

There is no significant relationship between distance learners' patterns of information-seeking behaviour and their Student Role

1.4.10 Time Constraints (the Principle of Least Effort (PLE))

Main Hypothesis10 (H10): There is a significant relationship between distance learners' patterns of information-seeking behaviour and Time Constraints (that the Principle of Least Effort (PLE) greatly influences their Choice of Information Sources).

Null hypothesis
There is no significant relationship between distance learners' patterns of information-seeking behaviour and Time Constraints (the Principle of Least Effort (PLE) greatly influences their Choice of Information Sources).

1.5 The Gap in Existing Research

No previous study has looked at the information-seeking behaviour of a large constituency of distance learners distributed across several continents who predominantly depend on an online library. The rapid growth of distance learning in recent years and the particular nature of library and information provision to distance learners in such a situation warrant such a study. Evidence regarding the overall growth of distance learning provision in the UK is not readily available from the Higher Education Statistical Agency, http://www.hesa.ac.uk (accessed on 21 July 2013), the official agency for the collection, analysis and dissemination of quantitative information about higher education (HE) in the UK, since it currently conflates figures for on-site and distance learning students. Figures available for institutions concentrating on distance learning, such as the University of London International Programmes and the Open University, demonstrate large growth in recent years. The University of London International Programmes have expanded significantly since the early 1990s, student numbers rising by almost 40 per cent, and the range of programmes offered has increased fivefold (QAA 2005). The International Programmes currently have over 50,000 students worldwide studying in over 180 countries (QAA 2011).

The gap in existing research appears to have arisen because information provision for distance learning has been considered an adjunct to the dominant provision by libraries to student communities primarily based on campus. The huge growth in distance provision is relatively recent and the drivers for the expansion in distance learning are considered below. The increase in scale and diversity of the student community, the importance of distance learning for access to education, and the economic importance of distance learning to higher education institutions necessitate the urgent consideration of information provision for distance learning students as a subject for research in its own right.

Key Papers and Theories on Information-Seeking Behaviour in General
This is a general overview of the main features of the existing literature, which is examined in detail in Chapter Two to illustrate the need for the current study and explain its focus.

The area of Information-Seeking Behaviour has been the subject of several general studies since the 1940s (Wilson 2000). The field is comprehensively surveyed by Case (2012). Many researchers have

concluded that understanding the user's specific context, domain, task or work role is fundamental to understanding the complex process of information-seeking and use (e.g. Ellis & Haugan 1997; Wilson 1981; Leckie et al. 1996; Cole and Kuhlthau 2000; Kuhlthau and Tama 2001; Otike and Mathews 2000; and Limberg 1999, among others). Limberg (1998) in Thorsteindottir (2001, 4) recommends examining the differences between contexts, situations and groups to promote a better understanding of information-seeking as a phenomenon. Kuhlthau (1999, 10) also states that "to neglect context is to ignore the basic motivation and impetus that drives the user in the information seeking process". This research examines this view and the extent to which understanding the information-seeking behaviour of learners is crucial to delivering effective library services that meet learners' needs within the specific context of distance learning.

Bates (2010, 1) notes "the variety of contexts in which information behaviour has been studied". It is important to specify what is relevant to this research as it is not possible to examine all studies into information-seeking behaviour. The focus of this research is Information-Seeking behaviour (ISB) in distance learning (DL). This means that although general studies and focused studies such as those in a learning context are relevant, they do not address the specific situation central to this research.

In brief, the literature review in Chapter Two revealed that several published studies of information-seeking behaviour have been carried out to date that do relate to specific contexts, knowledge domains or disciplines, and tasks or work roles. However, although a few studies related to learning contexts have been carried out, such as that by Kuhlthau (1991) of high school students, the study by Limberg (1999) of 25 high school seniors, or the study by Kerin et al. (2004) of undergraduate law students at an Irish university, none reveals whether distance learners were included in those studies. Relatively few studies have mentioned the inclusion of distance learners to date, and these are discussed comprehensively in Chapter Two.

The problem of the size of samples used in the information-seeking behaviour of students is also noted by the Joint Information Systems Committee (JISC) (2007, 2): "In general though, much of the published literature is of limited and questionable value because of: ... a) Small samples ...." It is also significant to note that many studies, including JISC (2007, 2010) and George et al. (2006), treat 'students' as a homogeneous group while others do not mention whether they included distance learners or not (OCLC 2006; Eskola 1998; Kerin et al. 2004). In most institutions, the term 'distance learning' has little to do with distance as many students live within a few miles of the institution whose courses they are taking; they tend to be a reasonably coherent group and are able to access a variety of other educational resources. This makes the subject of this research, the University of London International Programmes, with their 50,000 students distributed across 180 countries worldwide, unique (QAA 2011).

The thorough review of the relevant literature in this area in Chapter Two demonstrates that no study has concentrated on the information-seeking behaviour of a large constituency of widely distributed distance learners who predominantly depend on an online library.

Distance learners in general face many problems and constraints, both personal (for example, due to work or family commitments) and logistical (for example, limited access to libraries, peer groups and instructors). Therefore, timely access to the required information resources is crucial. My research explores the unique local context and environment of distance learners and their relevance to the

optimisation of an online library service that effectively supports their learning, teaching and research needs.

The local context and environment include, in particular, the barriers that are faced by distance learners and how these barriers influence their choice and use of information sources, i.e. their Information-Seeking Behaviour. This view is supported by Kuhlthau's argument: "to neglect context is to ignore the basic motivation and impetus that drives the user in the information seeking process" (Kuhlthau 1999, 10), and (Kuhlthau 1999, 10), and Thorsteindottir (2001, 4) summarising Limberg's theory states "the differences between contexts, situations and groups should be examined and illuminated, not with the purpose of separating groups but to better understand information seeking as a phenomenon".

My research seeks to address this gap in existing research by undertaking an Information-Seeking Behaviour Study within the specific context of the University of London's provision for its large programmes of distance learning.

1.6 Background to the Research

The Importance of Distance Learning
Education has the ability to transform lives. "It is the basic building block of every society. It is a fundamental human right, not a privilege of the few" (United Nations 2012, 4). Distance education has been viewed by many as a viable option for improving access to, and the equity and quality of, basic education.

The body of literature on distance learning is now very large and is discussed in more detail in the literature review in Chapter Two. The large body of literature has discussed different types of distance learning strategies and the contribution made by distance education to closing socio-economic gaps between countries and between individuals.

Definitions
Many terms have been used interchangeably to describe the same concept of learning that takes place when a teacher and student are separated by physical distance. These include distance learning, distance education, flexible learning, self study, independent learning, autonomous learning, learner-centred education, open learning, open access, etc. While there is a risk that narrow definitions may not be useful in some situations, it is important to point out that the use of different terms to describe very similar concepts can also be confusing.

For the purposes of this research, "distance learning" will be taken to mean a way of providing higher education, which involves the transfer to the student's location of the resources that form the main basis of study instead of the student moving to the location of the resource provider. This means that the students are expected to carry on study activities in an independent way without the direct supervision of tutors.

Growth of Distance Learning
The practice of distance education, which has its origin in teaching and learning by correspondence, has been developing and evolving in recent years. The Open University is one of the best-known

examples of how university-level education became accessible through effective distance learning to 'people who had neither the traditional qualifications nor the time to enter full time higher education'. This widening of access to education is a fundamental and important aspect of distance learning.

Over the past ten years, the number of distance learning (DL) programmes offered by UK universities has increased immensely. As recently as twenty years ago, distance learning was exclusively limited to the UK Open University and/or the University of London External System (now known as the University of London International Programmes). There are a variety of drivers for the increase in the provision and take-up of distance learning and these are examined in Chapter Two (see *History and Development of Distance Learning* section).

Advantages and Disadvantages

Distance learning offers important overall advantages to learners and to educational institutions. It enables learners who cannot access higher education for a variety of practical, financial and educational reasons to join a university programme of study. It also enables institutions to make expertise available to wider constituencies at a much lower cost, with more choice and more flexibility. Distance learning gives learners the flexibility and the environment that they need to learn most effectively and to reach their full potential.

There are disadvantages to distance learning in relation to information needs that must be taken into account; these include time constraints and limited access to information resources and assistance, to professional advice and information literacy training, and to technical and pastoral support. This has an impact on the level of students' retrieval and information technology skills and their own confidence in those skills.

Library / Information Services for Distance Learning

The change in focus from 'teaching' to 'learning' paradigm is discussed in Chapter Two (see the discussion in *The Learning Paradigm and its Relevance to Distance Learning* section), and distance learning is a mode of study particularly suited to this paradigm. Fardouly (1998) states that learning strategies should include library research, problem- and case-based learning, assignments and projects, group work and discussions. It is compatible with the use of information and communication technology, especially those elements that facilitate delivery of instruction and are based on efficiency, cost-effectiveness and equity.

Information is everywhere; the challenge is to make effective use of it for learning and knowledge creation. The use of information and communications technology in distance learning helps to bridge the geographical gap by providing remote access to the information sources and paths as well as facilitating student interaction and efficient communication between students and their host universities.

The provision of distance education has significant implications for library services, and there is a growing body of literature on how HE libraries in the UK have adapted their services to accommodate distance learners (see the useful review by Iyer 2012). This section seeks to establish relevant current practice by placing the target community for this research, the University of London distance learning programmes, in context.

The fact that distance learning students have, in general, no ready access to their home institutions' campus facilities means that they present a different challenge in terms of both general and library-specific support to universities' providers than do on-campus students. However, an examination of the literature in this area reveals that very little systematic, large-scale, empirical research investigating library provision for distance learners has been undertaken in the UK apart from the study by Unwin et al. (1998), which looked at the library needs and expectations of 1,000 UK-based postgraduate distance learners. According to Unwin et al. (1998), even in North America where there has been much interest in these issues, "large-scale empirical research projects have been rare, with many questions left unanswered".

As discussed in Chapter Two, where the research literature is reviewed in detail, there are very few user studies in the UK and most are concerned with the UK Open University. The studies that do exist are relevant to the present research because they demonstrate the value and importance of library services for UK-based extramural and postgraduate distance learners. However, they do not address the needs of those students who are registered with a UK higher education institution but do not reside in the UK, such as the students registered on the University of London's International Programmes. Nor do they address the needs of students who depend solely on an 'online library' with no easy access to a physical library. The research presented in this work seeks to remedy this.

Chapter 2: Literature Review and Research Context

2.1 Introduction

This chapter presents a selective review of the literature relevant to this research. The literature on information behaviour in general is extensive and no attempt is made to review it comprehensively. The focus is primarily on what has been published about the information behaviour of distance learning students in particular, supported by the literature on those information behaviour models that may be of relevance to this research.

The first part of this chapter gives definitions and explanations of terms and concepts used in the literature. The second part describes distance learning and library and information provision for distance learners, focusing on the UK situation, and leads to a description of the specific research context of the literature review: distance learners at the University of London. The third part reviews published studies of information behaviour of students, specifically of distance learners, and discusses some general conclusions. The fourth and final part evaluates the relevance of several models of information-seeking and of information behaviour in the literature generally.

Relevant literature was identified by searches of Library and Information Science Abstracts, Library and Information Science and Technology Abstracts, and Web of Science, by following references and citations, and by scanning relevant journals and reviews.

2.2 Definitions and Explanations

As several concepts relating to how people deal with information are central to this research, it is necessary to clarify the meaning of the terms as they are used here.

Information Behaviour
This is the broadest concept denoting how people interact with information, described by Bates (2010, 2381) as "the many ways in which human beings interact with information, in particular the ways in which people seek and utilize information". It therefore includes, but is not limited to, purposeful 'looking for information'. It is taken here to include such concepts as 'information practices', 'information ecology' and 'information work' (Bawden and Robinson 2012, chapter 9).

Information-Seeking Behaviour
Case (2012, 5) defines information-seeking behaviour as "a conscious effort to acquire information in response to a need or gap in one's knowledge". Information-Seeking Behaviour (ISB) has also been defined by Wilson (2000) as "...the purposeful seeking for human information as a consequence of a need to satisfy some goal. In the course of seeking, the individual may interact with manual information systems (such as a newspaper or library) or with computer-based systems (such as the World Wide Web) or ... the totality of human behaviour in relation to sources and channels of information, including both active and passive information seeking and information use" (Wilson 2000). For the purposes of this research, Wilson's definition will be adopted.

Information-Searching Behaviour
Information-Searching Behaviour is the 'micro-level' of behaviour employed by the searcher in interacting with information systems of all kinds. It consists of all the interactions with the system, whether at the level of human computer interaction (for example, use of the mouse and clicks on links) or at the intellectual level (for example adopting a Boolean search strategy or determining the criteria for deciding which of two books selected from adjacent places on a library shelf is most useful); these interactions will also involve mental acts, such as judging the relevance of data or information retrieved.

Wilson has also developed a model to demonstrate the relationship between these three concepts and how they overlap.

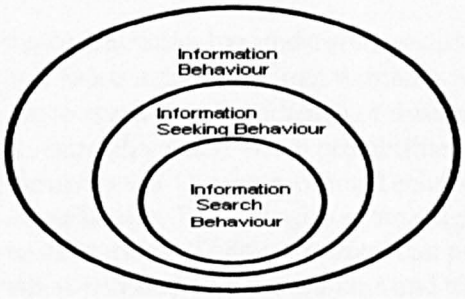


Figure 2.1: A nested model of information behaviour (Wilson 1999, 263)

Distance Learning (DL)
"Distance education is … characterized by non-contiguous communication and can be carried out anywhere and at any time, which makes it attractive to adults with professional and social commitments" Holmberg (1995, 181). The learner-centred approach empowers the learner to take control of their learning as they take control of their destiny (Muller 1998).

Information Need
Information need has been defined as a "recognition that your knowledge is inadequate to satisfy a goal that you have" (Case 2012, 5).

Online Library
The term 'online library' in this research is used to emphasise "the non-physical nature of the collection.... and access mechanisms where the user does not have to be physically present" (Brophy 1999, 82). The term 'digital library' has deliberately not been used because of the "diversity of assumptions, definitions and views" (Bawden and Rowlands 1999, 181) and the lack of consensus regarding its use (Brophy 1999). Harter (1997, 1) also refers to the "extraordinary range of applications" to which the term is applied and lack of agreement in the literature regarding what constitutes a digital library.

2.3 Distance Learning and Library / Information Provision

This section briefly discusses the nature of distance learning *per se* and then reviews the provision of

library/information services to distance learners. The research context for this thesis is then set out by describing distance learning and its library / information provision at the University of London.

2.3.1 Distance Learning

A large body of literature has discussed different types of distance learning strategies and the contribution distance education has made to closing socio-economic gaps between countries and between individuals. The discussion below largely relies on a small number of classic texts: for recent perspectives see Talbot (2011), Simpson (2013) and Weller (2013). Hilary Perraton states that distance education is a way to educate students who would otherwise get no education, and it is a tool to support and supplement conventional education. Others highlight the important role distance learning plays in teacher training (Perraton, 2000, 31-41; Moon & Robinson, 2003; Craig & Perraton 2003).

Distance education has undergone several phases in its development to the current state. In its early days it was conducted though written media by correspondence. Radio and television were adopted as media to reach a wide audience of distance learners simultaneously, effecting a huge improvement in scale, immediacy and visual possibilities over the previous method. Today, distance learning uses Information and Communication Technologies (ICT). The explosive development of Information and Communication Technologies is the single most powerful feature to have radically transformed distance learning. Today, a student can pursue his / her studies from anywhere in the world as long as he/she is enrolled on a programme and has a connection to an educational establishment though the Internet. Increasing numbers of universities and colleges today are including distance learning programmes in their portfolios. David Hawkridge has called the expansion of distance education aided by modern technology the "Big bang" of education and refers both to the two-way communication in real time established between students and teachers and to the student's access to vast amounts of information though distance education networks (Hawkridge 1995, 3).

In the literature, many terms have been used interchangeably to describe the same concept of learning that takes place when a teacher and student are separated by physical distance. These include distance learning, distance education, flexible learning, self study, independent learning, autonomous learning, learner-centred education, open learning, open access, etc. While there is a risk that narrow definitions may not be useful in some situations, it is important to point out that the use of different terms to describe very similar concepts can also be confusing.

According to Holmberg, in his book *Theory and Practice of Distance Education*, "Distance education is a concept that covers the learning and teaching activities in the cognitive and/or psychomotor and effective domains of an individual learner and a supporting organisation. It is characterised by non-contiguous communication and can be carried out anywhere and at any time, which makes it attractive to adults with professional and social commitments." (Holmberg 1995, 181) Holmberg (1985) asserts that distance education was created to give a chance for study to those who, for financial, social, geographical or medical reasons, could not go to an ordinary school or university. It also provides opportunities to working people to gain access to education without having to leave their jobs in order to attend classes.

Greenberg (1998, 36) defines contemporary distance learning as "a planned teaching/learning experience that uses a wide spectrum of technologies to reach learners at a distance and is designed to

encourage learner interaction and certification of learning."

According to Keegan, the five key characteristics of distance learning are as follows: the quasi-permanent separation of teacher and learner throughout the length of the learning process, which distinguishes it from conventional face-to-face education; the influence of an educational organisation both in the planning and preparation of learning materials and in the provision of student support services, which distinguishes it from private study and teach-yourself programmes; the use of technical media such as print, audio, video or computer to unite teacher and learner and carry the content of the course; the provision of two-way communication so that the student may benefit from or even initiate dialogue, which distinguishes it from other uses of technology in education; and the quasi-permanent absence of the learning group throughout the length of the learning process so that people are usually taught as individuals and not in groups, with the possibility of occasional meetings for both didactic and socialisation purposes (Keegan 1990, 44).

Holmberg suggests adding to the above list the "possibility of non-contiguous group work by means of modern technology" (Holmberg, 2005, 10). Keegan, in his later works, explicitly characterises distance education 'as either individual based provision or group-based provision' (Keegan 1998, 43). This latter definition takes into account collaborative learning.

Distance education has the ability to bring about one-to-one relations in which each student interacts personally with his or her tutor. This one-to-one relationship between learner and tutor is deemed "exceptional" in education because, according to Holmberg (2005, 10), it is "known mainly in traditional Oxford and Cambridge tutorials".

For the purposes of this research, "distance learning" will be taken to mean a way of providing higher education that involves the transfer, to the student's location, of the resources that form the main basis of study, rather than the student moving to the location of the resource provider. This means that the students are expected to carry on study activities in an independent way without the direct supervision of tutors.

2.3.2 History and Development of Distance Learning.

The practice of distance education, which has its origin in teaching and learning by correspondence, has been developing and evolving in recent years. The Open University is one of the best-known examples of how university-level education became accessible through effective distance learning to 'people who had neither the traditional qualifications nor the time to enter full time higher education'. This widening of access to education is a fundamental and important aspect of distance learning. At a recent QAA institutional audit of the University of London's International Programmes, the Quality Assurance Agency (QAA) commented on the diversity of the University of London's student body: "the diverse student body may be considered 'non-traditional' as it includes students in poorer and developing countries, mature learners, those with special needs due to disability, or geographic, economic, environmental, professional and social factors, and those with limited educational opportunities" (QAA, May 2011).

During the 1990s, some experts went as far as to predict that the "residential based model", i.e. students attending classes at pre-arranged times and locations, will completely disappear in the near future

(Blustain and Lozier 1999; Drucker 1997). Although this prediction has not proved accurate, distance learning as a method of teaching and learning has been rapidly adopted by several UK Higher Education institutions. According to Unwin et al. (1998), more and more 'traditional' campus-based universities have moved towards provision of courses 'off-campus', either through franchising arrangements with colleges or through distance learning. This is in contrast to the situation existing ten years ago, when distance learning was confined "almost exclusively to the Open University and the University of London External Degree Programmes" (Unwin et al. 1998).

Over the past ten years, the number of distance learning (DL) programmes offered by UK universities has increased immensely. This growth has been partly attributable to the fact that institutions have been faced with the task of providing teaching and learning of the highest quality to growing numbers of students from diverse backgrounds with fewer resources. According to Unwin at al. (1998), over half of conventional universities are currently involved in postgraduate distance learning provision. As recently as twenty years ago, distance learning was exclusively limited to the UK Open University and the University of London External System (now known as University of London International Programmes). It is important to note that research in this area is hampered by the difficulty of obtaining accurate HESA statistics about distance learning provision in the UK because the figures are either incomplete or have been compounded with part-time figures. HESA is the Higher Education Statistics Agency, the official agency for the collection, analysis and dissemination of quantitative information about higher education in the UK.

There are various drivers of the increase in the provision and take-up of distance learning:

- The continued increase in student numbers.
- The changing age profile of students, which is no longer overwhelmingly 18-21 years.
- The development of a competitive client-focused ethos in HE combined with a funding regime based on efficiency gains.
- Changes in student funding: students now have to take out repayable loans.
- The increase in collaborative ventures between industry, universities and FE colleges.
- A greater emphasis on research by academic institutions following the Research Assessment Exercise (RAE), the Research Excellency Framework (REF), and future research formula funding regimes.
- The growth of information and communications technology which enables easy remote access to learning materials without the need to be close to any institution.

Recent developments in Information and Communications Technology have also enabled better support for social interactions among geographically distributed learners. Today, education institutions are able to distribute selected learning materials, facilitate access to alternative sources of information (online libraries) and ensure social interaction and collaborative learning groups using virtual learning environments (VLEs), thus breaking the traditional and uncomfortable isolation of distance education.

Generations of Distance Learning

Distance education has often been discussed in terms of generations as its forms and methods have evolved. The generations of distance education have been discussed in terms of the dominant technologies utilised in teaching and learning (Garrison 1985; Nipper 1989). The generations have also been classified in terms of their dominant pedagogy.

Dominant Delivery Technologies

Since the 1960s, modern distance education has evolved through a series of delivery methods with an increasingly sophisticated set of techniques for teacher–student and student–student interaction (Moore & Kearsley 2005; Taylor 2000). These have acquired a level of cost-effectiveness that provides teachers and students with a broad selection of methods for overcoming the obstacles of time, place, and pace while also engaging one another in direct interaction. None of these generations has been eliminated over time but, rather, the repertoire of options available to DE designers and learners has increased.

In terms of dominant delivery technologies, the first generation from the late 19th century into the 20th century utilised written communication and instruction by postal correspondence, the *Correspondence Model*. The second generation, the *Multimedia Model*, started in the early 1970s and used teaching and learning resources including printed study guides, selected readings, videotapes, audio tapes, computer-based courseware including computer-assisted learning (CAL) and interactive video on disk and tape (Taylor 2001). In the UK the Open University was granted the status of a degree-granting programme in 1969 (Moore & Kearsley 1996), delivering instruction through radio, television, recorded audio-tapes and correspondence tutoring. Several universities, particularly in developing countries, still use educational radio as their main mass instructional delivery tool (Passerini & Granger 2000). While the first two generations are fairly universally accepted, various writers, building on Nipper's work (Nipper 1989), have constructed subsequent generations differently.

The third generation or the *Tele-Learning Model* which began in the early 1980s was based on the use of information technologies, including audio teleconferencing, audio-graphic communication systems (for example Smart 2000), video conferencing and broadcast television / radio with attendant audio-teleconferencing (Taylor 2001; Nipper 1989; Pelton 1991). These technologies also enabled real-time individual and group interaction at a distance with two-way video conferencing or one-way video and two-way audio communication. During this generation, CD-ROM products for multi-media self-paced learning were introduced. In addition, computer networks linked instructors and students, and bulletin boards made their first appearance for group interaction at a distance, offering central repositories for class communication (Passerini & Granger (2000).

The next generation of distance education involved teaching and learning online in virtual classes and universities based on Internet technologies. The exponential increase in the ability of student-to-student interaction provided by the Internet opened up a new generation of distance education, the fourth generation, by adding strong collaborative learning elements (Passerini & Granger 2000). In this fourth generation or *Flexible Learning Model* (Taylor 2001) there was a substantial shift from an instructor-led approach to a real learner-centred approach. Internet technology has enabled "a real shift from an instructor-centred learning paradigm to a real-student-centred learning domain" (Passerini & Granger 2000, 14).

Taylor has defined another generation, the fifth generation or the *Intelligent Flexible Learning Model* (Taylor 2001, 2). He asserts that this fifth generation is essentially a derivative of the fourth generation and capitalises on the features of the Internet and the Web. He goes on to summarise the various generations in the Table below.

Models of Distance Education and Associated Delivery Technologies	Characteristics of Delivery Technologies					
	Flexibility			Highly Refined Materials	Advanced Interactive Delivery	Institutional Variable Costs Approaching Zero
	Time	Place	Pace			
FIRST GENERATION - The Correspondence Model						
• Print	Yes	Yes	Yes	Yes	No	No
SECOND GENERATION - The Multi-media Model						
• Print	Yes	Yes	Yes	Yes	No	No
• Audiotape	Yes	Yes	Yes	Yes	No	No
• Videotape	Yes	Yes	Yes	Yes	No	No
• Computer-based learning (eg CML/CAL/IMM)	Yes	Yes	Yes	Yes	Yes	No
• Interactive video (disk and tape)	Yes	Yes	Yes	Yes	Yes	No
THIRD GENERATION - The Telelearning Model						
• Audioteleconferencing	No	No	No	No	Yes	No
• Videoconferencing	No	No	No	No	Yes	No
• Audiographic Communication	No	No	No	Yes	Yes	No
• Broadcast TV/Radio and Audioteleconferencing	No	No	No	Yes	Yes	No
FOURTH GENERATION - The Flexible Learning Model						
• Interactive multimedia (IMM) online	Yes	Yes	Yes	Yes	Yes	Yes
• Internet-based access to WWW resources	Yes	Yes	Yes	Yes	Yes	Yes
• Computer mediated communication	Yes	Yes	Yes	Yes	Yes	**No**
FIFTH GENERATION - The Intelligent Flexible Learning Model	Yes	Yes	Yes	Yes	Yes	Yes
• Interactive multimedia (IMM) online	Yes	Yes	Yes	Yes	Yes	Yes
• Internet-based access to WWW resources	Yes	Yes	Yes	Yes	Yes	**Yes**
• Computer mediated communication, using automated response systems	Yes	Yes	Yes	Yes	Yes	**Yes**
• Campus portal access to institutional processes and resources						

Adapted from Taylor (2001,) *Models of Distance Education: a Conceptual Framework*

Dominant Pedagogies

Many educators pride themselves in being pedagogically rather than technologically driven in their teaching and learning designs (Anderson and Dron 2011, 81). In an attempt to define a middle ground between technological and pedagogical determinism Anderson and Dron assert that the two are intertwined in a dance: the technology sets the beat and creates the music, while the pedagogy defines

the moves (Anderson and Dron 2011, 81). Anderson and Dron (2011) have also explored how distance education has evolved through three eras of educational, social, and psychological development. They assert that each era developed distinct pedagogies, technologies, learning activities, and assessment criteria, consistent with the social worldview of the era in which they have developed (Anderson & Dron 2011, 80).

The first generation, the *Cognitive-Behaviourist Model,* was predominantly defined, practised and researched in the latter half of the 20th century and was characterised by individualised distance education. Learning was thought of as an individual process and it made little difference whether one was reading a book, watching a film, or interacting with a computer-assisted learning program by oneself or in the company of other learners (Anderson and Dron 2011). This model of distance education increased access and was capable of scaling to very large numbers at significantly lower costs than traditional education (Daniel 1996). It is notable that such models gained a foothold in distance education at a time when technology that allowed many-to-many communication was very limited. Therefore, methods that relied on one-to-many and one-to-one communication were "really the only sensible options" (Anderson and Dron 2011, 83).

The second generation is the *Constructivist Model* which was characterised by learning in groups and social interaction. Social constructivist pedagogies developed in conjunction with the development of two-way communication technologies. This interaction was always mediated but was nonetheless considered to be a critical component of quality distance education (Garrison, 1997). Social constructivist pedagogy acknowledged the social nature of knowledge and of its creation in the minds of the individual learners (Anderson and Dron 2011, 84). The centre of control in a social-constructivist system shifted away from the teacher, who become more of a guide than an instructor, but who assumed the critical role of shaping the learning activities and designing the structure in which those learning activities occurred. According to Garrison (1997), this constructivist-based learning with rich student-student and student-teacher interaction constituted a new, "post-industrialist era" of distance education.

The third generation of distance education pedagogy, *Connectivism,* was characterised by networks and collectives, and has been described by George Siemens (2005a, 2005b, 2007) and Stephen Downes (2007) as the process of building networks of information, contacts and resources that are applied to real and emergent problems. Connectivism was developed in the information age of the networked era (Castells, 1996) and assumed ubiquitous access to networked connections between people, digital artefacts and content, which would have been inconceivable before the World Wide Web. Connectivism assumed that the learners' role was not to memorise or even understand everything but to have the capacity to find and apply knowledge when and where it was needed; it also assumed that much mental processing and problem solving could and should be off-loaded to machines. This led to Siemens' (2005) contentious claim that "learning may reside in non-human appliance".

According to Anderson & Dron (2011), connectivist distance learning moves beyond individual consultation with faculty (Cognitive-Behaviourist) and beyond group interactions and constraints of the learning management systems associated with constructivist distance education pedagogy; in fact, it enables practising professionals as well as other teachers and alumni to observe, comment upon, and contribute to learning. However, as Palloff and Pratt (1999) note, the existence and success of this model of distance education relies on the creation of defined learning communities. The emergence of

social software that enables a group of individuals to collaborate via the Internet has enabled the creation of these learning communities. The versatility of social software and other collaboration tools available today support constructivist environments that seek to motivate, cultivate, and meet the needs of the 21st-century learner. The latest development, that of the Internet including, very recently, the mobile Internet, has similarly been adopted by many existing higher education providers but has also supported the emergence of a new model of distance learning that has been dubbed Massive Open Online Courses (MOOCs) (Liyanagunawardena et al. 2013).

2.3.3 MOOCs - Massive Open Online Courses

A MOOC is "an online course with the option of free and open registration, a publicly shared curriculum, and open-ended outcomes" (McAulay, Stewart & Siemens 2010). The term 'MOOCS' was coined in 2008 and was used to describe a particular type of open online course format being offered by the University of Manitoba. MOOC is the buzzword of 2012 in higher education (Daniel 2012) and the rapid development of MOOCs inspires many reports and debates among educators. However, discussions of MOOCs are disparate and fragmented, and systematic and extensive published research on MOOCs is still unavailable (Daniel 2012; Clow 2013; Chen 2014).

MOOCs are massive because anyone can enrol and there are generally no prerequisites, fees, formal accreditation, or predefined required level of participation (McAuley, Stewart, Siemens & Cormier 2010). Connectivity is usually provided through social networking, and a set of freely accessible online resources provides the content or the study material. Some courses have attracted more than 100,000 students although far fewer students typically finish (Butler 2012). Prominent MOOC initiatives include for-profit start-ups such as Udacity and Coursera as well as open-source non-profit initiatives such as MITx and the related edX platform (Butler 2012). The growth and popularity of the MOOC has been unprecedented, and by 2012 as many as five million students were undertaking a MOOC across the three leading providers alone (Imber 2014). MOOCs have received a lot of media attention recently, and have been hyped by some as a "revolution" (Friedman 2012) and a "noble" endeavour (Caplan 2013); however, many are sceptical of the values behind them and possible detrimental consequences. As Joseph Harris, a professor at Duke, recently remarked in the *Chronicle of Higher Education*, "I don't see how much a MOOC can be much more than a digitized textbook".

Jesse Stommel (2012), digital humanist and founder of Hybrid Pedagogy, reminds us that the MOOCs phenomenon "didn't appear last week, out of a void, vacuum-packed." Broad critical interest in MOOCs is partly because education costs have peaked, enrolment numbers continue to grow, student loan debts are staggering, and the job market has been slow to rebound from a long recession (Waldrop 2013). Crater (2013, 2) [in Kazakoff-Lane 2014] asserts that MOOCs are an evolutionary outgrowth of two major trends: the first was distance education and online e-learning with their technological assessment and pedagogical experiments; the second was the Open Education Resources Movement, beginning in 2001 with MIT's Open CourseWare software. While MOOCs are not a direct response or solution to these issues, they are part of the larger conversation that has emerged about the future of higher education, a future that almost certainly involves discussions about economics and changing relationships between technology, learning, and information.

The first set of MOOCs, which captured the attention of people outside the education sectors, were the three courses offered by a few Stanford professors in the fall of 2011. Each had enrolments of over

100,000 students, and in one class on artificial intelligence, enrolments reached 160,000 students. Each class used technology to facilitate a "technology enriched teacher centred model of instruction" that came to be known as xMOOC, rather than the learner-centred knowledge construction model (cMOOC) (Yuan & Powel 2011, 11).

MOOC success, measured by the number of enrolments, meant that they were quickly followed by other initiatives: continuously evolving- xMOOCs, -edX (an open-source system developed by MIT and Harvard), Coursera (an educational technology company founded by Andrew Ng and Daphne Koller from Stanford University), and Udacity (a venture firm that was an outgrowth of the courses offered by Stanford in 20111). Many elite universities partnered with Coursera at a rapid pace, with the exception of those that participated in edX and Stanford University (which created an offshoot of edX known as Class2Go).

According to Chen (2014), Carr (2012) and Duderstadt (2012), MOOCs have benefited learners, providers, and faculties by, for example, increasing options for accessibility, increasing potential for student engagement, and expanding lifelong learning opportunities. However, they also note the challenges that exist such as questionable course quality, high dropout rate, unavailable course credits, ineffective assessments, complex copyright issues, and limited hardware (Chen, 2014).

The online format of MOOCs offers access and flexibility and eliminates the need for prerequisites. Leber (2013, para.1) states: " as online education platforms like Causera, edX and Udacity burst onto the scene over the past year, backers have talked up their potential to democratise higher education in the countries that have had the least access". In addition, MOOCs have not been limited to college students and / or professionals; in fact, even younger students can participate in their MOOCs experience.

MOOCs are designed to enhance *student engagement* because the improvement of student outcomes is one of the primary goals. According to Trowler & Trowler (2010, 2), student engagement is the investment of time, effort, and other relevant resources by both students and their institutions with the intention of optimising the student experience and enhancing the learning outcomes and development of students and the performance and reputation of the institution. Student and instructor participation, motivation, instructional method, and delivery are all important aspects necessary to create a MOOC environment conducive to learning (Chen et al. 2003). MOOC educators play a vital role in enhancing student engagement.

According to de Waard (2011, 2), *lifelong learning skills* will be improved because participating in a MOOC encourages students to think about their own learning and knowledge absorption. MOOCs allow participants who may not have access to conventional lifelong learning experiences to pursue an interest or continue their professional development. In addition, employers can utilise MOOCs to keep employees abreast of the competitive labour market throughout their lifetimes in a way that is cost-effective. Interestingly enough, distance education provides many of these advantages but not on the same scale as MOOCs.

According to Chen et al. (2014), some organisations have rejected the MOOCs concept not because of resources but because of philosophical differences, citing that MOOCs are contradictory to the overarching institutional mission. Other institutions remain cautious, and for some presidents and chancellors "MOOCs are the perfect

storm of hype, hyperbole, and hysteria and yet many have plunged head long into them without a real clear sense of why or how MOOCs can help more students to succeed" (Greenstein 2013, para.5). Governments and policy-makers are looking at MOOCs though the lens of affordability and accessibility whereas faculties are raising questions about the influence of MOOCs on academic freedom, relevancy to institutional mission, and instructional quality.

A recent study undertaken by the European Commission in June 2014 in order to understand the potential of MOOCs to develop the skills needed in the current market, particularly with regard to web skills, found that, while MOOCs are widely recognised as a valuable learning opportunity, students struggled to find appropriate courses. This study was based on the analysis of over 200 MOOC providers and almost 3,000 online survey respondents from around the world.

Although many institutions and library support services recognise the many benefits of MOOCs, they also recognise the challenges that exist (Kazakoff-Lane 2014). For the purposes of this research, only the implications for library services will be explored. It is important to note that two years of practical application means that MOOCs are largely experimental and still too new to demonstrate and provide an understanding of their full implications for library and information services.

MOOCs and Libraries: Implications for Provision and Support

For libraries, the growing reach and sheer numbers of massive open online courses (MOOCs) raise challenges and opportunities which may be similar in nature to large-scale distance education but which are unprecedented in scale. Academic libraries are traditionally committed to serving students enrolled in distance education courses and MOOCs are raising questions about how services and collections can be provided on such a massive scale to such a diverse user group. Because the MOOC is a recent phenomenon, there is not a great deal of published research about library support and involvement. However, much can be gleaned from conferences, such as the recent 'First European MOOCs and Libraries Conference (2013) organised by the Open University, and from the host of discussions on the topic in the media and online. From these discussions it is clear that some libraries are already active participants in MOOCS (Kazakoff-Lane 2014).

According to Kazakoff-Lane (2014), questions about how libraries can support students and faculties using "this potentially disruptive innovation" Kazakoff-Lane (2014, 31) include the following: how to support students in massive classes consisting of individuals from around the world; how to deliver information literacy support or references services to students from diverse educational and cultural backgrounds; how to facilitate wider resource access in order to meet all learners' information needs, including MOOC students; whether MOOCs will drive the move towards more open licensing models; and whether the MOOCs community of students will be able to supply one another with the required information.

Addressing questions related to the capacity and roles of libraries in supporting MOOCs can in part be aided by understanding the information needs and information-seeking behaviour of distance learners, observing what is being done by distance library services supporting large and diverse groups of students, such as those of the University of London with over 50,000 students in over 180 countries and the Open University with over 250,000 students, and determining the location of any gaps in provision and how to remedy these gaps. Therefore, the findings of this study will be very valuable not only for library provision to traditional distance learning but also for future models of provision in the MOOCs

environment.

Some Key Issues for Libraries Servicing MOOCs
MOOCs raise intellectual property issues around openness and ownership of MOOCs resources. Although MOOCs are free, they do not allow for reuse, revision, remixing or redistribution of content. In addition, the licensing of content hosted on MOOCs has raised issues around the loss of ownership of resources, including content and how to widen the library, as well as general institutional policies to include Open Access Resources that enable users to use and adapt them for different course development reasons, thereby saving time and resources.

MOOCs have raised legal issues for libraries concerning copyright and use of copyrighted content. According to Kazakoff-Lane (2014), these legal issues relate to the following main areas: use of copyrighted works in instructional materials such as online lectures or modules; assignment of copyrighted works outside reading; copyright status of materials generated by faculty for use in MOOC courses (including video lectures, course modules, and other supporting materials); applicability of the notice-and-takedown provisions of the Digital Millennium Copyright Act; and accessibility of MOOC courses for learners with disabilities.

MOOCs have the potential to be *a disruptive innovation* impacting education and scholarly communication (Kazakoff-Lane 2014). Many governments and higher education institutions are looking at MOOCs as a way of providing affordable education to many people with existing institutional infrastructures. According to Kazakoff-Lane (2014), this would radically transform higher education by creating a have-and-have-not system where poorer students receive an inexpensive online education and richer students attend campus classes where they gain access to professors and services / resources such as library resources. There is another scenario: a potential for large MOOC-providing institutions to generate significant revenue from student enrolment while smaller institutions suffer from reduced enrolment, thus creating a situation where smaller institutions lose students, tuition and research funding. This calls for academic libraries to engage with the debate around MOOCs in order to preserve the libraries' commitment to providing equitable access to information and education for all.

In view of the vast number of people taking MOOC courses, who are not obtaining officially recognised grades towards degree completion and are not recorded in an institution's enrolment numbers, the following questions arise: will the MOOC students eventually become students of the institution; do the libraries in these institutions need new licences for electronic products in order that the MOOC users might access digital collections; how does one ensure copyright compliance for content used in open courses; should libraries garner support for open access / OERs; how might they support information literacy or instructional design for MOOCs; should their service areas include technologies used to create educational tools that facilitate learning in MOOC courses; what role does the library have in preserving these courses; and last but not least, who will fund this additional activity?

Effectiveness and sustainability. The success or failure of MOOCs largely revolves around issues of effectiveness and sustainability. Currently, data seem to indicate that few initial registrants complete a course and that those who do already possess a university degree (Kazakoff-Lane 2014). Some wonder whether the absence of support services – including library ones – might aid those without a degree.

Whether or not institutions, or corporate investors, are willing to continue funding xMOOC courses will partially depend on student success. They may also be sustainable if funders seek different outcomes such as institutional prestige, student recruitment or revenues from institutions / corporations that purchase courses.

Big data and libraries. The massive number of students in MOOCs and the data derived from their online activities are making it possible to assess effective teaching methods for instruction / user behaviour in an online world. This has important ramifications for libraries seeking to assess effective methods of conducting information literacy or provide online services. For this reason, libraries need to be testing and reporting on effective online service provision using big data, as online services are part of library operations today and will continue to be so regardless of MOOCs.

Conclusion. Although it is too early to understand the full impact of MOOCs on higher education and the role of libraries, it is fair to say that the emergence of Open Education on such a massive scale raises a number of challenges and opportunities for libraries, requiring them to address how they fit into this world based upon their support for openness, access to quality information for all, lifelong learning, and support for teaching and learning.

MOOCs provide libraries with the opportunity to make a difference by supporting the needs of learners and researchers on a scale larger than distance learning currently affords. Libraries need to focus on the advantages that MOOCs provide such as the following: providing a new means for libraries to engage in university partnerships, including pedagogical ones with faculty; providing a new opportunity for better understanding about student learning and information literacy needs from the big data gathered by MOOCs; and enabling libraries to engage citizens in a dialogue that supports the advancement of information literacy on a global scale (Muhraj 2012). Librarians will need to develop the skills to deal with legal issues related to MOOCs, such as intellectual property rights, privacy issues, and government regulations. According to Kazakoff-Lane (2014), by placing themselves at the heart of this movement and making themselves indispensable with their knowledge and skills, technology and services, libraries will be in the best position to advance openness of access and will be better able to carry forward their long tradition of providing people, institutions, and society with services and resources that advance knowledge and provide opportunities for all.

2.3.4 Advantages of Distance Learning

Distance learning offers important overall advantages to learners and to educational institutions. Distance education represents a way of connecting and communicating with geographically dispersed individuals and groups. It enables education providers with limited resources to increase their student populations without necessarily investing in physical facilities. It also allows cost-effective access to qualified teachers and highly specialised and unique courses for communities with limited funding. It increases choice and flexibility because learners can access any course choice, local or remote. Learners such as those with special needs and disabilities and those with family and professional commitments who cannot pursue education in traditional ways are given the opportunity. On-going and flexible access to learning allows professionals to undertake professional development courses, which help them to keep abreast with developments in their fields, without the need for study leave. Distance learning gives learners the flexibility and the environment that they need to learn most effectively and to reach their full potential.

2.3.5 Disadvantages of Distance Learning

There are also disadvantages to distance learning in relation to information needs, which need to be taken into account in weighing its value and appropriateness and in assessing possible changes to ameliorate those difficulties.

The main problem area is lack of time: distance learners often have other personal and professional commitments in addition to studying. They may often suffer from information overload and have no time to select or systematise the required information. Secondly, learners often have limited access to the necessary resources, such as the institution's library, and expert help from librarians or tutors and fellow students. Sometimes learners do not know where to find the information or to assess the quality of the sources they do find. Thirdly, communication is often limited to the written form, which makes it more difficult to assess the true nature of the learner's problems or needs. Feedback is much easier in face-to-face communication, and delayed feedback from tutors, mentors or fellow students can also leave the learner feeling isolated and de-motivated. Fourthly, technology occasionally fails, is expensive to implement, and often requires specialised skills to be used effectively. Lastly, learners often receive neither the technical nor the pastoral support they require in a timely manner, and this has an impact on their level of retrieval and information technology skills and their own confidence in those skills.

2.3.6 The Learning Paradigm and its Relevance to Distance Learning

The rapid development of this mode of study suggests that it is a complete delivery method in its own right. The change in focus from 'teaching' to 'learning' paradigm (Barr & Tagg 1995) requires teachers to support learners in activating their prior knowledge and skills and to give responses. This learner-centred pedagogy is grounded in the constructivist theory of learning which focuses on the development of the learner's understanding though exposure to a wide range of learning and information resources (Jonassen et al. 1995) and focuses not only on what is learned but also on how knowledge is acquired. It enables learners and instructors to recognise what knowledge a learner brings to the learning process and empowers learners within the learning process, thereby preparing them to be lifelong learners.

Fardouly (1998) also states that learning strategies should include library research, problem- and case-based learning, assignments and projects, group work and discussions. Tama (2000) characterises the learner-centred pedagogy in open and distance learning by emphasising that it is based on the needs of the learner rather than the needs of the teacher or the institution, and it gives the learner flexibility and control over his/her learning and in deciding what, where, when and how to learn. It is compatible with the use of information and communication technology, especially those elements that facilitate the delivery of instruction, and is based on efficiency, cost-effectiveness and equity. It changes the status of a teacher from a source of knowledge to a facilitator or manager of learning situations.

2.4 Library / Information Services for Distance Learning

The provision of distance education has significant implications for library services, and there is a

growing body of literature on how HE libraries in the UK have adapted their services to accommodate distance learners. This section seeks to establish relevant current practice by placing the target community for this research, the University of London distance learning programmes, in context. The context is restricted to the UK because practice is different internationally and so it is more useful to focus mainly on literature relevant to the UK.

2.4.1 Early Empirical Studies

The fact that distance learning students have, in general, no ready access to their home institutions' campus facilities means that they present a different challenge to university providers, in terms of both general and library-specific support, from that presented by on-campus students. However, an examination of the literature in this area reveals that very little systematic large-scale empirical research investigating library provision for distance learners has been undertaken in the UK apart from the study by Unwin et al. (1998), which looked at the library needs and expectations of 1000 UK-based postgraduate distance learners. According to Unwin et al. (1998), even in North America, where there has been much interest in these issues, large-scale empirical research projects have been rare, with many questions left unanswered.

Lathan, Slade and Budnick (1991), who provide an international bibliography of the provision of off-campus library services, list only seven user studies in the UK up to 1991, only two of which are concerned with students of universities other than the UK Open University. One of these studies is Fisher and Bolton's (1989) evaluation of the University of Birmingham's book box system for extramural students, which was based on questionnaire responses from approximately 996 of the University's students. An earlier study of the number of Birmingham University's book loans to extramural students indicated that this group did as much reading as full-time students (Fisher, 1991). The two studies are relevant to the present research because they demonstrate the value and importance of library services for UK-based extramural and postgraduate distance learners. However, they do not address the needs of those students who are registered with a UK higher education institution but do not reside in the UK. Such students may live thousands of miles from their 'home' institution, such as the students registered on the University of London's International Programmes. They also fail to address the needs of students who solely depend on an 'online library' because they have no easy access to a physical library.

2.4.2 Overview of the Literature

Library provision for distance learners has been an active concern since the 1990s, with early reviews of the issues being presented by Lebowitz (1997), Beagle (2000) and Ball (2003). A decade later, it was identified as one of the 'top ten' issues for the future of academic libraries (Mullins, Allen and Hufford 2007), while the demand for librarians with the specific skills to deal with these students was also recognised (Rebmann, Molitor and Rainey 2012). Raraigh-Hopper (2010) and Iyer (2012) review and analyse library services provided for distance students, while Herring's (2010) content identifies numerous accounts of the topic. These issues are also extensively covered in the *Journal of Library and Information Services in Distance Learning.*

Among the particular issues addressed has been the need to foster the idea of 'library as place' for the distance student who may never visit the physical library (Coonin, Williams and Steiner 2011),

document delivery for remote users (Murphy, Franklin and Raia 2007; Renner, Vardaman and Norton 2007), the promotion of awareness of services among distant users (Davis 2007), an 'outreach librarian' role for such students (Holloway 2011), the use of standards to demonstrate quality of library services to distance students (Lewis 2011), the need for specific training for library staff supporting distance learners (Cassner and Adams 2012; Walsh 2010), and the skills required of librarians supporting distance learners (Tang 2013).

2.4.3 Online Library and Information Services

Thus far, little has been published that focuses specifically on entirely online library services for distance learning, yet there are many quality assessment principles that apply to distance learners, including physical provision, physical and online provision, and online-only provision. The effectiveness of distance learning is often predicated on the encouragement it provides for active, independent learning. Libraries have a key role to play in fostering autonomous learning. Developments in Information and Communications Technology and their impact on information access have radically altered the way learning takes place. These developments have been frequently commented upon (HEFCE 1993).

SCONUL has made a series of recommendations focusing on how libraries can respond, in partnership with course providers, to the needs of distance learners to ensure that there is 'equity, equivalence or comparability of provision' with campus-based students (Heaps 2001). It is recommended, in particular, that libraries:

- Be involved in the planning and validation of courses;
- Ensure that effective levels of communication are maintained with course providers and learners with a view to monitoring user needs, service quality and relevance, and value for money;
- Recognise that additional costs are associated with providing distance learning services and that appropriate staff must be available to deliver these services;
- Provide the following services: remote document delivery and access to electronic resources; photocopying services; flexible loan/fine policies; mediated literature searches; reciprocal access schemes to complement the provision of the home library service (Tyers 2007);
- Provide support via as many channels of communication as possible (Web, e-mail, phone, fax, post, face-to-face, etc.), including enquiry services, general and subject-specific information skills training.

The available literature combined with a survey of institutional websites indicates that many libraries in the UK are offering some or most of the services recommended by SCONUL: dedicated e-mail addresses; dedicated web-pages and links to other relevant library web pages; postal book loan (usually with the user paying the return postage); participation in the SCONUL Access scheme; access to electronic resources, typically via the Athens authentication system; and document delivery (free at some institutions). However, as highlighted in many studies, while electronic resource provision provides great benefits, including access to information anytime and anywhere that can usually be downloaded, printed, shared and searched in ways impossible in the analogue world, there is a need for training to make use of such provision (see section 2.4.4 below).

2.4.4 Information Skills Training

The need for improved information skills training is a recurrent theme in the literature. Rowland and Rubbert's (2001) study on the information needs and practices of distance education students in the UK found that the university libraries included in their sample "often did not cater for the specific needs of part-time and distance learners, which leads to an increasing use of the internet as a substitute for traditional information channels". Moreover, Catts & Lau (2008, 16) assert that users need a combination of "cognitive and technical" skills in order to use information available via digital technology and electronic database. Moreover, according to Kuhlthau (2008, 66), "Innovative approaches to interaction between people and information are needed to bridge the divide between information behaviour, information literacy and impact of information in order to address the issues of the twenty-first century". Brooke, McKinney and Donoghue's (2013) study found that the challenges that librarians face when supporting Distance learners fell into three main categories: a lack of resources, diversity of student background, and difficulties establishing collaborative relationships with course tutors.

Librarians believed that there was a lack of 'engagement', information sharing and understanding, or appreciation by course tutors. Poor communication prevented them from knowing exactly what distance learners required and which students were registered as distance learners. They also found that that online guides and tutorials were the most popular methods of providing user education to DLs. This finding is at odds with the other literature, which focuses on synchronous methods of provision such as IM, discussion forums, and Second Life (Kramer 2010; Meulemans et al. 2010; Ralph & Stahr 2010). (Hensley and Miller (2010 679)

Some HE libraries are, however, starting to offer online information skills tutorials, sometimes within interactive resources, usually aimed at all students, be they campus-based or distance learners. The University of Sunderland has introduced an accredited information skills half-module via WebCT, the University's VLE, which gives users the flexibility to improve particular information skills in their own time. It has also developed customised units of information skills training to be embedded into course content and a series of blogs including one targeted at distance learners. Tutorials and guides aimed particularly at distance learners are described and discussed by Roberts and Hunter (2011).

The Open University (OU) is among the institutions that have been systematically developing an online approach to the delivery of information skills tuition for over a decade (Parker 2003; Godwin and Parker 2008). The OU Information Literacy Unit, established in 2002, has developed MOSAIC (Making Sense of Information in a Connected Age), an assessed, credit-bearing, 12-week-long course that can be incorporated into a degree programme or taken as a one-off course. It has also developed flexible resources such as the online information literacy package SAFARI (Skills in Accessing, Finding and Reviewing Information), which offers generic and interactive resources that can be used by individuals and course teams, and more recently 'Beyond Google: Working with Information Online'. SAFARI and MOSAIC involved close collaboration within the OU between the Information Literacy Unit, academics and production and support staff. The OU now offers a dedicated 'Information Skills for Researchers' website at http://www.open.ac.uk/infoskills-researchers/. In 2012, the OU launched its Digital and Information Literacy Framework (Reedy and Goodfellow 2012) identifying competence areas which are each analysed by level and competences and mapped to the levels of OU study. The Framework and the OU's 'Being Digital' site (http://www.open.ac.uk/libraryservices/beingdigital) won the Credo Reference Digital Award for

Information Literacy from the CILIP Information Literacy Group. The OU also set up 'Librarians on call', a 'chat' or 'instant messaging' service, as its research findings suggested that users prefer chat to e-mail or the phone. The value of chat services for distance learners was identified at an early stage (Hinton and McGill 2001) and they are now commonly available in HE libraries (Devine et al. 2011; Radford and Connaway 2013).

The OU has developed automated systems to provide a 24/7 service to deal with common requests from distance learners (Payne and Bradbury 2002), and content management systems for library guides aimed at this type of student (Wales 2005).

2.5 Distance Learning at the University of London

The University of London's distance-learning programme considerably predates the establishment of the Open University in 1967; it awarded its first degree in 1939 to 29 students (http://www.london.ac.uk/history.html accessed on 16 February 2012) and currently has more than 50, 000 students enrolled on the International Programmes (known as the External System from 1958-2010) with some 100 awards (certificates, diplomas, degrees and postgraduate qualifications) being offered in partnership with 12 University of London Colleges.

The University of London's distance learning community was selected as the subject of the research study. This section provides background information about the community and the reasons why it was selected.

The University of London is a federation of nineteen self-governing Colleges. The University has four Central Academic Bodies, including the International Academy. The University overall has a student population of over 120,000 registered at its Colleges and more than 50,000 students worldwide registered on its distance learning programmes (with the international programmes of the University of London International Academy). Since 1858, students worldwide have been able to gain a University of London award without the requirement to attend a College (Kenyon Jones 2008).

The University of London International Programmes are a partnership of 12 University of London Colleges and the central university working with a centralised administration to develop and deliver distance learning academic programmes. As mentioned above, it currently has over 50,000 students worldwide studying in over 180 countries, which makes it different from other UK higher education distance learning providers including the Open University. Apart from the size and diversity of its student constituency, it has various other distinctive features. The programmes are self-funding with income derived from student fees. Students are registered with the University and not with the individual Colleges. (There is provision for Lead Colleges to operate dual registration, an option that has been exercised by the London School of Hygiene and Tropical Medicine). The University of London award is made directly by the University and not by the Colleges, as it would be for internal students. Each syllabus is devised within the Lead College, and examinations are set and marked by academics appointed by the University of London.

The diverse student body registered with the University of London International Programmes includes students from poorer or developing countries, mature learners, those with special needs due to

disability or geographic, economic, environmental, professional and social factors, and those with limited educational opportunities. Access is enabled by admissions criteria based on minimum academic prerequisites rather than any quota-based system. In addition there is flexibility in terms of periods of registration and intensity of study. The fees are low relative to comparable campus-based awards. The International Programmes have the ability to deliver resources and provide examinations regardless of the student's location. There is student choice over the amount of additional local learning support they wish to purchase.



Figure 2.2: Profile of the University of London International Programme Students: approximately 79% undergraduate and 21% postgraduate with 51% male and 49% female (QAA 2011).

2.5.1 Diversity of the Student Community

Students studying with the University of London International Academy live in more than 180 countries. The admission policies seek to maintain the International Programme's long-standing tradition of giving students who would otherwise be excluded from higher education an opportunity to study at tertiary level. As noted by QAA (2011, 8), "The diverse student body may be considered 'non-traditional' as it includes students in poorer and developing countries, mature learners, those with special needs due to disability, or geographic, economic, environmental, professional and social factors, and those with limited educational opportunities". Taken as a whole, the student body conforms to no age, gender or career path norms.

2.5.2 Library / Information Provision for Distance Learning at the University of London

The main library / information resource for London University's distance learners is the Online Library

(OLL). This started as a project in September 2001 by means of a collaboration between Senate House Library and the University of London External System, subsequently renamed the University of London International Programmes. Discussions took place regarding the options available and it was clear that a physical library was not the solution given the wide distribution of the University's distance learning community.

The aim of the OLL is to provide access to and professional support and guidance for the effective use of online learning and information resources for registered students and the staff involved in delivering and supporting the University of London distance learning programmes.

The mission of the OLL is to provide access and professional support and guidance for the effective use of online learning and information resources for students registered with the University of London's international Programmes from wherever they have chosen to study. As a provider of rich content, the OLL is a centre of research, learning and discovery. It is a front-line service provider and the only direct on-demand point of contact and response for registered students. One aim of my research is to seek practical ways of effectively supporting the information and learning needs of UOL distance learning students by understanding their information-seeking behaviour.

The principle of equity of services for on-campus and distance learning students is prominent in the requirements of accreditation agencies such as the Quality Assurance Agency (QAA) and the Joint Academic Standards Board (JASB) for law provision. The quality of all services, including resolution of complex enquiries and advice and training in information literacy and related matters, is evaluated.

The Online Library (OLL) collection is available 24/7 to all registered students and teaching staff. Many University of London International Programme students, particularly those who live outside the UK, depend on the online library services as their single comprehensive source of library support.

The OLL performs a wide range of duties including most aspects of running a major academic library: membership registration, administration of access rights, licence negotiation, management of discovery tools, research and information literacy training, reference enquiries, faculty liaison, collection development and management, student support, and technical support.

The OLL is built around a series of interlinked services: access to information resources, information literacy training; liaison and communication; reference and consultation services; inter-library loans; and collection development.

The Online Library currently provides access to almost six million academic electronic items from sources that have been carefully selected to meet the University of London's International Programmes' curricula. The OLL also provides sophisticated discovery tools, carefully selected free web resources, a contact form and other information skills support materials to help students make effective use of the library. The service is integrated into the University's web presence and is maintained by a robust local ICT framework.

The number of registered users has increased by nearly 700 per cent since 2005 and this has presented challenges, several of which remain. As mentioned above, meeting the information and learning needs of distance learners in general is more challenging than meeting the needs of on-campus students. On-

campus students have a range of libraries and other support services and personal access to the teaching staff who design the programmes. Distance learners in general and even those with access to local tuition are often isolated from essential support services (peers, tutors, etc.) available to on-campus students and often have greater time constraints. The broad access to education which the University of London International Programmes offer and the diversity of the student constituency bring challenges in terms of information-seeking and use, information technology, and general study skills. Moreover, English may not be the first language for many students.

The research reported in this thesis has a practical aim of improving online library provision for distance learners at London University, as well as providing general insights into the behaviour of this group of information users.

2.6 Information Behaviour of Distance Learners

Information behaviour has been an area of study for many years, the first reviews of this literature appearing in the 1940s (Case 2012; Bawden and Robinson 2012, chapter 9). The more specific area of Information-Seeking Behaviour (ISB), including the information-seeking behaviour of students, has been the subject of numerous studies since the 1940s (Wilson 2000; Case 2012).

Case (2012, 346) comments that, in information behaviour studies, "one of the most widely studied roles of all (given the voluminous research literatures on education and learning) is that of 'student' – a category that virtually everyone inhabits at some point during their lives". A minimum of 19% of all information behaviour studies have been focused on students (Julien, Pecoskie and Reed 2011).

It is therefore neither feasible nor necessary to give a full account of all studies of the information-seeking and general information behaviour of students. For reviews of this area generally, including studies of students, see Case (2006, 2007, 2012), Fisher and Julien (2009), Wilson (2000), Bates (2010), Urquhart (2011) and Bawden and Robinson (2012 chapter 9). For reviews of studies focused on students, see Catelano (2013) and Grace (2008).

There are also numerous studies of specific aspects of student information behaviour: for example, the use of particular sources and types of source, both printed and digital (Nicholas, Huntington, Jamail, Rowlands and Fieldhouse 2009; Rowlands and Nicholas 2008; Lim 2009); the influence of study methods such as problem-based learning and group projects (Dodd 2007; O'Farrell and Bates 2009); and the influence of personality and learning style (Heinström 2006; Stokes and Urquhart 2011).

One major longitudinal study of relevant factors in student information behaviour (Rowley and Urquhart 2007; Urquhart and Rowley 2007) led to the development of a model for student information behaviour. A further detailed study of the information behaviour of graduate students in Kuwait University led to this model being combined with Wilson's model to form a composite model for information-seeking behaviour of graduate students (Al-Muomen, Morris and Maynard 2012); this is discussed in more detail in the section on models below.

This research focuses specifically on distance learning students, for whom the context of information-seeking is very different from that of students in general. The importance of context has come to the

fore over the past two decades with respect to information behaviour. Many researchers argue that understanding the user's specific context, domain, task or work role is fundamental to understanding the complex process of information-seeking and use; see, for example, Ellis and Haugan (1997), Wilson and Walsh (1996), Leckie et al. (1996), Cole and Kuhlthau (2000), Kuhlthau and Tama (2001), Otike and Mathews (2000), Limberg (1999), Foster (2004), Fulton (2005), Fisher (2005), Huvila (2009) and Nazari (2011).

Limberg (1999) recommends that the differences between contexts, situations and groups be examined to promote a better understanding of information-seeking as a phenomenon. Kuhlthau (1999, 10) also states that "to neglect context is to ignore the basic motivation and impetus that drives the user in the information seeking process".

The context of distance learning, with separation between learner and instructor, while the learner has access to extensive digital information resources without regular access to any physical library or 'information space', means that the kind of understanding mentioned by Limberg (1999) is of great importance if the needs of these learners are to be met. It is likely that these learners will be among the first to exhibit the generational changes noted by JISC (2008, 5): "the Google generation are searching for and researching content in new ways".

At the outset of my doctoral research, a thorough review of the relevant literature in this area found very few studies discussing the information behaviour of distance students specifically. Since then, and contemporaneous with the research reported here, a number of papers have addressed library / information support for distance learners. These have appeared in a variety of library / information journals, and a journal devoted to the topic, the *Journal of Library and Information Services in Distance Learning*, was launched by Taylor and Francis in 2004. The literature of the area has been reviewed by Herring (2010), who performed a content analysis of 472 articles published between 1999 and 2009, and by Raraigh-Hopper (2010), who analysed reported similarities and differences between library services provided to traditional students and to distance students.

However, many of the articles on the topic report small-scale studies, address management and service issues rather than user needs and behaviour, or are anecdotal in nature. Others provide descriptions of services offered to distance learners, in particular institutions, countries or regions; for a variety of recent examples see Abdel-Rahman (2012), Shell, Duvernay, Ewbank, Konomos, Leaming and Sylvester (2010), Nwezeh (2010), Tang (2009), Lockerby and Stillwell (2010), Oldham (2008), and O'Sullivan (2008). Some address very specific issues such as information literacy and library skills instruction for distance learners (Kumar and Ochoa 2012; Nazari 2011; Shaffer 2011), or even the incidence of 'library anxiety' among distance learners, (Block 2007), or how spatial metaphors affect distance education library services (Mirtz 2010). Few have involved empirical information behaviour studies and fewer still have been on a large scale.

There are also reports of surveys of satisfaction with library services for distance learners, from which insight into information behaviour may be indirectly gleaned; an example is an on-going longitudinal transactional survey, assessing satisfaction of distance students with library services, the survey being administered after reference transactions (Alewine 2012).

Most importantly, there are reports of substantive studies of the information behaviour of distance

learners. These are central to research in the area and are analysed in depth below. These are:

- Thorsteinsdottir (2005). The information-seeking behaviour of 20 library / information studies students and two members of staff at a Swedish university.
- Boardi et al. (2004). Distance learners at the Institute of Extra-Mural Studies in Lesotho.
- Filha and Cianconi (2010). A questionnaire survey of students at the Center of Distance Higher Education of the State of Rio de Janeiro (CEREDJ) regarding their research habits and use of information.
- Oladokun (2010a, 2010b). Two questionnaire studies of 255 distance learners and of 80 distance learners in Botswana.
- Van de Vord (2010). An online questionnaire study of 363 distance learning undergraduates to assess their online information-seeking behaviour and level of information literacy.
- Byrne and Bates (2009). A questionnaire study of 53 business studies distance learners in the Quinn School of Business, University College Dublin.
- Sullo, Harrod, Butera and Gomes (2012). An analysis of 82 questions posed to librarians by distance students, with the aims of identifying information needs.
- Adetimirin and Omogbhe (2011). Questionnaires, interviews and observation used to investigate the library habits of 100 students in education and social sciences at the University of Ibadan, Nigeria.
- Parsons (2010). An online survey (with 62 responses) on the information access habits, particularly with respect to use of mobile devices, of distance learning students at Robert Gordon University, Aberdeen.
- Alewine (2012), 'Listen to What They Have to Say! Assessing Distance Learners' Satisfaction with Library Services Using a Transactional Survey'.
- Sharifabadi (1992), 'Information gathering behaviour of students studying in distance education and off campus programmes at university level'.

2.7 Reports of Substantive Studies of the Information Behaviour of Distance Learners

2.7.1 Thórsteinsdóttir (2005)

Thórsteinsdóttir (2005) investigated the information-seeking behaviour of twenty Library Information Science distance learning students (who planned to become professional librarians) and two members of staff at a Swedish University. Her empirical data consisted of forty-two in-depth interviews with all twenty LIS distance students and two members of staff as well as diary notes written by nine of the

students. The interviews and diaries were used to capture the students' personal experiences, their information literacy, and their previous experiences and ambitions, as well as factors that influenced students' access to information, such as place of residence and place of work. The study also addressed pedagogical aspects, such as the construction of assigned tasks and how they affect the students' choice of information channels and resources and in what ways the students' approaches to learning tasks influenced their information-seeking.

The findings revealed that geographical distance had a significant influence on literature acquisition and information-seeking and use. Although the sample consisted of LIS students, who might be assumed to be better than other students from other disciplines at finding information, they often experienced problems with locating information and mastering the techniques of seeking information.

The study also found that, contrary to popular belief, geographic considerations have no importance in an online information environment (as long as one is connected to the Internet), and learners were not directly affected by their place of residence when accessing library databases. Students living in non-university areas did not necessarily have more problems when connecting to library databases; however, when problems did arise, they had more serious consequences because the students had to travel greater distances to seek alternative internet access. She concluded that distance students who are dependent on information technology pay a particularly high price in the event of technological problems. These findings are of particular relevance to this research because of the wide geographical distribution of the University of London distance learners as well as the fact that they predominantly depend on an online library.

Thórsteinsdóttir also found a link between access to library services and use of high-quality sources. She claims that respondents residing in rural areas, who were accustomed to putting a lot of effort into information-seeking, often ended up with more high-quality sources than students living in university cities. Apparently, students in university cities were often content with the second-best alternatives simply because they were easily available. The study also found that "Poor computer literacy was experienced by some of the students" (Thórsteinsdóttir 2005, 180) and some said that they hardly used computers, which made the searching of databases with minimum support particularly challenging. She concludes that more varied library and technical support was needed to eliminate the effect of geographical distance.

2.7.2 Boardi et al. (2004)

Boardi et al. (2004) conducted a study on the information needs and information-seeking behaviour of distance learners at the Institute of Extra Mural Studies (IEMS) at the National University of Lesotho. The study administered questionnaires to 783 registered distance learners, eight lecturers, and two librarians, giving a total population of 793. Individual as well as group interviews were also used to collect data for the study. The study found that overall most respondents were satisfied with their sources of information and relied mainly on easily accessible information. Some of the reasons for dissatisfaction given were missing sources, sources that were insufficiently comprehensive, inconvenient library opening times and the fact that informal sources such as verbal or non-documented information could not be cited.

The study also found that the majority of students preferred information that was relevant to their

programmes of study, easily accessible, current, timely, and free of charge, and many were interested in information from the Internet. The author asserts that these study findings were in agreement with O'Brien (1996)'s observations that, for information to be of optimum use, it must be relevant, accurate, timely and current. In addition, although academic libraries were used more than public libraries (whose collections were found lacking), many students reported difficulties in accessing their on-campus library and information services and often turned to colleagues, personal collections and family members, lecturers / experts, and course materials.

2.7.3 Filha and Cianconi (2010)

Filha and Cianconi (2010) reported the results of an exploratory study that looked at the role and performance of services offered by libraries at the Center of Distance Higher Education of the State of Rio de Janeiro (CEREDJ), as well as student demand for these services. Data for the study were collected using a questionnaire administered to 44 undergraduate students (out of a total of 199) who were registered on three degree programmes: Business Administration, Tourism and Computing. Findings indicated that the majority of students used libraries (80%), and that the most preferred information sources were the web (20.8%) and conversations with colleagues (14.2%. The least used sources were the online catalogue (used by 1.7%) and purchased textbooks (0.8%).

2.7.4 Oladokun (2010)

Oladokun (2010) conducted two interrelated studies that looked at the information-seeking behaviour of distance learning students at the University of Botswana.

The first study investigated the information-seeking behaviour of 100 distance learners from two of the seven satellite centres of the Centre for Continuing Education, which is an outreach arm of the University of Botswana; the second study investigated the information-seeking behaviour of two categories of distance learners comprising cross-border students (students who resided outside Botswana) and home students (those who resided in Botswana). Questionnaires and follow-up interviews were used as survey instruments in both studies. In the first study, 100 questionnaires were distributed in the two Centres (50 in each) to students who were randomly selected from the list of each Centre. A total of 80 responses were received, representing an 80% response rate. In the second study, 364 questionnaires were completed and returned, a 70% response rate.

The key findings from the first study were as follows: the library and information needs of these distance learners were not being significantly met; the majority of students preferred printed sources to all other information source formats; the most important source used by the respondents was books, while lectures were rated the second most important source of information. E-mail and internet sources were hardly used or considered even though the students had been equipped with the necessary information literacy skills through the teaching of a compulsory information literacy module from which significant improvements had been observed. The author asserts that, although electronic resources are in common use, things have not changed for this group of learners, possibly because of background, cost, environment, poverty or location; in fact, only 2.5% of the study participants had internet access at home. This study found that neither level of study nor location had a significant influence on students' preferred information source format. It was also found that location had no significant influence on the choice of sources. No association was established between the level of

study, the location of the respondent, the gender of the respondent and the respondents' choice of the most important information source.

There was a clear distinction between the information sources and channels preferred by learners. A significant 90% of students depended on their lecturers, followed by colleagues (70%). Radio and TV were preferred to internet and email. The author suggests that this was possibly related to the location issue above. There was a procedure (based on preference) for obtaining required information: 92.5% used lecture notes, while 82.5% utilised discussions with colleagues. Use of the internet and listening to radio were the least used method. Thus, there is a procedure based on preference

A total of 55 (68.8%) of the 80 respondents claimed to use the library, and 94.5% of these used the public libraries. Only 3.6% said they used the university library. No association was established between gender and frequency/number of visits to the library.

In the second study, similar conclusions were discovered. The majority, 341 (93.7%), indicated that they used their modules and study packages. The use of the Internet came second with 238 (65.4%). Discussion with colleagues came third (229 or 62.9%). Asking for assistance from knowledgeable colleagues came fourth (152 or 41.8%).

The Oladokun studies conclude that there was significant evidence that the students' information needs were significantly unmet. It also concludes that information exchange played a key part in their information-seeking behaviour, which is in line with Wilson's (1999) model. In the study, the 'other people' with whom students were communicating or on whom they were relying were classmates or colleagues or lecturers. Lecture notes were not completely sufficient to enable the students to write assignments or pass tests or exams. The fact that students did not have access to or use the Internet further supports the view that students did not have access to appropriate sources.

2.7.5 Van de Vord (2010)

Van de Vord, R. (2010) investigated the factors that increase the likelihood of students evaluating the relevance, currency, reliability, completeness and accuracy of online information. An online questionnaire was administered to 2281 distance learning undergraduate students. The survey was designed to assess their online information-seeking behaviour and level of information literacy. The findings indicated significant positive relationships between media awareness and information literacy, between access and information literacy and information efficacy, and between information efficacy and information literacy. A variety of strategies to develop the information literacy skills required by today's graduates to succeed in today's information society is suggested.

In addition, the study found that online information-seekers often began their search with a generic search engine such as Google or Yahoo and "were likely to view only the links on the first page or two of results" (Van de Vord 2010, 171). The author states that online information-seekers indicated that they valued the ability to access information in the quickest, easiest, and most convenient way over the importance of quality of information (Van de Vord 2010, 171).

2.7.6 Byrne and Bates (2009)

Byrne and Bates (2009) investigated the information behaviour of Bachelor of Business Studies (BBS) distance learning students at the Quinn School of Business. They specifically looked at the main sources of information used by for the BBS distance learning students, their perceptions of the virtual learning environment (VLE) Blackboard employed by the Quinn School of Business, and the extent and evidence of collaborative information behaviours and practices.

Data were collected by means of a self-completion online questionnaire. The study had a total of 55 participants out of total of 136 students who were registered on the programme, and it had a response rate of 40.4%. The study found that although both print and electronic resources were used by the students there was a general preference for electronic resources. The chief sources used by the students to assist them with their studies were web search engines (primarily Google) and content from the VLE (Blackboard). The authors note that this finding was backed up by other study findings such as those of Chung and Neuman (2006, 1509) and OCLC (2006, 1-7).

This group of students acquired information through both formal sources (such as journals and course textbooks) and informal channels (conversations with lecturers, course providers, work colleagues, and classmates). It was found that information from other people played a significant role in the overall information-seeking and retrieval process. This is comparable to the findings of the research undertaken by George et al. in which human interaction and communication formed the basis of the information world of the student group studied; according to the authors, "The findings indicate that people, especially academic staff, play a central role" (George et al. 2006, 20).

The study concluded that there was a need to support collaborative, peer-to-peer information-sharing and learning. The study also found that although students still clearly valued the library as a resource it was overshadowed somewhat by the Internet.

2.7.7 Sullo, Harrod, Butera and Gomes (2012).

The study by Sullo et al. (2012) sought to determine the types of questions that students ask the embedded librarian; the study's goal was to inform future interactions with distance education classes as well as developing standard procedures for working with this particular constituency of students. The study reviewed 16 online classes, in which there was an embedded librarian, from August 2009 through to December 2010. Qualitative analysis was conducted on classroom discussion board transcripts as well as email messages to determine the types of questions asked of the embedded librarian. 82 individual questions were reviewed. The category of general research guidance had the most questions (28), followed by citation questions (18), and using library resources questions (16). The study made recommendations with the aim of improving research guidance for distance learning students.

2.7.8 Adetimirin and Omogbhe (2011)

Adetimirin and Omogbhe (2011) examined the library use and habits of distance learning students in a Nigerian university. The survey method was employed to carry out this research. A purposive sampling technique was employed to select one hundred respondents from the Faculties of Education and Social Sciences. Questionnaires as well as observations and interviews with library staff in the circulation

department were used to collect the study data. One hundred copies of the questionnaire were administered to the library users in the Faculties of Social Sciences and Education. Ninety-four copies were completed and returned, a response rate of 94%. The authors concluded that the library use habits of distance learning students in the University of Ibadan varied. The majority of the distance learning students rarely used the library. This was in contrast to those in the on-campus programmes. In addition, distance learning students experienced significant challenges, including inadequate reading materials and library skills.

2.7.9 Parsons (2010)

Parsons (2010) investigated the information access habits and mobile device use of higher education distance learners as well as their attitudes to future changes in their habits. A survey was e-mailed to approximately 1,500 distance learners at Robert Gordon University (Aberdeen), and 62 responses were received. The study found that although books and journals were accessed primarily in print respondents wanted to use them electronically in future; all other learning materials were already available electronically. Laptops and desktops were the main devices for accessing information and, despite most respondents owning a mobile phone and almost half having an mp3 player, few of them expressed a desire to use other mobile devices in the future.

2.7.10 Alewine (2012)

An on-going longitudinal study by Alewine (2012) assesses the satisfaction of distance education students with library reference services through the use of a transaction-level survey. According to the author, "The survey's purpose was two-fold: first, it is used to garner valuable input from these students; and it also serves as a communication device that encourages students to seek further assistance". The survey was emailed to individual distance education students following their reference transactions. The data presented in this (2012) paper cover the period from Spring 2007 through to Spring 2011. Over these four years, 1,930 survey requests were sent to distance education students, and there were 420 responses (an overall response rate of 21.7%). Alewine states that, based on the responses received, this is an effective tool for receiving a steady flow of student input. Findings revealed that the majority of distance students were online graduate students, and they were largely satisfied with the reference service. They also indicated that additional assistance was not needed. Students who were not satisfied also provided useful comments. The author asserts that the steady feedback will help distance students to feel less disenfranchised from the library and university.

2.7.11 Sharifabadi (1992)

Sharifabadi (1992) provides a review of a survey carried out at Deakin University in Australia in 1987, the findings of which showed that, in terms of information usage or sources used, personal collection was the first option for external students. However, the majority of external students were frequent users of public libraries; in fact, they used public libraries more frequently than any other type of library including their own home university library. The result also indicated that, the lower the level of the course, the greater the usage of public libraries by external students, and the higher the level, the greater the usage of academic libraries.

2.7.12 Brooke, McKinney and Donoghue (2013)

This study, published after the research here was largely completed, used a rather similar multi-method approach as the work in this thesis, albeit on a small scale, and with as much, or more, emphasis on finding the views of librarians than those of learners. A questionnaire survey of 112 distance learning students at Sheffield Hallam University was complemented by a questionnaire survey of 66 librarians at UK institutions, unfortunately omitting the large University of London distance learning programmes, plus three semi-structured interviews with librarians. A main finding was that there was a considerable discrepancy between what were perceived as the main challenges for distance learners by librarians, and what the learners themselves thought. Other main points were: a discrepancy between the high level of confidence of learners in their ability to find and access information, and the perceptions of the librarians; a need for better and more diverse support for distance library users, with improved variety and efficiency of communication channels; and the need for better interaction between librarians and course tutors.

2.7.13 Other Studies

In another study, by Sutherland (2000), on the information use of distance learners at Western Colorado Graduate School, it was found that the majority of the survey participants borrowed materials from local academic and local public libraries. The results also revealed that more than half of the students did not use the main campus (distance education provider) library, and instead used other sources, such as library consortia, professional libraries and/or personal material and online resources. The main reasons given for these preferences were ease of use and location of the required resources.

In a study of distance learners at the University of Maryland University College (UMUC), Kelly and Orr (2003) observe that their survey findings confirm some of the other studies and observations suggesting that students prefer using online resources to physical library buildings and collections. In exploring some research questions about library and web usage, Kelly and Orr found that students ranked full-text library databases and off-campus access to the library catalogue as the most useful library services provided. Respondents also indicated a preference for web-based information and instruction about library services over other formats.

Similarly, Moyo and Ellysa (2003) carried out a survey to discover the attitudes of distance learners on the quality and use of available information sources and services at Penn State World Campus. The survey results indicate, among other things, that students are interested in gaining access to more online full-text resources along with speedy document delivery for materials not online in full text. In a related exercise at Texas A&M University (TAMU), Liu and Zheng (2004) carried out a survey on factors influencing distance learner graduate students' use of information sources. They found that graduate distance students preferred information sources that are fast and easy to use. Internet and electronic library resources were therefore preferred to traditional library resources by most respondents.

Tang and Tseng (2013) studied the information literacy skills of distance learning students, by an online survey of 3,517 students on a distance learning course at an American state university, with a response rate of 6.2% (219 responses). The results suggest that students with a high level of confidence in information handling also had a high level of confidence in studying generally. They conclude that information literacy training is particularly important for these students.

It is noticeable that the majority of the reviewed studies on the information-seeking behaviour of distance learners were conducted in settings where distance learner students have access to both physical and library provision and have a clearly geographical distribution. This setting is very different from that of the University of London's distance learners. This research seeks to contribute to existing research by establishing the 'key' information-seeking behaviour variables in distance learning.

2.7.14 Key Findings from Reports with Substantive Studies of the Information Behaviour of Distance Learners

Study Description	Methodology	Key Findings
Thórsteinsdóttir (2005) A study investigating 20 LIS DL students and 2 staff at a Swedish University	42 in-depth interview questions and diary notes of 9 students	-Geographical distance had a significant impact. -Location affected access to library databases less (assuming an Internet connection) - Technological problems had more serious consequences for distance students. -Participants, despite being LIS students, often experienced problems locating information -There was a relationship between access to library services and use of high-quality sources. - Respondents in rural areas, accustomed to effort in info-seeking, often used higher-quality sources than those in university cities. -Students in university cities were often content with the second-best alternatives simply because they were easily available. -She concludes that more varied library and technical support was needed to eliminate the effect of geographical distance.
Boardi et al. (2004) A study on the information needs and information-seeking behaviour of distance learners at the National University of Lesotho.	Questionnaires to 783 distance learners, 8 lecturers, and 2 librarians (total population of 793). Individual as well as group interviews were also used.	-Most respondents were satisfied with their sources of information -They mainly relied on easily accessible information. -Some students were dissatisfied because of missing sources, sources that were not comprehensive, inconvenient library opening times, and that informal sources, verbal or non-documented, could not be cited. -Students preferred information that was relevant, easily accessible, current, timely, and free of charge, and many were interested in information from the Internet. -The author asserts that the study findings

		agreed with O'Brien's observations (1996) that, for information to be of optimum use, it must be relevant, accurate, timely and current. -Academic libraries were used more than public libraries (whose collections were found lacking) -Many students reported difficulties in accessing on-campus library and information services and often turned to colleagues, personal collections and family members, lecturers / experts, and course materials.
Filha and Cianconi (2010) An exploratory study of the role and performance library services at the Center of Distance Higher Education of the State of Rio de Janeiro.	As well as student demand for these services, data for the study were collected using a questionnaire administered to 44 undergraduate students (out of a total of 199) who were registered on the following three degree programmes: Business Administration, Tourism and Computing.	-Findings indicated that the majority of students used libraries (80%). -The most preferred information sources were the web (35%) Followed by conversations with colleagues (20.8%), next was wiki tool (14.2%). -The least used sources were the online catalogue (used by 8.3%) and purchased textbooks (0.8%). -The majority of students (68%) had not received any library training, while 23% had received training from tutors, 5% from library tutorials, and 31% did answer the question. -Regarding training: Only 33% expressed the need and specified the kind of training they needed. An almost equivalent number (31%) did not respond, while 5% said they had no time. -Regarding library use: 46% did not use any library, 18% used the university library, while 18% used other libraries close to them. Regarding whether library resources were adequate: 32% said they weren't, while 43% experienced difficulty with the library. Regarding resource improvements: Majority of students (42.6%) wanted digital collections comprising dissertations, textbooks and hand outs.

		Also. 88% of the participants said that they would consider use of collaborative web tools such as forums and online study groups.
Oladokun (2010 a&b) Oladokun (2010) conducted two interrelated studies that looked at the information-seeking behaviour of distance learning students at the University of Botswana. **Oladokun (2010 a)** The first study investigated the information-seeking behaviour of 100 distance learners from two of the seven satellite centres of the Centre for Continuing Education, which is an outreach arm of the University of Botswana;	-Questionnaires and follow-up interviews were used as survey instruments in both studies. Data were analysed using the SPSS software and the Chi-square test used to establish significance of findings. -In the first study, 100 questionnaires were distributed in the two Centres for continuing education (CCE), 50 in each. -Students were randomly selected from the list of each Centre. -Only level 2 and 3 students were selected for study (had done assignments, tests and more than 2 exams). -A total of 80 responses were received, representing an 80% response rate.	**Key findings from first study:** -The library and information needs of these distance learners were not being significantly met. -Print was the most preferred source format *Author suggests that books were more accessible, students had used them all their lives, and were more affordable because they did not require use of electricity of other expensive forms of technology.* -Level of study not significant impact of resource choice/preference. -No significant relationship between students' most used and preferred information source and location. -Sources used to acquire information: 90% depended on lecturers and 70% on colleagues. Internet, email and telephone were also used. -Books considered most important source -Lectures rated the second most important -E-mail and internet sources hardly used even though students had the necessary information literacy skills (evidence of effective information literacy training). *Suggested reasons: background, cost, environment, poverty or location e.g. only 2.5% of the study participants had internet access at home.* -Level of study had no significant impact on resource preference -Location also had no significant impact on source format (established by chi-square test). -Gender also had no significant impact on information source choice. -There was a clear distinction between the information sources/channels preferred by learners.

		-Largest number of students depended on their lecturers, followed by colleagues and then radio and TV, which were preferred to internet and email. *Suggested reason: related to the location* Library use: There was a clear procedure based on preference) for using libraries. 68.8% of all participants used the library. -The majority (94.5%) used the public libraries, while 3.6% said they used the university library. -Despite the high use and accessibility of public libraries, collections were found to be inadequate. -No association was established between gender and frequency/number of visits to the library. -Students were adequately equipped with information literacy skills to enable them to access the information resources through the teaching of a compulsory information literacy module. Demographics variables such as Age, Gender and Location were not significant factors in students' information-seeking behaviour.
Oladokun (2010 b) Oladokun's second study investigated the information-seeking behaviour of two categories of distance learners. The first category comprised cross-border education students who resided in Botswana but were registered with a distance learning teaching institution outside Botswana. The second group comprised home students (those who resided in Botswana) who were registered with the University of	-In the second study, 364 questionnaires were completed and returned, a 70% response rate. -Cross-tabulation and chi-square test were used to determine the significance of the findings.	**Key Findings:** -The second study established that the three major information sources used to prepare for their assignments and tests were as follows: modules and study packages (93.7%); Internet came second with 65.4%; discussion with colleagues came third with 62.9%. -In addition, students asked for assistance from knowledgeable colleagues (41.8%) and librarians (8.8%), who were the least used, even less than radio and television (14.3%). -Respondents also used other sources to meet their needs. -When the question was re-presented, the internet was found to be the most used resource

Botswana (UB).		(initially had come second?) and the most popular among tertiary-level distance learners. -However, easy, unrestricted access was an issue with many accessing it from work. -Only 2/3 of respondents used library as a resource. *Author notes that this level of use is not good enough at degree or higher level.* -More than 1/3 of respondents cited colleagues as the most useful information source. -Just over a quarter of participants found public libraries useful although heavily used. *The author warns about the profound existence of the information-rich and information-poor and technology-rich and technology-poor environments, which influenced learners' decision about what resources and services to use.* -Gender was found to have a significant influence on use of email, but had no impact on the rest of information sources used. *Oladokun concludes that there was significant evidence that the students' information needs were significantly unmet.* -A significant relationship was established between location and use of the **internet,** with more students living in cities (urban areas) using the internet than those who lived in rural areas. -Satisfying information sources: the internet came first with 57.4%, next was University library 51.6%, other information sources including colleagues 37.1%. However, a cross-tabulation of the ability of information sources and location to meet needs revealed the university library and internet mainly met the needs of those students who resided in the city. -Home students used WebCT and derived satisfaction in using the resources while cross-border students did not.

		-The internet was more used by cross-border students than home students Most students accessed the internet from work. It also concludes that information exchange played a key part in their information-seeking behaviour, which is in line with Wilson's (1999) model. In the study, the 'other people' with whom students were communicating or on whom they were relying were classmates or colleagues or lecturers. Lecture notes were not completely sufficient to enable the students to write assignments or pass tests or exams. The fact that students did not have access to or use of the Internet further supports the view that students did not have access to appropriate sources.

A synthesis of the above studies, which have looked specifically at the information-seeking behaviour of distance learners, indicates that no study to date has looked at the information-seeking behaviour of a large and diverse group of distance learners who are distributed in many countries around the world. The global nature and increasing importance of distance learning including the recent developments in Massive Online Courses (MOOCs) makes this research timely. Moreover, if context is central to the understanding of users' information-seeking behaviour, as noted by Case (2012) when he states "context and situations are important concepts for information behaviour research ... information needs do not arise in a vacuum, but rather owe their existence to some history, purpose, and influence. The seeker exists in an environment that partially determines, constrains and supports the types of needs and enquiries that arise" (Case 2012, 279), a study that examines distance learners' information-seeking behaviour in a much wider global context is crucial.

In Thórsteinsdóttir's study (2005), the 20 participants were based in Sweden and were all LIS students. Therefore, although her findings indicate that there are differences between students residing in non-university areas, it is vital to establish whether such findings can be generalised and applied to students who live in different countries or continents from their home institution. Furthermore, all the participants in the Byrne and Bates study (2009) were from Ireland and registered on an undergraduate degree in business studies, while the participants in the Oladokun study (2010) were all from Botswana. Filha and Cianconi (2010) looked at 44 undergraduate students from Brazil. The Van de Vord (2010) study looked at information literacy in an online environment. Adetimirin and Omogbhe (2011) looked at 100 students from Nigeria. Parsons (2010), who looked at mobile use habits of UK students, received only 62 responses out of 1500 questionnaires emailed. The Alewine (2012) study had 420 responses from 1,930 survey requests over a period of four years; although overall this indicates a response rate of 21.7%, it is rather low given the time period of the survey. The Sharifabadi

(1992) study looked at Australian students. The Brooke, McKinney and Donoghue (2013) study looked at 112 distance learners from the UK. The Sullo, Harrod, Butera and Gomes (2012) study was a qualitative analysis of classroom discussion transcripts and emails and was undertaken over a period of one year and four months. With reference to JISC's (2007) earlier comment in Chapter One about the importance of the size of sample, it can be argued that a wider-scale study would not only provide more generalisable findings but would also be useful in corroborating some of the findings of the above studies and thereby increasing the knowledge base on the information-seeking behaviour of distance learners.

Overall, there is a need for a wider-scale study which investigates information-seeking behaviour of distance learners using a much wider sample in line with JISC (2010) recommendations; it should also look at a wider range of factors that affect the learners' information-seeking process (beyond what has already been investigated in all the above studies), and should examine the correlation between the different factors and the extent (how significant). Finally, it should provide a graphical representation of the elements that impact the information-seeking process of distance learners that is grounded in empirical data.

2.8 Information Behaviour of Law Students

Law students are a particularly large and important section of the study population, and are the focus of particular investigation, as described later. It is therefore worth mentioning previous studies in this area, although this is not a comprehensive survey.

Practising lawyers, and students of law, have been the subject of a number of information behaviour studies. Reviewing these studies, Case (2012, 315-317) comments that a good deal has been learned about information needs and behaviour, and that "all lawyers face a rapidly expanding universe of knowledge to which they must attend ... they cannot afford to miss any new ruling, decision or regulation that concerns their practice ... [they have] an absolute need to stay current with published literature relevant to their work" (Case 2012, 315). Lawyers and, by implication, students of the law are therefore necessarily a particularly information-conscious group. However, it is unwise to generalise about the needs of law students: there are differences between students undertaking different legal qualifications (Batts 2007) and, of particular relevance to this study, different needs for those studying law by distance learning (Donaldson 2004; Danner 2002). Also of note for this study is the extent to which the information behaviour of lawyers and law students has been analysed using various models of information behaviour, including Ellis's model (Makri, Blandford and Cox 2008) and Leckie's model (Fulton, Kerins and Madden 2004).

Makri (2009), in his doctoral thesis, studied lawyers' information-seeking behaviour, and he developed two methods for evaluating electronic resources. This study involved conducting naturalistic observations, where the academic and practising lawyers were asked to think aloud whilst using existing electronic legal resources. The observation process, combined with probing questions (before, during and after the observation) provided an insight into their information behaviour (i.e. *what* they were doing and *why* when using the resources). The interviews / observations were transcribed and analysed using an approach based on the open and axial coding elements of Grounded Theory in order to identify behaviours that might inform the design and evaluation of electronic legal resources. It was

found that both academic and practising lawyers' information behaviour closely matched behaviours observed in other disciplines by Ellis and other researchers (see Ellis 1989; Ellis, Cox and Hall 1993; Ellis and Haugan 1997; Meho and Tibbo 2003). Makri also found that students had problems using Lexis and Westlaw, often due to lack of awareness of features and databases. Students tended to form a strong preference for one system or the other and tended to use the systems that they were "most comfortable with". Makri, Blanford, and Cox (2007) explored student attorneys' perceptions of Google. Interviews revealed a wide use of Google among academic attorneys; "We find lawyers use Google due to a variety of factors, many of which are related to the need to find information quickly".

Fulton, Kerins and Madden (2004) reported the results of two empirical studies which explored the information-seeking behaviour of engineering and law students in Ireland. The findings revealed similar patterns in the information-seeking behaviour between students studying to become professionals and information-seeking patterns of these groups identified in Leckie et al.'s model. They assert that students learned their information-seeking strategies, including effective and less effective approaches, from educators and that misperceptions of the role and value of libraries and information professionals in their studies were common. As a result, students often adopted information-seeking strategies that excluded libraries and library staff. The two studies suggest that engineering and law students in Ireland might benefit from greater information literacy training and awareness, enabling them to acquire the information skills they need to function effectively and efficiently in their future professional work lives. The study also found that, unlike engineering students, there was little evidence that law students consulted one another or participated in group projects. They perceived the role of librarians as being purely functional, even though they had problems in identifying suitable information sources for case law, legislation and journal articles and had trouble choosing suitable electronic sources. Most of their information-seeking activities, particularly at undergraduate level, centred on items such as reading lists, course packs, and textbooks. Participants in the study almost universally referred to 'Google' as their search engine of choice. In addition, students' perception of their information skills was greater than their ability, with students displaying poor judgement in resource selection and encountering problems sourcing case law, legislation and journal articles.

Otike (1999) explored the legal information needs of lawyers in Kenya. It was noted that a lawyer's work is determined by the legal needs of the clients, which in turn influence the information needs of the lawyer. Otike (1999) also investigated the information-seeking habits of lawyers in England. He conducted semi-structured interviews with nine academic lawyers and found that legal information-seeking depended on the type of work lawyers undertook and the experiences they had in their particular work roles and legal areas. It was also noted that experience had a considerable influence on their needs and that experienced lawyers did not require as much information support as newly qualified lawyers. Findings also showed that lawyers relied heavily on printed media, and electronic media were used only as a last resort. Otike also found that lawyers had high regard for colleagues. Otike comments on the limited number of studies in this area that have been documented in major bibliographies. He asserts that this is mainly because they appear in the form of theses and dissertations.

Wilkinson (2001) studied information sources used by lawyers in problem solving. It was found that the lawyers overwhelmingly preferred informal sources when seeking information. In addition, they preferred sources of information internal to their organisations rather than external sources. Kuhlthau & Tama (2001) found that lawyers expressed a preference for print texts over computer databases for

more complex tasks. Wilkinson (2001) also claims that even the available studies did not investigate information-seeking behaviour but tended to verify the sources of information used by lawyers in legal research. This view is shared by Anderson (2012), who notes that, despite universal agreement about the importance of legal research skills to the practice of law, little empirical work on the information-seeking behaviour of law students appears in either the legal education literature or the library and information science (LIS) literature. This study agrees with this observation and further asserts that if the learners' context is important, then there is also an urgent need for empirical research on the information-seeking behaviour of distance learning law students. Currently it is not clear whether any of the previous studies included distance learners.

The background provided by these studies, in conjunction with the clear 'information intensity' of the legal area, and with the size and significance of this group in the study context, justifies the focus on law students in the research described below.

2.9 Overview and Evaluation of Models of Information Seeking and Information Behaviour

This section provides an evaluation of information-seeking models to assess their suitability for modelling the rich distance learning context. A review of nine of the "more fully developed and more widely used" models has been undertaken by (Case 2012, 137). As noted by Ingewersen and Jarvelin (2005, 11), "All research has an underlying model that it investigates". They also comment on the number of models currently in existence: "There has been considerable recent interest in producing conceptual models for information seeking and retrieval research". Wilson (1999) gave an early review of such models, including those for information behaviour generally (Wilson 1981), for information-seeking behaviour (Wilson 1981 and 1996; Dervin 1986; Ellis et al. 1993; Kuhlthau 1991), and for information-searching or retrieval (Ingwersen 1996; Belkin et al. 1995; Spink 1997).

It is important first to look at the broad theories underpinning research in the multidisciplinary field of library and information science in order to identify the broad theoretical context of research in information-seeking (Bates 2005, 2). In order to grasp how models are constructed in accordance with the theories, it is essential to understand the distinction between the terms 'metatheories', 'theories', and 'models' (Bates 2005). Bates defines these as follows:

- Metatheory: a theory concerned with the investigation, analysis, or description of theory itself;

- Theory: the body of generalisations and principles developed in association with practice in the field of activity; a system of assumptions, accepted principles, and rules of procedure devised to analyse, predict, or explain the nature of behaviour of a specified set of phenomena;

- Model: a tentative ideational structure used as a testing device.

(Bates 2005, 2)

Bates (2005) classified the approaches to research in the area of Information Science in accordance with the related domain knowledge. Her classification encompassed several approaches, including historical, constructivist, constructionist, ethnographic, socio-cognitive, bibliometric and user-centred. This classification sets a broad framework that helps beginners understand the range of research

approaches applied in Library and Information Science (Bates 2005, 10).

2.9.1 Constructionism and Constructivism

A closer look at Bates' classification reveals that theoretical approaches applicable to studies of information behaviour are those related to constructivist, cognitive and socio-cognitive theories, which have distinctive aspects. Social science researchers often cite the theories of constructionism and constructivism, sometimes treating them as two concepts, and sometimes as a single concept. Bryman (2004, 17) regards both constructionism and constructivism as referring to "an ontological position that asserts that social phenomena and their meanings are continually being accomplished by social actors. It implies that social phenomena and categories are not only produced through social interaction but that they are in constant state of revision". From this definition it can be inferred that constructionism / constructivism is often associated with interest in how a social phenomenon is being presented. In their analysis and discussion of paradigms and perspectives in qualitative research, Denzin & Lincoln (2000, 158) focus on constructivism as one of the major paradigms that structure and organise qualitative research. The authors state that, in this theoretical realm, users are oriented to produce reconstructed understandings of the social world; in other words, constructivism is often more associated with the means by which understandings are achieved.

Case (2012) points out that, within information behaviour research, constructivism has been associated with work related to that by Brenda Dervin and Carol Kuhlthau on sense-making, with the emphasis on the means by which individuals construct understanding of their world. On the other hand, Case discusses constructionism as a theory of knowledge formation with the emphasis on analysing human discourse to show how meanings are formed in verbal and written discourse (Case 2012, 190-191). This suggests that studies in information research might be more influenced by constructivism, with the focus on how people make sense of their environment. In other words, in order to understand how individuals search for information and the problems associated with the process, one should focus on the process in which they engage. Based on the work of Jan Piaget and Lev Vygotsky, constructivism has major ramifications for the goals that teachers set for the learners with whom they work and for the instructional strategies teachers employ in working toward these goals (Fosnot & Perry 2005, 8).

2.9.2 Critical Theory

Critical theory explains "a social order in such a way that it becomes itself the catalyst which leads to the transformation of that social order" (Fay 1993, 33). Studies under the banner of this paradigm tend to place more emphasis on criticising the environment, in order to cause a change in the setting. As shown in Table 2.1, Guba & Lincoln (2000, 164) distinguish between critical theory and constructivism in terms of inquiry aim, nature of knowledge, and the way knowledge is accumulated.

The paradigm	Critical Theory	Constructivism
Inquiry aim	Critique and transformation; restitution and emancipation	Understanding; reconstruction
Nature of knowledge	Structural/historical insights	Individual reconstructions coalescing around consensus
Knowledge accumulation	Historical revisionism; generalisation by similarity	More informed and sophisticated reconstructions; vicarious experience

Figure 2.3: Distinguishing critical theory from constructivism adapted from and Guba and Lincoln (2000, 166).

Wikgren (2005) argues that critical theory can be the foundation of studies in information science, particularly those concerned with many levels of information-seeking, creation and use. Critical theory, or realism, stipulates that reality is stratified and that the researcher should endeavour to reveal the underlying causes and relations governing a complex phenomenon, and not be confined to explaining information-seeking on an empirical level (Wikgren 2005). Based on this argument, studies within the realm of critical theory can be expected to emphasise how users understand information and how such knowledge develops.

2.9.3 Paradigms in Information-Seeking Research

In addition to the metatheories already discussed, the last decade has seen the emergence of many paradigms informing the area of information behaviour. However, for the purpose of the current research, only those most relevant to the studies covered in the literature review will be discussed. These include Sense-Making, Zipf's Principle of Least Effort, and the Domain Analytic Approach to scholars' information practices, which are discussed below.

2.9.4 Sense-Making

Developed by Brenda Dervin, Sense-Making is proposed as an approach to investigating human sense-making and sense-unmaking in their variant forms. Information-seeking and use has been a primary substantive focus (Dervin 2005, 26). Sense-Making methodology focuses on a series of terms, including time, space, horizon, gap, bridge, movement, power, constancy, and change. Sense-Making insists that "communicating be conceptualized as gap-bridging, not in the purposive, problem-solving sense but in the sense of gap-bridging as a mandate of the human condition" (Dervin 2005, 27). Sense-Making has been applied in various settings, such as libraries and information and media systems (Dervin's website 2009). As a methodological frame, Sense-Making proposes to provide means for dealing with studies of information-seeking use. In Library and Information Science, sense-making methodology is associated with a shift in research emphasis from information sources to information users (Tidline 2005, 113).

2.9.5 Zipf s Principle of Least Effort

This principle stipulates that each individual tends to adopt a course of action that will involve the expenditure of least effort (Case 2012, 175-178). Zipf supports his theory of Least Effort with evidence from different aspects of human behaviour, most of it based on studies of language use. Zipf notes that the importance of his principle lies in its universality with regard to human behaviour: "Over the long haul, humans tend toward a surprising efficiency in their allocation of effort." This tendency has immense implications for studying the use of information (Case 2012, 177), because the Principle of Least Effort predicts that seekers will minimise the effort required to obtain information, even if this means accepting a lower quality or quantity of information. This is an important paradigm that relates to information users' tendencies to resort to easily accessible information, instead of making efforts to find specialised information resources. This is a phenomenon often found in the area of higher education, where students tend to rely heavily on internet resources and search engines in attempting to find the required information, as they require the least effort.

2.9.6 Domain Analytic Approach

The Domain Analytic Approach is still being developed and there seems to be no firm consensus on the definition of what constitutes a domain (Jamali 2008). According to Hjorland (2004), a domain can be a scientific discipline or a scholarly field. The term "domain analysis" was introduced by Hjorland and Albrechtsen (1995) who argue that it is more fruitful to view disciplines and specialities as basic units of analysis rather than to focus on "users" in a "generalised and context-independent manner" (Talja 2005, 123). Talja explains that the development of a more systematic domain analytic approach to explain scholars' information practices is "still in infancy". The author also indicates that, despite the fact that a number of studies have revealed discipline-specific differences in scholars' information practices, and that such differences are likely to persist in the electronic age, few studies have attempted to develop a comprehensive understanding of the factors that influence these differences as the present study attempts to do.

Despite Talja's views, it should be noted that a plethora of research has focused on a particular occupation such as Scientists (for example, Hemminger et al. 2007; Brazzeal & Fowler 2005), Social Scientists (for example Ellis 1989; Meho & Tibbo 2003), Physicians (for example Urquhart et al. 2003a; Gorman 1995), Lawyers (for example Leckie, Pettigrew & Sylvain 1996), Engineers (for example Kerins, Madden & Fulton 2004), and Humanities (for example Foster 2004).

The broad theories that underlie information-seeking behaviour research are briefly examined above in order to place this research into context. This paragraph describes how the theories helped to inform the research design of this thesis. As Corbetta (2004, 13) states, its only by understanding the underlying meta-theoretical frameworks that an appropriate set of research tools can be developed, tools that are applicable to the particular research problem on which the researcher is focused. The main objective of this research is to contribute to the limited body of knowledge on the information needs and information-seeking behaviour of distance learners by undertaking a wider-scale empirical study. It also has the immediate and practical purpose of improving library provision for the University of London's distance learners. This study demonstrates that understanding learners' individual contexts is crucial as many of the factors that impact on their information-seeking behaviour stem from the same context. Useful paradigms such as Dervin's Sense Making theory and Zipf s Principle of Least Effort

as well as the domain analytic approach were all valuable in the selection of an appropriate epistemological position.

This belief led to the adoption of a 'Postpostivist' ontological position which states that there is no single reality and that reality is constructed (constructionist) from context; therefore, different contexts have different realities. Because there is no single reality, the theory of having the knowledge or epistemological position adopted is 'interpretivist' and called for a thorough literature review to understand what else has been written on the subject as well as to identify the gap. A hypothesis comprising ten statements rooted in the literature review was formulated. This hypothesis was used to guide the development of the study question used to collect the data which were statistically analysed to prove / disprove the study hypothesis and ultimately to help to establish the reality of the information-seeking behaviour of distance learners.

Further methodological considerations are addressed in Chapter Three on methodology. Meta-theoretical frameworks that inform approaches to social research are aptly described as paradigms. The underlying assumptions contained within meta-theory about the nature of society and the validity of knowledge have implications that go beyond whether a researcher employs a particular research methodology. The fundamental implications of meta-theory, associated with how one understands the information needs and information-seeking behaviour of distance learners in their unique context, feed into the resulting frameworks or models and impact all researchers and organisations who adopt them.

2.10 Models of Information-Seeking Behaviour

This section discusses significant models of information-seeking behaviour relating to higher education.

A large number of models have been proposed, covering various forms of information behaviour in various contexts. Detailed recent reviews are given by Fisher, Erdelez, and McKechnie (2005), Bawden and Robinson (2012, chapter 9), Wilson (2010), Case (2012), and Robson and Robinson (2013).

Wilson (1999, 250) notes, concerning models of information behaviour, that "rarely do such models advance to the stage of specifying relationships among theoretical propositions: rather they are at a pre-theoretical stage, but may suggest relationships that might be fruitful to explore or test". He also notes later that, "the limitation of this kind of model, however, is that it does little more than provide a map of the area and draw attention to gaps in research: it provides no suggestion of causative factors in information behaviour and, consequently, it does not directly suggest hypotheses to be tested". (Wilson 1999, 251). These conclusions support the need to evaluate existing information-seeking models in the specific context of distance learning, as this has not been done before.

This section of the review of the literature presents a number of selected information-seeking models to provide a theoretical background for the current study. Although it is neither feasible nor necessary to evaluate in detail all the models that have been proposed, it is necessary to set some parameters and to clearly specify the criteria for evaluation.

The criteria for selecting the models for evaluation were as follows:

- the model is generally applicable to multiple contexts, occupations, roles and knowledge domains;
- it indicates something about barriers or other key distance learning variables (from literature and my personal experience) such as limited access to peers and other support networks, high-quality information resources, technology (see Barriers to learning in distance education at http://www.eric.ed.gov/PDFS/ED416377.pdf accessed on 12 February 2012)
- it indicates something about information needs and sources
- it is based on empirical research and has been tested in subsequent studies
- it is related to a learning context

The models selected for analysis, applying these criteria, are those constructed by Tom Wilson, Brenda Dervin, David Ellis (Ellis and Haugan 1987), and Carol Kuhlthau (Kuhlthau 1991). There follows an outline of the evaluation undertaken and key findings for each of these models.

Of models developed during the 1990s, the review focuses on Kuhlthau's model (Kuhlthau 2004), Ellis's information-seeking model (Ellis 1989), the general model of the information-seeking by professionals (Leckie, Pettigrew & Sylvain 1996), and Wilson's information-seeking model (Wilson 1999). In addition, the review considers various models that have emerged since the start of the new millennium, including Foster's non-linear information-seeking behaviour model (Foster 2004), the model of learning-related information behaviour (Ford 2004), and Urquhart & Rowley's information behaviour model (Urquhart & Rowley 2007).

These models have been chosen for discussion for several reasons. Firstly, they adopt a user-centred rather than a system-based approach, consistent with the approach of the current study. Secondly, these are the studies most often cited in information-seeking studies in the higher education sector, and some have been developed out of research conducted with postgraduate students (for example Foster 2004; Ellis 1989). The sample in Foster's study was drawn from academic and postgraduate students at the University of Sheffield, England. Finally, these models explain factors or variables associated with the information-seeking behaviour process, which is consistent with the objectives of the current research. The models are discussed below.

2.10.1 Dervin's Sense-Making Framework

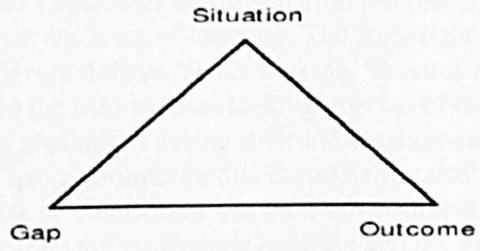


Figure 2.4 Dervin's Sense-Making Framework

Brenda Dervin's 'Sense-Making' framework (Dervin 1983, 1992, 2005; Dervin, Foreman-Wernet and Lauterbach 2003) provides a useful approach to understanding information behaviour. Case (2007) points out that, within information behaviour research, constructivism has been associated with works related to the sense-making of Brenda Dervin and Carol Kuhlthau, with the emphasis being on the means by which individuals construct an understanding of their world.

Whether Dervin's sense-making theory can be seen as a model of information-seeking is open to question. As she says, "some people call sense-making a theory, others a set of methods, others a methodology, others a body of findings" (Dervin 1992, 61). The core of the sense-making theory could be said to derive from the philosophy and learning theory of John Dewey. The information search is viewed by Dervin as a 'sense-making process' guided by the individual's own information gaps.

Information-seeking and the skills for effectively carrying out an information search are integrally related to learning as a form of constructing knowledge by accommodating and assimilating new information. The model identifies three elements: a situation in time and space, which defines the context in which the information problems arise; a gap, which identifies the difference between the contextual situation and the desired situation (i.e. uncertainty); and an outcome. Dervin presents these elements in terms of a triangle: situation, gap / bridge, and outcome, as in the figure above.

Several core assumptions of Dervin's sense-making theory (1992) are relevant to my research. Information is not external to humans and does not exist independently of people but is a product of human observation; information is subjective. Information-seeking and use are activities that people undertake to construct and create sense. Sense-making focuses on discovering how people construct personal sense, rather than assuming necessary and predictable connections between information and its use. As Case (2012) notes, Dervin's work, like Taylor's, has been used to understand what takes place in question-answering arenas such as the library reference desk, i.e. Dervin's "neutral questioning approach to the reference interview". He further asserts that, "for some investigators, information seeking has come to be synonymous with sense-making" (Case 2012, 90).

Relevance to distance learning: strengths
Dervin's theory of information-seeking posits that information-seeking and using are situationally bound and occur when the student cannot progress through the situation without making new sense out of something, i.e. by restructuring her knowledge base. This constructivist approach, as discussed above, is relevant to distance learning.

The model's emphasis on information provision to bridge the gap of uncertainty puts resource provision at the heart of learning. The importance of resources has already been noted by Lebowitz (1997). Dervin defines 'sense-making' in terms of confronting problematic situations, which makes it relevant to the information-seeking process of distance learners who are constantly faced with numerous challenges during their information-seeking process. Dervin sees individuals moving along a time and space continuum that is constantly shifting. Such a world requires individuals to constantly make sense of themselves and their environment through continual adjustments. Her emphasis on context is relevant to distance learning and the view adopted by this research.

Relevance to distance learning: limitations
Dervin's model can help elicit questioning to reveal a problem that needs to be solved, and that

information can be used to bridge the gap of uncertainty, i.e. outcomes from the use of information, and the useful concept that information needs can be addressed by understanding the process that each individual learner goes through in experiencing 'a gap', in trying to resolve it, and in gaining something such as new knowledge from the experience. However, the model fails to specify any hypothesis to be tested and elements that need to be supported in order to develop an effective library service that meets individual needs.

2.10.2 Ellis' Model

Ellis (1989), Ellis et al. (1993), and Ellis and Haugan (1997) propose and elaborate a general model of information-seeking behaviours based on studies of the information-seeking patterns of social scientists, research physicists and chemists, and most recently of engineers. One version of the model describes six categories of information-seeking activities as generic: starting, chaining, browsing, differentiating, monitoring, and extracting. Ellis's elaboration of the different behaviours involved in information-seeking is not set out as a diagrammatic model and does not claim that the different behaviours constitute a set of stages; indeed, he uses the term 'features' rather than 'stages'. The features are identified as follows:

- Starting: the means employed by the user to begin information-seeking, for example asking a knowledgeable colleague.
- Chaining: following footnotes and citations in known material or forward-chaining from known items though citation indexes.
- Browsing: semi-directed or semi-structured searching.
- Differentiating: using known differences in information sources as a way of filtering that amount of information obtained.
- Monitoring: keeping up to date or current awareness-searching.
- Extracting: selectively identifying relevant material in information sources.
- Verifying: checking the accuracy of the information.
- Ending: this can be described as tying up loose ends through a final search.

This behavioural model has been applied in a number of grounded-theory researches investigating, for example, the information-seeking patterns of researchers in physical and social sciences (Ellis, Cox & Hall 1993) and the information-seeking behaviour of engineers and research scientists (Ellis & Haugan 1997). In addition, Ellis has investigated the information-seeking behaviour of English Literature researchers in the Internet age (Ellis & Oldman 2005).

The model has also been tested and modified in subsequent studies. For example, Bronstein (2007) applied the model to the information-seeking behaviour of Jewish studies scholars and found a strong relationship between the information activities used and the stage of research the scholar had reached.

Therefore, Bronstein proposed a revision of Ellis's original model to include elements related to the stages of research: monitoring activities (awareness of current services); monitoring electronic and printed materials; networking; citation-tracking, and a final stage related to preparing papers for publication.

Based on Ellis's model, Meho & Tibbo (2003) used e-mail interviews with 60 social science faculty members from 14 different countries to describe and analyse their information-seeking behaviour. Although the study's findings confirmed elements of Ellis's model, Meho & Tibbo enhanced the model by adding the following features: accessing, networking, verifying and information-managing. Their findings were consistent with a subsequent MA study by Ge (2005), who applied Ellis's model to the information-seeking behaviour of Social Science and Humanities faculty members and doctoral students in the Internet age. Ge proposed extending Ellis's model by adding three further elements to the information process: preparation, planning and information management. It is worth noting that all of the studies that have applied Ellis's model have been qualitative and followed a grounded-theory approach. This implies the need to integrate more methods in exploring the information-seeking behaviour of scholars. For example, Meho & Tibbo (2003) recommended that, in order to enhance research outcomes, future research in this area should consider adopting triangulation of research methods for data collection, particularly surveys and face-to-face interviews.

Relevance to Distance Learning: Strengths
The strength of the Ellis model is that it is based on empirical research and has been tested in subsequent studies, most recently in the context of an engineering company (Ellis & Haugan 1997). The features of his model are general enough to fit a large number of empirical situations and most recently have been applied to electronic environments (Choo et al. 2000).

Relevance to Distance Learning: Limitations
The model does not include user needs or the information / sources and their characteristics that may be used to meet the need.

The features of the Ellis model may not all be applicable to distance learning. For instance, chaining (backward or forwards) may not always be possible because of the time constraints often faced by distance learners, as noted by Gopakumar and Baradon (2009). Verification of sources may also be limited to consulting colleagues through a discussion list, and in many cases when sources have been added to the course content learners do not feel the need to verify such sources.

Recent modifications made by Ellis to two features of his model - 'starting' to 'surveying' and 'differentiating' to 'distinguishing' - emphasise the activity of obtaining an overview of the research area and the importance that should be placed on informal communication channels such as discussions and feedback from other learners and tutors (Ellis and Haugan 1997). In distance learning and, more especially, when learners are working in virtual learning environments, information is exchanged and shared and learners may collaboratively work on projects. This communication element or information exchange, as Wilson calls it, is missing.

When working with library resources, one may find Ellis's features becoming less clear-cut. For instance, 'verifying' a source could result in searching for further corroborative information on the web, as sources are also easily shared and results easily compared. As Ellis admits, the boundaries

between the features are very soft (Ellis and Haugan1997).

In a technology-mediated distance learning environment, access to further resources and time constraints have an impact on the whole information-seeking process. Some users will quite happily use the one resource that is provided by the instructor while others will spend time communicating with other learners instead of browsing for information themselves. This means that many of Ellis's features of chaining, browsing, differentiating, monitoring, extracting and verifying may not be relevant. The huge amounts of unbranded sources make verification difficult, and learners will often check traditional sources or consult other learners as opposed to further web pages.

Overall, it is not clear how this model translates into a distance library design framework.

2.10.3 Leckie's General Model of the Information Seeking of Professionals

There has been a growing interest in studying the information needs of scholars in the fields of Humanities, Sciences and Social Sciences (Leckie 2005, 158). Key findings emerging from research carried out by Leckie, Pettigrew & Sylvain (1996) include the following:

1. Professionals often assume a number of complex roles as part of their work.
2. These roles have other related tasks.
3. Tasks required in each role are likely to prompt information needs or seeking.
4. There are intervening factors that may either facilitate or inhibit the use of information.
5. It often takes more than one attempt to find the appropriate information.

The general model of the information-seeking behaviour of professionals was derived from research on engineers, healthcare professionals and lawyers. Leckie, Pettigrew & Sylvain (1996, 162) define the term 'professions' as "service-oriented occupations having a theoretical knowledge base". In order to ensure that the model remained sufficiently general to cover diverse professions and types of work, the authors kept the components slightly non-specific (Leckie 2005, 161). They found that information-seeking practices were more similar across various professions than had been previously thought. In their model, they suggest that individuals' information needs are shaped by factors such as status in the organisation, years of experience and area of specialisation.

The authors believe that these characteristics act as a filter in the information-seeking process. Once this process starts, other factors become important to its eventual success, including sources of information, the individual's knowledge of information, and the likely usefulness of the sources (Leckie 2005). The end result of the information-seeking is 'outcome', which either moves the work forward (provision of service or production of a report) or requires further information-seeking for greater clarification (feedback loop).

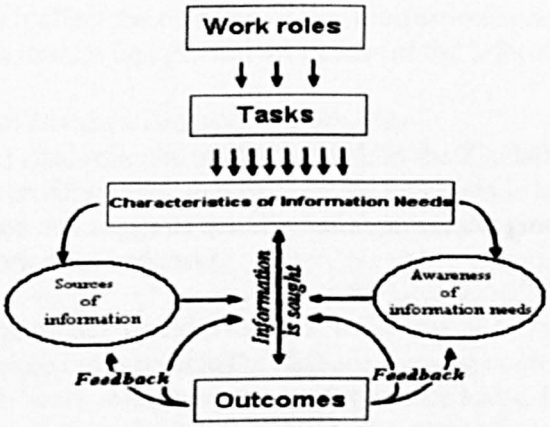


Figure 2.5: Leckie's General Model of the Information Seeking of Professionals, adapted from Leckie, Pettigrew & Sylvain 1996.

The basic assumption of the model, depicted in Figure 2.5, is that the tasks undertaken by professionals in the course of daily practice prompt particular information needs, which in turn lead to an information-seeking process. However, this process is greatly influenced by a number of interacting variables, which can affect the outcome (Leckie, Pettigrew & Sylvain 1996, 180). These variables represent sources of information and awareness of information needs. According to the above model, knowledge of various information sources, such as online databases, plays an essential role in the overall information-seeking process. Thus, the individual's general awareness about information sources and / or content can determine the path that information-seeking will pursue (Leckie, Pettigrew & Sylvain 1996, 185). According to Case (2012, 147), although individual demographics (age, profession, specialisation, career stage and geographical location) are not depicted in the model itself, they are said to be "variables that shape and influence the information needs", along with certain aspects of the need itself. Aspects of the need include the context, frequency, predictability, importance and complexity of the need situation.

Relevance to Distance Learning: Strengths
Leckie's model is relevant and has been included in this evaluation, despite the fact that it appears to be "restricted to professionals" Case (2012, 147), because it has been tested in a learning context by Kerins et al. (2004) and found to be relevant to Engineering and Law students. Kerins et al. found that these students shared the same information behaviour patterns as the professionals in the Leckie model. These findings are important and relevant to this research because of the large number of law students being investigated.

The Leckie model places emphasis on the influence of the 'task' being performed on the whole information-seeking process. This element of the model is relevant to distance learning because students have to complete set tasks related to and determined by their degree programmes. The model also focuses on the importance of the information sources as well as their characteristics such as their availability, intended use, the individual characteristics of the user and the environment surrounding them. All these concepts are relevant to distance learning because distance learners have to interact with and make use of information sources available in their individual contexts. Another important element of this model that is relevant to distance learning is the concept of 'barriers' or intervening

factors which affect the outcome of the information-seeking process, such as the availability of information sources and general awareness of the information sources.

Relevance to Distance Learning: weaknesses
Case (2012) states that the model "resembles the Kriekelas model in its limitation to a range of people - in this case professionals" and because the emphasis is on the facts of working life. It is depicted in a linear fashion and suggests that the causal process begins with the prime motivators of information-seeking, work roles and tasks.

Although the model has been tested in a learning context by Kerrins et al., it is clear that some aspects of the model do not map onto the distance learning context. For instance, the causal process begins at the top with 'work roles' which in turn influence tasks. This key element of Leckie's model is not applicable to distance learning students who engage in learning tasks. The model also suggests that the feedback loop goes back to the characteristics of the information need and does not indicate how the outcome can influence the task either though redefinition or further rounds of information seeking. According to this model, the most important variables are thought to be the familiarity and prior success with the sources or the search strategy employed along with the trustworthiness, packaging, timeliness, cost, quality and accessibility of the source(s).

2.10.4 Kuhlthau's Model of the Information Search Process

Kuhlthau's work (Kuhlthau 1991, 2004, 2005) incorporates the earlier findings of Taylor, Belkin and Dervin on information-seeking in general. These earlier studies focus on how information-seekers are guided by their own uncertainty or by a visceral sense of information needed.

Kuhlthuau's "Information Search Process" or "ISP" (Kuhlthau 2004) addresses intellectual access to information and ideas, and the process of seeking meaning, rather than the physical location of sources.

Kuhlthau, studying the information-seeking behaviour of students carrying out a research assignment, formulated a model depicting common patterns of tasks, feelings, thoughts and actions in six stages:

- Initiation: to recognise information need.
- Selection: to identify general topic.
- Exploration: to investigate information on general topic.
- Formulation: to formulate focused perspective.
- Collection: to gather information pertaining to focus.
- Presentation: to complete information search.

The Information Search Process model incorporates three areas: the affective (feelings), the cognitive (thoughts) and the physical (actions) common to each stage. Kuhlthau states that research centring on information-seeking in context offers opportunities for investigating differences that are unique to a situation while at the same time revealing patterns of information-seeking across a variety of contexts.

The model has been tested in subsequent studies, most recently in the context of an engineering company (Ellis and Haugan 1997).

Relevance to Distance Learning: Strengths
The strength of Kuhlthau's model lies in the fact that it is based on empirical research in learning. The model's focus on the information search process from a user's perspective emphasises the need to focus online library designs on the learner's needs rather than the instructional requirements of the institution. Kuhlthau's studies of students in both high school and college, who were engaged in the information search process, confirm theories that learning is a process of self-directed restructuring, i.e. a process in which people accommodate and assimilate new information by restructuring their own knowledge bases. This emphasises the need for access to further resources.

Relevance to distance learning: limitations
The model seems to assume that the ideal information search process has unlimited time. In real life, more so in distance learning, learners have to juggle their time between work and study. The linear presentation of the information process is flawed, as many researchers have established that learners move backwards and forwards during the information search until the information required to meet the original need is found. The model does not include user needs or the information/sources and their characteristics that may be used to meet the need.

2.10.5 Foster's Non-Linear Information-Seeking Behaviour Model

Foster's non-linear model of information-seeking behaviour (Foster 2004) represents a shift towards a new understanding of this subject area (Foster 2005). The model is based on the findings of an interview-based naturalistic inquiry into the information-seeking behaviour of a sample of 45 academics and postgraduate researchers representing many disciplines (Foster 2004). It comprises three core processes - Opening, Orientation and Consolidation - and three levels of contextual interaction - Cognitive, Internal and External (Foster 2005).

Processes of Opening include breadth exploration, networking, keyword searching, browsing, monitoring, chaining and serendipity. The Orientation process consists of defining a problem, building a picture and identifying the shape of existing research. Consolidation refers to knowing enough, refining, incorporating, verifying and finishing (Foster 2004).

According to Foster (2004), the model's external influences are categorised as social and organisational, time, the project, and accessibility of resources, while the internal influences refer to prior knowledge, self-perception and self-efficacy of the user. All these factors are relevant to distance learning. In addition, the social networking aspect of interdisciplinary experience is said to be one of the most significant factors influencing access to information resources. The interactivity and shifts described by the model show information-seeking to be non-linear, dynamic, holistic, and flowing. These replace previous interpretations which suggested that information-seeking exists as a linear process consisting of stages and iterative activities. The model's non-linear presentation is relevant to distance learning because learners often have to consult various information sources until they find the required information to complete their degree assignments.

Relevance to Distance Learning: Strengths
The strength of Foster's model is the fact that it was developed in a learning context. According to Foster (2004), the new model offers the basis of a framework for educators and library professionals to teach both academic and non-academic and expert and non-expert information users in a manner that

reflects actual behaviours and real-world solutions rather than the artificial conceptualisation of stages (Foster 2004, 235). This suggests an alternative approach to modelling information-seeking: conceptual relationships rather than stages and a focus on both the information users' experience and the contextual, affective and cognitive influences on information use. Its emphasis on the significance of 'context' and the recognition that it is not isolated from the information seeker (including factors such as social, organisational, time, the project, navigational issues, and access to sources) is seen as influencing the information-seeking process.

Relevance to Distance Learning: weaknesses
Despite the strengths of Foster's model, such as its presentation of the information-seeking behaviour as a "dynamic holistic process", and its relevance to information skills teaching, Foster himself indicates that further research is planned to make the study suitable for generalisation by adopting a mixed methodology, incorporating both quantitative and qualitative approaches (Foster 2004). Moreover, it is not sufficiently detailed and does not clearly show the complex mapping of interactions and behaviour. In addition, testing in a wider disciplinary base would make it more applicable to this research.

2.10.6 Wilson's Model(s)

Wilson has published a series of models (Wilson 1999, 2005, 2010; Wilson and Walsh 1996), all of which are based on his first model published in 1981. Other researchers such as Al-Muomen (2009) have adjusted his model to fit different contexts. Wilson's general model provides a basis for understanding information-seeking behaviour and explains how information needs arise and are satisfied. Wilson's model is very general and is hospitable not only to theory that might help to explain the more fundamental aspects of human behaviour, but also to various approaches to information-seeking behaviour and information-searching (Wilson 2005, 34). Wilson's general model drew upon research from a variety of fields other than Information Science, including decision-making, psychology, innovation, health communication and consumer research (Wilson 1999).

Diversity, according to Wilson, makes the model a richer source of hypotheses than his earlier models. In addition, the significance of a model of this kind lies in making the researcher realise the totality of information behaviour and showing how a specific piece of research may contribute to an understanding of the whole (Wilson 2005, 35). The model explains why some resources are used more than others and why people may or may not pursue a goal successfully based on their perceptions of their own efficacy (Case 2012, 155). Case notes that Wilson's 'activating mechanisms' can be seen as motivators, which impact on how and to what extent a person searches for information. Those mechanisms include:

- Stress / coping theory as a possible explanation for why some needs prompt information-seeking more than others;
- Risk / reward theory, which could explain why some information sources may be used more than others;
- Social learning theory, which refers to the concept of 'self-efficacy' as a possible explanation of why some people are able or unable to pursue a goal successfully in accordance with their perceptions of their own efficacy (Case 2012, 155-156).

In his model, Wilson suggests that the above mechanisms may be affected by intervening variables of five types:

1. psychological;
2. demographic background;
3. factors related to social role;
4. environmental variables (for example, resources available); and
5. the characteristics of sources (for example, accessibility and credibility).

This thesis adopts Wilson's model as its theoretical framework from which hypotheses are generated, especially with regard to the intervening variables.

Key authors have referred to Wilson's model, among them Belkin, Borgman, Choo, Cole, Dervin, Ellis, Erdelez, Fidel, Ford, Ingwersen, Kuhlthau, Nilan, Pettigrew, Savolainen, Sonnenwald, Spink, Vakkari, and Wersig (Wilson 2005, 35). As the author states, "It seems likely that the Model will continue to evolve as more and more researchers use it as a basis for thinking about the problems of human information behaviour." (Wilson 2005, 36)

Wilson's First Model

Wilson's first model was based on two main propositions. The first was that a need arises out of needs of a more basic kind; the second was that, in the effort to discover information to satisfy a particular need, the enquirer is likely to face barriers of different kinds (Wilson 1999, 252).

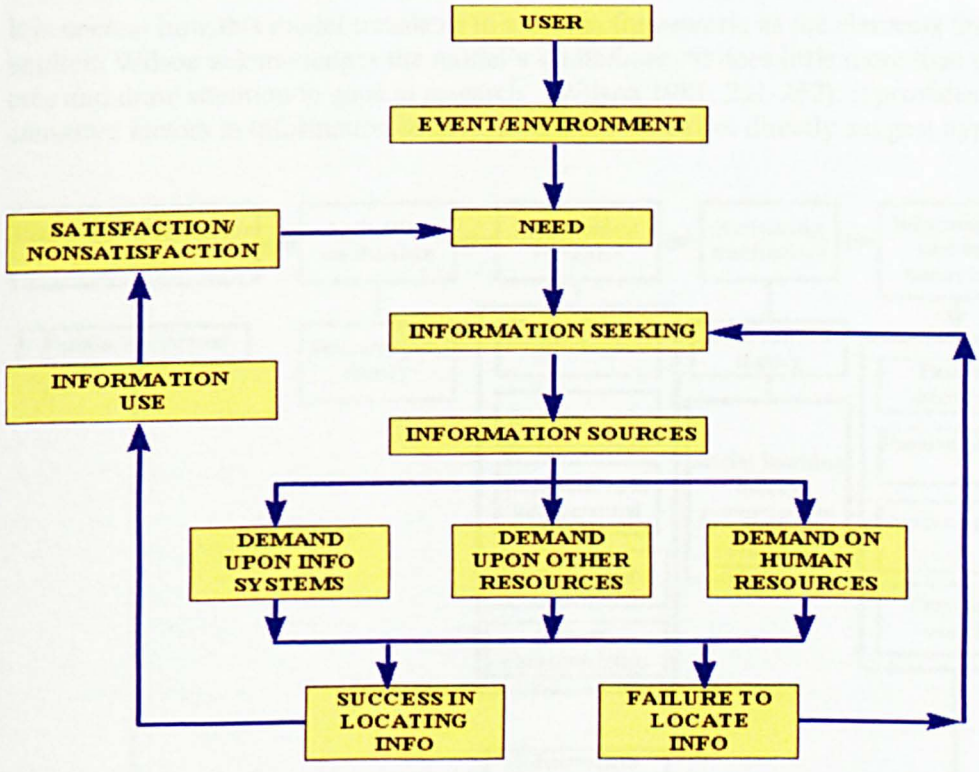


Figure 2.6 Wilson's first model, adapted from figure on page 257 of Wilson (1999).

Wilson identifies 12 components starting with the 'information user'. Wilson's information user has a

need, which may (or may not) stem from his or her level of satisfaction (dissatisfaction) with previously acquired information. Wilson suggests that perceived need leads the user into a number of activities such as making direct demands on sources or systems of information. The results of these demands lead either to success or to failure, which is presumed to be a dead end, when information is not found and therefore cannot be used.

Wilson's model has weaknesses, such as failing to clarify the complexity of the 'iterative' information-seeking process, which can be triggered by a failure to locate information. The model seems to be too linear whereas information-seeking activities are often iterative, with users going backwards and forwards between elements of the process until they find the information to meet a specific goal.

The model focuses on the user, his context and his interactions with the various information resources, all of which are fundamental distance learning variables. In fact, the barriers in the distance learning context can enhance or impede the information-seeking behaviour process and the choice of resources. For example, during my observation study, some students turned to the Internet when they encountered challenges in using high-quality subscription library resources. Although the model emphasises context, it fails to show the effects of this interaction or whether the assumed barriers have similar or different effects on the motivation of the information-seeker. The model also seems to assume the user's information skills. My research demonstrates that many distance learners have no basic information skills and often need the help of a trained professional to find the information they need.

It is unclear how this model translates to a design framework, as the elements that need support are not explicit. Wilson acknowledges the model's limitations: "it does little more than provide a map of the area and draw attention to gaps in research" (Wilson 1981, 251-252); it provides no suggestion of causative factors in information behaviour and so it does not directly suggest hypotheses to be tested.

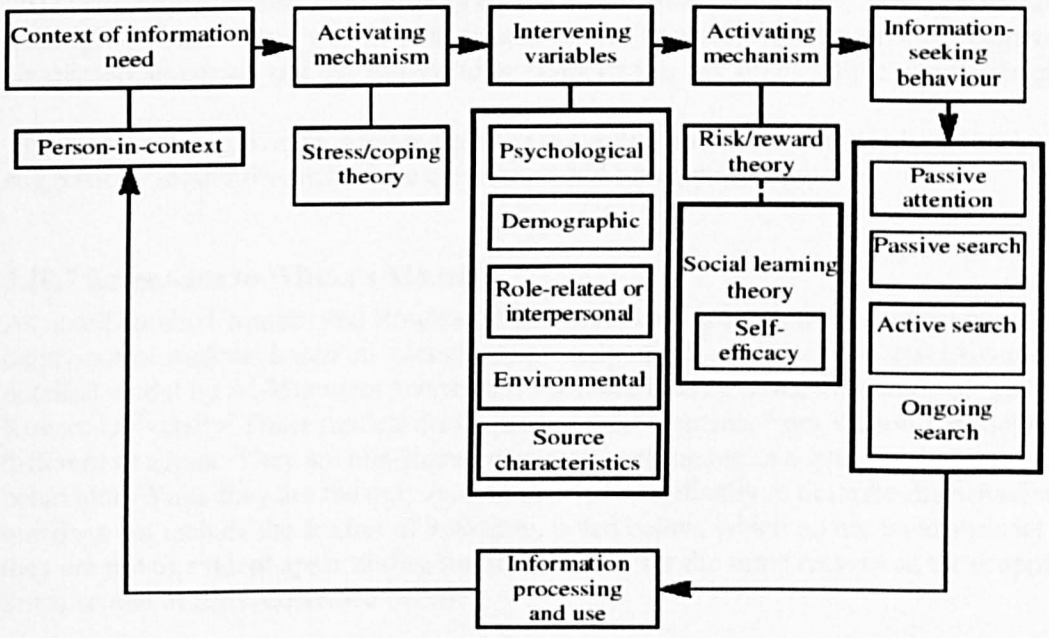


Figure 2.7 Wilson's 1996 revised model of information behaviour (adapted from Wilson 1999, 249-270).

Elements of Wilson's 1996 revised model
The model emphasises the context of information-seeking. Wilson identifies the factors in this model drawing upon research from a variety of fields other than information science, including decision-making, psychology, innovation, health communication and consumer research. The 'intervening variables' represent the 'barriers' whose impact may be supportive of information use as well as preventive. Information-seeking behaviour is shown to consist of more than the types identified in the previous models. Information-processing and use is shown to be a necessary part of the feedback loop if information needs are be satisfied. Wilson implies that information is evaluated and that the process may be iterative.

The stress / coping theory tries to explain why some needs may not invoke information-seeking behaviour; the risk / reward theory tries to explain which sources of information may be used more than others; and the social learning theory tries to explain why some people may or may not pursue a goal successfully, based on their perception of their own efficacy. This model introduces the notion that there are different types of search behaviour: passive attention, passive search, active search and on-going search. Wilson implies that the information is evaluated with regard to its effect on need and forms part of the feedback loop that may start the process of seeking all over again if the need is not satisfied.

Relevance of Wilson's 1996 model to distance learning: strengths
The model introduces a new element, 'activating mechanisms'. This can be interpreted as motivation. In distance learning, learners' information needs are often driven by a specific goal, such as the need to complete a term paper.

Wilson's intervening variables are particularly relevant to distance learning; time constraints (Quillérou 2011) and limited access to libraries (Lee and McLoughlin 2010) have already been noted. However, although his intervening variables have been broken down further into smaller components they are simply too numerous and too general to be supported in any single online library design framework.

The model could provide a good hypothesis for online library framework designers but it makes no suggestions about how each of the elements could be supported.

2.10.7 Extensions to Wilson's Models

As noted above, Urquhart and Rowley (2007) developed a model for the information-seeking behaviour of students based on a longitudinal study of UK students. This was expanded into a more detailed model by Al-Muomen, Morris and Maynard (2012), based on a study of graduate students at Kuwait University. These models draw some of their elements from Wilson's model but are very different in nature. They are non-linear, essentially setting out in a structured way the factors affecting behaviour. While they are the only models devised specifically to describe the behaviour of students (if one does not include the studies of Kuhlthau, noted below, which do not yield a model in this sense), they are not of evident applicability for my research, for the same reasons as those applying to the non-linear model of Ellis, described below.

Urquhart & Rowley's (2007) study looks at students' information behaviour in relation to use of electronic information resources. The findings of the study resulted in the development of a non-sequential model (see below). This model, according to the authors, can be used to identify and define the scope of subsequent studies in terms of factors that can be used as a set of variables for such future research (Urquhart & Rowley 2007, 1196).

The main advantage of this model is that it is a general and comprehensive one that brings together macro and micro factors influencing information-seeking behaviour in a higher-education context. It is important to note that some elements of this model have been combined and tested by Al-Muomen (2009) in his study of the information-seeking behaviour of graduate students at Kuwait University as this indicates that this model has sufficient flexibility to be adapted to contexts similar to those studied in this thesis.

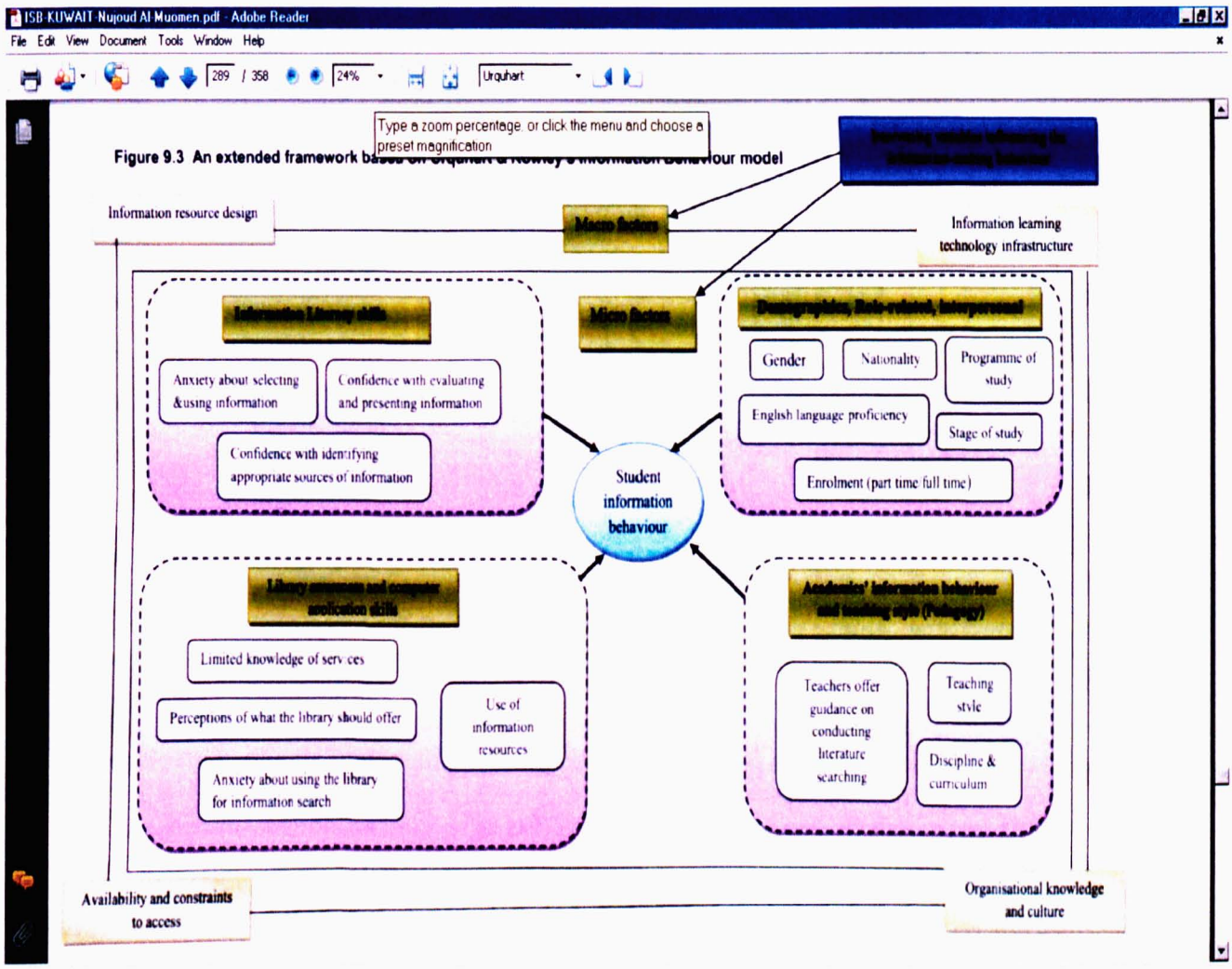


Figure 2.8 The Al-Muomen extension for Wilson's model

According to Urquhart and Rowley (2007), the factors or variables that influence the information-seeking behaviour of students can be separated into two main categories: micro factors and macro factors.

This research will take into account factors that are considered most relevant, such as discipline or programme of study, information literacy, culture, information resources and accessibility issues.

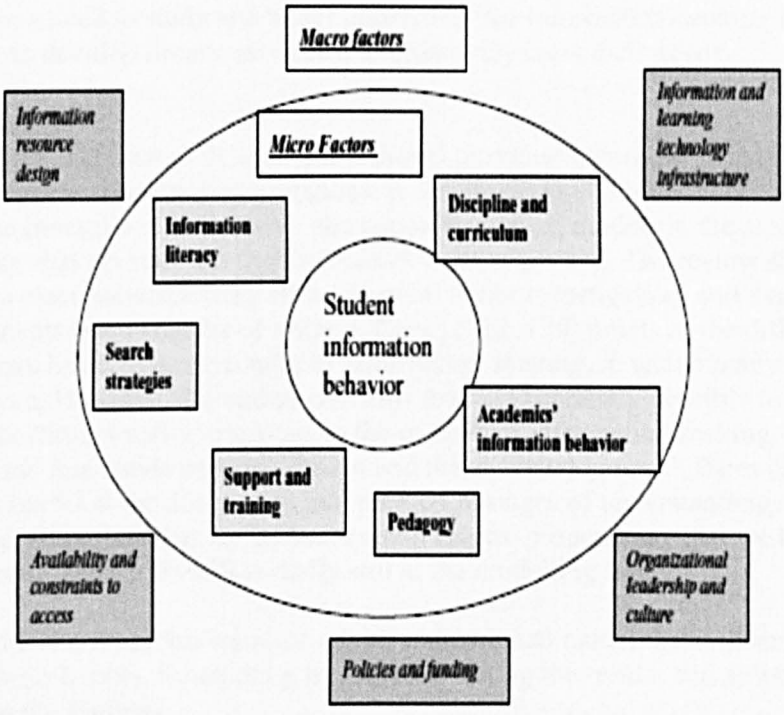


Figure 2.9 the Urquhart and Rowley model for information-seeking behaviour, Journal of the American Society for Information Science and Technology, June 2007, doi: 10.1002/asi

Urquhart and Rowley (2007) note that future research might investigate the relationship between discipline, student level (undergraduate and postgraduate) and information behaviour, or the impact of different levels of convenience in relation to accessing digital information resources. Although, in my research, the information-seeking model of Wilson (1999) provides the theoretical framework, the model by Urquhart and Rowley and its variables are important. They are significant to students' information behaviour in relation to the use of electronic information services. As mentioned in the previous section, the University of London's distance learners depend entirely on an electronic or online library.

Other extensions to Wilson's models include those of Niedźwiedzka (2003), which relates to managers, Godbold (2006), which proposes the integration of Wilson's notion of 'barriers' with Dervin's concept of 'gap', and Robson and Robinson (2013), who extend the model to include issues of trust and

credibility of information provision, in their case information provision by the pharmaceutical industry to health services. These extensions of Wilson's models are also not directly applicable to my study. However, taken with those mentioned above, they give credence to the idea that Wilson's model can be readily and sensibly extended; this approach will be used later in my study.

2.10.8 Summary and Conclusions

The literature review revealed that there is a very limited body of literature on the information-seeking behaviour of distance learners and that much of what currently exists is not of practical application. There is therefore a need to study and better understand the information-seeking behaviour of distance learners in order to develop library services that effectively meet their needs.

Theoretical Framework

Jarvelin & Wilson (2003) state: "A conceptual model provides a working strategy, a scheme containing general, major concepts and their interrelations. It orients research towards specific sets of research questions." In the literature review above, the major theoretical models in the area of information-seeking behaviour that are relevant to this research were examined. The review showed that these models provide a clear understanding of the problem under investigation, and explain the relationships between the concepts and variables of interest. Case (2012, 170) points to the difficulty of establishing causation in human behaviour, especially in information-seeking, in which many important aspects cannot be observed. However, the author confirms that "it is certainly possible to identify key factors and their likely sequences and interactions in the process of information seeking. Models make these aspects explicit and thus guide research design and theory development." Bates (2005, 3) argues that models are most useful at the description and prediction stages of understanding a phenomenon. Only when we develop an explanation for a phenomenon can we properly say that we have a theory. Consequently, most "theory" in LIS is really still at the modelling stage.

Therefore, to guide the study this research adopts a theoretical model that will serve as a framework for designing the research tools, formulating hypotheses, testing the results and assisting in the analysis and discussion of the findings.

A review of Information-Seeking Behaviour models revealed that none of them accurately and comprehensively represents the distance learning context. However, Wilson's models seem most capable of representing the issues important for analysis of the distance learning context, and they have been shown to be suitable for extension to include additional aspects. Wilson's models were therefore selected as the basis for the research reported in this thesis.

The Information-Seeking Behaviour Model Adopted

I selected Wilson's 1996 Model of Information Behaviour as the principal theoretical framework to guide this research. The model was chosen because it is comprehensive, applicable to various contents, roles and disciplines, and is well established in the field; as such, it is applicable in different contexts, roles and disciplines. It also displays information-seeking behaviour as a whole process that includes various information patterns, such as passive, active and on-going searches, all of which could influence the acquisition of information in a particular environment. It also includes the concept of 'intervening variables' that can enhance or hinder the whole process of information-seeking behaviour, including acquisition and use. This concept of intervening variables is fundamental to distance learning

because of the separation of the learner from the instructor. The planned method of delivery uses "a wide spectrum of technologies to reach learners at a distance" Greenberg (1998, 36).

2.10.9 Key Variables of Wilson's 1996 Model

The key variables of Wilson's 1996 model that are relevant to my research are enumerated and described below.

Person in Context

The vital factor in distance learning is the learner or learner autonomy. Placing the learner at the centre of the information-seeking process is crucial, and it is the support of the learner-centred pedagogy that underlies distance learning. Testing this variable will shed light on which tasks distance students undertake during their degree programmes and how these tasks influence their information-seeking behaviour. Testing this variable should also help answer the question of whether it is necessary to understand the 'information context' of the learner or whether context is indeed relevant to an individual's information needs.

Intervening Variables

In Wilson's model, intervening variables, which include psychological, demographic, role-related or personal, environmental and source characteristics, affect the individual's motivation to search for information. My research explores the significance of the relationship between the intervening variables and the information-seeking behaviour of distance learning students.

Demographic

Demographic variables to be tested include age, gender and level of programme (undergraduate or postgraduate).

Role-related or Personal

Role-related or personal variables in my research refer to the discipline, the academic programme, the nature of tasks associated with the field, and the search strategies employed in a specific academic area.

Environmental / Organisational Culture

The environmental variables that influence students' information-seeking include cultural elements such as the teaching and learning style, and the role of instructors in the distance learning process, including how they impact on the students' information behaviour, their attitudes, norms and expectations of the distance learning process.

Resource Characteristics

These refer to characteristics of the information resources themselves such as ease of use, accessibility, relevance, affordability, and other usability issues related to electronic information resources and to constraints and barriers to access, including authentication issues.

The adoption of Wilson's model as the broad conceptual framework provided useful insights into determinants of the information-seeking behaviour patterns of distance learners in a multi-disciplinary context. For the purpose of this research, the model has be extended or analysed into specific patterns of information-seeking behaviour or independent variables that can be tested.

2.11 Overall Conclusion

There are particular problems and issues in providing library/information services to distance students. Although some studies of this type of information user have been published, there are no large-scale empirical studies of their information behaviour. My research aims to gain a better understanding of their information needs and behaviour, using an extension of Wilson's model as a framework. This understanding is intended to form a basis for improvements to library and information services for the distance learning students at London University and globally.

Chapter 3: Research Design and Methodology

3.1 Introduction

This chapter presents and discusses the methodology adopted in this research. The overall approach comprised preparatory desk research including a thorough literature review in the area of Information-Seeking Behaviour, including existing models, and an assessment of existing distance library provision in the UK. These elements of the research were presented in Chapter Two.

The first section of this chapter examines the broad philosophies and the theoretical frameworks that underpin the research methodology referring to any similar studies in the published research identified in the literature review. The various strategies, including quantitative and qualitative methods that were adopted, are discussed and assessed, and the selection of the most appropriate methods is explained.

The research methodology of the model of information-seeking behaviour, Wilson's 1996 model, is analysed in detail, taking into account each of the variables investigated by Wilson. Wilson's 1996 Model of Information Behaviour was selected as the principal theoretical framework to guide this research (see Chapter Two and below on the Study Model). The model was chosen because it is comprehensive, is applicable to various contexts, roles and disciplines, and is well established in the field. It treats information-seeking behaviour as a holistic process that includes various information-seeking patterns which could influence the acquisition of information in a particular environment. It also includes the concept of 'intervening variables' that can enhance or hinder information-seeking behaviour. This concept of intervening variables is particularly applicable to distance learning because of the separation of the learner from the instructor.

The next section lists the research hypotheses to be tested, identifying and examining the relationships of the variables influencing the information-seeking of distance learners in a multi-disciplinary Higher Education context.

This is followed by an account of the detailed research design, which includes surveys for both the pilot and wider-scale studies. The sequence of events and how the empirical data collected relate to the research questions and, ultimately, to the study's conclusions are briefly outlined.

The following sections on the detailed design of the research apply equally to the Pilot Study and the Main Study. The Pilot Study was an empirical study involving 96 undergraduate distance learning law students which formed the basis for the design of the Main Study (92 completed questionnaires and 4 participants in observational studies / interviews). The methodology adopted for the Pilot Study, although altered and refined, remained fundamentally the same for the Main Study. The overall rationale remains the same but various changes and refinements were adopted, and the reasons for those changes are given.

In order to meet the aims and objectives of the empirical research, a combination of approaches was

used: quantitative (questionnaires, both online and by post) and qualitative (lab-based observational study using think-aloud protocol and one-to-one interviews using open-ended semi-structured questions). The methodology for ascertaining the student constituency and assessing its needs is described, and an overview of the observational study is provided. The methodology for the selection of participants for the questionnaire study is discussed. The questionnaire design is analysed, with a discussion of each of the questions employed and the relevance of the data to be captured.

Finally, the ethical issues of the research are addressed with reference to best practice.

3.2 Selection of the Research Methodology

All research attempts to understand the world; therefore, it is important for the researcher to know how the world can best be understood. This is because the nature of the problems to be addressed varies. For instance, while social and human science research issues often deal with people, natural sciences issues deal with material. This difference in perception of the world makes the selection of the most appropriate research method at a very early stage crucial. However, before looking at the essential philosophical paradigms that underlie science research, it is important to define some key terms to establish the nature of this research and its purpose.

3.2.1 What is research?

Research is a systematic process of enquiry that has a certain amount of rigour and is governed by certain guidelines. This process seeks to make known something about a field of practice or activity which is currently unknown to the researcher (Brown & Dowling, 1998; Hitchcock & Hughes, 1989). This inquiry can also inform decisions in order to improve action (Bassey, 1999). According to Hernon (1991, 3-4), the "inquiry process" comprises different stages. The first stage starts with a definition of the research problem, which involves a literature review to build up the theoretical framework and then the conceptual framework of the research. Pickard (2013, 39) indicated that the "theoretical framework covers the theories, concepts and issues which surrounded your chosen topic... when you move from theory to concepts you begin to identify the true focus of your research". Furthermore the "inquiry process" includes the stage of adopting proper research methodology, methods and techniques. After identifying the theoretical and conceptual framework, the data collection stage starts. This is followed by data analysis and, finally, the presentation of the research outcomes and the provision of recommendations for further research.

Types of Research

Based on the aim and purpose of the research (whether to develop and build up knowledge or to participate in solving a particular immediate problem), there are two types of research in general:

Hernon (1991) states that basic research is concerned with pursuing knowledge and it may or may not instantly contribute to the fundamental base of knowledge. The purpose of basic research is to generate new theories or establish new generalisations by adjusting surviving theories.

Applied research is concerned either with validating theory, which may lead to the revision of theory, or with addressing immediate problems (Hernon 1991). Kaplan (1998, 322) suggests that applied

research validates a theory by "putting it to good use in one's own problem". (See also Sonnenwald (1999) on 'Evolving perspectives of human information behaviour' and Sonnenwald and Iivonen (1999) on 'An integrated human information behaviour research framework for information studies').

According to Neuman (2007, 12), there are many types of applied research, but the main types are "evaluation research" and "action research". While the evaluation research is undertaken to discover whether a programme or system is working effectively and efficiently or not, action research is usually conducted to address and solve an existing problem. While this research has an immediate practical purpose of improving library provision for the University of London International Programme students, its main objective is to contribute to the knowledge base of the field of information-seeking behaviour in distance learning.

3.2.2 Purpose of Research

According to Neuman (2007), there are many reasons for undertaking research. These can be grouped under the following three categories based on what the researcher is attempting to achieve.

The first category is explanatory research. Neuman suggests that this category of research is based on exploratory and descriptive research, where the essential aim is to present reasons and identify the driving force behind the conditions, events, attitudes, beliefs and social behaviours related to a phenomenon. This type of research documents causes, tests theories, and provides reasons (Neuman 2007, 17). In addition, Punch (2005, 15) states that explanatory knowledge is more powerful than descriptive knowledge; however, the descriptive approach is still important, since any explanation requires description first. This research adopts an explanatory approach which attempts to understand how the learners' individual contexts shape their information needs and information-seeking behaviour.

The second category of research is descriptive research. This category of research aims to provide a specific detailed description of a phenomenon where there is already a developed idea. In other words, it involves describing a particular situation that relates to that phenomenon. Burns (2000) reported that descriptive studies attempt to predict as accurately as possible existing situations. Such studies start with a well-identified topic and then undertake research to describe the topic more precisely. The majority of research methods (survey, case-study, content analysis and historical research) can be employed in this kind of research (Neuman 2007). Therefore, descriptive research is often regarded as the primary focus of the first research conducted on a particular issue (Schutt 2006, 13). This research is a case-study of the University of London International Programmes students and uses a questionnaire survey to collect the study data.

The third category of research is exploratory research. This category of research aims to discover new areas that have not been investigated before in order to understand and identify certain factors/variables to be addressed in future studies. This research often constitutes the first stage in a sequence of studies (Neuman 2006, 33). This approach was adopted for the pilot study of this research.

3.3 What is Methodology?

According to Clough & Nutbrown (2002), the aim of a research methodology is to establish the

justifiable methods and procedures appropriate for the generation, collection, testing and interpretation of valid knowledge. The methodology provides basic plans for the research activity and is closely related to aspects such as the type of research problem, the formulation of research questions, the methodological concerns, the type of data gathered, and the method of data analysis (Cohen et al., 2000).

The selection of an appropriate methodology requires a good understanding of the philosophies that underlie the different methods. In the next section, the two essential philosophical paradigms that underlie social sciences research - positivism and interpretivism - are discussed in order to enable a comparison of qualitative and quantitative methods employed in this research.

3.3.1 Positivism

Positivism was founded by the French philosopher August Comte (Walliman 2006, 23). It is a philosophical school that believes that all knowledge is based on empirical evidence. It looks at science as an approach to access truth in order to anticipate and control the world (Trochim 2006). It aims to apply the same research techniques of natural science to study a social phenomenon (Bryman 2004, 11). Positivists believe that a social phenomenon consists of "objective facts" that researchers can "measure" and to which they can apply "statistics" to come up with a cause-and-effect relationship (Neuman 2007, 42).They also believe in the importance of replicating studies. They assert that a researcher can be objective, as the researcher and the phenomenon under investigation are totally separate; therefore, the researcher can establish the absolute truth rather than the relative truth without influencing the findings. This is due to the belief that the world works in a mechanical way and is operated by natural law (Trochim (2006) and Pickard 2013, 8-9). Deductive reasoning, which accesses the truth by considering known facts, is the ideal reasoning approach for positivism; however, according to Neuman (2007, 43) inductive reasoning can also be used.

Silverman (2000) argues that one major criticism of positivism is its desire to achieve objectivity regarding social phenomena. He asserts that this is not possible for the following reasons.

1. Objectivity is not possible. Standardisation and distance from the research object does not guarantee objectivity because the perceptions and meanings of the researcher penetrate the research process in many ways.

2. Standardisation results in the convergence of the social world under study with one artificial world that has nothing in common with the real world.

3. Objectivity is not necessary. The personal involvement of the researcher is required in order to help him/her take the position of the respondent and see human life as it is seen by people themselves.

The majority of positivist studies are quantitative, and positivists generally see the experiment as the ideal way to carry out research.

3.3.2 Interpretivism

Interpretivism is the opposite of positivist philosophy. It is often linked to the ideas of Max Weber,

3.4 Conceptual Framework

The theoretical framework for this study was derived from a thorough review of the literature including the various information behaviour studies and information-seeking models discussed in detail in Chapter Two. According to Bates (2005, 3), models make these aspects explicit and thus guide research design and theory development. She argues that models are most useful in the description and prediction stages of understanding a phenomenon, and that only when we develop an explanation for a phenomenon can we properly say that we have a theory.

According to Jarvelin and Wilson (2003), conceptual models are broader and more fundamental than scientific theories in that they set the preconditions of theory formulation. They also provide the conceptual and methodological tools for formulating hypotheses and theories and orient research towards specific sets of research questions.

According to Case (2012 134), a theory is defined as "a set of related statements that explain, describe or predict phenomena in a given context". However, Case (2012, 170) points to the difficulty of establishing causation in human behaviour, especially in information-seeking, in which many important aspects cannot be observed. Although it is important to bear this in mind, this research argues that it is definitely possible to identify key 'variables' and their likely sequences and interactions in the process of information-seeking. Therefore, to achieve the aims and objectives of this research, a theoretical model was proposed to help guide the study by serving as a framework for designing the research tools, formulating hypotheses, testing the results and assisting in the analysis and discussion of the findings.

3.5 Research Strategy

Research strategy refers to the general orientation of the conduct of social research (Bryman 2004, 19). Punch (2005, 63) defines research strategy as "a set of ideas by which the study intends to proceed in order to answer the research questions".

3.5.1 Research Design

According to Bryman (2004, 27), a research design sets out a framework for the collection and analysis of data while a methodology is the theoretical approach that forms the general character of the research. Wilson (2002) stresses the importance of choosing an appropriate research design, suggesting that an appropriate method in the research design should be determined by an amalgamation of the philosophical position of the researcher in relation to the research objectives, the nature of the problem, how novel it is, and the time and resources available to conduct the research. According to Creswell (2003, 5), there are two fundamental methodologies, qualitative and quantitative, which can be used individually or together.

3.5.2 Qualitative Methodology

Qualitative methodology is "A process of inquiry that draws data from the context in which events occur, in an attempt to describe these occurrences, as a means of determining the process in which events are embedded and the perspectives of those participating in the events, using induction to derive possible explanations based on observed phenomena" (Gorman et al. 2005, 3). Qualitative methodology is more concerned with the in-depth understanding of a phenomenon within context than with measuring the phenomenon. It is more concerned with how people understand the truth, in other words the 'subjective experience', as opposed to establishing the objective truth of the participants. As a result, qualitative research is open to unanticipated data and constantly re-evaluates the focus early in a study, enabling researchers to change the direction of research and follow new lines of evidence. Creswell (2003, 131) suggests that qualitative research utilises theory that is generated from the main data to present a clarification for "behaviour and attitudes". He also states that qualitative methods tend to be associated with an interpretivist epistemology, as the researcher has to make sense of the data collected, and has to analyse data for themes or categories and make an interpretation of their meaning "personally and theoretically". In other words, both inductive and deductive reasoning can be applied to qualitative research (Creswell 2003, 182-183).

According to Gorman and Clayton (2005, 5), qualitative data are likely to be verbal narratives and rely heavily on interactive and humanistic tools for data collection. Pickard (2013, 16) stresses the fact that the relationship between the researcher and the participant in qualitative research plays a fundamental role in understanding and characterising the complexity resulting from the interpersonal interaction of human behaviour.

3.5.3 Quantitative Methodology

Quantitative methodology tends to use figures to describe substantial outlines of phenomena; it is more concerned with numerical data (Gorman and Clayton 2005, 3). Furthermore, Slater (1990, 109-110) states that counting and quantifying is involved in quantitative research in order to obtain a detailed objective description (for example, how often things happen and to what kind of society members) of the phenomena on which some information already exists. Pickard (2013, 16) argues that a one-dimensional approach (quantitative) cannot help the researcher to understand the complexity resulting from interpersonal interaction; on the other hand, it is believed that a qualitative approach incorporates participant, researcher and the technique of data collection in a combined process to create meaning out of data. Mann (1990, 46) suggested that quantitative methodologies can be used to identify patterns or to make comparisons.

The Difference between Qualitative and Quantitative Methodologies

Quantitative and qualitative researchers adopt different approaches to the formulation of research questions and hypotheses. Quantitative researchers narrow a topic into a focused question as a discrete planning step before they finalise the study design; in this sense, they follow a deductive approach (Bryman 2004, 19). Qualitative researchers, on the other hand, often begin with vague or unclear research questions; the topic then emerges gradually during the study, thus entailing an inductive approach.

The qualitative research style encourages a gradual focusing on the topic throughout the study. In contrast, in quantitative research only a small amount of topic-narrowing occurs in the early research

planning stage, and most of it takes place after the researcher has begun to collect data (Neuman 2007, 86). Qualitative methodology is more concerned with understanding an issue or phenomenon than with generalising the outcomes of the investigation (Slater 1990, 110). On the other hand, generalisation is more appropriate with quantitative data, as is the case when studying an entire population or a representative sample, where the use of statistical techniques may make it possible to generalise to the wider population.

The table below illustrates the fundamental differences between quantitative and qualitative research strategies according to Bryman (2004, 20).

	Quantitative	Qualitative
Role of theory in relation to research	Deductive, testing theory	Inductive: generation of theory
Epistemological orientation	Positivism	Interpretivism
Ontological orientation	Objectivism	Constructionism

Table 3.1: Quantitative and qualitative research strategies (Bryman 2004, 20)

3.5.4 Mixed (multi-method) Methods Approach

A mixed-method approach refers to the use of both qualitative and quantitative methods to collect and analyse data about a phenomenon in one study. According to Fidel (2008, 265-272), the most familiar form of mixed-method approach in library and information science (LIS) is triangulation. Patton (2002, 556) identified four types of triangulation:

1. Methods triangulation: checking for the consistency and findings generated by different data collection methods
2. Triangulation of sources: checking the consistency of different data sources within the same method
3. Analyst triangulation: Using multiple analysts to review findings
4. Theory / perspective triangulation: Using multiple perspectives or theories to interpret the data.

This research uses 'methods triangulation' in which various data collection methods, for both qualitative and quantitative data, are employed to address one set of research questions and investigate one set of phenomena. In this research, the methods employed were an analysis of the published research, interviews, think-aloud observation, and the use of a survey questionnaire with both open-ended and close-ended questions. Each set of results gathered by different methods may tend to corroborate and elaborate the other results or pose further questions in the case of mismatched findings. Creswell (2003, 22) indicated that utilising more than one of the methodologies lessens the shortcomings of each of them and increases the advantages, such as evolving an in-depth understanding and generalising the outcomes of the study. Furthermore, it has been reported that multi-methods or

mixed methods are commonly used and accepted by the research tradition in the field of library and information science in general (Gorman and Clayton 2005, 12-13).

An exploration of the research tradition within the Library Information Science (LIS) and Information Seeking Behaviour (ISB) research found that, over the last decade, qualitative methods have held a superior position (Vakarri 1997, 451). However, qualitative research has often been criticised for being insufficiently scientific and therefore not generating scientific knowledge. According to the critics, qualitative research interviews can only be used effectively as pre-research for proper quantitative research (Kvale 1997 60; Silverman 1997a, 20; Strauss and Corbin 1998, 28). In fact, Kvale (1997) states that qualitative methods can be characterised as neither objective nor as subjective methods but as something in between. This is because, according to him, no study can be entirely objective as the researcher's knowledge and experiences are often influenced by the culture and the norms of the society in which he/she lives. He suggests that researchers should bear this in mind and carefully present or describe the data collection and the steps taken thoroughly in order to make it possible for others to verify the study.

Researchers who favour qualitative methods argue that, to be able to describe and understand social behaviour and cultural values, interviews are necessary. They believe that statistical methods often give misleading information and do not capture the important nuances that can help researchers to understand human behaviour. Silverman (1997b, 12-13) argues that it is inaccurate to assume that qualitative and quantitative methods are two opposite poles because there are no principal grounds for using either a quantitative or a qualitative approach. The choice depends on what one wants to do and it may be most useful to combine these two approaches. This research follows this approach and uses a multi-method that combines qualitative and quantitative approaches.

Patton (2002) argues that using a combination of different research methods helps to overcome any deficiencies of a single-method approach. Moreover, Tashakkori & Teddlie (2003, 14) state that mixed methods are "superior" to single approaches not only because they can give answers to research questions that the other methodologies cannot, but also because they provide the opportunity to present a greater diversity of views and stronger inferences. In addition, Brewer and Hunter (2006, 4) argue that combining methods "allows the researcher to benefit from their individual strengths as well as compensate for their particular faults and limitations."

They summarise the advantages of the multi-method approach as follows:

1. The strong confirmation of theory as a mixed-method approach adds to the strength of the evidence
2. It avoids over-reliance on one type of method and therefore guards against the specific sources of error that threaten a specific method.
3. It confers the ability to test a hypothesis both experimentally for causal precision and also with survey data to determine the generalisability of the hypothesis to the larger population.
4. It provides the ability to aid weak methods by the use of strong methods. For example, survey research can contribute to fieldwork by helping to establish the generality of field observations, while fieldwork interviews may be used to cross-check the accuracy of a survey.

On the basis of these advantages, this research adopts a mixed-methods approach, combining quantitative and qualitative data collection tools. However, before discussing these methods in detail, it is important to provide a thorough analysis of the theoretical framework of the study, which helped in formulating research questions and hypotheses and in determining the appropriate data collection approaches.

3.6 Research Methods

Pickard (2013, xix and 99) defines research methods as a "bounded system created by the researcher to engage in empirical investigation". This means that the research method is the comprehensive approach to exploration. She states that there is rarely a differentiation between research methods and research techniques. She states that, although there is an implicit understanding of the differentiation, this is not the perfect approach to a carefully constructed research design. There are several research methods, and the most commonly used are as follows: Survey, Case-study, Experimental, Historical and Content analysis. However, the choice of research method depends on the research problem and the aim, the audience, resources limitations and the personal experience of the researcher (Creswell 2003; Pickard 2013).

3.6.1 The Survey Method

Surveys are used to collect and analyse standardised information from a specific community using a representative sample of that community (Pickard 2013, 1105). Pickard also argues that a survey study mainly aims to measure relationships between variables, which should be identified at the beginning of the study and clarified as hypotheses or research questions, or to illustrate specific characteristics of a community. The definition and the aim of survey studies suggest that surveys can be complex and involve the discovery and analysis of relationships or simply studies that provide basic statistical facts. Burns (2000, 566) states that there are two main types of surveys: descriptive and exploratory. The descriptive survey is conducted to estimate as accurately as possible the characteristics of a people or an existing state. On the other hand, exploratory surveys aim to discover a "cause and effect" connection without experimental intervention.

However, Pickard (2013, 113-114) argues that the ability of a survey to identify a "cause and effect" relationships is questionable. She believes that the most we can explore within human nature using a survey is a correlation between variables rather than causation. According to Pickard (2013), both qualitative and quantitative methodology can be employed in survey studies. However, she suggests that quantitative studies are more often included in survey studies. Additionally, a survey study is not limited to or specified by the use of particular data collection techniques, but the different data instruments can be used in a survey study. The research techniques or instruments that can be used to collect data are discussed in the next section.

Surveys more often follow sequential stages, as each stage usually forms the base of the next stage. Based on Pickard's (2013, 114-116) conclusion, the survey process starts by identifying a subject area to be studied; it then investigates the previous literature in that area to build a solid background about the topic and to clarify the aims and objectives of the study. The researcher then has to identify the population and choose a suitable sample (if necessary) using appropriate sampling techniques. The next

step is to select and design the data collection instruments, and it is important to pilot the data collection instruments to examine the clarity of the questions and efficacy of the methods. The following stage is the data collection or fieldwork. The process concludes with data analysis and a presentation of the study's results. This research employs an exploratory survey method.

3.7 Research Techniques

There are many research techniques that can be employed to collect the raw data of social science research. The more frequently used techniques in library and information studies are:

- Questionnaire,
- Interview,
- Focus group,
- Experiment,
- Critical incident.

Questionnaire
According to Burns (2000, 571), the questionnaire comprises "Pre-determined questions" that can be either self-administered or could yield a higher response rate if the researcher meets the participants and ask them questions and records their answers on the questionnaire document). It can also be administered by mail. Neuman (2007, 167) argued that a questionnaire is a proper instrument for investigating self-reported beliefs and behaviour. This research employs a questionnaire because of the large number of participants involved as well as the nature of the behaviour under investigation.

Observation Method
The 'talk aloud' method has long been known to be of value for the investigation of information behaviour (Someren, Barnard and Sandberg 1995); for recent examples, see Vilar and Žumer (2005), Makri, Blandford and Cox (2011), Bauer and Peterson-Hart (2012) and Madden, Ford, Gorrell, Eagleston and Holdridge (2012).

Interview
The interview method is quite often used to collect more in-depth, qualitative and descriptive data that can answer 'why' questions. Interviews can be used to investigate and develop a better understanding of a phenomenon. Rubin and Rubin (2005, 2) suggest that the interview technique can be used to collect data about people's thoughts, opinions and feelings about particular issues. They argue that in-depth interviews offer the opportunity to obtain detailed information by asking participants to explain their responses, describe their experiences and provide examples.

Gorman et al. (2005) state that there are two types of interview: structured and unstructured interviews. The structured interview is a set of predetermined questions prepared by the interviewer. Pickard (2013, 199) states that there are two kinds of interview: standardised open-ended and closed fixed-response interviews. Pickard asserts that the standardised open-ended type enables the interviewer to ask all interviewees the same questions without any constraints on the information they wish to provide.

The fixed-response interview is one in which all interviewees are asked the same questions and are limited to selecting their responses from predetermined answers. The structured interview is controlled by the framework of the interview; therefore, the interviewer has no opportunity to interact with respondents and stimulate further data apart from those contained in the answers to the questions. Meanwhile, the unstructured interview is conducted to acquire a comprehensive understanding of peoples' opinions, beliefs, thoughts and feelings. Gorman et al. (2005) reported that the standardised open-ended interview has predetermined questions, and the interviewer is restricted to these questions. On the other hand, in an unstructured open-ended interview the interviewer is not restricted to the questions, and the answers provided by the interviewee may drive the interviewer to ask more questions to obtain further data. Hence, the questions may vary from interview to interview. However, Burns (2000, 582) suggested that it is significant to put the same question to all the interviewees in cases where comparable data are required. This research employs a survey questionnaire with a combination of open-ended and closed-ended questions.

3.8 Methodologies Used in Previous Literature

A wide variety of methodologies has been utilised to investigate and identify distance learners' information needs and their information-seeking behaviour. The various studies cited in Chapter Two have used both qualitative and quantitative methods. For instance, Thórsteinsdóttir's (2005) study, which investigates the information-seeking behaviour of twenty Library Information Science distance learning students in Sweden, relies heavily on qualitative methods. She uses interviews and diaries to capture the students' personal experiences. Other studies (see below) use questionnaires administered by post, by email or made available online, interviews, observation, and analysis of existing data collected for other purposes. The questionnaire method was by far the most widely adopted, albeit occasionally supplemented by other methods.

Bolton, Unwin and Stephens' (1998) study of 1000 postgraduate students resident in the UK and following 21 postgraduate courses delivered in the UK used a survey questionnaire to examine the role of libraries in distance learning. The questionnaire was first piloted with 350 students and, following some minor refinements, was used in the wider-scale study. It comprised both qualitative and quantitative questions.

Boardi et al.'s (2004) study, which examines the information needs and information-seeking behaviour of 783 distance learners at the Institute of Extra Mural Studies (IEMS) at the National University of Lesotho, uses questionnaires and both individual and group interviews to collect data.

Byrne and Bates (2009) used an online questionnaire to study the information-seeking behaviour of 55 Bachelor of Business Studies (BBS) distance learning students at the Quinn School of Business

Filha and Cianconi's (2010) study was a questionnaire survey of students at the Center of Distance Higher Education of the State of Rio de Janeiro (CEREDJ) regarding their research habits and use of information.

Oladokun (2010a, 2010b) conducted two questionnaire studies of 255 and 80 distance learners in Botswana.

Parsons (2010) uses an email survey to investigate the information access habits and mobile device use of 1500 distance learners at Robert Gordon University (Aberdeen).

Van de Vord's (2010) study, which investigates the factors that increase the likelihood of distance learners' ability to evaluate online information, uses an online questionnaire to study 2281 distance learning undergraduate students.

Adetimirin and Omogbhe (2011) used questionnaires, interviews and observation to investigate the library habits of 100 students in education and social sciences at the University of Ibadan, Nigeria.

Sullo, Harrod, Butera and Gomes's (2012) study was an analysis of 82 actual questions posed to librarians by distance students with the aim of identifying information needs.

Brooke, McKinney and Donoghue's (2013) study used questionnaires for students and librarians, as well as interviews with librarians.

Based on the above discussion, this research can be categorised as an exploratory study employing a mixed-method approach. A mixed-mode approach has been defined as the "combining of different methods within the same study design" (Bloor 2006, 116) and was first used in 1959, when Campbell and Fiske used multiple methods to study the validity of psychological traits (Creswell 2003). This research deals with and comes under the broad area of human information behaviour. Most researchers in human information behaviour agree that either a qualitative or quantitative approach is appropriate, depending on the nature of the study. With this strategy there is no need to collect the quantitative and qualitative data in different stages; rather, they are collected in the same phase, which saves time. This in turn assists in ensuring an equal emphasis between the qualitative and quantitative methods. Under this approach, the results of both qualitative and quantitative data are integrated in the interpretation phase (Creswell 2003, 217).

The main purpose of this research is to investigate some facts about the information needs and information-seeking behaviour of distance learning students, and to make a comparison between the groups. The exploratory survey method, therefore, was thought to be most appropriate because of its ability to enable the investigation of correlations between variables such as gender, age, and disciplinary differences. An online questionnaire was used because of its ability to collect data from a considerable number of geographically dispersed participants at a low cost (time, effort and money). It helped to eliminate the geographical limitations and offered confidentiality and anonymity as the responses could be coded (in the case of close-ended questions); moreover, the method of analysing the data could be identified before the questionnaire was distributed. In addition, distance learners, who are often under severe time constraints, could respond in their own time, thereby improving the response rate. The overall methodology was first used in a pilot with 92 completed questionnaires from distance law students and was found to be effective. However, minor alterations, which will be detailed in the next section, were made to improve the response rate.

3.9 The Study Model

Wilson's 1996 Model of Information Behaviour was chosen as the principal theoretical framework to

guide this study (see Wilson's Model, Chapter Two). This model was chosen due to its inclusion of several concepts or variables that are of particular importance to distance learning: "the user in context", which in this study allows the researcher to focus on the learners' personal and demographic characteristics as well as their social networks and other contextual variables that shape their information-seeking behaviour; and the concept of "*intervening variables*", which enables the exploration of the barriers and challenges that distance learners encounter when seeking, accessing and to some extent using information for the purpose of completing their university assignments. These included elements such as constraints on time, the lack of immediate and physical access to peers, tutors and other crucial support networks, and the lack of easy access to information sources, as well as psychological factors such as motivation, confidence, and self-efficacy beliefs including perceived English language fluency and information literacy skill. Wilson's model also pays attention to the context in which the person operates. This recognises the fact that each person and, in this case, each distance learner has information needs which often vary from individual to individual depending on the nature of the problem.

In addition, Wilson's 1996 model is very general and comprehensive, which means that it can be applied to different roles, contexts and disciplines. It is also very well established in the field and has been adapted and extended by various researchers for various purposes (see 'Extensions to Wilson's Model', Chapter Two). The adoption of such a rich model provides useful insights into determinants of the information-seeking behaviour patterns of students in a multi-disciplinary distance learning context. For the purposes of this study, the relevant concepts of Wilson's 1996 model have been extended or broken down further so they can be used to predict the information-seeking behaviour of distance learning students on the basis of a set of predictors (independent variables). By breaking them down further, the researcher is able to specify the relationships among the theoretical propositions as well as test these propositions or hypotheses.

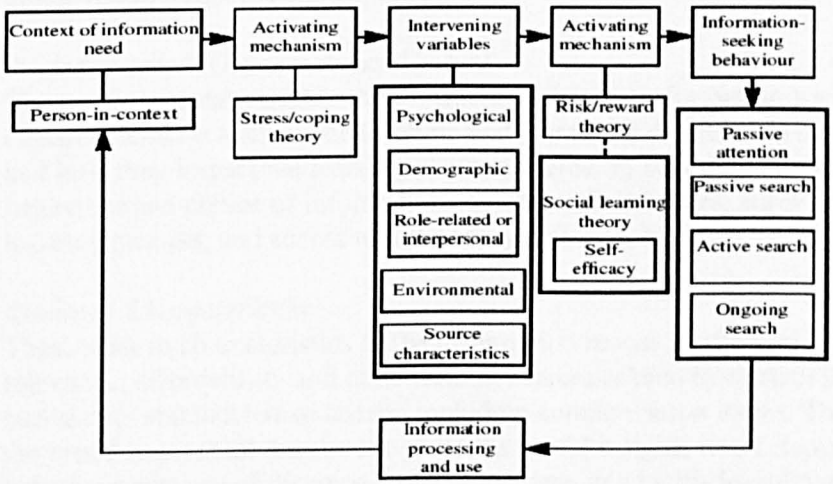


Figure 3.1: Wilson's 1996 revised model of information behaviour (adapted from Wilson 1999, 249-270).

Key Variables of Wilson's 1996 Model

The key variables of Wilson's 1996 model that are relevant to this research are listed and described in

more detail below.

Person in Context
Distance learning students are individuals who come to their studies with a variety of personal characteristics that contribute to their behaviour in courses and to some extent determine their information support needs. These include their abilities, learning styles, gender, culture, academic preparedness, personal support systems and expectations. The main aim of this variable is to shed light on what academic tasks distance learning students engage in during the course of completing their university study programmes. The tasks include writing dissertations, completing assignments, taking examinations and writing theses (Ford 2004, 186). Therefore, understanding the information context is crucial as it provides an understanding of its influence on the learners' information needs and information-seeking behaviour.

Intervening Variables
In Wilson's model, intervening variables, which include psychological, demographic, role-related or personal, environmental and source characteristics, affect the individual's motivation to search for information. As mentioned above, these variables have been broken down further to allow the testing of hypotheses.

Demographic
Demographic variables to be tested include age, gender, level of programme (undergraduate or postgraduate), and English language proficiency

Role-related or Personal
Role-related or personal variables in my research refer to the discipline, subject or academic programme, the nature of tasks associated with the subject of the programme, and the search strategies employed in a specific subject area.

Environmental / Organisational Culture
The environmental variables that influence students' information-seeking include the following: cultural elements such as the teaching and learning style; the role of supporting institutions and tutors, and how they impact the learning process, including how they impact on the students' information behaviour and choice of information sources, their attitudes, norms and expectations of the distance learning process; and access to technology and local libraries.

Resource Characteristics
These refer to characteristics of the information resources themselves such as ease of use, accessibility, relevance, affordability and other usability issues related to electronic information resources, and to constraints and barriers to access, including authentication issues. The adoption of Wilson's model as the broad conceptual framework provided useful insights into determinants of the information-seeking behaviour patterns of distance learning students in a multi-disciplinary context.

3.10 Research Hypotheses

This research focuses on exploring the patterns of information-seeking behaviour of distance learning

students and identifying the factors influencing the information-seeking process. The aims of the research and the general research questions to be addressed are outlined and enumerated in Chapter One. The research questions require the collection of data on various factors that constitute elements of information-seeking behaviour, the characteristics of the distance learners and the potential barriers to successful information-seeking, and they draw on Wilson's conceptual framework. The research hypotheses are enumerated in Chapter One.

3.11 Data Variables

In order to answer the research questions and test the research hypotheses, it was necessary to identify and collect data for the following variables.

- Characteristics of respondents, including their age, gender and highest educational qualification.
- English fluency (English as the first language spoken).
- The course programme (subject); the level of the programme of study (postgraduate or undergraduate); mode of study (completely independent, independent with private tuition, attending an institution with private tuition or attending an institution with no private tuition); and the requirement to use the online library as part of the course (awareness of the Online Library).
- Geographical location (country of residence), including how far respondents live from host institution and libraries.
- Activities learners engage in (purpose of information-seeking activity).
- Resources' characteristics (resources used and preferred, as well as reasons for preference).
- Access and familiarity with information technology (where the online library and VLE are accessed from, as well as the preferred access methods).
- Resource characteristics (availability, ease of use, accessibility, reliability, familiarity).
- Use of the Online Library and the usefulness of the resources it contains.
- Use of other local libraries.
- Self-efficacy perception and confidence in using electronic resources
- Training needs (training desired)

3.12 Generalisation, Validity and Reliability

When qualitative methods are used, analytical generalisations are common as the researcher attempts to estimate to what extent and in what way the findings from the interviews and questionnaires can give guidance on what may happen in a different situation (Kvale 1997, 210). In the present study, the analysis is based on similarities and differences between the experiences of the distance learning students in terms of the various themes under focus. The findings can therefore be generalised, to a certain extent, to apply to other distance learners in similar situations. The huge geographical distribution of the students in this study allows generalisations to be made globally.

According to Sapsford (2007, 11) "A research argument is said to be valid to the extent that the conclusions drawn from the data do logically follow from them ". The author refers to three major aspects of validity: validity of measurement - the extent to which the data constitute accurate measurements of what is supposed to be being measured; population validity - the extent to which the

sample gives an accurate representation of the population which it is supposed to represent; and validity of design - the extent to which the comparisons being made are appropriate to establish the arguments which rest on them. Also Bryman (2003, 73) refers to "construct validity" in which the researcher deduces hypotheses from a theory that is relevant to the concept. This approach was adopted in this research. In addition, Chi-square tests were employed to establish in a consistent and objective way whether the relationships between the variables identified in the data were significant and could therefore be used to make inferences about the target population.

In terms of the validity of design, Neuman (2006, 191) notes that research reliability can be improved by first using a pilot version of the measure, trying one or more drafts before applying the final version in the actual situation. Pilot studies allow the researcher to determine the adequacy of instructions to respondents completing a self-completion questionnaire, and also show how well the questions flow (Bryman 2004, p. 159). For this research, the many drafts were corrected and revised before starting the main study. Also the quantitative data outcomes were correlated to the qualitative ones. According to Ingwersen & Jarvelin (2005, 93), the advantage of triangulation or multiple methods is that it allows cross-checking of the results against each other, thus increasing the reliability and validity of the data.

This research employs methods and research tools (online questionnaires, interviews and observation study) that are well established both in the general Library and Information Science field, as well as the particular field of Information Seeking Behaviour. For instance the use of think-aloud protocol in the observation study enabled the capturing of the learners' thought process and the reasoning behind the decision they made and has been successfully used by other researchers (Someren, Barnard and Sandberg 1995); for recent examples, see Vilar and Žumer (2005), Makri, Blandford and Cox (2011), Bauer and Peterson-Hart (2012) and Madden, Ford, Gorrell, Eagleston and Holdridge (2012). The use of the 'clustering' sampling technique which allowed the random selection of participants within programme clusters was used to negate against any selection bias and to ensure that any unknown influences were distributed evenly within the sample.

In addition, being familiar with the University of London's local environment and student body enabled the development of a trust relationship with the participants which contributed to better responses, and more open or candid answers to survey questions. An ongoing process of reflection though the keeping of a journal or record of all decisions made and why they were made, as well as triangulation was used to reduce any potential bias due to my professional background and experience and relationship with the organization, except in as far as providing a richer, more developed understanding of complex phenomena. All emergent findings from the pilot study were used to inform the subsequent design of the main study which helped to improve the validity and reliability of the whole research process.

3.13 The Pilot Study

The results of the Pilot Study are discussed in detail in Chapter Four to demonstrate how the main study bridges the identified gaps in the research and contributes to the overall body of knowledge in the field. These details below explain the approach used and conditions under which the various stages of investigations were carried out, the development of initial contacts, the design of the main research instrument, the online questionnaire, used to collect the primary data, and how the important issues of

validity and reliability were addressed through triangulation.

Methodology for Ascertaining the Student Constituency and Assessing its Needs
The question of how many students should be interviewed was itself a matter for consideration. Kvale (1997) warns against excessive data material and states that it is the content that matters rather than the quantity. He also warns against using enormous quantities of data, which would make it too difficult to conduct a deep analysis, thus resulting in a superficial product.

After consideration 500 was determined to be a reasonable but manageable size of sample for the questionnaire study given the exceptionally large student body and was in line with a similar study by Unwin and Bolton's (1998). The sample was derived with reference to active users of the Online Library ascertained from system statistics since those who did not use the system would not be able to answer the questions, as discovered in the observational studies described below. The sample for the Pilot Study focussed on Laws programme students as a large and coherent group drawing on students in the first year, second year, third year and diploma level. The sample was also chosen with reference to geographic location including the UK and the major markets of the international programmes with a postal questionnaire to participants in Africa who might not be able to access the online questionnaire. According to Bostick (2004), Neuman (2006) and Black (1999), cluster sampling is most appropriate when the population is very large or geographically widespread.

Pilot Study Methodology
The Pilot Study commenced in January 2007 and took almost 6 months to complete. The University of London's distance learning students were selected for the study because of the geographical divide between the students (distributed across 180 countries worldwide) and their home institution, which determines their dependence on an online library. My interest was initiated by having managed a library service for the University of London's International Programmes and having had the personal opportunity to observe their enquiries (among other things) and those of the on-campus students who use the University of London's Senate House Libraries. Particular efforts were made to reach students in Africa and the Caribbean, as well as the university's 'big markets' of Malaysia, Singapore and Hong Kong, using a postal and an online questionnaire.

To meet the aims and objectives of the Pilot Study, a combination of two methods was used: quantitative (questionnaires, both online and by post) and qualitative (laboratory-based observational study using think-aloud protocol and one-to-one interviews using open-ended semi-structured questions). A combination of both methods (known as triangulation) was employed in order to validate the data. The observation method was employed in order to gain an in-depth understanding of what students 'actually did' as opposed to what they said they did in the online questionnaires. As Chelton and Cool (2004, 288) state, "when both methods are employed, data generated from qualitative methods can explain data derived from quantitative methods".

Phase 1 of the Pilot Study involved a thorough literature review. This was followed by a postal / email survey with incentives for students to respond. An online survey questionnaire comprising self-administered forms was created in HTML and offered a number of data entry methods including radio buttons for variables that took a single value, checkboxes that could be used for multiple-response questions, and text areas for open-ended responses or comments. A proprietary "backend" software programme was used to compile the data and prepare them for analysis either as a CSV text file which

could be imported into Microsoft Access or in Excel spreadsheet, thereby eliminating the time-consuming process of manually extracting data from the questionnaires and entering them into a spreadsheet. 500 participants were emailed and invited to take part. A reminder email was sent a week later and the survey was open for a period of three weeks.

The Observation and Interview Studies

The second phase of the study, the 'observation study', began by approaching the local teaching institutions in the UK to recruit students for the lab-based observation study. It was necessary first of all to identify several suitable institutions, particularly those with a large number of undergraduate students registered locally for the same law programme, and to obtain the permission of the institutions before inviting their students to participate in the study. Three local teaching institutions in the UK were chosen and approached, and their permission was sought to allow undergraduate law students registered with them to take part in the observational study. The original plan was to invite twenty students from the following groups: diploma students registered with a local institution and in receipt of tuition; LLB students in their first, second and third years with tutor support; and LLB students studying independently with no support. Of the three institutions contacted, only one agreed. Ultimately, ten participants were invited to take part. Of the ten students, only six agreed to take part; two of them declined while the other two simply did not respond to emails and telephone calls.

Out of the six who agreed, only four had ever actually used the Online Library, an important finding in itself. The other two had taken the 'Online Library' (OLL) to mean the 'Virtual Learning Environment' (VLE). As a result, it was not useful to include their feedback with the other participants in the 'control group' who had actually used the Online Library.

Because of logistical and scheduling problems, only four were actually observed. A fifth participant who kindly attended had never used the Online Library; she received a thorough library induction but could not participate in the study. Although this was a small sample, the pilot study was still worthwhile as it yielded useful information for subsequent stages, as noted at various points below.

All participants were 'registered' undergraduate law students in their first (one student), second (one student) and final years (two students). In the end all the students who participated were registered with and receiving tutorial support from a local institution in the UK.

The study took place in my office in Senate House, and although it was originally estimated that each session would last no more than an hour and a half, only one participant was scheduled for each day to ensure that the participants had received all the training they needed and that had been promised them; this also allowed notes to be written immediately after each session. Two of the participants asked to alter their slots twice, while one of them cancelled three times due to work and study commitments.

Participants were observed as they used the Online Library to answer a real course-related task at their level (from the Law Programme undergraduate handbook). The 'talk aloud' method, discussed as part of the research techniques in Chapter Two, has long been known to be of value for the investigation of information behaviour (Someren, Barnard and Sandberg 1995); for recent examples, see Vilar and Žumer (2005), Makri, Blandford and Cox (2011), Bauer and Peterson-Hart (2012) and Madden, Ford, Gorrell, Eagleston and Holdridge (2012).

The participants were also interviewed and invited to discuss how they went about seeking and finding information to complete their assignments. A standard introductory script was used (see Appendix 4). The observation study was videoed and tape-recorded. Written notes were also taken. Online Library interactive sessions were also captured using the Windows-based data capture software. Pre-interviews and post-interviews were tape-recorded. Participants also consented to follow-up interviews if necessary.

All study participants were guaranteed anonymity beforehand and given assurances that all videotaped sessions and recordings would be destroyed and that the results would be anonymised and used only for the purposes of the academic study and research aimed at improving Online Library provision for them.

Participants were asked to fill in a pre-test survey (see Appendix 2) aimed at gathering background information about them. Participants were requested to think aloud while they were working on the task and only spoke when asking them to clarify a specific action, keeping interference to an absolute minimum. A post-test survey (see Appendix 3) was administered to find out how the participants rated their experience. The notes were transcribed and the study notes written up immediately after each session to avoid any confusion. All tapes were carefully labelled and kept in a secure environment.

The results of the observation and interview studies are described in Chapter Four, section 4.2.

The Pilot Questionnaire Study
The limited funding available only permitted a small-scale pilot project involving a limited sample of students (Tury et al. 2008). The sample for the pilot project was limited to law students and a group of 500 students out of 14,000. A postal questionnaire achieved a response rate of 10% and an email questionnaire achieved a response rate of 17% as detailed below. Therefore, the results of the pilot study were indicative but not wholly representative.

Law students were chosen as the focus for the Pilot Study because of the dynamic, information-rich environment in which they work, which had attracted the attention of the published research about the information behaviour of law students and lawyers, cited in Chapter Two in the literature review above, albeit without a specific focus on distance learners. Current awareness is also crucial to the study and practice of law and this is often very challenging for distance learners, who already face several constraints both personal (other commitments) and logistical (geographically dispersed and isolated from their home institution, peers, tutors and other support networks). In addition, the delivery of legal research skills training is required and specified by the accrediting bodies, the Quality Assurance Agency for England and Wales (QAA) and Joint Academic Stage Board (JASB). Perhaps most importantly, the University of London International Programme law students have to answer a compulsory 'online library' examination question as part of the requirements for Qualifying Degree status (QLD).

For the online survey, a survey questionnaire was posted on the Online Library; five hundred undergraduate law students were emailed and asked to participate, and a reminder email was sent after two weeks. This method achieved a higher response rate of 17%, i.e. 87 out of 500 students took part. This significant difference in response rate was taken into account in favouring the online questionnaire when designing the methodology for the main study.

A further fifty students were also sent questionnaires by post with return envelopes. Postal questionnaires were aimed at reaching students in the least developed countries who might have less easy access to information and communications technology. There was felt to be a need to understand fully the experience of those particular students given that the International Programmes' primary mode of library delivery is online. The responses might also potentially provide a list of good libraries accessible by the students and with which we could collaborate. Unfortunately, only five out of fifty participants completed and returned the postal questionnaires, a 10% response rate. Although this response rate was relatively low and the feedback was therefore not necessarily representative, it was still useful. The responses came from students from three different continents (Africa, Asia and the Americas) where there are a large number of registered students about whose use of the OLL there are very few data. The significant difference in response rate between the online survey and the postal survey described below was taken into account in favouring the online questionnaire when designing the methodology for the main study.

The results of the questionnaire study are described in Chapter Four, section 4.3.

Advantages of Using the Online Questionnaire Survey Method
This research adopted an online questionnaire approach for both the pilot and the main study, albeit with some modifications for the main study. According to Shonland and Williams (1996) and Watt (1997), online survey research is conducted either through an email questionnaire (this is the method employed for the main study) or by a self-administered form created with HTML and posted on a website (the method employed in the pilot study for this research). The main advantages of using an online survey, whether mounted on the web or emailed to the participants, can be divided into seven categories: cost benefits, time benefits, flexibility, completion, sampling advantages, interactivity, and context.

Cost benefits. Administering the questionnaires online was found to be a very cost-effective way of reaching a large number of widely distributed students (in this case international students) in comparison to using postal mail and interviews. As noted by Comley (1996), the estimated cost of administering an e-mail survey was about 15% of that of a postal survey.

Time benefits. Using online questionnaires was also found to be a much faster way of administering the survey and obtaining responses from the participants. It was found to be significantly faster than both the postal mail and face-to-face observation interview methods. This rapid response time has been highlighted by Mehta and Sivadas (1995), who noted that in the time it takes for the postal service to deliver a mail survey, an impressive number of responses will already have been received. In addition, the ability to transfer survey responses directly into a database eliminated the need for textual data entry for all coded questions and saved a huge amount of time.

Flexibility: In comparison to printed questionnaires and interview schedules, using an online questionnaire was found to be highly flexible. It also permitted rapid, convenient, and low-cost adjustments to be made to the survey instrument.

Completion: Significantly more students filled in answers to the open-ended questions than would be achieved by a postal questionnaire. Similar findings were noted by Bachmann et al. (1996) and Mehta

and Sivadas (1995). In addition, Pitkow and Recker (1994) note that answer completion levels may be higher with website surveys insofar as the computer can be programmed to require respondents to finish all the items on one screen before proceeding to the next.

Sampling and sample size. A major advantage of the online survey was that it reached a large number of participants who were widely dispersed (in several different countries of the world). As Mehta and Sivadas (1995) note, no other methodology currently offers this extensive international data collection. It also allowed us to contact students who would normally be considered difficult to reach (such as those living in sub-Saharan Africa). As Coomber's study (1997) found, use of a Website solicitation resulted in an international sample of a very hard-to-reach group of respondents.

Interactivity. Using an online survey made it very easy to contact the respondents in the event of additional information being required. It was also relatively easy for the respondent to get in touch with questions and comments. This is particularly valuable in the pre-test phase of a study when researchers welcome comments on the instrument and methodology. This was also noted by Oppermann (1995).

Context. Using the online survey as a data gathering tool was particularly suited to this research because of the self-selecting nature of the University of London students who have easy access to computers and depend on an online library. As Gordon and De Lima-Turner (1997) note, online questionnaires are useful when the focus of the research is specifically on users of the Internet and that, similarly, problems of bias may be less critical when the interest is in reaching the upscale, well-educated Internet user population.

Limitations of the Online Questionnaire Method

Despite the numerous advantages of using the online survey as a data gathering tool in this research, this method also presented some challenges. For instance, there was no easy way of personalising the invitation to take part in the survey. Personalised cover letters addressed to specific individuals have been shown to increase the response rates in postal mail surveys (Dillman 1978; 1991). The other limitation was that, in order to complete the questionnaire, students had to be online, i.e. connected to the Internet. This meant that those students who did not have easy access to the Internet or had to pay for access, such as those who regularly accessed it from internet cafes or work, may have been put at a disadvantage and many may have declined to take part for this reason. This limitation was addressed in the main study by using the email method which allowed fast distribution to widely dispersed participants, including those with poor access to internet services by allowing offline completion.

The other issue was the difficulty of controlling participation. Although only 500 Law students were invited to take part in the study, there was the potential for other uninvited students to fill in the questionnaire since it had been placed on the Online Library gateway. It was also possible for any given student to fill in the survey questionnaire more than once. The email method used in the main study addressed this issue by emailing directly only those students who were invited to participate.

The choice of an email survey for the Main Study had implications for anonymity at the point of submission. Online web-mounted surveys, such as the questionnaire part of the Pilot Study, or online social survey tools allow anonymity. An emailed survey, because it has to be returned by email, may be identifiable from the email address. However, for the reasons given above, in order that those with difficult or costly or intermittent access to the Internet might be encouraged to reply and to ensure that

only those in the sample replied (and only once), an emailed survey was undertaken. In any case, the responses were not expected to be anonymous and the questionnaire requested both name and registration number to validate them. It should be remembered that the survey was undertaken under the auspices of the University of London with which the respondents were registered as students and which already held their personal data. A guarantee of anonymity as regards their responses was given and the data were anonymised before analysis.

Related to this is the issue of sampling, representation or selection bias. Research has found that respondents to online web surveys are more likely to be frequent users of computers, the Internet and email than non-respondents (Andersen and Gansneder 1995). This limitation was addressed by pre-selecting the cases for the study and emailing them directly, inviting them to take part. Although this approach did not address the problem for the Pilot Study, it addressed it for the Main Study because the participants were sent the questionnaire along with the invitation to take part.

Another well-known limitation associated with email surveys is the high number of invalid emails (Oppermann 1995); Comley 1996; Shulgt and Totten 1994). In this research this limitation was addressed by using students' Athens authentication email addresses. Athens only uses active email addresses for authentication (https://admin.openAthens.net/#PresetSearch:type=ALLAccounts). According to the literature, a comparison of mail and email surveys found that mail response rates were typically higher than email response rates (Kittleson 1995; Schuldt and Tottem 1994). In the Pilot Study for this research it was found that the response rate for postal mail of 10% was significantly lower than that of the online survey of 17%.

Measures to Improve the Response Rate for the Main Study
Because of the relatively low overall response rate of 17%, measures were taken to improve the response rate for the Main Study.

The timing of the survey was carefully considered and taken into account when administering the survey for the Main Study. Conversations with students who took part in the 'observation' study revealed that the timing and associated workload was an important consideration when deciding whether to participate in the library survey or not. They felt that if it was during the busy periods of the year, such as when they were preparing for exams, or during their vacation period, when they were concentrating on other aspects of their personal lives, they would not bother to respond to the library survey or any other surveys. As a result, we administered the survey in June (just after the examination period but before the vacation proper) when students were still actively involved with university communications for examination feedback purposes. It was also thought that during this time the importance of using the library for exam preparation was still fresh in students' minds.

Following on from the Pilot Study, a conscious effort was made to establish a good on-going relationship with all library users, especially those who had participated in the pilot study. All students who had taken part in the observation study had their travel costs reimbursed, were given a £20 participation fee, library training and lots of tea and biscuits in appreciation for their efforts. In addition, a follow-up thank you email was sent to all students, including those who had not responded, informing them about what would happen next.

The launch of a state of the art search tool 'Summon', which was a direct response to the Pilot Study

feedback, and the huge university-led publicity supporting it also hugely improved the environment in which the Main Study was undertaken. It sent out a clear message that the library took student feedback seriously and emphasised the importance of their participation.

All these improvements and efforts contributed to the much better response rate of 65% for the Main Study.

Questionnaire Design

The design of the questionnaire was carefully related to the overall aims of the study (see Appendix 1 for the Pilot Study questionnaire). The study was an investigation into what information resources are used by law students in relation to their studies and how they use them. It also sought to find out what barriers and difficulties are encountered by students when accessing and using the Online Library resources. It sought to establish the quality of local libraries, including those provided by local tutoring institutions, the extent to which law students use these local libraries and, more generally, the extent to which the students engaged in independent information-seeking.

In order to discover the operative factors that create barriers to effective access, the questions specifically asked for background information about the user, including whether English was their first language or not, their environment, and the location from which they access the library. The questions directly addressed the purpose of their information-gathering exercise, what resources they used most regularly and why. The questions also sought to discover what problems were perceived by the students when accessing and using the information resources and the sources of help to which they had recourse. Finally, students were asked what improvements they thought should be made to the online library.

Throughout the process of designing the questionnaire, reference was made to the study goals to maintain the strategic purpose and to eliminate as far as possible the 'it would be nice to know' questions. Keeping the questionnaire to an acceptable length was a challenge given the range of factors that might be relevant to the exercise; the number of questions in the original draft was reduced from forty-five to twenty-three.

This research is based on the idea that understanding the 'user' and their 'unique context' is essential because barriers to information-seeking and information use often arise from that specific context. Therefore, questions designed to ascertain the learner's context and personal circumstances were included, such as questions 2 to 8. Question 2 asks about gender, as this may affect the range of other demands on a student's time, depending on the answers to later questions. Question 3 establishes the approximate age, which will also give a guide to the stage of the respondent's career and the likelihood of continuing extensive family responsibilities. Questions 4 and 5 elaborate information on personal circumstances, dependents and family responsibilities by asking for marital status and number of children. Question 6 seeks to identify the occupation of the respondent and will also establish whether the respondent is in full-time employment. The answers to these various questions correlated with age provide good basic data to identify the general situation in which the respondent is undertaking their studies. The data would, for example, differentiate between an unmarried male aged under 25 and employed in a professional occupation and a woman aged 26-35 with three children, who runs her own business. Each would face very different challenges.

Question 7 establishes the country of residence of the respondent, which will potentially affect their studies both in terms of social factors and availability of infrastructure and educational support.

Question 8 asks whether the respondent's first language is English as this is clearly a major factor in successful independent study.

Questions 9 to 11 also establish background information more directly relevant to studying. Question 9 discovers the respondent's highest educational qualification, which provides evidence on the level of experience in using information resources. As discussed above, students undertaking distance learning in these particular programmes are likely to be drawn from a larger variety of educational backgrounds than traditional entrants to UK universities.

Question 10 identifies the qualification towards which the respondent is studying, which defines the range of sources that are likely to be useful. The mode of study, which is the subject of question 11, gathers data not only about the educational support available to the respondent but also on whether other information resources and facilities are available.

Questions 12 to 14 relate directly to the Online Library and, in particular, address the issue of access, establishing how the respondent learned of its existence, how often the respondent uses it, and the location from which the respondent accesses it. Clearly, it is essential to establish that the respondent does use the OLL and whether they use it often enough to build up some familiarity with it. The location from which it is accessed may well define the speed, usability and length of time for which it might reasonably be used. The question relates to family circumstances and also occupation. Question 12, regarding how the respondent learned of the existence of the OLL, is of immediate use to the provider in marketing the service to its students.

Questions 15 to 23 relate directly to use of the Online Library, both generally in terms of the success in accessing information (question 16) and in detail in identifying individual resources and their usefulness and usability (questions 17, 18, 19 and 20), and the methods employed by the respondents in accessing the resources (question 18). The responses to this question can be correlated with the likely information demands of the course being studied, which has been established by an earlier question (question 10).

The questions in this section also explore the resources alternative to the OLL, such as local libraries used by respondents and the extent to which respondents go beyond the most basic resources supplied to them (questions 22 and 23). Question 21 also explores the nature of information-seeking by establishing whether respondents use the additional features of the OLL both for self-help and pursuit of information skills and by asking for help from the dedicated Helpdesk (in the process advertising this service). Questions 24 and 25 request input from the respondent about resources they would like available on the OLL and improvements in the service. These not only capture suggestions for possible improvements but also highlight difficulties encountered by respondents in using the system (for example, if a resource requested is already available).

The resulting questionnaire was a valuable tool and enabled the researcher to capture a rich dataset relating to students' information needs and their experience of using the Online Library (OLL).

Pilot Study Data Analysis

Although it was initially planned to use the specialist software Atlas/ti software for analysis, for which a licence had been purchased and installed, this proved unnecessary because of the low response rate (87 responses). All quantitative survey data were imported from the proprietary database analysed with the Excel spreadsheet software.

The Qualitative Analysis Process

For the qualitative data analysis from the observation study and open-ended questionnaire responses, the open coding method was used. The first step in the analysis process involved organising the data into an easily usable format. This involved transcribing all notes from tape and video recordings, typing them up, and organising the text responses to the open-ended questions. Completing this process was useful and enabled the researcher to read and re-read the data in order to gain an overall picture of the complete set of data.

The next step involved transforming the data into information by examining the data and assessing what types of themes were exhibited. This analysis was conducted by sorting and dealing with each of the open-ended questions separately. Data were separated into groups that shared similar characteristics. Starting with a large number of categories made it easier to allocate all the data. After becoming more familiar with the data and thinking about the relationships between the groups, the number of categories was reduced and codes were assigned to them.

The final stage involved summarising the information and interpreting it in relation to the rest of the quantitative data and the research questions.

An example of the analysis of Observation Study Data and Responses to Open-Ended Questions is given in Appendix 9.

3.14 The Main Study

The Main Study was initiated in June 2010 using a revised online questionnaire (see Appendix 6: Online Library Survey June 2010 (with sample responses)). The methods of administering the questionnaire survey were modified, a single approach was adopted, and the questionnaire was simplified and shortened as detailed below. Participants were given four weeks to respond, a week longer than in the Pilot Study. Furthermore, unlike in the Pilot Study where the questionnaire was posted on the online library gateway and participants were emailed and invited to participate, the questionnaire was emailed directly to the participants. This helped to eliminate the issues of unsolicited participation and the other limitations mentioned in section 3.13. The Main Study achieved a response rate of 65% (649 responses from a sample of 1,000) compared to the response rate for the Pilot Study of 17% for the email questionnaire and 10% for the postal questionnaire.

Measures were taken to ensure that the sample derived was more representative of the student body under study than in the Pilot Study. For this reason, the wider-scale Main Study sample involved 1,000 distance learning students, double the number of students registered with the University of London International Programmes addressed by the Pilot Study. This allowed the researcher to analyse participants from a variety of programmes, levels of programme, localities and local conditions

according to a broad range of factors and to examine the effect of a diversity of local conditions. Participants were selected from a wider range of programmes than the Pilot Study, which focused on undergraduate law students. Programme clusters were the following University of London distance learning programmes including the very large programmes and the smallest: Laws LLB (320); Laws LLM (80); EMFSS (Finance and Social Sciences) (320); Cefims (Centre for Financial and Management Studies) (112); (CEDEP (80); MBA - International Management programme (IM) (80); Educational and Social Research (MRES) (8) (see Table 5.1.1 for a comparison with the actual number of respondents by programme). Participants were selected from all levels of programme, Diploma, first year, second year, third year and Master's level, rather than just Diploma and Master's level as selected in the Pilot Study.

Participants were also selected to ensure a geographical spread including the major markets of the international programmes at that time, such as Hong Kong, Malaysia, Trinidad and Tobago, Pakistan and the UK, and those countries with fewer registered students from the Americas, Europe, Africa, Asia and Australasia. Care was taken to ensure that all participants were current registered users of the Online Library and had an active Athens account, which helped to eliminate library non-users who would not be in a position to respond to all the different elements of the questionnaire and ultimately the research question(s). This assumption was backed by an experience with one of the students who attended but had to be excluded from the observation study because they had never used the library. As already noted above (3.13), according to Bostick (2004), Neuman (2006) and Black (1999)), cluster sampling is most appropriate when the population is very large or geographically spread out.

As a result of conducting a postal questionnaire survey as part of the Pilot Study, it was clear that a survey administered by post would not be viable or successful as part of the Main Study in the context of the target constituency. See section 3.13 for a detailed discussion of the advantages and disadvantages of the online and email questionnaires used in the Pilot Study and the measures taken to improve the methodology for the Main Study and the response rate. Despite reminders and the provision of a reply-paid envelope, the postal questionnaire in the Pilot Study had achieved a response rate of only 10% and therefore a high failure rate. The process had also been very time-consuming and expensive, even for the small target group of 50, and it did not scale easily to a much larger group.

The results of the observational study were extremely useful, despite the low number of participants with whom it had been conducted, in that it highlighted some fundamental conceptual and skills difficulties that might underlie responses to surveys and failure to respond. In particular, the level of inability to grasp the nature and function of the online library led to a re-evaluation of its presentation on the eternal system website. The results should be incorporated into the final results as qualifying factors to be taken into account in analysing the Main Study and its response rates. However, the method was extremely time-consuming and could not be successfully repeated on a larger scale.

The questionnaire element of the Pilot Study clearly established that the online survey achieved the highest response rate and would be the most successful route for the Main Study to obtain results with the highest response rate. It was already established that registered students were required to have easy access to computing facilities and the Internet. The results of the surveys by all methods showed that students have online access, the overwhelming majority of them from home; therefore, the administration of the survey to the large number studying by online means would not exclude a significant number of potential respondents, would be likely to achieve a higher response rate and

would be more viable in relation to time and expense.

Although the original questionnaire administered in 2007 was a valuable tool and enabled the capturing of a rich dataset relating to students' information needs and their experience of using the Online Library (OLL), some further improvements were made to the 2010 version to shorten and simplify the questionnaire, taking into account advice from the literature regarding the use of excessive data material; Kvale (1997) warns against using enormous quantities of data. It was hoped that this would increase the response rate without degrading the quality and scope of the useful data. In particular, shortening the questionnaire would provide a less daunting and time-consuming process for potential respondents.

The changes implemented included removing unnecessary questions, making it more generic, and improving the structure and coherence. In particular, question 1, requesting registration number and name, was removed. This would also address any student concerns about the possibility of answers reaching anyone concerned with assessment and grading. The questions were adapted to be applicable to a wider constituency of students, not just law students. All questions on the user's background were grouped together, followed by questions about resources, and then user experience, so that a clearer structure was evident.

Some questions where responses needed clarification, such as why students used the resources they used, were added, as well as new questions relating to library developments that had been implemented since the previous questionnaire, such as the single sign-on-Shibboleth system, the Summon resource discovery tool, and a new A-Z listing of journal titles.

The questionnaire was administered by email rather than being posted on the website, and email reminders were sent to improve the response rate and no questionnaires were sent by post due to the high failure rate as elaborated above (see section 3.13).

Since all participants were current Online Library users with an active Athens account, this ensured that email accounts were current and valid because Athens uses the 'email' field for authentication. Athens usage statistics were run to determine active usage by participants. Participating programmes were chosen as at 1st June 2010. All non–delivered emails were replaced with emails to the next students on the list from the same programme group. Emails were divided into groups and sent in batches to avoid system overload. As emails were returned, they were backed off onto another system, and one by one the questionnaire data were copied from the questionnaire and entered into an Excel spreadsheet. The process of data entry, although very lengthy and repetitive, was very important because the whole research depended on it; hence, great care was taken and continuous and thorough checks were made using the Excel validation feature to ensure accuracy.

Research Questions

As stated in Chapter One, the research questions that were developed to address the objectives of the research were as follows:

- Research Question 1: What are the information needs of distance learners of the University of London?

- Research Question 2: What kind of information sources and information channels are used by distance learners and why they are used?

- Research Question 3: What barriers do distance learners encounter when accessing and using Online Library resources?

- Research Question 4: To what extent does the Online Library meet distance learners' information needs?

- Research Question 5: What practical solutions can be employed to help learners overcome the barriers they face when seeking and, to some extent, using information sources to complete set tasks?

Survey Questions
In order to address these research questions, the survey asked respondents to reply to survey questions designed to establish a wide range of relevant factors or variables that have an impact on their information-seeking behaviour. The questionnaire is reproduced in Chapter Nine.

The questionnaire included questions designed to identify the *demographic characteristics* of the respondents (questions 1 to 4) in terms of gender, age, country of residence, and English language proficiency. The questions identified the current personal *educational context* of each respondent (questions 5 to 8) in terms of the programme for which they were registered, level of programme (access course, undergraduate or postgraduate), mode of study (whether studying independently or at an institution and whether receiving private tuition), and highest educational qualification.

Questions 9 to 11 of the survey investigated the *information-seeking activities* of the respondents including the purpose of information-seeking tasks undertaken, what type of resource was used most frequently, and the reasons for the preference.

Questions 12 to 32 ask about the *Online Library* and its facilities, about particular *information resources*, and about the respondents' interaction with them, including their self-evaluation of their use of them. The questions investigate whether the respondents use the Online Library, where they heard about it, how they access it, how they log on to it, and whether it meets all the respondents' information needs; they also elicit suggestions for changes in the Online Library. Some questions explore which individual resources are used by respondents, how successful they believe they are in using those resources, which alternative resources are used, and the reasons why they prefer their most-used resources. The questionnaire also seeks to establish whether nearby libraries are accessible and where those libraries are located. Other questions ask about the extent of the respondents' confidence in using electronic resources, whether training is required (and how to arrange it), the respondents' use of the Summon search engine and their opinions about it, how the respondents search the Online Library, and what service improvements and additional online services would be desirable. Free text additional comments were solicited and are analysed in a separate section.

The main themes to which the data contribute findings are discussed below, drawing together the responses to the direct questions and the significant data from the cross-tabulation with other responses.

- Research Question 1: What are the information needs of distance learners of the University of London? This question is addressed by reference to survey question 9 and relevant cross-tabulations.

- Research Question 2: What kind of information sources and information channels are used by distance learners and why they are used? This question is addressed by survey questions 10, 11, 12, 13, 17, 19, 20, 23, 24 and relevant cross-tabulations.

- Research Question 3: What barriers do distance learners encounter when accessing and using Online Library resources? This question is addressed by survey questions 14, 15, 16, 18, 25, and relevant cross-tabulations.

- Research Question 4: To what extent does the Online Library meet distance learners' information needs? This question is addressed by survey questions 21, 22, 30, 31, and relevant cross-tabulations.

- Research Question 5: What practical solutions can be employed to help learners overcome the barriers they face when seeking and, to some extent, using information sources to complete set tasks? This question is addressed by survey questions 27, 28, 29, 32 and relevant cross-tabulations.

Data Analysis

The researcher analysed the data from the Main Study, tabulating the answers from each respondent to each question and noting non-responses. The results were then cross-tabulated to discover significant relationships between the variables. The results of that empirical study, together with this evaluation, were used to tailor Wilson's model to the context of distance learning.

All data were entered into an Excel spreadsheet and analysed both quantitatively and qualitatively. The quantitative data were analysed by entering data from each respondent using a unique respondent identifier across a single column with meaningful labels for the answer to each question (see Figure 3.2). This enabled a count of each answer and re-sorting and sub-sorting to prioritise particular sets of data, for example sort by gender and then by level of confidence.

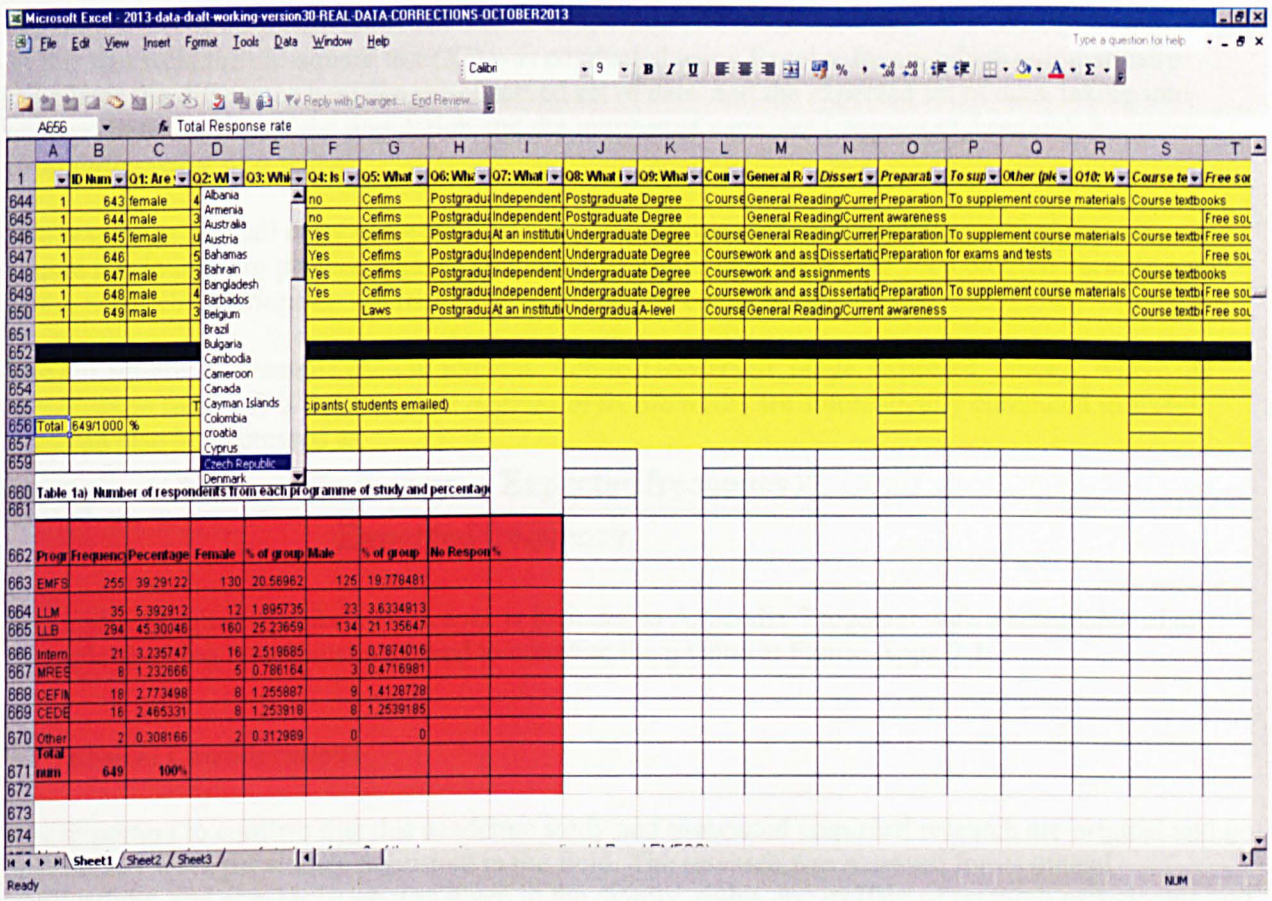


Figure 3.2: Example of a spreadsheet for analysis of Main Study Data

Analysing the qualitative data from the open-ended questions was performed in the same way as with the Pilot Study, as detailed in section 3.13 and Appendix 9, but with more reliance on the Excel spreadsheet software to find words and phrases that met the criteria of pre-identified categories which had assigned codes. Please see Appendix 10 for an example of the analysis of responses to open-ended questions in the Main Study.

Significance

Chi-square tests were employed to establish in a consistent and objective way whether the relationships identified in the cross-tabulation were significant and therefore whether the results could be generalised and used to make inferences about the target population rather than merely the sample. A standard *significance level* (α) of 0.05 (Fisher 1925; Walliman 2006) is used in this research as a benchmark by which to reject or accept the null hypotheses. The *probability value* (*p-value)* represents the probability of obtaining a chi-square test statistic that is more extreme than the observed value given that the null hypothesis is true. Therefore, if the chi-square test has a *p-value* of less than 0.05, the hypothesis is supported, and if it is greater than 0.05 the hypothesis is rejected. Rejecting a hypothesis means that there is not enough evidence to show a significant relationship between the variables or enough evidence to refute the possibility that the data distribution occurred by chance.

In this research, the chi-square test (X^2) was conducted using Excel software which automatically calculates the difference between the observed set of data and the expected set of data, taking into account both the size of the population and the number of variables (*degrees of freedom*); it returns a *probability value* or *p-value.*

'No responses' and all other non-specified categories such as 'other' have been omitted from the chi-square test in order to provide clear, unambiguous results. They have also been omitted because some of the research questions do not include a 'no response' component.

The chi-square test formula used in Excel is '=chitest (observed_range, expected_range)', where the *significance value* (α) is 0.05, and the *degrees of freedom* (df) are automatically computed in Excel. This can also be expressed as

$$X^2 = \Sigma \frac{(\text{Observed frequency} - \text{Expected frequency})^2}{\text{Expected frequency}}$$

A sample chi square test for significance is included at Appendix 7 together with a screenshot of an example showing how Excel was used to compute the p value at Figure Appx 7.1.

3.15 Ethical Considerations

It is important to confirm that this academic study and associated empirical research are original and go beyond any work previously published in the field. The research was assessed for its ethical implications, and consideration was given to the dignity, rights and welfare of research participants and to any consequences of the proposed research, directly for the participants or for those who might benefit or suffer from its outcomes.

Newman (2011, 131) has pointed out that, because of the potential negative effects of research on those being studied, there is a need to respect the research participants and sites. Research ethics provide the researcher with a code of moral guidelines on how to conduct research in a morally acceptable way. This involves obtaining the informed consent of the participants and reaching agreements about the use of this data and how their analysis will be reported and disseminated (Gillespie 2008, 46). It was in the light of these guidelines that approval for the project, including ethical approval as well as funding, had to be sought from Senate House Libraries Senior Management and the University of London's research board. The proposed study was assessed and found to meet the ethical standards of both the City University London, the institution of registration for the degree, and the University of London, the employing institution whose students were the subjects of the research.

The University of London's research ethics policy and procedures were revised in 2010 in the light of the new ESRC framework for research ethics, and to bring them into line with the UKRIO Code of Practice for Research guidelines. This research complies with the new policy and procedures.

The research does involve human participants but does not involve sensitive topics such as political behaviour, experience of violence, or exploitation, and it did not research groups requiring specialist

access, such as ethnic or cultural groups, or indigenous communities. However, the research did involve information that might reflect on the academic abilities or performance of the participants.

All participants who participated in the study were over 18 years old. Participants were informed about the purposes and intended use of the study and resulting research, and they gave their written approval (see Appendix 8 for the information given and the consent form). Their contribution and participation were completely voluntary, all data collected about individuals remain confidential, and findings have been anonymised. The data have been used only for the purposes of informing this study and for improving library service provision for the University of London's distance learning students. All recordings of the observation study are maintained in a secure environment and will be destroyed after data have been fully transcribed from them.

Chapter 4: The Pilot Study

4.1 Introduction

This chapter is a description and analysis of the pilot study over a six-month period. The purposes of conducting a pilot study were to verify the viability of the overall research, to test various methodologies, to gauge likely response rates, to identify the suitable scope of the main study, and to obtain information relevant to the design of the main study (see 4.6 below). It was also hoped that, should there be sufficiently clear conclusions, they would inform the implementation of immediate developmental action to the Online Library of the University of London International Programmes as an early practical benefit of the research (see 4.5 below). The details of the methodology employed and why it was adopted are discussed in more detail in Chapter Three on methodology.

4.2 Results of Observational and Interview Studies

The observational and interview studies were useful because they enabled an in-depth understanding of how distance learning students actually went about finding information to complete their assignments. They clarified what they actually did, including search behaviour within the Online Library, as opposed to what they said they did in their responses to the questionnaires.

It is an essential characteristic of distance learners that the possibility of face-to-face communication is very limited; hence, the questionnaire survey was the main tool for data collection. However, some students registered as distance learners with the University of London are located in the UK within easy reach of London. Although it was acknowledged in advance that observational and interview studies could not be replicated even by sampling on an international scale without considerable funds, it was nevertheless considered worthwhile to attempt it on a small scale. It was hoped that discrepancies between replies to questionnaires and actual observed behaviour might be identified, and this would serve to validate or qualify the questions as well as the results of the questionnaires. According to Sapsford (2007, 11), "A research argument is said to be valid to the extent that the conclusions drawn from the data do logically follow from them. In the event, although the few findings were interesting, it proved unrealistic to carry out such a study on a large enough scale even for students located in the UK. The lessons learned from this part of the Pilot Study were more about testing the methodology.

As described in Chapter Three, there were considerable difficulties in obtaining participants for these studies. Of the six who agreed to take part, only four had ever actually used the Online Library, an important finding in itself. The other two had taken the 'Online Library' (OLL) to mean the 'Virtual learning environment' (VLE). Eventually, only four students took part. Of these, two asked to alter their slots twice while one cancelled three times due to work and study commitments. This in itself exemplifies the difficulties faced by part-time and distance learning students in participating in scheduled activities and events. It also had implications for the viability of this methodology in a wider study.

The four students were observed conducting two searches, one for the *Law Quarterly Review* and the other for a specific court case (R v Smith (Morgan James)) [2001] 1 AC 146) (see Appendix 5, Observation Study Tasks, for details of the tasks). Two students attempted both searches and two students attempted only one search. None of them succeeded in completing either search. The following table is a summary of the main observation results and the conclusions that can be drawn from them:

Table 4.1: Summary of Pilot Study Observation and Interview Results

Observations	Conclusions
1. Failure to access the Online Library (see at http://www.external.shl.lon.ac.uk/) directly - the students tend to follow the link from the External Programme website (Current students ⇨ Law undergraduates ⇨ Online Library homepage http://www.londonexternal.ac.uk/).	• Need to give the Online Library a bigger presence on the External Programme site (at the time the Online Library was 'buried' five levels deep) • Need to improve visibility / ranking of the Online Library on Google • Need to encourage students to bookmark the Online Library website
2. Insufficient familiarity with the Online Library site	• Need to publicise the Online Library site better and ensure that students are trained to use it, e.g. by introducing database-specific interactive training modules in the VLE
3. Failure to remember Athens passwords (either because the students do not use them frequently enough and/or the format of the passwords makes them difficult to remember)	• Need to explain the importance of the Athens passwords and the need to have them available at all times when studying
4. Insufficient understanding of the function and use of databases: e.g.: - Students can be under the impression that they can get all information from one single database; - Or, they do not know what they can find in, say, Lexis as opposed to Westlaw; - Or, they go to the Find Case Reports page instead of using the right database; - Or, when using the right database, their search skills are too limited (e.g. they know only how to narrow down searches using date limits); - Or, they click on ABA all journals whatever the title they are looking for, because it is the first link they can see;	• Need to ensure that students are trained to use the main databases – e.g. by introducing database-specific interactive training modules in the VLE
5. Inability to evaluate the quality and reliability of the links they follow from Google (as they often revert to using	• Need to train students in using Google intelligently in addition to training them in using the Online Library – e.g. by

Google when they have been unsuccessful with the databases)	introducing a Google Research-focused interactive training module in the VLE
6. Reluctance to use the full case reports, looking instead for summaries via Google (such as the Kevin Bone site)	• Need to discuss this issue with the tutors: should the students rely on case summaries? Are there reliable web sites for case summaries?
7. Unreliability of the databases list facility on the laws gateway (e.g. one student kept getting only four databases displayed even though all subjects were selected)	• Need to investigate and resolve this technical problem

The low rate of participation renders the results of the observational study unrepresentative. The low rate of participation arose from several factors: the lack of cooperation from institutions including concern about confidentiality and about possible assumptions of the quality of their own programmes; the lack of response from students; the practical and logistical difficulties for students in participating; the lack of prior knowledge by some students of the Online Library necessary for participation.

4.3 Results of Questionnaire Study

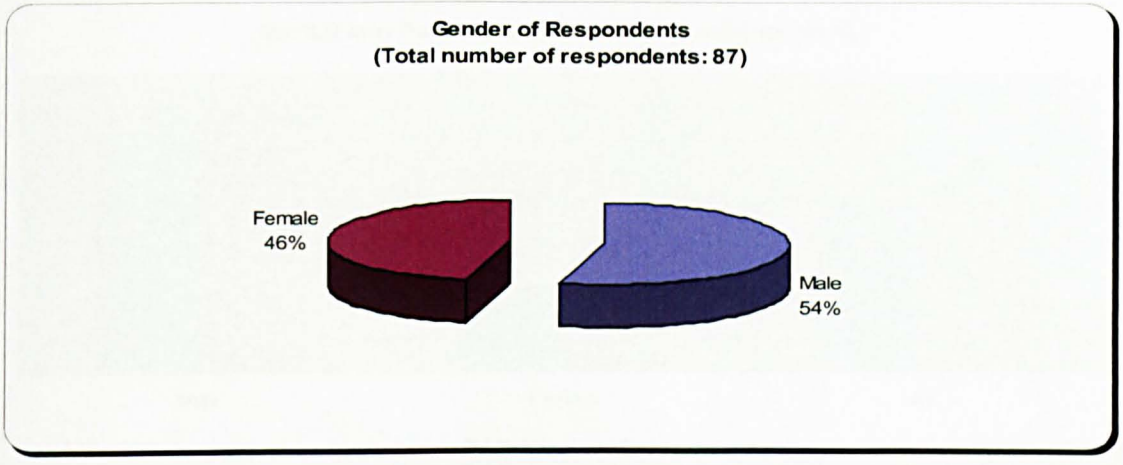
The Pilot Study was focused on law students and a sample of 500 students out of 14,000 and was derived as described in Chapter Three at section 3.13 with reference to active users, programme clusters, programme progression (first year, second year, third year and diploma / master's level) and geographic location. A postal questionnaire achieved a response rate of 10% and an email questionnaire achieved a response rate of 17%. As the findings below show, the demographic breakdown of the respondents was 54% male and 46% female, and 34% under 25 years old, 28% between 26 and 35 years old, 24% between 36 and 45 years old, 10% between 46 and 55 years old, and 3% over 56 years old. It was not possible to determine in advance the demographic breakdown of the sample selected and other factors were prioritised as above. The Pilot Study was undertaken to establish this information. The results of the Pilot Study were indicative but not wholly representative.

The results below are arranged according to the numbering of the original questions in the questionnaire.

Profiles of Respondents

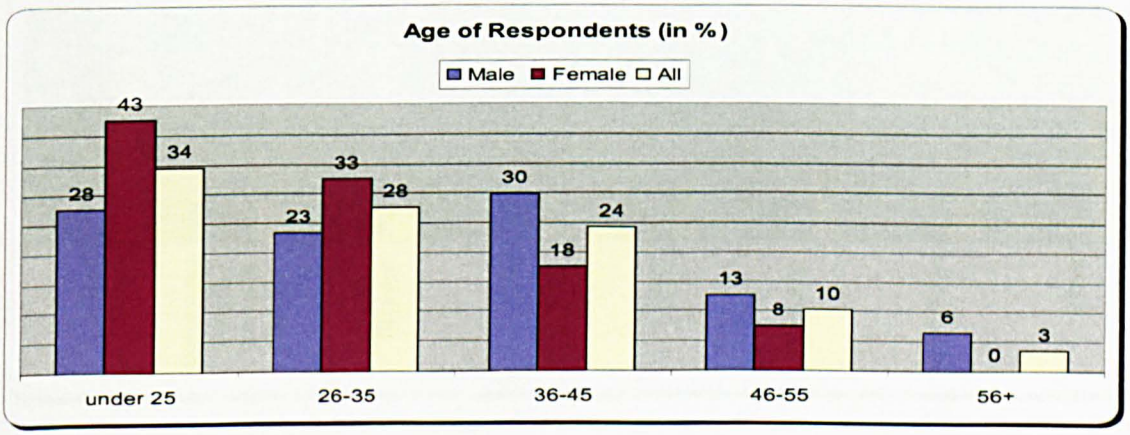
Question 1.1 The percentage of male respondents is slightly higher (54%).

Graph 4.1: Gender of Pilot Study Questionnaire Respondents

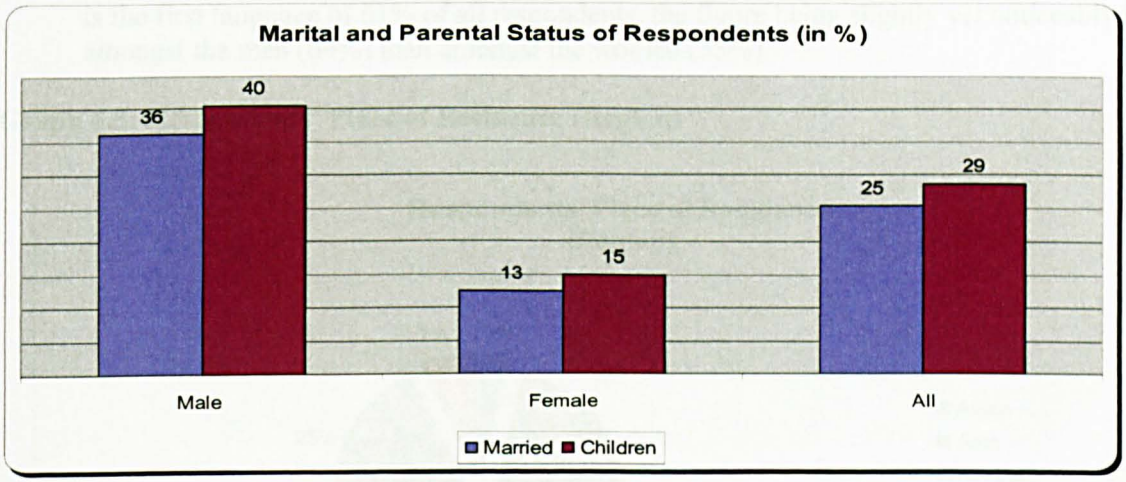


Question 1.2 As shown by Graphs 4.2 and 4.3, 86% of the respondents are under 45 years of age, the largest sub-group being also the youngest (34% under 25), followed by the 26-35 age group (28%) and the 36-45 age group (24%). This suggests there may be a high acceptance of and familiarity with the use of ICT in the user constituency, which is likely to increase. 43% of the female respondents are in the under-25 group, a significant proportion as might be expected in many countries where greater numbers of women have only more recently been developing careers through higher education, while the largest proportion of male respondents (30%) are in the 36-45 group, having benefited from higher levels of education but now developing their careers further. The female respondents are less likely to be married and/or have children, thus emphasising the earlier point regarding careers. 13% of the women – but 36% of the men – are married. 15% of the women – but 40% of the men – have children. In total, a quarter of all respondents are married and 29% have children.

Graph 4.2: Age of Respondents

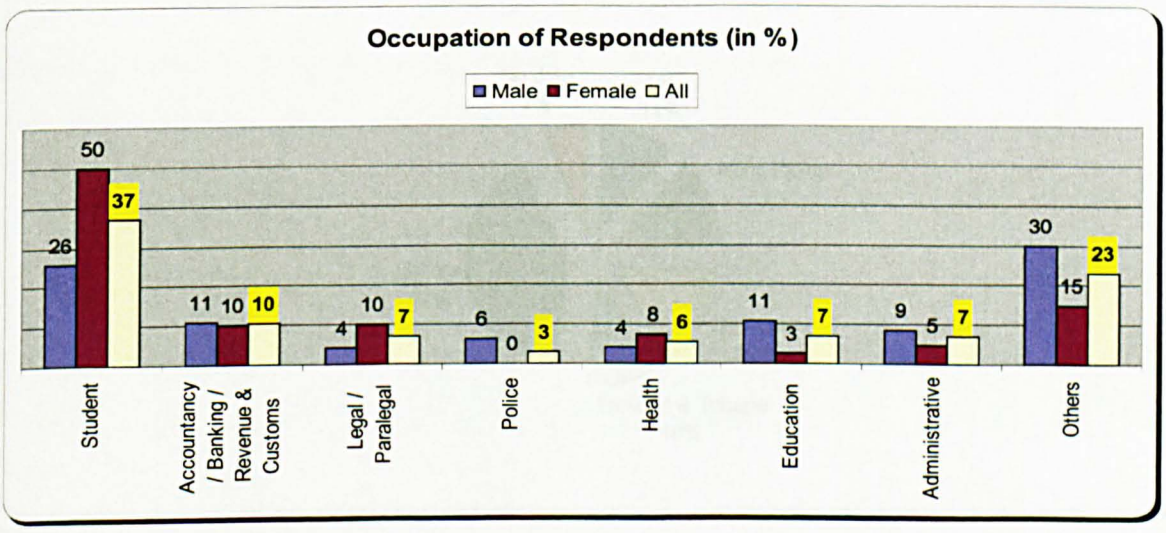


Graph 4.3: Marital and Parental Status of Respondents



Question 1.3 As shown by the Occupation figures (see Graph 4.4), 37% of all respondents described themselves as 'students', the figure for women being however nearly twice as high (50%) as that for men (26%) – only one of the women said she was a 'housewife'. This, combined with the age distribution data above, indicates an area of growth, particular in areas of traditional societies, where younger women are entering higher education to help to establish a career. These students generally have less familiarity with research techniques and research resources. Amongst the 63% of all respondents who hold a job, the most recurrent areas of activity are Finance (10%), Legal / Paralegal, Education, Administration (7% each) and Health (6%).

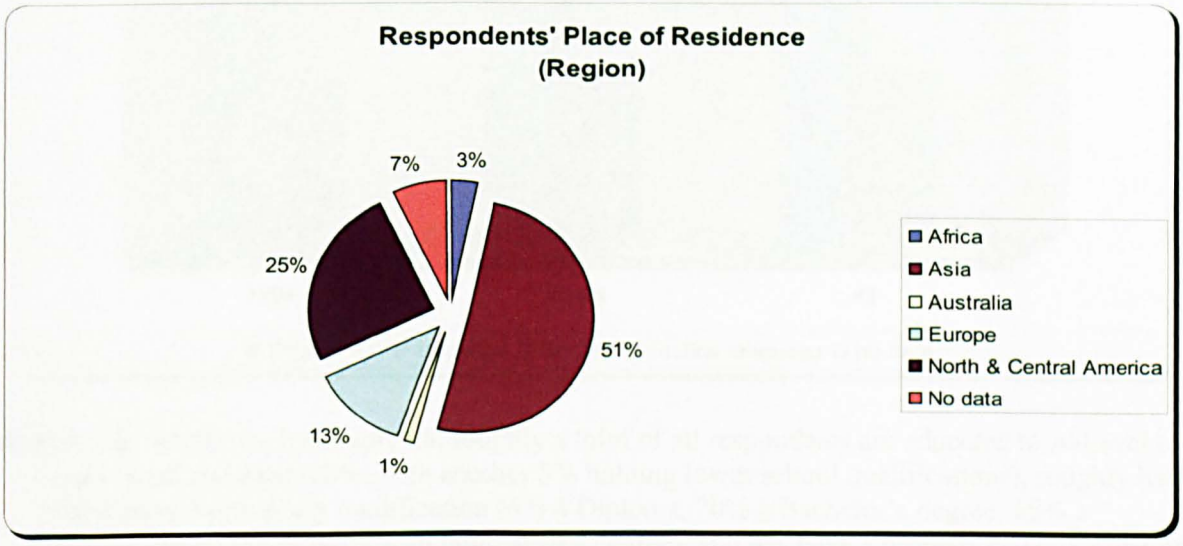
Graph 4.4: Occupation of Respondents



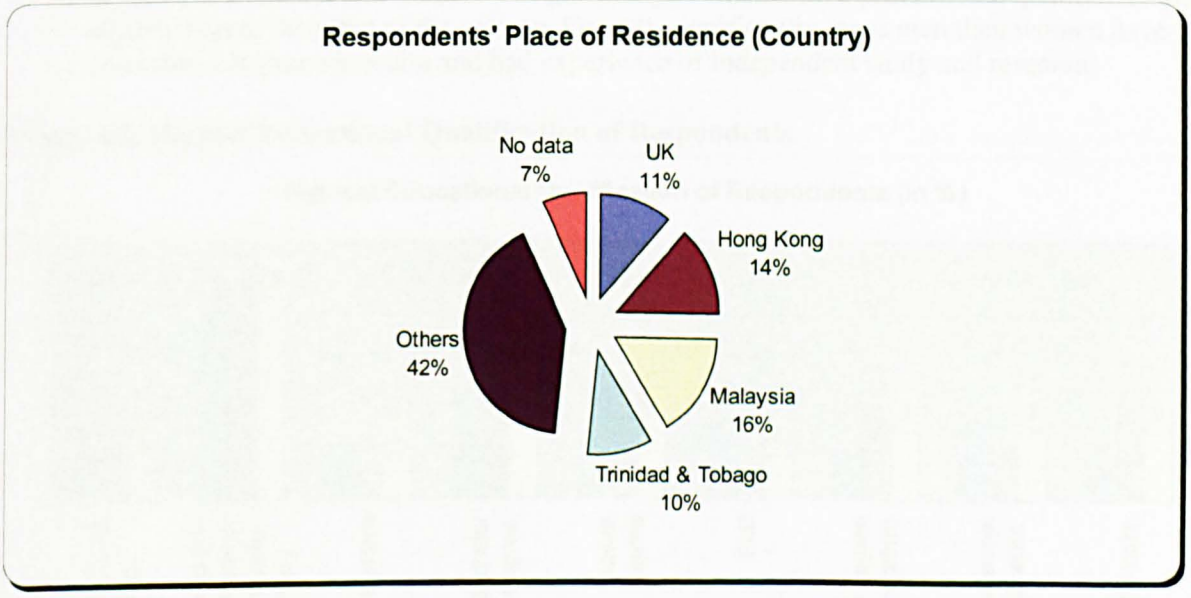
Question 1.4 As shown by Graphs 4.5 and 4.6, half of all respondents reside in Asia – with particularly high numbers in Malaysia (16%) and Hong Kong (14%) – and a quarter in North or

Central America – with particularly high numbers in Trinidad & Tobago (10%). Most of the students residing in Europe (13%) are based in the UK (11%). Graph 4.7 indicates that English is the first language of 61% of all respondents, the figure being slightly yet noticeably higher amongst the men (64%) than amongst the women (58%).

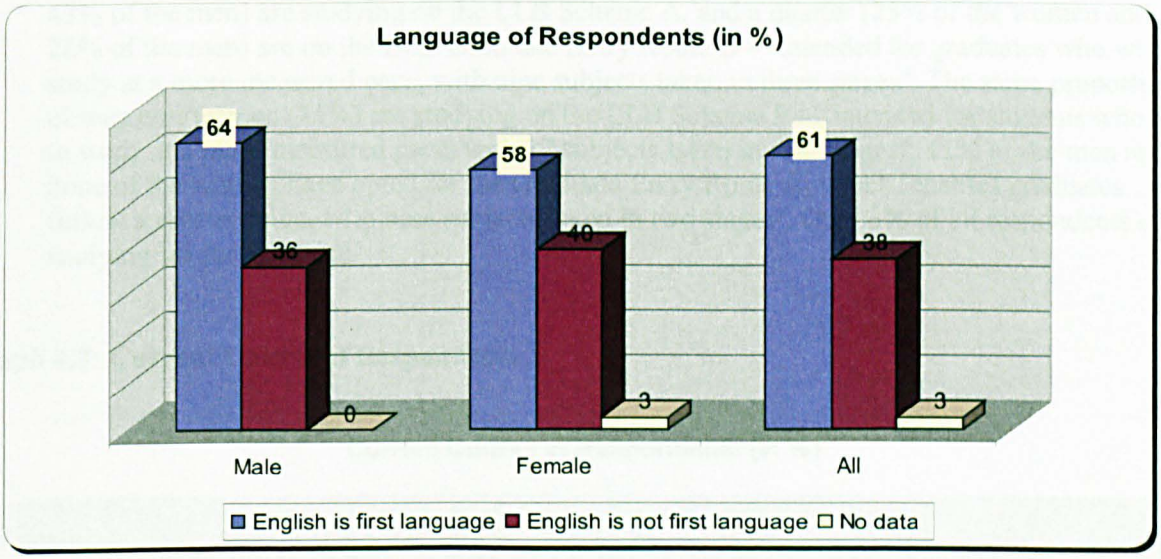
Graph 4.5: Respondents' Place of Residence (Region)



Graph 4.6: Respondents' Place of Residence (Country)

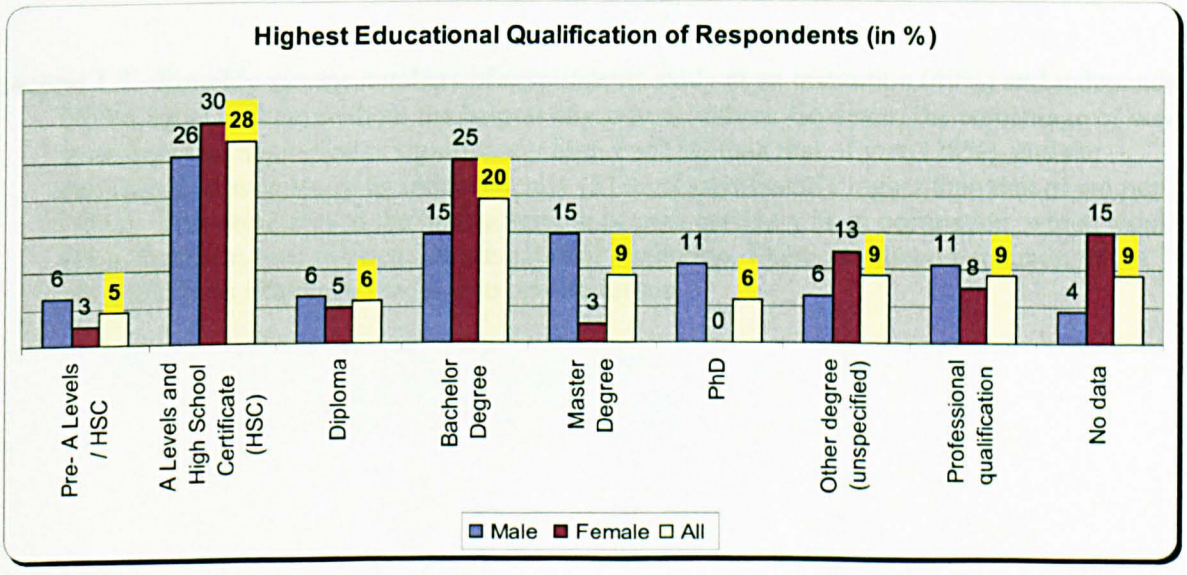


Graph 4.7: Language of Respondents



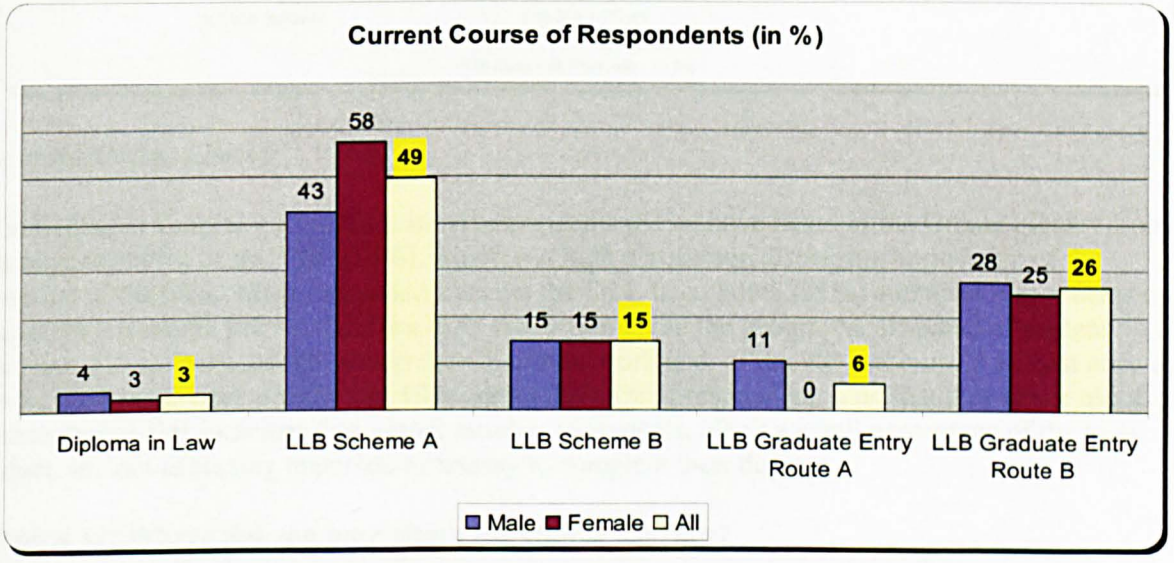
Question 1.5 As shown by Graph 4.8, roughly a third of all respondents are educated to A-Level or equivalent standard (28%, with another 5% holding lower school qualifications), roughly half of them have a university qualification (6% a Diploma, 20% a Bachelor's degree, 15% a postgraduate degree and 9% an unidentified degree), and 9% have a professional qualification. The percentages of the women educated to A-Level or equivalent and Bachelor's degree levels are higher than those of the men, while the percentage of the men educated to postgraduate level is higher than that of the women. The percentage of men with a professional qualification is also slightly higher than that of the women. Overall, significantly more men then women have undertaken higher education and had experience of independent study and research.

Graph 4.8: Highest Educational Qualification of Respondents



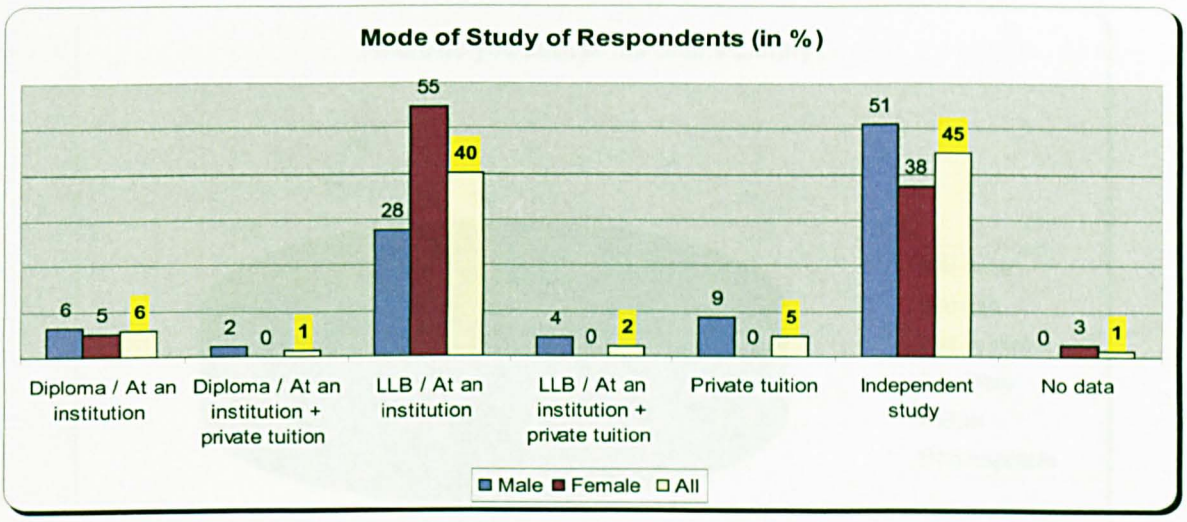
Question 1.6 As shown by Graph 4.9, roughly half (49%) of all respondents (58% of the women and 43% of the men) are studying on the LLB Scheme A, and a quarter (25% of the women and 28% of the men) are on the LLB Graduate Entry Route B – 'intended for graduates who wish to study at a more measured pace, with nine subjects taken in three stages'. The same proportions of men and women (15%) are studying on the LLB Scheme B – 'intended for students who wish to study at a more measured pace, with 12 subjects taken in four stages'. 11% of the men and none of the women have opted for the Graduate Entry Route A, which 'enables graduates... to follow a shorter route, with nine subjects taken in two stages'. Only 3% of all respondents are studying for the Diploma.

Graph 4.9: Current Course of Respondents



Question 1.7 Roughly similar numbers of respondents study at an institution (49%) and independently (45%), most of them without the help of any private tuition. However, the percentage of women studying at an institution is significantly higher (55%) than that of men (28%), and the percentage of men studying independently (51%) is significantly higher than that of women (38%). This correlates to the higher number of men currently in an occupation, which would allow them less time to attend an educational institution. There are no women amongst the 7% of respondents who have recourse to private tuition.

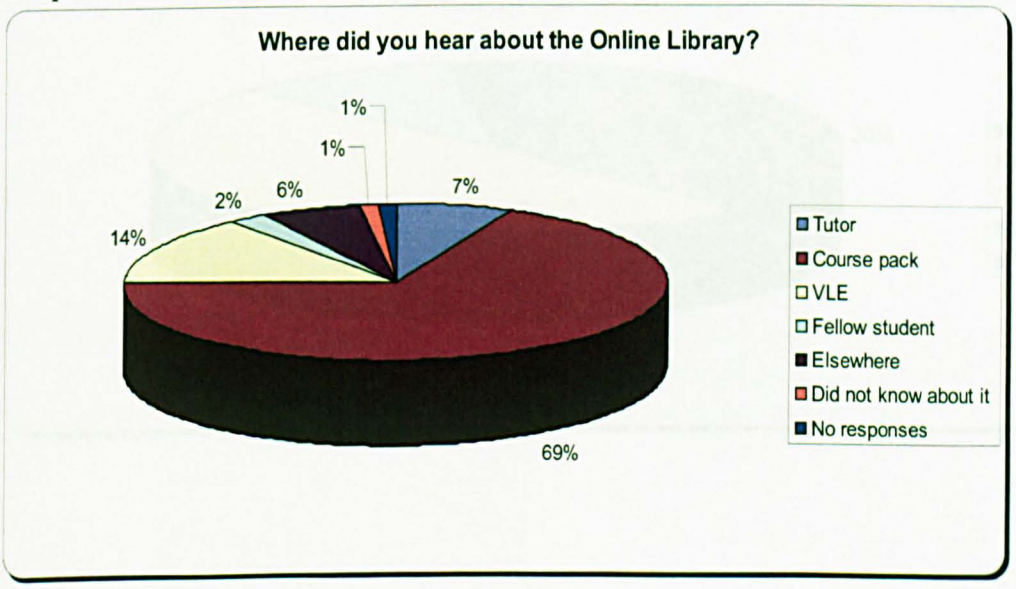
Graph 4.10: Mode of Study of Respondents



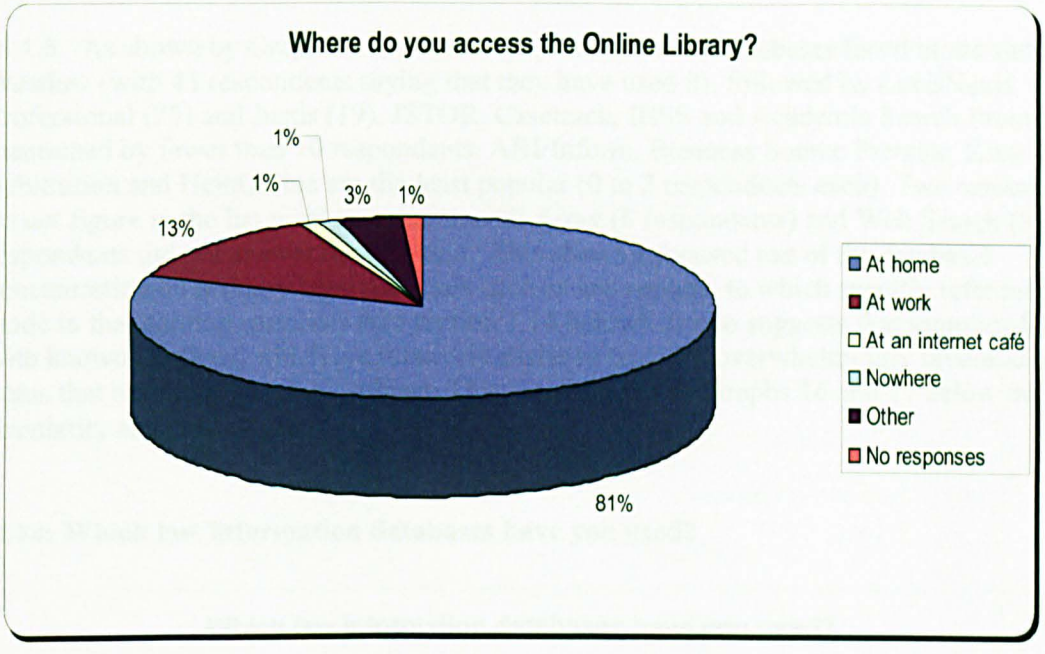
Use of the Online Library

As indicated in Graphs 4.11 to 4.13, most respondents (83%) have heard of the Online Library from the course pack (69%) or the VLE (14%), which is a high percentage displaying knowledge of the existence of the OLL. Most respondents access the OLL from home (81%) and most respondents use it at least once a month (90%). This is a high proportion given the geographical spread of student locations. 13% of respondents access the OLL from work and, of the 90% who use it at least once a month, 50% do so once a week and 10% once a day. 8% of respondents said that they never use it. If representative, this indicates that a large number of students, albeit a small percentage of the total number, are not accessing materials necessary to complete their degrees.

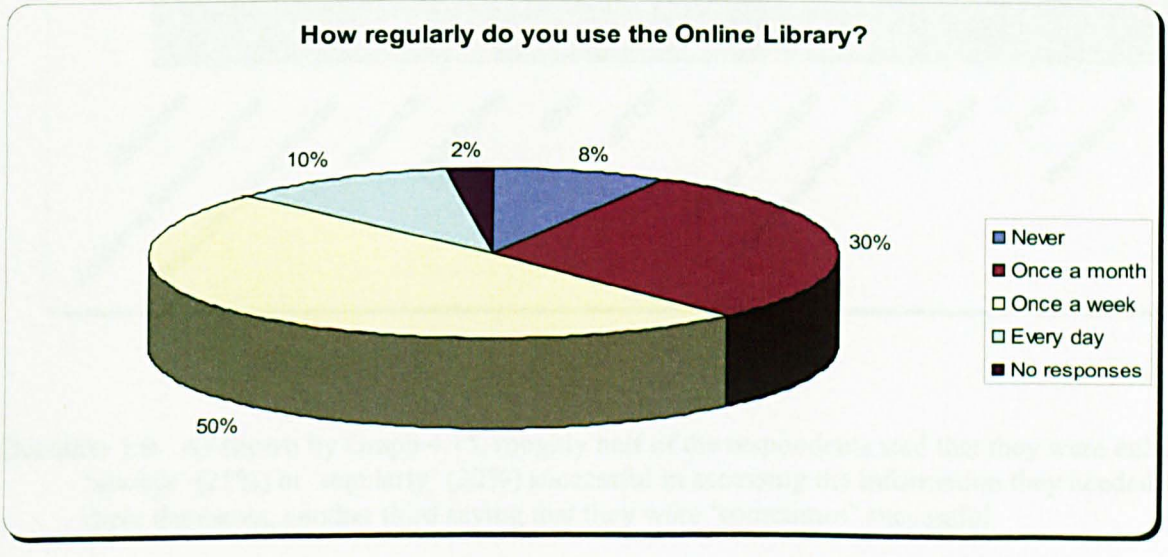
Graph 4.11: Where did you hear about the Online Library?



Graph 4.12: Where do you access the Online Library?



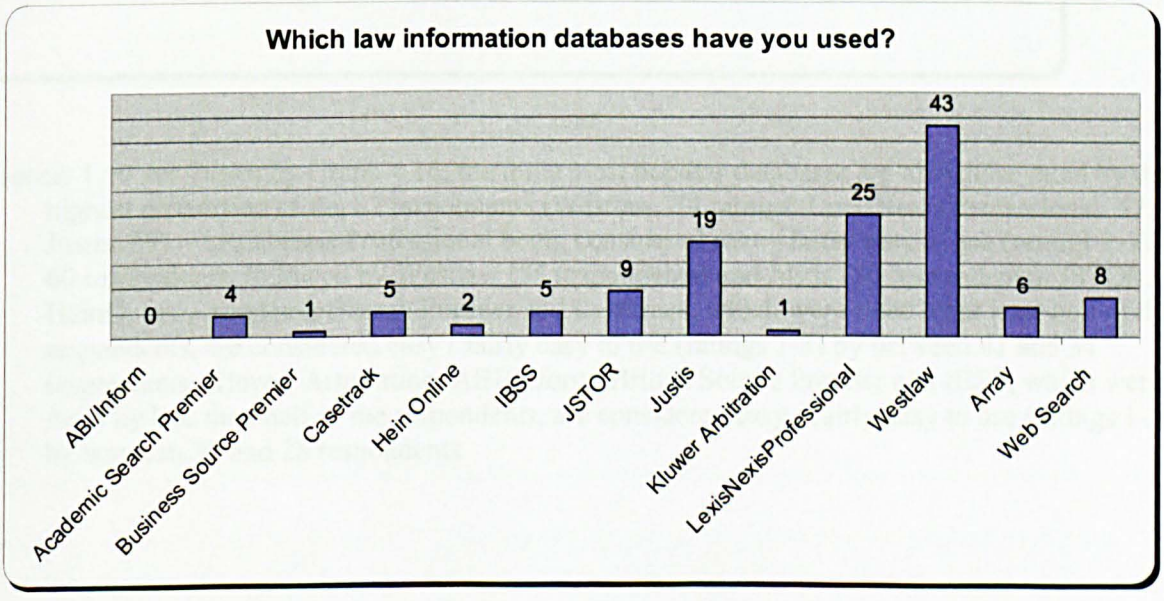
Graph 4.13: How regularly do you use the Online Library?



Use of the Law Gateway

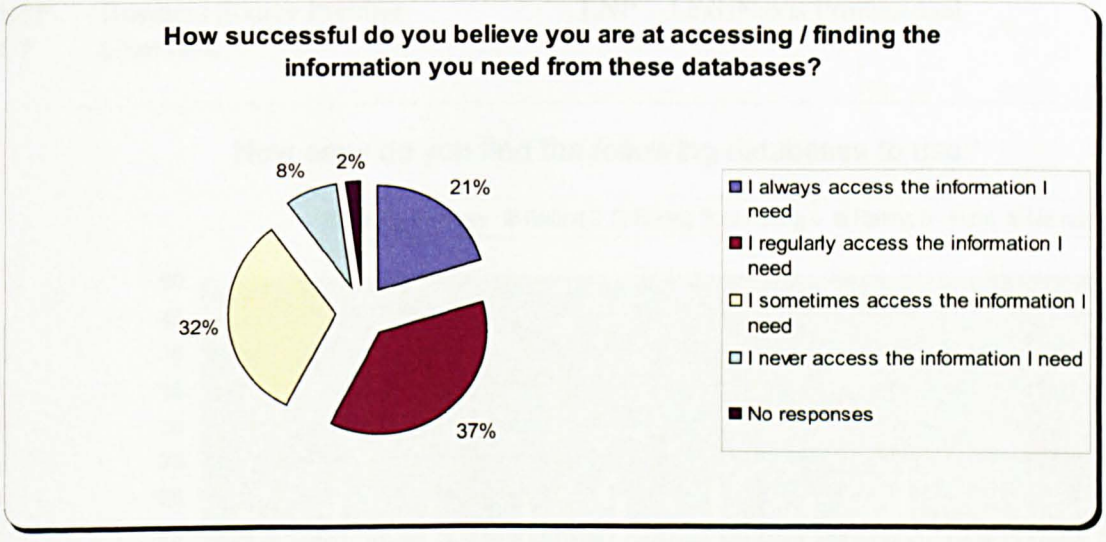
Question 1.8 As shown by Graph 4.14, the most popular of the 11 databases listed in the survey is Westlaw (with 43 respondents saying that they have used it), followed by LexisNexis Professional (25) and Justis (19). JSTOR, Casetrack, IBSS and Academic Search Premier were mentioned by fewer than 10 respondents. ABI/Inform, Business Source Premier, Kluwer Arbitration and HeinOnline are the least popular (0 to 2 respondents each). Two resources that do not figure in the list were also mentioned: Array (6 respondents) and Web Search (8). Six respondents did not answer the question. This shows a focused use of the databases concentrating on primary legal materials such as law reports, to which specific references are made in the learning materials (see section 1.14 below). It also suggests that searches for items with known citations, which are relatively easier to find, are overwhelmingly favoured over items that require a search by subject. This is reinforced by Graphs 16 and 17 below on popularity and ease of use.

Graph 4.14: Which law information databases have you used?



Question 1.9 As shown by Graph 4.15, roughly half of the respondents said that they were either 'always' (21%) or 'regularly' (32%) successful in accessing the information they needed from these databases, another third saying that they were 'sometimes' successful.

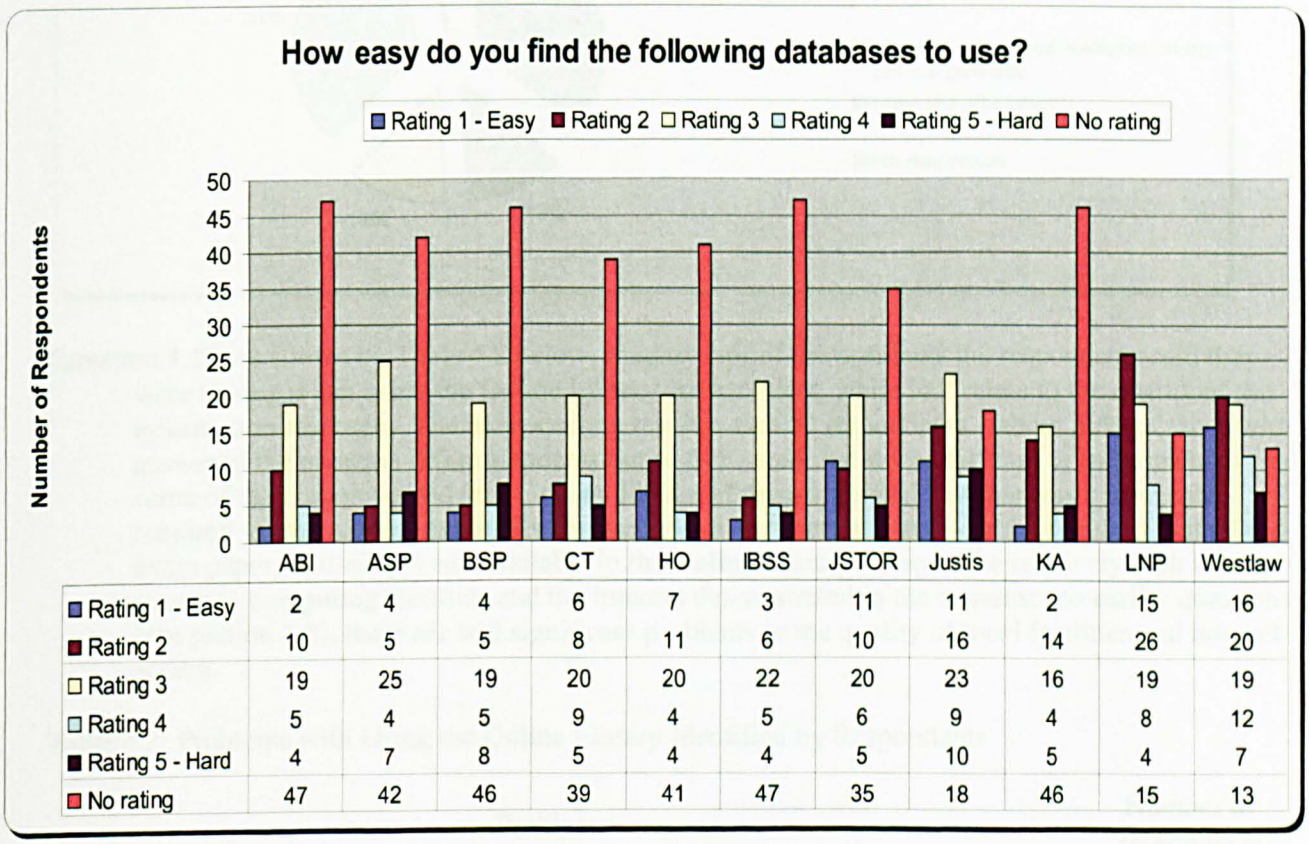
Graph 4.15: How successful do you believe you are at accessing / finding the information you need from these databases?



Question 1.10 As shown by Graph 4.16, the three most popular databases are also those rated by the highest proportion of the 87 respondents (Westlaw: 74 ratings; LexisNexis Professional: 72; Justis: 69) – LexisNexis Professional being considered easy / fairly easy to use (ratings 1-3) by 60 respondents, followed by Westlaw (55 respondents) and Justis (50 respondents). JSTOR, HeinOnline, Academic Search Premier and Casetrack, which were rated by at least half of the respondents, are considered easy / fairly easy to use (ratings 1-3) by between 41 and 34 respondents. Kluwer Arbitration, ABI/Inform, British Source Premier and IBSS, which were rated by less than half of the respondents, are considered easy / fairly easy to use (ratings 1-3) by between 32 and 28 respondents

Graph 4.16: How easy do you find the following databases to use?

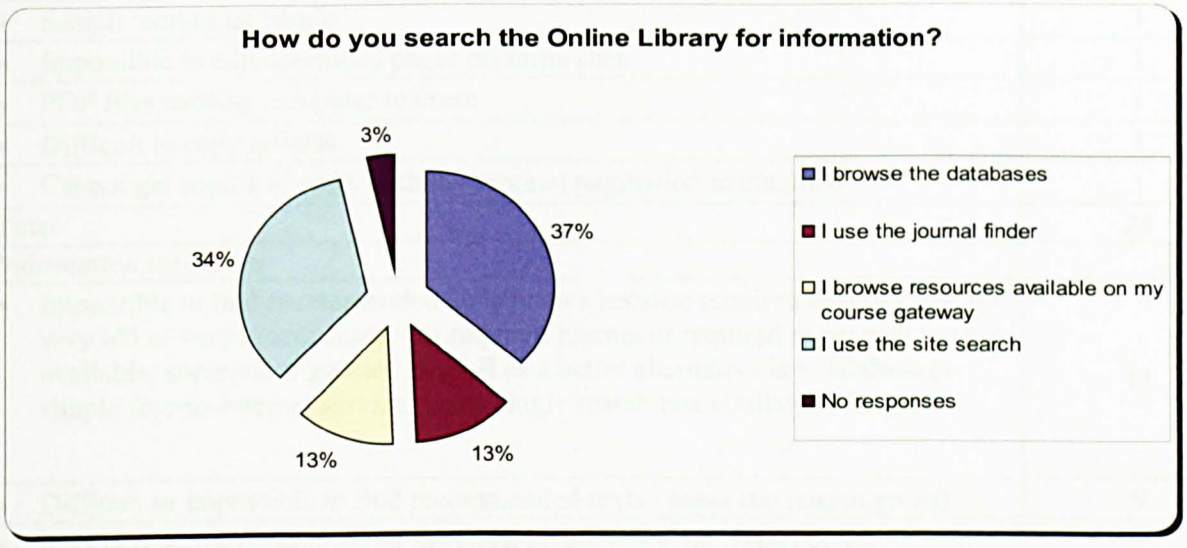
ABI	ABI/Inform	HO	HeinOnline
ASP	Academic Search Premier	KA	Kluwer Arbitration
BSP	Business Source Premier	LNP	LexisNexis Professional
CT	Casetrack		



	ABI	ASP	BSP	CT	HO	IBSS	JSTOR	Justis	KA	LNP	Westlaw
Rating 1 - Easy	2	4	4	6	7	3	11	11	2	15	16
Rating 2	10	5	5	8	11	6	10	16	14	26	20
Rating 3	19	25	19	20	20	22	20	23	16	19	19
Rating 4	5	4	5	9	4	5	6	9	4	8	12
Rating 5 - Hard	4	7	8	5	4	4	5	10	5	4	7
No rating	47	42	46	39	41	47	35	18	46	15	13

Question 1.11 As shown by Graph 4.17, the most commonly used search methods are Database browsing (by 37% of the respondents) and the Site Search (34% of respondents). The Journal Finder and Course Gateway are the least popular (13% of respondents each).

Graph 4.17: How do you search the Online Library for information?



Question 1.12 As shown by Table 4.2 below, roughly half of the problems the respondents said they were having when using the Online Library are technical, while half relate to the quality of the information resources. The most striking result is that 20 respondents – about 30% of those who answered the question (20 respondents out of 61) – said that it was difficult or impossible to find some of the recommended texts / cases. Eleven of them specified that this was because the required journal issue – especially for very old or very recent cases – or the required journal (or exam paper) was simply not available in the Online Library. Despite the relatively high level of access to computing facilities and the Internet demonstrated in the responses to earlier questions (see section 1.8), there are still significant problems in the quality of local facilities and internet access.

Table 4.2: Problems with Using the Online Library Identified by Respondents

Problems	Number of respondents
Technical	
• Insufficiently user-friendly interfaces and navigation: e.g. cumbersome confirmations, modified access, complicated usage of keys (parenthesis, +, / etc.); difficult to browse journal articles issue by issue; Journal Finder difficult to use; too many links; difficult to find cases with long titles;	4
• Not always possible to access Justis (2) or LexisNexis (1)	3
• Slow connection	3
• Sessions time out too quickly	3
• Difficult to get access	2
• Password problems	2
• No direct log-in to access the databases (need to log in to VLE first)	1

• Browser requirements not stated: some databases cannot be accessed	1
• Search 'comes up blank'	1
• Impossible to edit download pages on some sites	1
• PDF files causing computer to crash	1
• Difficult to copy articles	1
• Cannot get copies of cases with the original pagination maintained	1
Total	24
Information resources	
• Impossible to find recommended texts / cases because required issue – often for very old or very recent cases – or required journal or required exam paper is not available; someone suggested BAILII as a better alternative law database (a simple free-to-Internet service with a single search box similar to Google)	11
• Difficult or impossible to find recommended texts / cases (no reason given)	9
• Insufficient information about the exact location (i.e. database) of the article/text/case, thus difficult to decide which resource to use	3
• Inaccurate citations for cases to be searched	1
• Very difficult to access non-UK cases (e.g. Australian and US)	1
Total	25
Others	
• Forgetting password or student access code	4
• Case decisions too detailed	2
• Too time-consuming	1
• Daunting (too many sites and passwords)	1
• Incorrect or inconsistent spellings or abbreviations	1
Total	9

Question 1.13 As shown by Table 4.3, accessing case law is the reason for using the Online Library given by the highest number of respondents – a third of them. 'To supplement my study' comes second with 13 mentions. This supports the conclusions in section 1.9 above that the OLL is primarily used at present to access specific known items of primary legal materials rather than to explore and discover secondary materials. The responses citing the first two reasons are likely to refer to the same process and may be combined.

Table 4.3: Reasons Given by Respondents for Using these Online Resources

Reasons	Number of respondents
• To read case law (only way to access case law: 3)	29
• To supplement my study	13
• To access journal articles	9
• Ease of access	8
• To help with exams	7
• To keep up to date with the latest developments	5
• Most useful, effective, essential resources	3
• To find information referred to in subject guides	3
• To improve critical thinking	2
• To access statutes	1
• To access materials on international law and jurisprudence	1
• To research / study in depth	1
• 'Need the Internet to conform to the dictate of the new technology'	1
Total	83

Use of the Online Library Help

Question 1.14 Although well over a third of respondents encountered information resources problems (see Graph 4.15 above), as shown by Graph 4.18, 43% of the respondents did not answer the question about whether or not they have used any of the help facilities available in the Online Library. On the basis of the responses received, the most commonly used help facilities are the email / telephone Helpdesk (20% of respondents) and the Database guides (18%). Only 2% said that they have used the Information Skills section. Although take-up is low, the quality and effectiveness of the help facilities is high once they are accessed, and the Helpdesk is clearly a crucial element. Table 4.4 indicates that the highest number of ratings for these help facilities relate to the Helpdesk (16 ratings) – which is considered either very good (12) or good (14) – and the Database guides (15 ratings) – for which nearly half of the ratings (7) are either not good (3) or not at all good (4). It seems clear that respondents are generally looking for a single direct answer to a pressing question related to accessing a particular item and not for a general enhancement of their information skills, which may confer a longer-term benefit.

Graph 4.18: Have you used any of these help facilities on the Online Library?

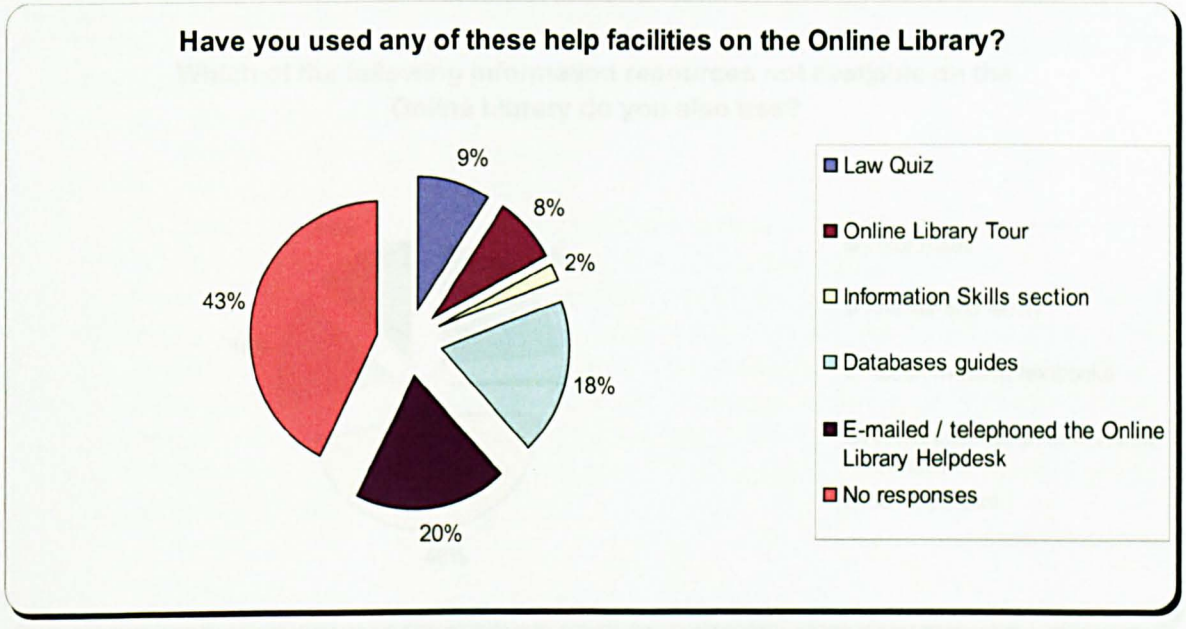


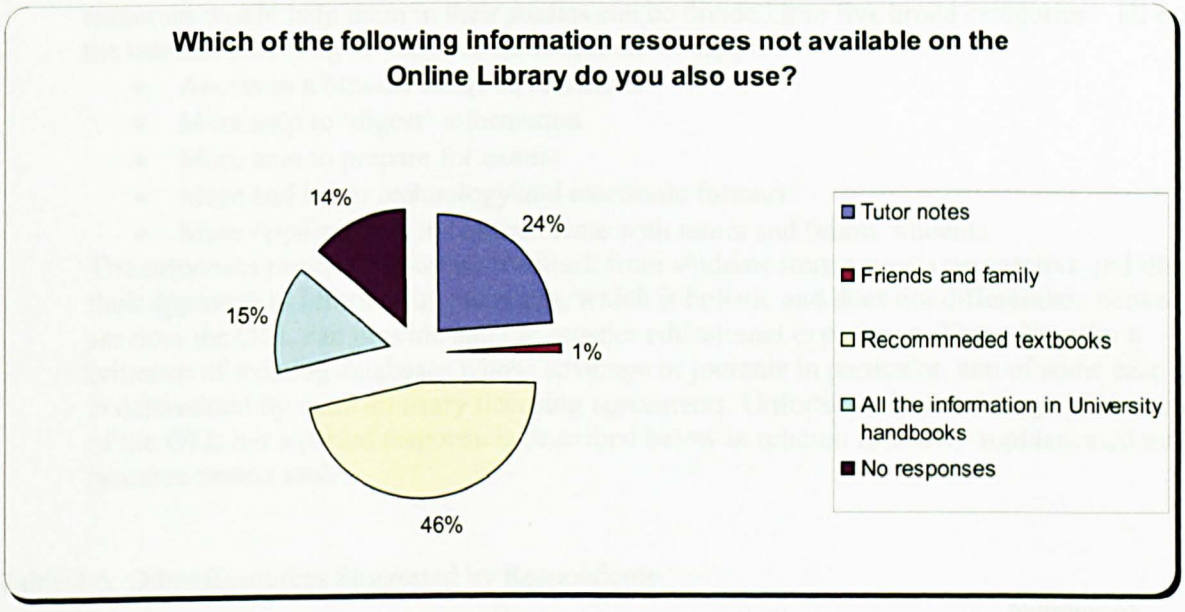
Table 4.4: Respondents' Ratings of the Help Facilities on the Online Library

	Very good	Good	Quite good	Not good	Not at all good	Total
Database guides	3	2	3	3	4	15
Law Quiz	1		6	1		8
Library Tour			3	2		5
Information Skills	1		1			2
Helpdesk	12	4				16

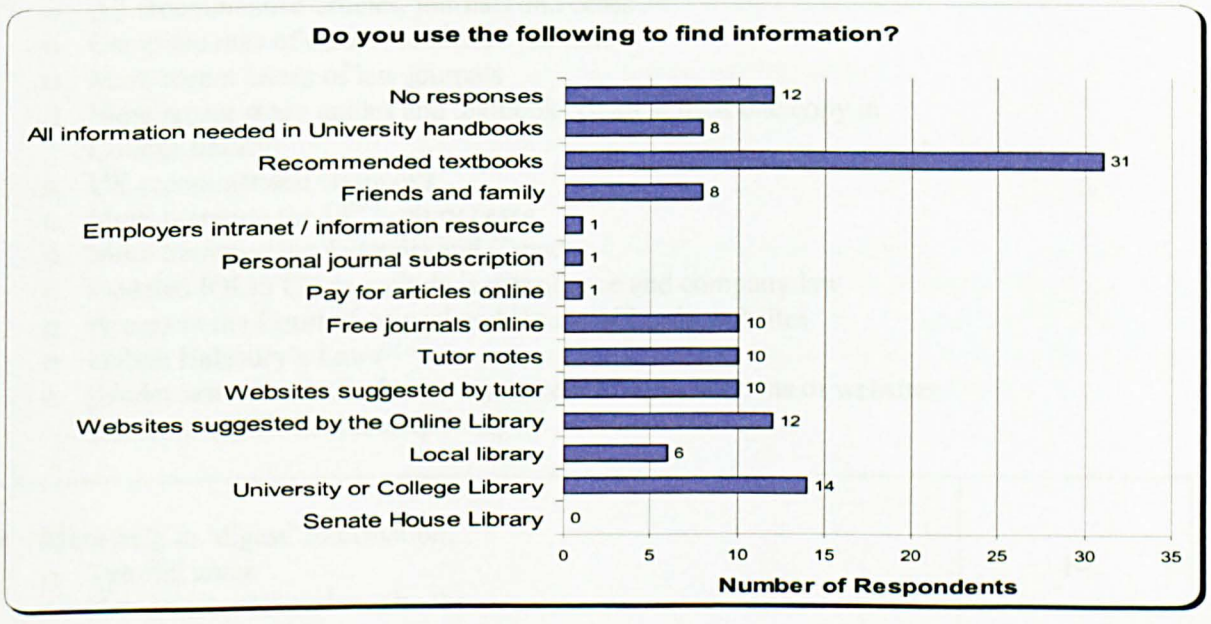
Use of Other Information Resources

Question 1.15 As shown by Graph 4.19, 71% of the respondents said that they also use information resources that are not available on the Online Library – mostly recommended textbooks (46%) and tutor notes (24%). 15% of the respondents said that they did not use any other information sources because all the information they need is in the handbooks they receive from the University. The additional information summarised in Graph 4.20 confirms the importance of recommended textbooks for a significant number of respondents. Fourteen respondents said that they also use their University / College Library, twelve the websites suggested by the Online Library and ten the websites suggested by tutors, tutor notes and free online journals. All the other suggested sources were selected by fewer than ten respondents. It is to be expected that the recommended textbooks are most frequently used since they form the pathfinder through a new legal subject and are comprehensive in their coverage.

Graph 4.19: Which of the following information resources not available on the Online Library do you also use?



Graph 4.20: Do you use any of the following to find information?



Suggestions for Improvements to Service

Question 1.16 As shown by Table 4.5, the suggestions made by the respondents as to which additional resources would help them in their studies can be divided into five broad categories – all except the last one attracting broadly the same amount of support:

- Access to a broader range of resources
- More help to 'digest' information
- More help to prepare for exams
- More and better technology and electronic formats
- More opportunities to communicate with tutors and fellow students.

The responses provide important feedback from students from a user's perspective and illustrate their approach to information resources, which is holistic and does not differentiate between services the OLL can provide and the broader educational experience. They also offer a criticism of existing databases whose coverage of journals in particular, and of some case law, is determined by quite arbitrary licensing agreements. Unfortunately, this is beyond the control of the OLL but a partial response is described below in relation to a more sophisticated multi-resource search tool.

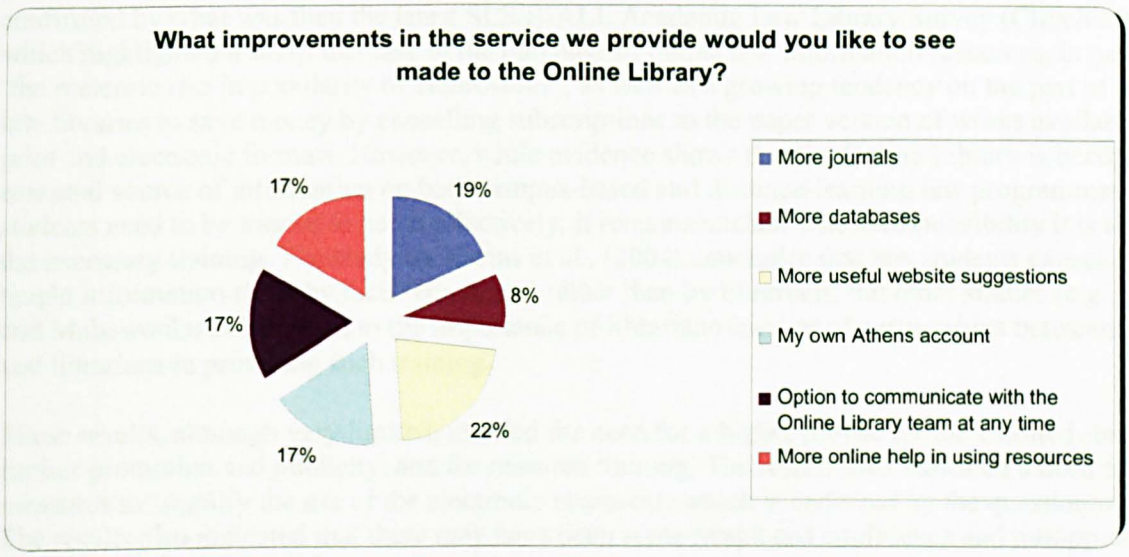
Table 4.5: Other Resources Suggested by Respondents

Resources	Number of Respondents
• Access to a broader range of resources: o All recommended articles, journals and cases o Complete runs of certain academic journals o More recent issues of law journals o More recent study guides and textbooks (with at least one copy in College library) o UK recommended textbooks o More literature for 19th century cases o More literature for Australia and Canada o Updated IOLIS CD to include jurisprudence and company law o Access to the Court of Appeal and House of Lords websites o Online Halsbury's Laws o [Under last question in the survey: access to some sections of websites that need individual subscriptions]	14
• More help to 'digest' information: o Tutorial notes o Case summaries and casebooks o Succinct information on certain topics o Tips to help digesting a lot of legal material in the shortest possible	14

time o [Under last question in the survey: subject study notes in the form of Cavendish notes and tagging of most important cases]	
• More and better technology and electronic formats: o Lecture podcasts o Audio lecture live interactive o More CDs o Online access to textbooks, study guides in PDF, large standard works in e-book format and tutor notes o One single point of access for all cases, journals, legislation etc. o A main search engine for all the relevant databases	13
• More help to prepare for exams: o Assessment assignments structured like final examinations with personalised feedback from tutors o Written answers to past questions (from or approved by tutors) o Examples of successful essays o More past papers o [Under last question in the survey: news from abroad]	12
• More opportunities to communicate with tutors and fellow students: o More contact with tutors (including those at UoL) o Some classes o Access to an 'online tutor' for guidance o Weekend course in the Caribbean (for Caribbean students who cannot afford the trip to London) o Some mechanism to ask questions / discuss topics (perhaps a public message board?) o [Under last question in the survey: a forum for students]	7

Question 1.17 As shown by Graph 4.21, none of the six possible improvements to the service suggested in the survey is supported by at least a quarter of the respondents. The highest figure (22%) is for 'more useful website suggestions', followed by 'more journals (19%). 'My own Athens Account', 'the option to communicate with the Online Library team at any time' and 'more online help in using resources' are supported by 17% of the respondents. 'More databases' is the least popular suggestion (8%).

Graph 4.21: What improvements in the service we provide would you like to see made to the Online Library?



4.4 Conclusions

4.4.1 Conclusions – Observational and Interview Studies

The results, albeit limited, indicated a lack of expertise in basic navigation and searching, an inefficient approach to the use of electronic resources, and a lack of awareness of the facilities and possibilities of the resources or even of their importance. The mistaken identification by students of the Online Library as the Virtual Learning Environment was telling and informative about the information-seeking behaviour of the students. The interviews suggested that law students sometimes work in groups, both for mutual support in understanding their tasks but also to share the use of expensive textbooks.

The findings can be illustrated by, for example, quotations from the interviews.

About working in groups: "*I use books. Basically what I normally do is work in a group. I work in a group of four. We are doing four subjects so each person in the group will actually purchase a set of texts for that subject;* and *It's easier to get information from friends than from the library.* About the Online Library: *I have heard of the Online Library but to be honest I thought that to be able to use it you had to be a member of the Senate house library and you had to pay a membership fee.* About basic navigation: *I would go to the address icon or whatever you call it and type in www.University of London. Sometimes I add .ac.uk and sometimes I don't. But most of the time it does not show up, so I spend 2 or 3 minutes trying to find it and eventually I just go to Google.*

Once at the Online Library: *I go to Lexis. Initially I did not know how to open Lexis, I clicked all over the place. A friend of mine told me to click 'professional' and I asked her how she knew and she said she had come to the University of London and they took her though this course. And I said 'well what*

happens to someone like me? If you don't get the opportunity to go there, you spend the whole day clicking?"

The increasingly converging needs of both distance-learning and campus-based students were confirmed by what was then the latest SLS/BIALL Academic Law Library Survey (Clinch 2007), which highlighted a sharp increase in the purchase of online law information resources, in particular 'the meteoric rise in popularity of HeinOnline', as well as a growing tendency on the part of academic law libraries to save money by cancelling subscriptions to the paper version of works available in both print and electronic formats. However, while evidence shows that the Online Library is becoming an essential source of information on both campus-based and distance-learning law programmes and that students need to be trained to use it effectively, it remains unclear whose responsibility it is to provide the necessary training. The study by Kerins et al., (2004) concludes that law students expect to be taught information skills by their 'educators' rather than by librarians, but other studies (e.g. Haruna and Mabawonku 2001) point to the importance of librarians and / or of partnerships between academics and librarians in providing such training.

These results, although very limited, implied the need for a higher profile for the Online Library, for further promotion and publicity, and for research training. The results also indicated a need for measures to simplify the use of the electronic resources, which is endorsed by the questionnaire study. The results also indicated that there may have been some misplaced confidence and misapprehensions which needed to be taken into account in the questionnaire survey.

4.4.2 Conclusions – Questionnaire Study

The detailed conclusions drawn from the questionnaire responses appear below. The potential for cross-tabulation of the data was sufficiently established by the questionnaire study because the survey collected enough data about elements of information-seeking behaviour and identified enough factors demonstrating the individual circumstances and characteristics of each respondent. The process of cross-tabulation was reserved for the main study, which employed a modified questionnaire and encompassed a broader range of respondents.

Almost all respondents (98%) had heard of the OLL, mainly (83%) from the Course Pack and the VLE. This is a high percentage in relation to knowledge of the existence of the OLL and tends to suggest that the communications strategy in that regard is at least adequate. This is of course a vital first stage in making the Online Library available, and a lower result for this question would have thrown the whole communication strategy for the programme into question. Most respondents (81%) access it from home – 90% at least once a month, 50% once a week and 10% once a day. This is a high proportion given the geographical spread of student locations and indicates that the requirements that students should have easy access to computing facilities and the Internet are generally met. 13% of respondents access the OLL from work and, of the 90% who use it at least once a month, 50% do so once a week and 10% once a day. 8% of respondents said that they never use it. If representative, these figures indicate that a large number of students, albeit a small percentage of the total number, are not accessing materials necessary to complete their degree.

The most popular databases listed in the survey are Westlaw (used by 49% of respondents and generally the database of choice in academic research of primary legal materials), LexisNexis

Professional (29%), and Justis (used by 22%). Accessing case law was the reason for using the OLL given by the highest number of respondents – a third of them. Case law, with legislation, is one of the primary sources of law that need to be cited in course work and examinations. Generally, at undergraduate level case law is retrieved by known citation rather than by matching of subject matter. It should be relatively easy to find using basic search techniques. This sheds light on later responses regarding search success.

The distribution in the popularity and use of individual databases shows a focused use of the databases, concentrating on primary legal materials such as law reports, to which specific reference is made in the learning materials (see section 1.14). It also suggests that secondary sources of commentary and critique may be relatively neglected. This offers some insight into the nature of the student approach to study and possibly the nature of the teaching strategy. It also suggests that searches for items with known citations, which are relatively easier to find, are overwhelmingly favoured over items that require a search by subject. This is reinforced by Graphs 4.16 and 4.17 on popularity and ease of use.

A high proportion of respondents (71%) said that they also use information resources that are not available on the OLL – not surprisingly these are mostly recommended textbooks (46%) and tutor notes (24%), which form the mainstay of their studies. On this evidence, a large proportion of students use the Online Library more rarely than one might expect given the range of reading required. It seems unlikely that there is a lack of need and more likely that a significant proportion of students encounter or perceive barriers to their use of the Online Library. It is in more recently-developed syllabuses that require a more critical approach, often involving socio-legal concepts, that wider reading is required. However, the fact that the recommended textbooks are the most frequently used sources of information is to be expected since they form an authoritative guide through a new legal subject and are comprehensive in their coverage.

The most commonly used search methods are Database browsing (37% of the respondents) and the Site Search (34%) – the Journal Finder and Course Gateway being the least popular (13% for each). High numbers use browsing techniques, which are inefficient, rather than the search functions. The lack of use of the course gateway suggests that the presentation of the academic programme and syllabus etc. is not sufficiently integrated with the presentation of the required materials in the Online Library.

Roughly half of the respondents said they were either 'always' or 'regularly' successful in accessing the information they need, a third 'sometimes' successful and 8% 'never' successful. Although it was gratifying to learn that the Online Library is meeting the needs of about half of the students rather well, the results nevertheless seem likely to represent a very large failure rate overall.

Roughly half of the problems the respondents said they encountered (see Table 4.2 in section 1.13) relate to the quality and range of the information resources. Roughly a quarter of the respondents said that it was difficult or impossible to find some of the recommended texts, especially those relating to very old (e.g. 19th century) or very recent cases, or information on the most recent developments in law. In part, this highlights a difficulty with law since extremely recent information can be of fundamental importance while much older information can remain highly relevant. It can take time to integrate recent information into databases and more time to attract commentaries, but it also requires the provision of alerting tools, which can be expensive. Nevertheless, it does suggest that some free but authoritative internet services might be promoted. It seems rather less likely that material

recommended at undergraduate level is not available in the major legal databases. Although this prompts a thorough review of recommended coverage of material, it is likely that these materials with their more obscure citations are simply not found. This again highlights the problems with searching.

In relation to information resources delivered by the OLL, the findings also offer a criticism of existing databases whose coverage of journals in particular, and of some case law, is determined by quite arbitrary licensing agreements. These might, for example, cover only the most recent years of a long-running title or add and withdraw resources according to the market environment. Similar titles might appear in one database but not in another depending on the corporate copyright owner. Each database offers a fragmentary rather than complete coverage, and the reasons for the inclusion of material in one rather than another is opaque to the user. Unfortunately, this is beyond the control of the OLL but a partial response is described below in relation to a more sophisticated multi-resource search tool.

The other half of the problems the respondents said they encountered relate not to the information resources made available within the Online Library but, in general, to fundamental information literacy issues. This is confirmed by the observation study, which highlighted several issues. Students tend to access the OLL via the External Programme website rather than directly, and there is an inadequate perception of the different environments and their functions and even a difficulty in locating the Online Library. Respondents are insufficiently familiar with the OLL Library and its workings including failure to remember Athens passwords; students who use the Online Library infrequently are more likely to encounter initial access problems. There are clear information literacy issues with respondents who do not understand the function and use of databases. Legal databases are designed primarily for legal professionals and incorporate sophisticated search and presentation techniques which present an initial hurdle to accessibility not present in ordinary internet search engines to which they may resort in preference. Respondents, in common with many full-time law students, are reluctant to use full case reports, looking instead for summaries on Google, whose reliability is questionable and difficult to evaluate. Finally, there is a practical problem, which can be more easily addressed, originating with the law gateway: the databases list facility on the law gateway is not reliable.

Although over a third of respondents encountered information resources problems (see Graph 4.15 above), as shown by Graph 4.18, 43% of the respondents did not answer the question about whether or not they have used any of the help facilities available in the Online Library. On the basis of the responses received, the most commonly used help facilities are the email / telephone Helpdesk (20% of respondents) and the Database guides (18%). Only 2% said that they have used the Information Skills section. Although take-up is low, the quality and effectiveness of the help facilities is high once they are accessed, and the Helpdesk is clearly a crucial element. Table 3 indicates that the highest number of ratings for these help facilities relate to the Helpdesk (16 ratings) – which is considered either very good (12) or good (14) – and the Database guides (15 ratings) – for which nearly half of the ratings (7) are either not good (3) or not at all good (4). These responses again highlight the students' need for help in using the databases. There is a considerable barrier to the use of database guides in the same way as the ordinary consumer encounters barriers in the use of instruction manuals, and yet a surprisingly large number of respondents made use of them, indicating problems with immediate use of the databases. The clearly favoured solution is professional advice by librarians, indicated by the use of the Helpdesk and the positive rating for it. This in itself is a clear endorsement of the strategy of offering the service.

It seems clear that respondents are generally looking for single direct answers to pressing questions related to accessing particular items and not for a general enhancement of their information skills, which may confer a longer-term benefit. This short-term goal-driven approach is unsurprising and typical of most students and, generally, much of human behaviour.

The worrying result from this set of questions is the 43% who did not respond. This may indicate a lack of need for assistance but it may indicate that the respondents gave up without seeking help. This suggests the need for a cross-correlation in the main study. It is also possible that the respondents to the survey are self-selected and that those with great information literacy challenges are less likely to respond.

The responses in section 1.17, Table 4.5, usefully demonstrate a student-centred approach to information resources which is holistic and does not differentiate between services the OLL can provide and the broader educational experience of the programmes.

None of the six possible improvements to the Online Library service suggested in the survey is supported by at least a quarter of the respondents. The highest figure (22%) is for 'more useful website suggestions', followed by 'more journals (19%). 'My own Athens Account', 'the option to communicate with the OLL team at any time' and 'more online help in using resources' are supported by 17% of the respondents. 'More databases' is the least popular suggestion (8%).

It is clear from these responses that a large majority feels that there is sufficient information available, although journals are less well represented (a known issue with legal databases in terms of both titles and length of date coverage). It is equally clear that these results and the earlier ones indicate that many of the respondents struggle to find even specific material and require help, although they opt for different preferences in the method of help.

4.5 Practical Improvements Derived from the Findings

Several of the conclusions above could be acted on immediately without further endorsement by the later Main Study. The Pilot Study in itself provided considerable value not only in laying the groundwork and testing methodology for the Main Study but also in driving forward developmental work and a successful application of the findings even at an early stage in the research.

The difficulties of retrieval and in choosing the relevant database demonstrated above were addressed by a major strategic development of the Online Library. The Summon search engine was procured and installed. Summon is a meta-search engine that retrieves and combines results from a range of databases and provides a direct link to the full text of the sought item. This gives the user a much simpler search environment without the need to select a particular database and enter one of the various proprietary search environments of the individual databases with their incomplete proprietary content. It also keeps the user within the selected authoritative resources. The search engine operates at its best for journal material which is scattered among databases according to their copyright ownership, with little aggregation. This move to simplify searching and access placed the obligation on the service supplier. This has given a higher priority to the route of introducing more information literacy training, which is difficult to deliver in a distance learning context. The move was supplemented by the purchase

of a large-scale legal journal database that had recently become available on the market.

A concomitant development was the move to a new separate and upgraded server which provided the platform for the Summon software but also offered additional speed and controllability of the Online Library environment.

The results above indicated that there was confusion about the roles of the Online Library and the online facilities of the external system in general. In part, this was a problem of website design and was alleviated by increasing the visibility of the Online Library and the links to it on the external system website. Attacking the problem from a different direction, a different website design strategy was adopted by the external system, which led to an integration of the portal for distance learners, effectively making the underlying different architectures transparent to the user.

It is unfortunate that some of the proprietary legal databases do not allow direct addressing of individual items; otherwise, a further integration of academic materials and the Online Library could be achieved.

4.6 Implications for Design of the Main Study

The pilot study provided invaluable preparatory work for framing and informing the main study, as detailed further in Chapter Three on methodology. The pilot study was valuable and important because it included an initial literature review which highlighted gaps in current research and established the need for original research in this particular area.

The conduct of the observational study during the pilot study had a direct impact on the design of the main study because, although valuable as a limited adjunct, it was not a viable option for a larger-scale study. It was, by its nature, limited to the UK while the main study was deliberately intended to address the worldwide diversity of the distance learning community under investigation. It was also extremely time-consuming and could not sensibly be replicated on a wider scale.

The pilot study informed the development of the methodology, utilising an online questionnaire, for the subsequent main study. The pilot study tested various methodologies, including a full and elaborate observational study and two approaches to administering a questionnaire study - online and postal. It was discovered that the response rates were likely to be low, and this emphasised the need for a wider-scale study involving programmes other than Law. Chapter Three explains the particular changes arising from the pilot study that were implemented on the design of the questionnaire for the main study. It was established that the limitations of the observational study, as noted above, were the fact that it was limited to the UK and was hugely time-consuming, rendering it unviable on a larger scale.

In addition to providing practical experience of gathering the research data and informing the methodology for the subsequent study, the initial work in the pilot study included a study of existing models. The pilot study revealed that the existing models excluded crucial contextual factors relevant to distance learning as highlighted in part 2 of the study above. This led to my decision to adapt Wilson's model, introducing elements of context to utilise for the further study.

Chapter 5: Findings of the Main Study

The analysis of the data for each survey question in Chapter Five includes cross-tabulation against other significant survey data which directly relate to the respondents' personal context. It is these data that inform the evaluation of the initial hypotheses in Chapter One. The data include gender, age, level of programme, English language proficiency, programme of study, mode of study and geographical location / country of residence. Cross-tabulation was used to establish the relationships between the data elements or variables.

Measures were taken, as described in detail in Chapter Three on methodology (section 3.14) to ensure that the sample derived was more representative of the overall student body under study than in the Pilot Study. The size of the sample was doubled to 1000 and coverage was extended to all programmes and all levels of programme, and to a wider range of countries. This allowed analysis by a broad range of factors and examination of the effects of a diversity of local conditions.

The response rate for the Main Study was 65% (649 responses from a sample of 1,000). The measures taken to improve the Pilot Study response rates of 10% (postal questionnaire) and 17% (email questionnaire) are detailed in Chapter Three on methodology (section 3.14).

Chi-square tests were employed, as described in Chapter Three (section 3.14), with an example in Appendix 7, to establish whether the relationships identified in the cross-tabulation were significant and, therefore, whether the results might be generalised and used to make an inference about the target population rather than merely for the sample.

5.1 Number of Respondents

Table 5.1.1 Number of respondents in each programme area and percentage of total group of respondents together with the number and percentage in the sample.

Programme of study	Number of respondents	Percentage of total respondents	Number in sample	percentage of total sample
LLB	294	45.3%	320	32%
EMFSS	255	39.3%	320	32%
LLM	35	5.4%	80	8%
International Management	21	3.2%	80	8%
CEFIMS	18	2.8%	112	11.2%
CEDEP	16	2.5%	80	8%
MRES	8	1.2%	8	0.8%
Other	2	0.3%	0	0%
Total number respondents	649	100%	1000	100%

(Number of respondents for whom the programme was unclear was 2)

All respondents were registered with the University of London's International Programmes.

These figures demonstrate that the two largest programmes at the University of London International Programmes are the undergraduate law programme, the LLB, and the undergraduate economics, management, finance and social science degree. These are well represented in the responses to the survey, with the LLB programme generating over 45% and the EMFSS programme nearly 40% of the responses. The response rates are in proportion to the overall size of the various programmes and are broadly representative of the sample with the smaller programmes except for the MRES, which is rather less well represented than the two largest programmes.

Table 5.1.2: Gender of respondents

Gender	Frequency	Percentage (%)
Female	341	52.5
Male	307	47.3
No response	1	0.2
Total	649	100%

These figures demonstrate that the overall percentage of female respondents is slightly higher (52.5%) but the gender distribution is fairly balanced, with female respondents making up over half of the students for almost all programmes except CEDEP and LLM. This balance indicates that the flexibility of distance learning has enabled more women who were traditionally unable to participate in higher education because of family commitments to do so. It also demonstrates that more women than men use the Online Library, which is corroborated by the findings of question 12, in which 52.9% females compared to 47% males use the Online Library, and the findings of question 26 in which 54.5% females compared to 45.5% males requested training.

One could compare this with first-degree graduates at UK universities of whom 57% were women in 2011/12, and in general in 2010-11 women represented 55% of the full-time undergraduate students enrolled at UK universities (http://www.theguardian.com/education/datablog/2013/jan/29/how-many-men-and-women-are-studying-at-my-university accessed on 21 July 2013) The sample is less weighted towards women than in the UK but still represents what Bahram Bekhradnia, Director of the Higher Education Policy Institute, calls "an international phenomenon, it's not restricted to the UK." The general University of London student population gender distribution as noted in the QAA 2011 Institutional Audit report as 51% male and 49% female.

5.2 Age Distribution

Table 5.2: Age Distribution

Age	Frequency	Overall Percentage
under 25	213	32.8
26-35	246	37.9
36-45	125	19.3
46-55	42	6.5
56+	21	3.2
No response	2	0.3
Total	649	100%

The age distribution among respondents is dominated by those aged over 25, who account for 67%. Over half of these (57%) were between the ages of 26 and 45. These figures suggest that the majority of students are older than the traditional UKHE undergraduate entry and are therefore likely to have family, work or other social commitments which restrict the time available to study and to use library and information resources. It also suggests that they have varying previous experiences and Information Literacy levels, which will have a direct influence on their learning styles and use of information sources and libraries. These differences are magnified by the vast geographical and cultural differences. Among UK-domiciled first-degree students, according to HESA, under-25-year-olds represent 79.7% of students. There is a significant difference in the age distribution of the sample compared to UK-domiciled students because there is a substantial proportion of first-degree students both in the 26-35 range and the 36-45 range. The fact that the students surveyed are older than the traditional UK HE undergraduate entry students suggests that they have various previous experiences which impact on their learning styles and resources. The high number of students in the under-25 age range suggests that distance learning has become more accepted in recent years as a delivery method in its own right, and is no longer just an add-on to on-campus delivery. The high number of respondents in the age range of 26-35 suggests that students are likely to be married or in full-time employment. This suggests that they have lots of demands on their time, which would make it important for them to have easy and quick access to quality information resources for the purposes of completing their assignments and exams.

Table 5.2.1 Age Distribution by Gender

Age	Female	% Female	Male	% Male	No response
under 25	138	64.8	75	35.2	0
26-35	123	50.0	123	50.0	0
36-45	53	42.4	72	57.6	0
46-55	20	47.6	22	52.4	0
56+	6	28.6	14	66.7	1
No response	1	50.0	1	50.0	0

This table analyses each age range by gender. The genders are balanced in the 26-35 age range with 50% female and 50% male. In the younger age range, women outnumber men by 64.8% to 35.2%. It is possible that the International Programmes provide an opportunity not otherwise available for younger women to participate in higher education. This might be confirmed by questions on mode of study below. However, although the proportion of women falls in the 36-45 and again in the 56+ age ranges, in between there is a return to a near balance in the 46-55 age range, with 47.6% women to 52.4% men. The chi-square test returned a p-value of 1.21E-04, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between Age and Gender.

5.3 Geographical Distribution

Table 5.3: Geographical Distribution of Respondents (country of residence)

Country of Residence	Number of respondents	Percentage of Sample
Albania	1	0.2
Armenia	1	0.2
Australia	5	0.8
Austria	7	1.1
Bahamas	1	0.2
Bahrain	6	0.9
Bangladesh	10	1.5
Barbados	2	0.3
Belgium	6	0.9
Brazil	3	0.5
Bulgaria	1	0.2
Cambodia	3	0.5
Cameroon	1	0.2
Canada	26	4.0
Cayman Islands	1	0.2
Colombia	2	0.3
Croatia	2	0.3
Cyprus	3	0.5
Czech Republic	2	0.3
Denmark	2	0.3
Dominica	3	0.5
Egypt	3	0.5
France	2	0.3
Germany	7	1.1
Ghana	3	0.5
Greece	4	0.6
Guatemala	1	0.2
Guyana	1	0.2

Country of Residence	Number of respondents	Percentage of Sample
Hong Kong	30	4.6
India	9	1.4
Indonesia	3	0.5
Iran	1	0.2
Israel	1	0.2
Italy	6	0.9
Jamaica	16	2.5
Japan	7	1.1
Kenya	5	0.8
Kuwait	1	0.2
Lithuania	1	0.2
Macedonia	1	0.2
Madagascar	1	0.2
Malawi	2	0.3
Malaysia	27	4.2
Malta	12	1.8
Martinique	1	0.2
Mauritius	25	3.9
Myanmar	1	0.2
Namibia	1	0.2
New Zealand	5	0.8
Nigeria	21	3.2
No response	25	3.9
Other	4	0.6
Pakistan	22	3.4
Peru	1	0.2
Poland	6	0.9
Portugal	3	0.5
Russia	26	4.0
Rwanda	1	0.2
Saint Lucia	1	0.2
Saudi Arabia	5	0.8
Serbia	1	0.2
Singapore	68	10.5
South Africa	3	0.5
South Korea	1	0.2
Spain	18	2.8
Sri Lanka	13	2.0
St Vincent and Grenadines	2	0.3
Sudan	4	0.6
Sweden	2	0.3

Country of Residence	Number of respondents	Percentage of Sample
Switzerland	13	2.0
Thailand	9	1.4
The Netherlands	1	0.2
Trinidad and Tobago	51	7.9
Uganda	1	0.2
United Arab Emirates	2	0.3
United Kingdom	50	7.7
United States	18	2.8
Uruguay	6	0.9
Vietnam	5	0.8
3 different countries while studying- Spain, Greece and Germany	1	0.2
Total	649	100%

These figures show that the largest numbers of respondents reside in Asia, with particularly high numbers in Malaysia, Singapore and Hong Kong (19%). There is also a high number from Trinidad & Tobago (8%) in particular and from the Caribbean overall (12.1%), closely followed by the UK with 7%. Overall, there are large numbers from former British colonies and territories where British institutions had profound influences. There are small numbers from various European countries but altogether (excluding the UK but including Russia), and despite the different languages and educational traditions, respondents from Europe represent 19.6% of the sample. It is rather surprising that respondents from India only represent 1.4% (9 respondents) of the overall total respondents while a small country such as Singapore represents over 10% (68 respondents). This is in line with the general International Programme current enrolment figures and demonstrates the lack of penetration of the University of London International Programmes into the Indian market in particular, despite the influence of Britain on both law and business and perhaps the strength of the local educational system (which has the largest Open Distance learning Universities in the world).

In terms of the language spoken by participants, Table 5.4 below indicates that English is the first language of 51% of all respondents. It is important to note that many students from former British colonies such as Nigeria and Ghana also record English as their first language. This suggests that, although most of these countries have indigenous languages, English is the national language and is the language used in schools and universities.

The geographical distribution of the respondents is vast (81 countries). Significantly, no other study in the literature to date has looked at such a diverse distance learning student body. For instance, all students in Unwin and Bolton's (1998) study resided in the UK; in Byrne and Bates' study (2009), they all resided in Ireland, and in Thorsteindottir's (2005) study all students resided in Sweden. The impact of such diversity and remoteness from the host university will be explored further in order to establish its effect on access to the Online Library resource information source

preference. Therefore, the findings of this research have a global application and are not just limited to the UK.

5.4 English Language Proficiency

Table 5.4: English Language Proficiency of Respondents (English as a first language)

Response	Number of respondents	Percentage %
English First language (YES)	331	51.0
English not first language (NO)	293	45.1
No response	25	3.9
Total	649	100%

These figures show that English is the first language of 51% of respondents. As noted above, some respondents declaring English as a first language may also have an indigenous language but now use English as their primary language. Even on the face of the results, there is a very high proportion of respondents (45.1%) whose first language is not English. Without the intensive English classes provided to students who register as internal students at UK universities and the experience of English gained from residing in the UK during their courses, these respondents will face considerable challenges in information-seeking.

Table 5.4.1: English Language Proficiency by Gender

Response	Number of respondents	Percentage %	Female	Female %	Male	Male %	No response	% No response
English First language (Yes)	331	51.0	198	59.8	132	39.9	1	0.3
English Not First Language (No)	293	45.1	130	44.4	163	55.6	0	0.0
No response	25	3.9	13	52.0	12	48.0	0	0.0

These figures show that 59.8% are female, a very substantially higher proportion than males (40.1%). English is a second language of 45% of all respondents. Of these, 44.4% are female, while 55.6% are male. Any assumptions that female respondents would have less access to education because they would be less exposed to the use of English, for example in the workplace, must be discarded. The chi-square test for independence returned a p-value of 9.612E-05 (means move 5 decimal places to the left), which is far smaller than 0.05 and therefore supports the hypothesis that there is a significant relationship between English language proficiency and gender.

Table 5.4.2 English Language Proficiency by Age

Response	Number of respondents	Percentage %	under 25	% under 25	26-35	% 26-35	36-45	% 36-45	46-55	% 46-55	56+	% 56+
English First Language (Yes)	331	51.0	98	29.6	131	39.6	61	18.4	27	8.2	14	4.2
English Not First Language (No)	293	45.1	109	37.2	102	34.8	59	20.1	15	5.1	6	2.0
No response	25	3.9	6	24.0	13	52.0	5	20.0		0.0	1	4.0
Total	649	100%										

Two (0.7%) students for whom English was not their first language did not state their age range.

These figures demonstrate that English is the declared first language for most age ranges, even among the older age ranges, and close to balance in the age range 36-45. However, more students have another language as their first language among the under-25-year-olds. This suggests that those students embarking on studies at lower levels are likely to have lower levels of English proficiency while those who continue their studies at higher levels are more likely to have greater English proficiency. This is borne out by the responses in Table 4.3 below. The chi-square test for independence returned a p-value of 4E-25, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between English language proficiency and age.

Table 5.4.3 English Language Proficiency by Programme Level

English Language Proficiency by Level of Study	PG	% PG	UG	% UG	Dip	% Dip	Cert	% Cert	Access	% Access	NR	% NR
English First Language (YES)	84	25.4	232	70.1	2	0.6	2	0.6	9	2.7	2	0.6
English Not First Language (NO)	52	17.7	221	75.4	10	3.4	4	1.4	4	1.4	2	0.7
No response	16	64.0	9	36.0		0.0		0.0		0.0		0.0

This tends to reinforce the figures in Table 5.4.3. Those who progress to higher degree study are more likely to have English as a first language. The chi-square test for independence returned a p-value of 0.009, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between English language and level of study

Table 5.4.4: English Language Proficiency by Programme of Study

Response	English First Language (YES)	English Not First Language (NO)	No Response
Number of respondents	331	293	25
Percentage %	51.0	45.1	3.9
Cedep	9.0	7	0
% Cedep	2.7	2.4	0.0
Cefims	11	7	0
% Cefims	3.3	2.4	0.0
EMFSS	125	108	22
% EMFSS	37.8	36.9	88.0
INTMGT	12	9	0
% INTMGT	3.6	3.1	0.0
Laws	149	142	3
% Laws	45.0	48.5	12.0
LLM	16	19	0
% LLM	4.8	6.5	0.0
MRES	8	0	0
% MRES	2.4	0.0	0.0
Other	1	1	0
%	0.3	0.3	0.0

The figures do not show any great correlation between the possession of English as a first language and the choice of programme. One might have thought that Law, whose tool is mainly language, would attract more of those with English as a first language but this is not the case. However, many countries where indigenous languages are in common use have adopted the English Common Law and use English in their courts. The chi-square test for independence returned a p-value of 0.256, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' English Language Proficiency and programme of study.

Table 5.4.5: English Language Proficiency by Mode of Study

Response	English First language (YES)	English not first language (NO)	No Response
Number of respondents	331	293	25
Percentage %	51.0	45.1	3.9
At Ins + Tuition	77	104	20
% At Ins + Tuition	23.3	35.5	80.0
At Ins No Tuition	51	26.0	0
% At Ins No Tuition	15.4	8.9	0.0
Indep No Tuition	167	137	4
% Indep No Tuition	50.5	46.8	16.0
Independent with Private Tuition	34	25	1

% Independent with private Tuition	10.3	8.5	4.0
No response	2	1	0
%	0.6	0.3	0.0

These figures show the distribution of English as a first language among students adopting different modes of study: firstly, those attending a teaching institution and also taking private tuition; and, secondly, those attending a teaching institution but not resorting to private tuition as well (further explanation is provided under Table 5.7). There is a clear indication that those without English as a first language require additional tuition. It is likely that the same reason that determines why students are studying independently also determines why they do not take private tuition, most likely the financial cost. The chi-square test for independence returned a p-value of 0.003, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between English language proficiency and mode of study.

Table 5.4.6: English Language Proficiency by Country of Residence

Response	English First Language (YES)	English Not First Language (NO)	No Response
Number of respondents	331	293	25
Percentage %	51.0	45.1	3.9
3 diff countries	0	1	0
% 3 diff countries	0.0	0.3	0.0
Albania	0	1	0
% Albania	0.0	0.3	0.0
Armenia	0	1	0
% Armenia	0.0	0.3	0.0
Australia	5	5	0
% Australia	1.5	1.7	0.0
Austria	2	0	0
% Austria	0.6	0.0	0.0
Bahamas	1	0	0
% Bahamas	0.3	0.0	0.0
Bahrain	2	4	0
% Bahrain	0.6	1.4	0.0
Bangladesh	4	4	2
% Bangladesh	1.2	1.4	8.0
Barbados	2	0	0
% Barbados	0.6	0.0	0.0
Belgium	1	5	0
% Belgium	0.3	1.7	0.0
Brazil	0	3	0
% Brazil	0.0	1.0	0.0

Response	English First Language (YES)	English Not First Language (NO)	No Response
Bulgaria	1	0	0
% Bulgaria	0.3	0.0	0.0
Cambodia	1	2	0
% Cambodia	0.3	0.7	0.0
Cameroon	0	1	0
% Cameroon	0.0	0.3	0.0
Canada	18	8	0
% Canada	5.4	2.7	0.0
Cayman Islands	0	1	0
% Cayman Islands	0.0	0.3	0.0
Colombia	1	1	0
% Colombia	0.3	0.3	0.0
Croatia	0	2	0
% Croatia	0.0	0.7	0.0
Cyprus	0	3	0
% Cyprus	0.0	1.0	0.0
Czech Republic	0	2	0
% Czech Republic	0.0	0.7	0.0
Denmark	0	2	0
% Denmark	0.0	0.7	0.0
Dominica	2	0	1
% Dominica	0.6	0.0	4.0
Egypt	0	3	0
% Egypt	0.0	1.0	0.0
France	0	2	0
% France	0.0	0.7	0.0
Germany	0	7	0
% Germany	0.0	2.4	0.0
Ghana	2	1	0
% Ghana	0.6	0.3	0.0
Greece	1	3	0
% Greece	0.3	1.0	0.0
Guatemala	0	1	0
% Guatemala	0.0	0.3	0.0
Guyana	1	0	0
% Guyana	0.3	0.0	0.0
Hong Kong	10	19	1
% Hong Kong	3.0	6.5	4.0
India	3	6	0
% India	0.9	2.0	0.0
Indonesia	2	1	0

Response	English First Language (YES)	English Not First Language (NO)	No Response
% Indonesia	0.6	0.3	0.0
Iran	1	0	0
% Iran	0.3	0.0	0.0
Israel	1	0	0
% Israel	0.3	0.0	0.0
Italy	2	4	0
% Italy	0.6	1.4	0.0
Jamaica	12.0	2.0	1.0
% Jamaica	3.6	0.7	4.0
Japan	3.0	4.0	0
% Japan	0.9	1.4	0.0
Kenya	3.0	2.0	0
% Kenya	0.9	0.7	0.0
Kuwait	1.0	0	0
% Kuwait	0.3	0.0	0.0
Lithuania	0	1.0	0
% Lithuania	0.0	0.3	0.0
Macedonia	0	1.0	0
% Macedonia	0.0	0.3	0.0
Madagascar	0	1.0	0
% Madagascar	0.0	0.3	0.0
Malawi	0	2.0	0
% Malawi	0.0	0.7	0.0
Malaysia	13.0	10.0	4.0
% Malaysia	3.9	3.4	16.0
Malta	8.0	4.0	0
% Malta	2.4	1.4	0.0
Martinique	1.0	0	0
% Martinique	0.3	0.0	0.0
Mauritius	7.0	17.0	1.0
% Mauritius	2.1	5.8	4.0
Myanmar	1.0	0	0
% Myanmar	0.3	0.0	0.0
Namibia	1.0	0	0
% Namibia	0.3	0.0	0.0
New Zealand	4.0	1.0	0
% New Zealand	1.2	0.3	0.0
Nigeria	12.0	9.0	0
% Nigeria	3.6	3.1	0.0
No response	12.0	8.0	6.0
% No response	3.6	2.7	24.0

Response	English First Language (YES)	English Not First Language (NO)	No Response
Other	1.0	3.0	0
% Other	0.3	1.0	0.0
Pakistan	8.0	13.0	1.0
% Pakistan	2.4	4.4	4.0
Peru	0	1.0	0
% Peru	0.0	0.3	0.0
Poland	1.0	5.0	0
% Poland	0.3	1.7	0.0
Portugal	1.0	2.0	0
% Portugal	0.3	0.7	0.0
Russia	2.0	24.0	0
% Russia	0.6	8.2	0.0
Rwanda	1.0	0	0
% Rwanda	0.3	0.0	0.0
Saint Lucia	1.0	0	0
% Saint Lucia	0.3	0.0	0.0
Saudi Arabia	1.0	4.0	0
% Saudi Arabia	0.3	1.4	0.0
Serbia	0	1.0	0
% Serbia	0.0	0.3	0.0
Singapore	53.0	13.0	2.0
% Singapore	16.0	4.4	8.0
South Africa	3.0	0	0
% South Africa	0.9	0.0	0.0
South Korea	1.0	0	0
% South Korea	0.3	0.0	0.0
Spain	9.0	9.0	0
% Spain	2.7	3.1	0.0
Sri Lanka	5.0	8.0	0
% Sri Lanka	1.5	2.7	0.0
St Vincent and Grenadines	2.0	0	0
% St Vincent and Grenadines	0.6	0.0	0.0
Sudan	3.0	1.0	0
% Sudan	0.9	0.3	0.0
Sweden	1.0	1.0	0
% Sweden	0.3	0.3	0.0
Switzerland	5.0	8.0	0
% Switzerland	1.5	2.7	0.0
Thailand	4.0	5.0	0

Response	English First Language (YES)	English Not First Language (NO)	No Response
% Thailand	1.2	1.7	0.0
The Netherlands	0	1.0	0
% The Netherlands	0.0	0.3	0.0
Trinidad and Tobago	41.0	9.0	1.0
% Trinidad and Tobago	12.4	3.1	4.0
Uganda	1.0	0	0
% Uganda	0.3	0.0	0.0
United Arab Emirates	1.0	1.0	0
% United Arab Emirates	0.3	0.3	0.0
United Kingdom	29.0	16.0	5.0
% United Kingdom	8.8	5.5	20.0
United States	13.0	5.0	0
% United States	3.9	1.7	0.0
Uruguay	2.0	4.0	0
% Uruguay	0.6	1.4	0.0
Vietnam	1.0	4.0	0
% Vietnam	10.0	21.1	0.0

The figures demonstrate a considerable mix of language proficiency and country of residence. Unsurprisingly, English is not the first language of students in many countries, particularly where there has been no formal adoption of English in business or law. However, even in generally English-speaking countries, there are substantial numbers of students for whom English is not the first language, e.g. 5 out of 10 in Australia, 8 out of 26 in Canada, 16 out of 45 in the UK, and 5 out of 18 in the USA. 3.9% did not respond to the question about English language. These findings suggest that a significant number of students require academic and general information literacy support, especially those on lower-level courses (Access / Foundation) who do not meet higher education entrance requirements, postgraduates (academic prerequisite for research and publishing) and those students on programmes such as Law where understanding the English language is crucial. A chi-square test has not been conducted because of the number of cells with zeros or no responses.

5.5 Programme of Study

Table 5.5: Programme of Study of Respondents

Course Programme	Frequency	Percentage (%)
LAWS (LLB)	294	45.3
EMFSS	255	39.3
LAWS (LLM)	35	5.4
INTERNATIONAL MANAGEMENT	21	3.2

Course Programme	Frequency	Percentage (%)
CEDEP	16	2.5
CEFIMS	18	2.8
MRES	8	1.2
OTHER	2	0.3
TOTAL	649	100%

The results are the same as Table 5.1.1. As commented earlier, the two largest programmes at the University of London International Programmes are the undergraduate law programme, the LLB, and the undergraduate economics, management, finance and social science degree. These are well represented in the responses to the survey, with the LLB programme generating over 45% and the EMFSS programme nearly 40% of the responses. The response rates are in proportion to the overall size of the various programmes. Overall, over 50% of respondents are studying law at either undergraduate or postgraduate level.

Table 5.5.1 Programme of Study by Gender

Course Programme	Frequency	Percentage (%)	Female	% Female	Male	% Male	NR	% NR
CEDEP	16	2.5	8.0	50.0	8.0	50.0	0.0	0.0
CEFIMS	18	2.8	8.0	44.4	9.0	50.0	1.0	5.6
EMFSS	255	39.3	130.0	51.0	125.0	49.0	0.0	0.0
INTERNATIONAL MANAGEMENT	21	3.2	16.0	76.2	5.0	23.8	0.0	0.0
LAWS (LLB)	294	45.3	160.0	54.4	134.0	45.6	0.0	0.0
LAWS (LLM)	35	5.4	12.0	34.3	23.0	65.7	0.0	0.0
MRES	8	1.2	5.0	62.5	3.0	37.5	0.0	0.0
OTHER	2	0.3	2.0	100.0	0.0	0.0	0.0	0.0
TOTAL	649	100%						

Table 5.5.1: Programme of Study by Gender

Female respondents make up half or over half of the students for each of the programmes. (One should recall that in the overall sample there are more than 5% more females than males.) There are two results that might appear to suggest relationships. One is that the International Management programme comprises 76.2% women, which may be a deliberate career choice and one that allows early entry. The second is that advanced law study for the LLM, which must represent an existing law qualification as a prerequisite, comprises 65.7% men, mirroring the predominance of men until recently in the legal professions, a situation unlikely to obtain in the future given the balance of gender on the first-degree law course, the LLB, which comprises 54.4% women. Although respondents on the 'Other Programmes' are shown as 100%, this represents only two respondents. However, the chi-square test for independence returned a p-value of 0.087, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between programme of study and gender.

Table 5.5.2 Programme of study by age range

Course Programme	under 25	% Under 25	26-35	% 26-35	36-45	% 36-45	46-45	% 46-55	56+	% 56+	NR	% NR
CEDEP	0.0	0.0	7.0	43.8	8.0	50.0		0.0	1.0	6.3	0.0	0.0
CEFIMS	2.0	11.1	3.0	16.7	6.0	33.3	6.0	33.3	1.0	5.6	0.0	0.0
EMFSS	94.0	36.9	104.0	40.8	40.0	15.7	8.0	3.1	8.0	3.1	1.0	0.4
INTERNATIONAL MANAGEMENT	0.0	0.0	11.0	52.4	7.0	33.3	3.0	14.3	0.0	0.0	0.0	0.0
LAWS (LLB)	115.0	39.1	105.0	35.7	48.0	16.3	21.0	7.1	5.0	1.7	0.0	0.0
LAWS (LLM)	0.0	0.0	14.0	40.0	13.0	37.1	2.0	5.7	5.0	14.3	0.0	0.0
MRES	0.0	0.0	2.0	25.0	3.0	37.5	2.0	25.0	1.0	12.5	0.0	0.0
OTHER	2.0	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Two students did not specify their programme of study, and one EMFSS student did not specify his/her age.

The older age ranges are mainly represented at higher-degree level, while the younger age ranges are almost without exception in the entry-level courses and first-degree courses such as EMFSS and LLB. The LLM has students mainly from the 26-to-45 age range, who are clearly building on earlier qualifications. Likewise, the Master's degree in educational and social research has students spanning the age range from 26-55. The International Management course is at Master's degree level and similarly does not attract the under-25 age range, given its requirements for existing qualifications or substantial experience, but more clearly attracts the 26-35 age range, suggesting career advancement as the main motivation. One might expect greater research and information-seeking experience among those pursuing higher-degree programmes, and this is explored in the questions below. The chi-square test for independence returned a p-value of1E-12 (means move 12 decimal places to the left), which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between programme of study and age.

Table 5.5.3: Programme of study by English Language Proficiency

Course Programme	Frequency	Percentage (%)	Yes	% Yes	No	% No	NR	% NR
CEDEP	16	2.5	9.0	56.3	7.0	43.8	0.0	0.0
CEFIMS	18	2.8	11.0	61.1	7.0	38.9	0.0	0.0
EMFSS	255	39.3	125.0	49.0	108.0	42.4	22.0	8.6
INTERNATIONAL MANAGEMENT	21	3.2	12.0	57.1	9.0	42.9	0.0	0.0
LAWS (LLB)	294	45.3	149.0	50.7	142.0	48.3	3.0	1.0
LAWS (LLM)	35	5.4	16.0	45.7	19.0	54.3	0.0	0.0
MRES	8	1.2	8.0	100.0		0.0	0.0	0.0

Please see the comments under Table 5.4.4, which is the reverse tabulation (English language proficiency by Programme). There is no significant correlation of choice of programme with declared first language as English. The chi-square test for independence returned a p-value of 0.520, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between programme of study and English language proficiency.

Table 5.5.4 Programme of study by mode of study

Course Programme	CEDEP	CEFIMS	EMFSS	INTERNATIONAL MANAGEMENT	LAWS(LLB)	LAWS(LLM)	MRES	OTHER
Frequency	16	18	255	21	294	35	8	2
At Ins + Tuition	0.0	2.0	61.0	2.0	134.0	2.0	0.0	0.0
% At Ins +Tuition	0.0	11.1	23.9	9.5	45.6	5.7	0.0	0.0
At Ins No Tuition	4.0	0.0	56.0	2.0	14.0	29.0	0.0	1.0
% At Ins No Tuition	25.0	0.0	22.0	9.5	4.8	82.9	0.0	50.0
Independent No Tuition	10.0	9.0	115.0	10.0	128.0	0.0	7.0	
% Independent No tuition	62.5	50.0	45.1	47.6	43.5	0.0	87.5	0.0
Independent with private Tuition	2.0	7.0	23.0	6.0	16.0	4.0	1.0	1.0
% Independent with private Tuition	12.5	38.9	9.0	28.6	5.4	11.4	12.5	50.0
No response	0.0	0.0	0.0	1.0	2.0	0.0	0.0	0.0
%	0.0	0.0	0.0	4.8	0.7	0.0	0.0	0.0

The tabulation of mode of study (whether at an institution or studying independently and whether also receiving private tuition, see the explanation under Table 5.7) with programme of study reveals some major differences among programmes. About half the students on the major first-degree programmes (EMFSS and LLB) attend a teaching institution, while half of those EMFSS students are also taking private tuition and almost all of those LLB students are taking additional tuition, as is commonplace for undergraduate law students. 88.6% of those undertaking an LLM attend a teaching institution, albeit with only 5.7% taking additional tuition. The LLM is generally taken to extend general legal knowledge to specific areas of expertise, and expert teaching is usually required, whereas only 19% of International Management students are at an institution and one must suppose they are actively engaged in the practice of management. Almost 90% of students pursuing the MRes in educational and social research are not attending a teaching institution, which is not surprising given the research nature of the degree. The answers to these questions should be treated with caution since the understanding of private tuition as opposed to tuition at an institution may have been confused. The Other Programmes represent only two respondents. The chi-square test for independence returned a p-value of 1E-08 (means move 8 decimal places to the left), which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between programme of study and Mode of study.

Table 5.5.5 Programme of study by geographical location

Response	CEDEP	CEFIMS	EMFSS	INTERNATIONAL MANAGEMENT	LAWS(LLB)	LAWS(LLM)	MRES	OTHER
Number of respondents	16	18	255	21	294	35	8	2
Percentage %	2.5	2.8	39.3	3.2	45.3	5.4	1.2	0.3
3 diff countries	0	0	1	0	0	0	0	0
% 3 diff countries	0	0	0.4	0	0	0	0	0
Albania	0	1	0	0	0	0	0	0
% Albania	0	5.6	0	0	0	0	0	0
Armenia	0	1	0	0	0	0	0	0
% Armenia	0	5.6	0	0	0	0	0	0
Australia	1	1	1	0	1	1	0	0
% Australia	6.3	5.6	0.4	0	0.3	2.9	0	0
Austria	1	0	1	0	5	0	0	0
% Austria	6.3	0	0.4	0	1.7	0	0	0
Bahamas	0	0	0	0	1	0	0	0
% Bahamas	0	0	0	0	0.3	0	0	0
Bahrain	0	0	2	0	4	0	0	0
% Bahrain	0	0	0.8	0	1.4	0	0	0
Bangladesh	0	0	2	0	8	0	0	0
% Bangladesh	0	0	0.8	0	2.7	0	0	0
Barbados	0	1	0	0	0	1	0	0
% Barbados	0	5.6	0	0	0	2.9	0	0
Belgium	0	0	1	0	4	1	0	0
% Belgium	0	0	0.4	0	1.4	2.9	0	0
Brazil	0	0	3	0	0	0	0	0
% Brazil	0	0	1.2	0	0	0	0	0
Bulgaria	1	0	0	0	0	0	0	0
% Bulgaria	6.3	0	0	0	0	0	0	0
Cambodia	0	0	0	0	2	1	0	0
% Cambodia	0	0	0	0	0.7	2.9	0	0
Cameroon	0	0	1	0	0	0	0	0
% Cameroon	0	0	0.4	0	0	0	0	0
Canada	1	1	10	0	13	1	0	0
% Canada	6.3	5.6	3.9	0	4.4	2.9	0	0
Cayman Islands	0	0	0	0	0	1	0	0
% Cayman Islands	0	0	0	0	0	2.9	0	0
Colombia	0	0	1	0	1	0	0	0

Response	CEDEP	CEFIMS	EMFSS	INTERNATIONAL MANAGEMENT	LAWS(LLB)	LAWS(LLM)	MRES	OTHER
% Colombia	0	0	0.4	0	0.3	0	0	0
Croatia	0	0	1	0	1	0	0	0
% Croatia	0	0	0.4	0	0.3	0	0	0
Cyprus	0	0	1	1	0	1	0	0
% Cyprus	0	0	0.4	4.8	0	2.9	0	0
Czech Republic	0	0	2	0	0	0	0	0
% Czech Republic	0	0	0.8	0	0	0	0	0
Denmark	0	0	2	0	0	0	0	0
% Denmark	0	0	0.8	0	0	0	0	0
Dominica	0	0	2	0	0	0	0	1
% Dominica	0	0	0.8	0	0	0	0	50
Egypt	0	0	2	0	1	0	0	0
% Egypt	0	0	0.8	0	0.3	0	0	0
France	0	0	1	1	0	0	0	0
% France	0	0	0.4	4.8	0	0	0	0
Germany	0	0	4	0	2	1	0	0
% Germany	0	0	1.6	0	0.7	2.9	0	0
Ghana	1	0	0	0	0	0	2	0
% Ghana	6.3	0	0	0	0	0	25	0
Greece	0	0	2	1	0	1	0	0
% Greece	0	0	0.8	4.8	0	2.9	0	0
Guatemala	1	0	0	0	0	0	0	0
% Guatemala	6.3	0	0	0	0	0	0	0
Guyana	0	0	0	0	0	1	0	0
% Guyana	0	0	0	0	0	2.9	0	0
Hong Kong	0	1	11	3	14	1	0	0
% Hong Kong	0	5.6	4.3	14.3	4.8	2.9	0	0
India	0	0	3	0	6	0	0	0
% India	0	0	1.2	0	2	0	0	0
Indonesia	0	1	1	0	0	1	0	0
% Indonesia	0	5.6	0.4	0	0	2.9	0	0
Iran	0	0	1	0	0	0	0	0
% Iran	0	0	0.4	0	0	0	0	0
Israel	0	0	0	0	1	0	0	0
% Israel	0	0	0	0	0.3	0	0	0
Italy	0	0	1	0	4	1	0	0
% Italy	0	0	0.4	0	1.4	2.9	0	0
Jamaica	0	2	2	1	9	0	1	0

Response	CEDEP	CEFIMS	EMFSS	INTERNATIONAL MANAGEMENT	LAWS(LLB)	LAWS(LLM)	MRES	OTHER
% Jamaica	0	11.1	0.8	4.8	3.1	0	12.5	0
Japan	0	0	2	1	4	0	0	0
% Japan	0	0	0.8	4.8	1.4	0	0	0
Kenya	0	0	1	0	3	1	0	0
% Kenya	0	0	0.4	0	1	2.9	0	0
Kuwait	0	0	0	0	0	0	1	0
% Kuwait	0	0	0	0	0	0	12.5	0
Lithuania	0	0	1	0	0	0	0	0
% Lithuania	0	0	0.4	0	0	0	0	0
Macedonia	0	0	1	0	0	0	0	0
% Macedonia	0	0	0.4	0	0	0	0	0
Madagascar	1	0	0	0	0	0	0	0
% Madagascar	6.3	0	0	0	0	0	0	0
Malawi	0	0	1	0	0	1	0	0
% Malawi	0	0	0.4	0	0	2.9	0	0
Malaysia	0	0	12	0	14	1	0	0
% Malaysia	0	0	4.7	0	4.8	2.9	0	0
Malta	0	1	4	1	4	1	1	0
% Malta	0	5.6	1.6	4.8	1.4	2.9	12.5	0
Martinique	0	0	0	0	1	0	0	0
% Martinique	0	0	0	0	0.3	0	0	0
Mauritius	1	0	7	0	17	0	0	0
% Mauritius	6.3	0	2.7	0	5.8	0	0	0
Myanmar	1	0	0	0	0	0	0	0
% Myanmar	6.3	0	0	0	0	0	0	0
Namibia	0	0	0	1	0	0	0	0
% Namibia	0	0	0	4.8	0	0	0	0
New Zealand	0	0	1	0	4	0	0	0
% New Zealand	0	0	0.4	0	1.4	0	0	0
Nigeria	0	1	5	3	9	3	0	0
% Nigeria	0	5.6	1.2	14.3	3.1	8.6	0	0
No response	0	1	17	0	6	2	0	0
% No response	0	5.6	6.7	0	2	5.7	0	0
Other	0	0	0	0	0	0	0	0
% Other	0	0	0	0	0	0	0	0
Pakistan	0	0	8	1	12	1	0	0
% Pakistan	0	0	3.1	4.8	4.1	2.9	0	0
Peru	0	0	1	0	0	0	0	0
% Peru	0	0	0.4	0	0	0	0	0

Response	CEDEP	CEFIMS	EMFSS	INTERNATIONAL MANAGEMENT	LAWS(LLB)	LAWS(LLM)	MRES	OTHER
Poland	0	0	2	0	4	0	0	0
% Poland	0	0	0.8	0	1.4	0	0	0
Portugal	0	0	1	0	2	0	0	0
% Portugal	0	0	0.4	0	0.7	0	0	0
Russia	0	0	17	0	5	2	1	1
% Russia	0	0	6.7	0	1.7	5.7	12.5	50
Rwanda	0	0	0	0	0	0	0	0
% Rwanda	0	0	0	0	0	0	0	0
Saint Lucia	1	0	0	0	0	0	0	0
% Saint Lucia	6.3	0	0	0	0	0	0	0
Saudi Arabia	0	0	2	2	1	0	0	0
% Saudi Arabia	0	0	0.8	9.5	0.3	0	0	0
Serbia	0	0	1	0	0	0	0	0
% Serbia	0	0	0.4	0	0	0	0	0
Singapore	1	0	36	0	30	1	0	0
% Singapore	6.3	0	14.1	0	10.2	2.9	0	0
South Africa	0	0	2	0	1	0	0	0
% South Africa	0	0	0.8	0	0.3	0	0	0
South Korea	0	0	0	0	1	0	0	0
% South Korea	0	0	0	0	0.3	0	0	0
Spain	0	0	6	0	12	0	0	0
% Spain	0	0	2.4	0	4.1	0	0	0
Sri Lanka	1	0	5	0	7	0	0	0
% Sri Lanka	6.3	0	2	0	2.4	0	0	0
St Vincent and the Grenadines	0	0	2	0	0	0	0	0
% St Vincent and the Grenadines	0	0	0.8	0	0	0	0	0
Sudan	0	0	1	0	3	0	0	0
% Sudan	0	0	0.4	0	1	0	0	0
Sweden	0	0	1	1	0	0	0	0
% Sweden	0	0	0.4	4.8	0	0	0	0
Switzerland	0	3	1	2	5	2	0	0
% Switzerland	0	16.7	0.4	9.5	1.7	5.7	0	0
Thailand	0	0	2	0	7	0	0	0
% Thailand	0	0	0.8	0	2.4	0	0	0
The Netherlands	0	0	1	0	0	0	0	0
% The Netherlands	0	0	0.4	0	0	0	0	0
Trinidad and Tobago	0	1	24	0	24	2	0	0

Response	CEDEP	CEFIMS	EMFSS	INTERNATIONAL MANAGEMENT	LAWS(LLB)	LAWS(LLM)	MRES	OTHER
% Trinidad and Tobago	0	5.6	9.4	0	8.2	5.7	0	0
Uganda	1	0	0	0	0	0	0	0
% Uganda	6.3	0	0	0	0	0	0	0
United Arab Emirates	0	0	2	0	0	0	0	0
% United Arab Emirates	0	0	0.8	0	0	0	0	0
United Kingdom	1	0	22	1	23	2	1	0
% United Kingdom	6.3	0	8.6	4.8	7.8	5.7	12.5	0
United States	1	2	6	1	6	1	1	0
% United States	6.3	11.1	2.4	4.8	2	2.9	12.5	0
Uruguay	0	0	0	0	4	2	0	0
% Uruguay	0	0	0	0	1.4	5.7	0	0
Vietnam	0	0	1	0	4	0	0	0
% Vietnam	0	0	0.4	0	1.4	0	0	0

As noted above, by far the largest number of students are studying for the EMFSS and the LLB programmes. As might be expected, the LLB students studying English law reside in countries which have adopted or were influenced by the English common law, particularly in SE Asia and the Caribbean as well as in the UK itself, but there are small numbers of students from many other countries. The EMFSS students are drawn from a wider number of countries, similarly from those SE Asian countries influenced by Britain (principally Hong Kong, Malaysia and Singapore) but there is also a significant number of students from Russia. The other programmes are widely spread with rarely more than 1 or 2 students in each country represented. This information may be usefully applied to the development of personalised information literacy programmes including access to local libraries as well as general marketing efforts of the University of London International Programmes. A chi-square test has not been conducted because of the number of cells with zeros or no responses.

5.6 Level of Programme

Table 5.6: Level of programme of the respondents

Level of course programme	Frequency	Percentage (%) of sample
Undergraduate	464	71.5
Postgraduate	151	23.3
Access	12	1.8
Diploma	12	1.8
Certificate	6	0.9
No response	4	0.6
Total	649	100

The large majority (71.5%) of respondents were following an undergraduate degree course and almost all the remaining respondents (23.3%) were following a higher-degree course. Apart from the low 'no response' rate at 0.6%, the remaining respondents (total 4.5%) were on lower-level courses. This finding should enable analysis of the differences in behaviour and significant situational factors between first- and higher-degree students and also between lower-level courses - access, certificate and diploma courses - and traditional degree courses. It should be noted that the numbers of respondents on the lower-level courses are low (30 in all) and should not overshadow the results for the main student groups.

Table 5.6.1: Level of programme of the respondents by gender

Level of course programme	Frequency	Percentage (%) of sample	Female	% Female	Male	% Male	No Response	%
Undergraduate	464.0	71.5	254.0	54.7	210.0	45.3	0.0	0.0
Postgraduate	151.0	23.3	71.0	47.0	79.0	53.0	1.0	0.7
Access	12.0	1.8	3.0	25.0	9.0	75.0	0.0	0.0
Diploma	12.0	1.8	7.0	58.3	5.0	41.7	0.0	0.0
Certificate	6.0	0.9	5.0	83.3	1.0	16.7	0.0	0.0
No response	4.0	0.6	1.0	25.0	3.0	75.0	0.0	0.0

There were only 4 'no responses'. 54.7% of respondents studying for a first degree were female. As noted above (question 1.2), this is in line with an 'international phenomenon' which exhibits a majority of females at undergraduate level. A little fewer than 50% of students at postgraduate level were female. The slightly lower level of female participation at postgraduate level may be related to the preponderance of entry into postgraduate study among the higher age ranges (see section on age range by gender, question 2.1). Among the lower-level programmes, the qualifications themselves (Certificate and Diploma) are followed mainly by women (83.3% and 58.3%). However, the access course, which is a prerequisite for those without traditional educational qualifications to access degree programmes, is mainly followed by men (75%, although this represents only 9 respondents). These findings suggest that current and incoming female students are not disadvantaged in accessing higher education by distance learning or are able to overcome those disadvantages, but may also suggest that there is less access to traditional routes to higher education by full-time internal study at local institutions in some countries, which is why the distance learning opportunities are taken up by more women. However, the chi-square test for independence returned a p-value of 0.080, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between level of programme and gender.

Table 5.6.2: Level of programme of the respondents by age range

Level of Programme	Access	Certificate	Diploma	No response	Undergraduate	Postgraduate
Frequency	12.0	6.0	12.0	4.0	464.0	151.0
% of sample	1.8	0.9	1.8	0.6	71.5	23.3
under 25	3.0	0.0	3.0	1.0	196.0	10.0
% under 25	25.0	0.0	25.0	25.0	42.2	6.6
26-35	8.0	4.0	1.0	0.0	166.0	67.0
% 26-35	66.7	66.7	8.3	0.0	35.8	44.4
36-45	0.0	1.0	4.0	1.0	70.0	49.0
% 36-45	0.0	16.7	33.3	25.0	15.1	32.5
46-55	1.0	1.0	3.0	2.0	23.0	12.0
% 46-55	8.3	16.7	25.0	50.0	5.0	7.9
56+	0.0	0.0	1.0	0.0	8.0	12.0
% 56+	0.0	0.0	8.3	0.0	1.7	7.9
NR	0.0	0.0	0.0	0.0	1.0	1.0
% NR	0.0	0.0	0.0	0.0	0.2	0.7

These figures demonstrate that, for undergraduate degrees, the younger age ranges dominate, with participation falling away among the older students (42.2% of under-25s, 35.8% of 26-35-year-olds). Very few under-25-year-olds are following postgraduate degrees, having completed the prerequisite undergraduate degree before they are 25, an achievement that may be common among traditional internal students but is clearly less common among these distance learners. The postgraduate degrees are followed by students who are mainly 26-35 years old (44.4%) and 36-45 years old (32.5%). The majority of students on the lower-level courses are late entrants, primarily 26-25 years old (although this does represent rather low numbers as noted above).

As noted before, the increasingly young age of students participating in undergraduate distance learning indicates that distance learning has now become more mainstream and accepted across all age groups as a real alternative to on-campus study. The higher age range for those on lower-level courses (access and certificates) suggests that distance learning is still giving opportunities to those wishing to return to education after a long break, those who have no formal qualifications, and other disadvantaged groups. The diverse backgrounds and skill sets of these students create challenges in terms of library provision, particularly with regard to electronic information use and information literacy development. Some of these students may never have used a university library before. In terms of the University of London, where the majority of students are from developing countries, age is of even greater significance as some older students may never have used a computer or may have gone to school at a time when computers were less prevalent. It is important to note that, in order to ensure that all students can access the teaching and learning resources, the University of London has now made it compulsory for students to have access to a computer. However, having access to a computer does always translate into 'information literate' or even 'computer literate'. As already noted above, distance learners do not receive the hands-on training, library inductions and drop-in sessions that all on-campus students receive. The chi-square test for independence returned a p-value of 2E-13, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between level of programme and age.

Table 5.6.3: Level of programme of the respondents by English language proficiency

Level of course programme	Frequency	% of sample	Yes	% Yes	No	% No	No Response	% No Response
Undergraduate	464	71.5	234	50.4	221	47.6	9	1.9
Postgraduate	151	23.3	83	55.0	52	34.4	16	10.6
Access	12	1.8	8	66.7	4	33.3	0	0.0
Diploma	12	1.8	10	83.3	2	16.7	0	0.0
Certificate	6	0.9	2	33.3	4	66.7	0	0.0
No response	4	0.6	2	50.0	2	50.0	0	0.0
Total	649	100						

English language proficiency (actually representing declaration of English as a first language with the possibility of student proficiency in English as a second language being high) is balanced at first-degree level. This nevertheless seems to represent a high number and high proportion of students for whom English is a second language. Although there are figures for school participation in the UK by students for whom English is not the first language, this is an area where more research may be needed at university level. At postgraduate level there is a higher proportion of students with English as a first language (55% as against 34%, with the most non-responses at this level), as might be expected by more demanding courses. The differences among the lower-level courses are difficult to explain, with both the Access and Diploma courses attracting students with a preponderance of English as a first language (66.7% and 83.3%), but only a third of students on the Certificate course, albeit with only 6 students, have English as a first language. The high number and high proportion of students for whom English is a second language at undergraduate level suggests that some students may find it difficult to use complex databases and standard academic texts without training and support. The higher proportion of students with English as a first language at postgraduate level suggests that, to progress to postgraduate education, one needs a good level of English for academic writing and for research. The chi-square test for independence returned a p-value of 0.037, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between level of programme and English language proficiency.

Table 5.6.4: Level of programme of the respondents by Mode of Study

Level of course programme	Access	Certificate	Diploma	No Response	Undergraduate	Postgraduate
Frequency	12	6	12	4	464	151
% of Sample	1.8	0.9	1.8	0.6	71.5	23.3
At Ins+Tuition	0	0	3	2	179	17
% At Ins+Tuition	0.0	0.0	25.0	50.0	38.6	11.3

Level of course programme	Access	Certificate	Diploma	No Response	Undergraduate	Postgraduate
At Ins No Tuition	1	0	1	0	66	9
% At Inst No Tuition	8.3	0.0	8.3	0.0	14.2	6.0
Indep No Tuition	9	5	6	2	187	99
% Indep No Tuition	75.0	83.3	50.0	50.0	40.3	65.6
Independent + Private Tuition	2	1	2		30	25
% Indep + Private Tuition	16.7	16.7	16.7	0.0	6.5	16.6
No Response	0	0	0	0	2	1
% No response	0.0	0.0	0.0	0.0	0.4	0.7

The majority of students on the lower-level courses are studying independently without private tuition, using their own resources to access the educational system, without either the time or financial resources to attend a teaching institution or private tuition (see the explanation under Table 5.7). Postgraduate students are primarily studying independently without additional tuition, possibly because of the nature of the study or research and also because teaching or tuition for the specialist programmes is not available locally. The highest level of attendance at a teaching institution and at a teaching institution with private tuition as well is at first-degree level (52.8%), which is still a low proportion. The 'no responses' to the level of programme question represent only 4 students. Overall, the findings demonstrate that a large number of students are studying independently without academic support beyond that provided directly by the University of London. Moreover, a significant number of these students are from lower-level courses and may have never used a university library or academic electronic resources. These findings could also be partly used to provide evidence of the effectiveness of the support provided to a significant number of undergraduates by the teaching institutions. The chi-square test for independence returned a p-value of 7E-14 (means move 14 decimal places to the left), which is much smaller than 0.05 and therefore supports the hypothesis that there is a significant relationship between level of programme and mode of study.

Table 5.6.5: Level of Programme of the Respondents by Country

Response	Access	Certificate	Diploma	No response	Undergraduate	Postgraduate
Number of respondents	12.0	6.0	12.0	4.0	464.0	151.0
Percentage %	1.8	0.9	1.8	0.6	71.5	23.3
3 diff countries	0.0	0.0	0.0	0.0	1.0	0.0
% 3 diff countries	0.0	0.0	0.0	0.0	0.2	0.0
Albania	0.0	0.0	0.0	0.0	0.0	1.0
% Albania	0.0	0.0	0.0	0.0	0.0	0.7
Armenia	0.0	0.0	0.0	0.0	0.0	1.0
% Armenia	0.0	0.0	0.0	0.0	0.0	0.7
Australia	0.0	0.0	0.0	0.0	1.0	4.0
% Australia	0.0	0.0	0.0	0.0	0.2	2.6
Austria	0.0	0.0	0.0	0.0	5.0	2.0
% Austria	0.0	0.0	0.0	0.0	1.1	1.3
Bahamas	0.0	0.0	0.0	0.0	1.0	0.0

Response	Access	Certificate	Diploma	No response	Undergraduate	Postgraduate
% Bahamas	0.0	0.0	0.0	0.0	0.2	0.0
Bahrain	0.0	0.0	0.0	0.0	6.0	0.0
% Bahrain	0.0	0.0	0.0	0.0	1.3	0.0
Bangladesh	0.0	0.0	0.0	0.0	10.0	0.0
% Bangladesh	0.0	0.0	0.0	0.0	2.2	0.0
Barbados	0.0	0.0	0.0	0.0	0.0	2.0
% Barbados	0.0	0.0	0.0	0.0	0.0	1.3
Belgium	0.0	0.0	0.0	0.0	4.0	2.0
% Belgium	0.0	0.0	0.0	0.0	0.9	1.3
Brazil	0.0	0.0	1.0	0.0	2.0	0.0
% Brazil	0.0	0.0	8.3	0.0	0.4	0.0
Bulgaria	0.0	0.0	0.0	0.0	0.0	1.0
% Bulgaria	0.0	0.0	0.0	0.0	0.0	0.0
Cambodia	0.0	0.0	0.0	0.0	2.0	1.0
% Cambodia	0.0	0.0	0.0	0.0	0.4	0.7
Cameroon	0.0	0.0	0.0	0.0	1.0	0.0
% Cameroon	0.0	0.0	0.0	0.0	0.2	0.0
Canada	0.0	0.0	0.0	0.0	20.0	6.0
% Canada	0.0	0.0	0.0	0.0	4.3	4.0
Cayman Islands	0.0	0.0	0.0	0.0	0.0	1.0
% Cayman Islands	0.0	0.0	0.0	0.0	0.0	0.7
Colombia	0.0	2.0	0.0	0.0	0.0	0.0
% Colombia	0.0	33.3	0.0	0.0	0.0	0.0
Croatia	0.0	0.0	0.0	0.0	1.0	1.0
% Croatia	0.0	0.0	0.0	0.0	0.2	0.7
Cyprus	0.0	0.0	0.0	0.0	1.0	2.0
% Cyprus	0.0	0.0	0.0	0.0	0.2	1.3
Czech Republic	0.0	0.0	0.0	0.0	2.0	0.0
% Czech Republic	0.0	0.0	0.0	0.0	0.4	0.0
Denmark	0.0	0.0	0.0	1.0	0.0	1.0
% Denmark	0.0	0.0	0.0	25.0	0.0	0.7
Dominica	0.0	0.0	0.0	0.0	2.0	1.0
% Dominica	0.0	0.0	0.0	0.0	0.4	0.7
Egypt	0.0	0.0	0.0	0.0	3.0	0.0
% Egypt	0.0	0.0	0.0	0.0	0.6	0.0
France	0.0	0.0	2.0	0.0	0.0	0.0
% France	0.0	0.0	16.7	0.0	0.0	0.0
Germany	0.0	0.0	0.0	0.0	5.0	2.0
% Germany	0.0	0.0	0.0	0.0	1.1	1.3
Ghana	0.0	0.0	0.0	0.0	0.0	3.0
% Ghana	0.0	0.0	0.0	0.0	0.0	2.0
Greece	1.0	0.0	0.0	0.0	1.0	2.0
% Greece	8.3	0.0	0.0	0.0	0.2	1.3
Guatemala	0.0	1.0	0.0	0.0	0.0	0.0
% Guatemala	0.0	16.7	0.0	0.0	0.0	0.0
Guyana	0.0	0.0	0.0	0.0	0.0	1.0

Response	Access	Certificate	Diploma	No response	Undergraduate	Postgraduate
% Guyana	0.0	0.0	0.0	0.0	0.0	0.7
Hong Kong	0.0	0.0	0.0	0.0	23.0	7.0
% Hong Kong	0.0	0.0	0.0	0.0	5.0	4.6
India	0.0	0.0	0.0	0.0	7.0	2.0
% India	0.0	0.0	0.0	0.0	1.5	1.3
Indonesia	0.0	0.0	0.0	0.0	1.0	2.0
% Indonesia	0.0	0.0	0.0	0.0	0.2	1.3
Iran	1.0	0.0	0.0	0.0	0.0	0.0
% Iran	8.3	0.0	0.0	0.0	0.0	0.0
Israel	0.0	0.0	0.0	0.0	1.0	0.0
% Israel	0.0	0.0	0.0	0.0	0.2	0.0
Italy	0.0	0.0	0.0	0.0	4.0	2.0
% Italy	0.0	0.0	0.0	0.0	0.9	1.3
Jamaica	0.0	0.0	0.0	0.0	10.0	5.0
% Jamaica	0.0	0.0	0.0	0.0	2.2	3.3
Japan	0.0	0.0	1.0	0.0	5.0	1.0
% Japan	0.0	0.0	8.3	0.0	1.1	0.7
Kenya	0.0	0.0	0.0	0.0	4.0	1.0
% Kenya	0.0	0.0	0.0	0.0	0.9	0.7
Kuwait	0.0	0.0	0.0	0.0	0.0	1.0
% Kuwait	0.0	0.0	0.0	0.0	0.0	0.7
Lithuania	0.0	0.0	0.0	0.0	1.0	0.0
% Lithuania	0.0	0.0	0.0	0.0	0.2	0.0
Macedonia	0.0	0.0	0.0	0.0	1.0	0.0
% Macedonia	0.0	0.0	0.0	0.0	0.2	0.0
Madagascar	0.0	0.0	0.0	0.0	0.0	1.0
% Madagascar	0.0	0.0	0.0	0.0	0.0	0.7
Malawi	0.0	0.0	0.0	0.0	0.0	2.0
% Malawi	0.0	0.0	0.0	0.0	0.0	1.3
Malaysia	0.0	0.0	0.0	1.0	19.0	7.0
% Malaysia	0.0	0.0	0.0	25.0	4.1	4.6
Malta	0.0	0.0	1.0	0.0	7.0	4.0
% Malta	0.0	0.0	8.3	0.0	1.5	2.6
Martinique	0.0	0.0	0.0	1.0	0.0	0.0
% Martinique	0.0	0.0	0.0	25.0	0.0	0.0
Mauritius	0.0	0.0	0.0	0.0	21.0	4.0
% Mauritius	0.0	0.0	0.0	0.0	4.5	2.6
Myanmar	0.0	0.0	0.0	0.0	0.0	1.0
% Myanmar	0.0	0.0	0.0	0.0	0.0	0.7
Namibia	0.0	0.0	0.0	0.0	1.0	0.0
% Namibia	0.0	0.0	0.0	0.0	0.2	0.0
New Zealand	0.0	0.0	0.0	0.0	4.0	1.0
% New Zealand	0.0	0.0	0.0	0.0	0.9	0.7
Nigeria	2.0	0.0	0.0	0.0	12.0	7.0
% Nigeria	16.7	0.0	0.0	0.0	2.6	4.6
No response	0.0	0.0	0.0	1.0	16.0	9.0

Response	Access	Certificate	Diploma	No response	Undergraduate	Postgraduate
% No response	0.0	0.0	0.0	25.0	3.4	6.0
Other	0.0	0.0	0.0	0.0	4.0	0.0
% Other	0.0	0.0	0.0	0.0	0.9	0.0
Pakistan	0.0	0.0	0.0	0.0	18.0	4.0
% Pakistan	0.0	0.0	0.0	0.0	3.9	2.6
Peru	0.0	0.0	1.0	0.0	0.0	0.0
% Peru	0.0	0.0	8.3	0.0	0.0	0.0
Poland	0.0	0.0	0.0	0.0	5.0	1.0
% Poland	0.0	0.0	0.0	0.0	1.1	0.7
Portugal	0.0	0.0	0.0	0.0	3.0	0.0
% Portugal	0.0	0.0	0.0	0.0	0.6	0.0
Russia	0.0	0.0	3.0	0.0	18.0	5.0
% Russia	0.0	0.0	25.0	0.0	3.9	3.3
Rwanda	0.0	0.0	0.0	0.0	0.0	1.0
% Rwanda	0.0	0.0	0.0	0.0	0.0	0.7
Saint Lucia	0.0	0.0	0.0	0.0	0.0	1.0
% Saint Lucia	0.0	0.0	0.0	0.0	0.0	0.7
Saudi Arabia	2.0	0.0	0.0	0.0	3.0	0.0
% Saudi Arabia	16.7	0.0	0.0	0.0	0.6	0.0
Serbia	0.0	0.0	0.0	0.0	1.0	0.0
% Serbia	0.0	0.0	0.0	0.0	0.2	0.0
Singapore	1.0	0.0	0.0	0.0	58.0	9.0
% Singapore	8.3	0.0	0.0	0.0	12.5	6.0
South Africa	2.0	0.0	0.0	0.0	1.0	0.0
% South Africa	16.7	0.0	0.0	0.0	0.2	0.0
South Korea	0.0	0.0	0.0	0.0	1.0	0.0
% South Korea	0.0	0.0	0.0	0.0	0.2	0.0
Spain	0.0	0.0	0.0	0.0	17.0	1.0
% Spain	0.0	0.0	0.0	0.0	3.7	0.7
Sri Lanka	0.0	0.0	0.0	0.0	12.0	1.0
% Sri Lanka	0.0	0.0	0.0	0.0	2.6	0.7
St Vincent and the Grenadines	0.0	0.0	0.0	0.0	2.0	0.0
% St Vincent and the Grenadines	0.0	0.0	0.0	0.0	0.4	0.0
Sudan	1.0	0.0	0.0	0.0	3.0	0.0
% Sudan	8.3	0.0	0.0	0.0	0.6	0.0
Sweden	0.0	0.0	0.0	0.0	1.0	1.0
% Sweden	0.0	0.0	0.0	0.0	0.2	0.7
Switzerland	0.0	1.0	0.0	0.0	5.0	7.0
% Switzerland	0.0	16.7	0.0	0.0	1.1	4.6
Thailand	0.0	0.0	1.0	0.0	7.0	1.0
% Thailand	0.0	0.0	8.3	0.0	1.5	0.7
The Netherlands	0.0	0.0	0.0	0.0	1.0	0.0
% The Netherlands	0.0	0.0	0.0	0.0	0.2	0.0
Trinidad and Tobago	1.0	0.0	0.0	0.0	41.0	9.0

Response	Access	Certificate	Diploma	No response	Undergraduate	Postgraduate
% Trinidad and Tobago	8.3	0.0	0.0	0.0	8.8	6.0
Uganda	0.0	0.0	0.0	0.0	0.0	1.0
% Uganda	0.0	0.0	0.0	0.0	0.0	0.7
United Arab Emirates	0.0	0.0	0.0	0.0	2.0	0.0
% United Arab Emirates	0.0	0.0	0.0	0.0	0.4	0.0
United Kingdom	1.0	0.0	1.0	0.0	38.0	10.0
% United Kingdom	8.3	0.0	8.3	0.0	8.2	6.6
United States	0.0	1.0	1.0	0.0	10.0	6.0
% United States	0.0	16.7	8.3	0.0	2.2	4.0
Uruguay	0.0	0.0	0.0	0.0	4.0	2.0
% Uruguay	0.0	0.0	0.0	0.0	0.9	1.3
Vietnam	0.0	1.0	0.0	0.0	4.0	0.0
% Vietnam	0.0	16.7	0.0	0.0	0.9	0.0

The distribution of students across a very large number of countries has been discussed above and in relation to the LLB and LLM degrees in particular. The lower-level degrees show no significant clustering of respondents. The undergraduate degree respondents are mainly clustered in countries influenced by Britain in the colonial period and, significantly, where the English legal system was adopted in SE Asia, Mauritius, the Caribbean, Canada and the UK itself. However, there are a small number of students in various European countries, particularly Spain. At postgraduate level, the high level of participation in certain countries at undergraduate level does persist albeit generally with reduced proportions at postgraduate level, for example Hong Kong, Malaysia, Mauritius, Trinidad and Tobago, Singapore (a fall but still 6%), and the UK. However, there is an increased proportion of postgraduate students compared to undergraduate students from several European countries (for example Belgium, Denmark, Germany, Italy), although these represent small numbers. In fact there is a considerably greater scattering of postgraduate students. This vast and uneven distribution of students across the world suggests unequal resources provision and support. The huge difference in economic, cultural, education, technology, and library infrastructures also have a direct impact on obtaining the required texts and literature, accessing online information resources and developing key information skills from frequent use and familiarity with information resources. A chi-square test has not been conducted because of the number of cells with zeros or no responses.

5.7 Mode of Study

Table 5.7: Mode of Study of Respondents

Mode of study	Frequency	Percentage (%) of sample
Independent study (with NO private tuition)	308.0	47.5
At an institution (supplemented by private tuition)	201.0	31.0
At an institution (with no private tuition)	77.0	11.9
Independent study (with private tuition)	60.0	9.2
No Response	3.0	0.5
Total	649.0	100.0

Mode of study refers to the level of support available to the student. All students registered on the distance learning programmes of the University of London have access to the same level of support from the University. Some students do study independently, relying only on distance support from the University. However, many students also attend institutions such as private colleges which prepare students for the examinations of the International Programmes of the University of London, and these provide a range of tuition and learning resources, such as a library, as well as a peer group. Some of those who study independently and some of those at institutions may also pay for individual private tuition, i.e. one-to-one coaching. These practices evolved at a time when the University of London was primarily an examining body and offered a limited amount of teaching and other support, but they have persisted to provide supplementary support.

The figures demonstrate that the majority (56.7%) study independently without attending a teaching institution, although 9.2% supplement their independent study with some private tuition. 42.9% attend a teaching institution and 11.9% also have private tuition. This confirms that a very large number of students have no academic support. One might expect various differences in information-seeking behaviour between approximately half the students with no academic support outside the distance learning environment and those with access to a teaching institution or private tuition.

Table 5.7.1: Mode of Study of Respondents by Gender

Mode of study	Frequency	% of sample	Female	% Female	Male	% Male	No response	% No response
At an institution (supplemented by private tuition)	201.0	31.0	113.0	56.2	88.0	43.8	0.0	0.0
At an institution (with NO private tuition)	77.0	11.9	54.0	70.1	23.0	29.9	0.0	0.0
Independent study (with NO private tuition)	308.0	47.5	143.0	46.4	165.0	53.6	0.0	0.0
Independent study (with private tuition)	60.0	9.2	28.0	46.7	31.0	51.7	1.0	1.7
No Response	3.0	0.5	3.0	100.0	0.0	0.0	0.0	0.0
Total	649							

The findings generally show that marginally more men than women are engaged in independent study (either with or without private tuition in addition) at 53.6% and 51.7% respectively. This may indicate that marginally more men are unable to attend an institution. 56.2% of those attending an institution and taking private tuition were women and 70.1% of those attending an institution without also taking private tuition were female. This is a significant difference because the proportions are higher than the overall percentages of female participation (see able 1.2). There were 3 'no responses'. The chi-square test for independence returned a p-value of 0.001 which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between mode of study and gender.

Table 5.7.2: Mode of Study by Age Range

Mode of study	under 25	% under 25	26-35	% 26-35	36-45	36-45%	46-45	% 46-55	56+	% 56+	NR	% NR
At an institution (supplemented by private tuition)	109	54.2	67	33.3	19	9.5	4	2.0	1	0.5	1	0.5
At an institution (with no private tuition)	48	62.3	19	24.7	8	10.4	2	2.6		0.0	0	0.0
Independent study (with No private tuition)	45	14.6	133	43.2	84	27.3	28	9.1	17	5.5	1	0.3
Independent study (with private tuition)	9	15.0	26	43.3	14	23.3	8	13.3	3	5.0	0	0.0
No Response	2	66.7	1	33.3	0	0.0	0	0		0.0	0	0.0

These figures clearly show that attendance at a teaching institution, with or without private tuition, is mainly undertaken by under-25-year-olds (62.3% and 54.2%), with a lower proportion of 26-35-year-olds (33.3% and 24.7%). A very small proportion of students at institutions are drawn from older age ranges. The reverse is true of independent study (with or without private tuition), with under-25-year-olds forming a smaller proportion than 26-35-year-olds and 36-45-year-olds and the only significant proportions of 46-55-year-olds and those aged 56 and over. This is hardly surprising given the age range participation in postgraduate courses and the likelihood that work commitments of older participants prevent attendance at an institution. These findings suggest that a large proportion of students depend on the Online Library as their main form of library provision and have very limited access to peers, tutors and librarians. This makes the provision of easy access and easy-to-use Online Library resources crucial. The chi-square test for independence returned a p-value of 3E-23 (means move 23 decimal places to the left), which is far less than 0.05 and therefore supports the hypothesis that there is a significant relationship between mode of study and age.

Table 5.7.3: Mode of Study by Level of Programme

Mode of study	PG	% PG	UG	% UG	Dip	% Dip	Cert	% Cert	Access	% Access	NR	
At an institution (supplemented by private tuition)	17	8.5	179	89.1	3	1.5	2	1.0		0.0	0	0.0
At an institution (with no private tuition)	9	11.7	66	85.7	1	1.3		0.0	1	1.3		0.0
Independent study (with NO private tuition)	99	32.1	187	60.7	6	1.9	5	1.6	9	2.9	2	0.6
Independent study (with private tuition)	25	41.7	30	50.0	2	3.3	1	1.7	2	3.3		0.0
No Response	1	33.3	2	66.7		0.0		0.0		0.0		0.0

The proportions of undergraduate students dominate in all modes of study as approximately three quarters of all respondents are undergraduate students. However, proportionately they are better represented among attendees at a teaching institution, with or without private tuition (89.1% and 85.7%). Although the majority of participants in independent study are also undergraduates, they do not make up the 75% that the overall proportion of undergraduates represent, and postgraduates make up 41.7% and 32.1% of those studying independently. 'No responses' represent only 3 respondents. The chi-square test for independence returned a p-value of 2E-10 (means move 10 decimal places to the left), which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between mode of study and level of programme.

Table 5.7.4: Mode of Study by English Language Proficiency

Mode of study	Frequency	% of sample	Yes	% Yes	No	% No	NR	%
At an institution (supplemented by private tuition)	201	31.0	77	38.3	104	51.7	20	10.0
At an institution (with NO private tuition)	77	11.9	51	66.2	26	33.8		0.0
Independent study (with NO private tuition)	308	47.5	167	54.2	137	44.5	4	1.3
Independent study (with private tuition)	60	9.2	34	56.7	25	41.7	1	1.7
No Response	3	0.5	2	66.7	1	33.3		0.0

Among respondents studying independently, only a marginal majority have English as a first language. Overall, the same obtains with those attending an institution: 128 with English as a first language and 130 with a different first language. However, there is a significant difference among those attending an institution, which suggests the impact of English language proficiency: of those taking additional private tuition only 38.3% had English as a first language, whereas of those who do not take private tuition 66.2% have English as a first language. This suggests that there are significant challenges and a significant need for additional academic support among those for whom English is not the first language. The chi-square test for independence returned a p-value of 0.006, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between mode of study and English language proficiency.

5.7.5 A cross-tabulation of Mode of Study by Programme yielded the same results as those of Table 5.5.5 - Programme of Study by Mode of Study.

Table 5.7.6: Mode of Study by Country

Mode of Study	At an Institution (Supplemented by Private Tuition)	At an Institution (with no Private Tuition)	Independent Study (with no Private Tuition)	Independent study (with private tuition)	No Response
3 Diff Countries	1.0	1.0	0.0	0.0	0.0
% 3 Diff Countries	0.2	0.2	0.0	0.0	0.0
Albania	0.0	0.0	1.0	0.0	0.0
% Albania	0.0	0.0	0.2	0.0	0.0
Armenia	0.0	0.0	0.0	1.0	0.0
% Armenia	0.0	0.0	0.0	0.2	0.0
Australia	0.0	0.0	5.0	0.0	0.0
% Australia	0.0	0.0	0.8	0.0	0.0
Austria	2.0	0.0	5.0	0.0	0.0
% Austria	0.3	0.0	0.8	0.0	0.0
Bahamas	0.0	0.0	1.0	0.0	0.0
% Bahamas	0.0	0.0	0.2	0.0	0.0
Bahrain	0.0	0.0	6.0	0.0	0.0
% Bahrain	0.0	0.0	0.9	0.0	0.0
Bangladesh	5.0	0.0	4.0	1.0	0.0
% Bangladesh	0.8	0.0	0.6	0.2	0.0
Barbados	0.0	0.0	2.0	0.0	0.0
% Barbados	0.0	0.0	0.3	0.0	0.0
Belgium	1.0	0.0	5.0	0.0	0.0
% Belgium	0.2	0.0	0.8	0.0	0.0
Brazil	0.0	0.0	3.0	0.0	0.0
% Brazil	0.0	0.0	0.5	0.0	0.0
Bulgaria	0.0	0.0	1.0	0.0	0.0
% Bulgaria	0.0	0.0	0.2	0.0	0.0
Cambodia	0.0	0.0	3.0	0.0	0.0
% Cambodia	0.0	0.0	0.5	0.0	0.0
Cameroon	0.0	0.0	1.0	0.0	0.0
% Cameroon	0.0	0.0	0.2	0.0	0.0
Canada	8.0	0.0	10.0	7.0	0.0
% Canada	1.2	0.0	1.5	1.1	0.0
Cayman Islands	0.0	0.0	1.0	0.0	0.0
% Cayman Islands	0.0	0.0	0.2	0.0	0.0
Colombia	0.0	0.0	2.0	0.0	0.0
% Colombia	0.0	0.0	0.3	0.0	0.0
Croatia	0.0	0.0	1.0	1.0	0.0
% Croatia	0.0	0.0	0.2	0.2	0.0
Cyprus	0.0	0.0	2.0	1.0	0.0
% Cyprus	0.0	0.0	0.3	0.2	0.0

Mode of Study	At an Institution (Supplemented by Private Tuition)	At an Institution (with no Private Tuition)	Independent Study (with no Private Tuition)	Independent study (with private tuition)	No Response
Czech Republic	0.0	2.0	0.0	0.0	0.0
% Czech Republic	0.0	0.3	0.0	0.0	0.0
Denmark	0.0	0.0	2.0	0.0	0.0
% Denmark	0.0	0.0	0.3	0.0	0.0
Dominica	0.0	0.0	0.0	3.0	0.0
% Dominica	0.0	0.0	0.0	0.5	0.0
Egypt	3.0	0.0	0.0	0.0	0.0
% Egypt	0.5	0.0	0.0	0.0	0.0
France	0.0	1.0	0.0	1.0	0.0
% France	0.0	0.2	0.0	0.2	0.0
Germany	0.0	0.0	6.0	1.0	0.0
% Germany	0.0	0.0	0.9	0.2	0.0
Ghana	0.0	0.0	2.0	1.0	0.0
% Ghana	0.0	0.0	0.3	0.2	0.0
Greece	0.0	0.0	3.0	1.0	0.0
% Greece	0.0	0.0	0.5	0.2	0.0
Guatemala	0.0	0.0	1.0	0.0	0.0
% Guatemala	0.0	0.0	0.2	0.0	0.0
Guyana	0.0	0.0	1.0	0.0	0.0
% Guyana	0.0	0.0	0.2	0.0	0.0
Hong Kong	9.0	4.0	15.0	2.0	0.0
% Hong Kong	1.4	0.6	2.3	0.3	0.0
India	2.0	2.0	5.0	0.0	0.0
% India	0.3	0.3	0.8	0.0	0.0
Indonesia	0.0	1.0	2.0	0.0	0.0
% Indonesia	0.0	0.2	0.3	0.0	0.0
Iran	0.0	0.0	0.0	1.0	0.0
% Iran	0.0	0.0	0.0	0.2	0.0
Israel	0.0	0.0	1.0	0.0	0.0
% Israel	0.0	0.0	0.2	0.0	0.0
Italy	1.0	0.0	5.0	0.0	0.0
% Italy	0.2	0.0	0.8	0.0	0.0
Jamaica	8.0	1.0	5.0	1.0	0.0
% Jamaica	1.2	0.2	0.8	0.2	0.0
Japan	1.0	0.0	5.0	1.0	0.0
% Japan	0.2	0.0	0.8	0.2	0.0
Kenya	0.0	0.0	5.0	0.0	0.0
%	0.0	0.0	0.8	0.0	0.0
Kuwait	0.0	0.0	1.0	0.0	0.0
% Kuwait	0.0	0.0	0.2	0.0	0.0

Mode of Study	At an Institution (Supplemented by Private Tuition)	At an Institution (with no Private Tuition)	Independent Study (with no Private Tuition)	Independent study (with private tuition)	No Response
Lithuania	0.0	0.0	1.0	0.0	0.0
% Lithuania	0.0	0.0	0.2	0.0	0.0
Macedonia	0.0	0.0	1.0	0.0	0.0
% Macedonia	0.0	0.0	0.2	0.0	0.0
Madagascar	0.0	0.0	1.0	0.0	0.0
% Madagascar	0.0	0.0	0.2	0.0	0.0
Malawi	0.0	0.0	2.0	0.0	0.0
% Malawi	0.0	0.0	0.3	0.0	0.0
Malaysia	12.0	4.0	9.0	2.0	0.0
% Malaysia	1.8	0.6	1.4	0.3	0.0
Malta	4.0	0.0	7.0	1.0	0.0
% Malta	0.6	0.0	1.1	0.2	0.0
Martinique	1.0	0.0	0.0	0.0	0.0
% Martinique	0.2	0.0	0.0	0.0	0.0
Mauritius	9.0	0.0	16.0	0.0	0.0
% Mauritius	1.4	0.0	2.5	0.0	0.0
Myanmar	0.0	1.0	0.0	0.0	0.0
% Myanmar	0.0	0.2	0.0	0.0	0.0
Namibia	1.0	0.0	0.0	0.0	0.0
% Namibia	0.2	0.0	0.0	0.0	0.0
New Zealand	3.0	0.0	1.0	1.0	0.0
% New Zealand	0.5	0.0	0.2	0.2	0.0
Nigeria	7.0	0.0	7.0	7.0	0.0
% Nigeria	1.1	0.0	1.1	1.1	0.0
No response	10.0	1.0	14.0	1.0	0.0
% No response	1.5	0.2	2.2	0.2	0.0
Other	2.0	0.0	2.0	0.0	0.0
% Other	0.3	0.0	0.3	0.0	0.0
Pakistan	7.0	4.0	11.0	0.0	0.0
% Pakistan	1.1	0.6	1.7	0.0	0.0
Peru	0.0	0.0	1.0	0.0	0.0
% Peru	0.0	0.0	0.2	0.0	0.0
Poland	3.0	0.0	2.0	1.0	0.0
%	0.5	0.0	0.3	0.2	0.0
Portugal	2.0	0.0	1.0	0.0	0.0
% Poland	0.3	0.0	0.2	0.0	0.0
Russia	11.0	8.0	5.0	1.0	1.0
% Russia	1.7	1.2	0.8	0.2	0.2
Rwanda	0.0	0.0	1.0	0.0	0.0
% Rwanda	0.0	0.0	0.2	0.0	0.0

Mode of Study	At an Institution (Supplemented by Private Tuition)	At an Institution (with no Private Tuition)	Independent Study (with no Private Tuition)	Independent study (with private tuition)	No Response
Saint Lucia	0.0	0.0	0.0	1.0	0.0
% Saint Lucia	0.0	0.0	0.0	0.2	0.0
Saudi Arabia	0.0	0.0	4.0	1.0	0.0
% Saudi Arabia	0.0	0.0	0.6	0.2	0.0
Serbia	0.0	0.0	1.0	0.0	0.0
% Serbia	0.0	0.0	0.2	0.0	0.0
Singapore	27.0	22.0	15.0	4.0	0.0
% Singapore	4.2	3.4	2.3	0.6	0.0
South Africa	0.0	0.0	3.0	0.0	0.0
% South Africa	0.0	0.0	0.5	0.0	0.0
South Korea	0.0	0.0	1.0	0.0	0.0
% Spain	0.0	0.0	0.2	0.0	0.0
Spain	6.0	3.0	8.0	1.0	0.0
% Spain	0.9	0.5	1.2	0.2	0.0
Sri Lanka	6.0	6.0	1.0	0.0	0.0
%	0.9	0.9	0.2	0.0	0.0
St Vincent and the Grenadines	0.0	0.0	2.0	0.0	0.0
% Sri Lanka	0.0	0.0	0.3	0.0	0.0
Sudan	0.0	1.0	3.0	0.0	0.0
% Sudan	0.0	0.2	0.5	0.0	0.0
Sweden	0.0	0.0	2.0	0.0	0.0
% Sweden	0.0	0.0	0.3	0.0	0.0
Switzerland	0.0	0.0	11.0	1.0	1.0
% Switzerland	0.0	0.0	1.7	0.2	0.2
Thailand	5.0	0.0	4.0	0.0	0.0
% Thailand	0.8	0.0	0.6	0.0	0.0
The Netherlands	0.0	0.0	1.0	0.0	0.0
% The Netherlands	0.0	0.0	0.2	0.0	0.0
Trinidad and Tobago	18.0	14.0	15.0	4.0	0.0
% Trinidad and Tobago	2.8	2.2	2.3	0.6	0.0
Uganda	0.0	0.0	1.0	0.0	0.0
% Uganda	0.0	0.0	0.2	0.0	0.0
United Arab Emirates	0.0	0.0	2.0	0.0	0.0
% United Arab Emirates	0.0	0.0	0.3	0.0	0.0
United Kingdom	18.0	1.0	25.0	6.0	0.0
% United Kingdom	2.8	0.2	3.9	0.9	0.0
United States	3.0	0.0	10.0	4.0	1.0
% United States	0.5	0.0	1.5	0.6	0.2

Mode of Study	At an Institution (Supplemented by Private Tuition)	At an Institution (with no Private Tuition)	Independent Study (with no Private Tuition)	Independent study (with private tuition)	No Response
Uruguay	4.0	0.0	2.0	0.0	0.0
% Uruguay	0.6	0.0	0.3	0.0	0.0
Vietnam	1.0	0.0	3.0	1.0	0.0
% Vietnam	0.2	0.0	0.5	0.2	0.0

Unsurprisingly, in countries where there are greater concentrations of students, there are also greater numbers attending a teaching institution. It only makes economic sense to offer teaching to those registered on a distance learning degree of the University of London if there are sufficient students to support an institution. In fact, there are several European countries with a low number of students, none of whom attends an institution. However, in the UK 31 respondents study independently compared to 19 studying at an institution. This might be explained by the fact that the UK students have easy access to their host institution (the University of London), good academic libraries and several public libraries. The good technology infrastructure in the UK also means that students can easily access online resources. In addition, students can access academic support during core hours when the online library support team is available, unlike students in, for example, Malaysia, who would have to wait until the following day because of the time difference.

The fact that some students have access to teaching institutions and to tutorial support while others do not, for one reason or another (time, costs), raises a fundamental question of equality which underlies the whole concept of distance learning and makes an investigation of the academic support role of the library important. A chi-square test has not been conducted because of the number of cells with zeros or no responses.

5.8 Highest Educational Qualification

Table 5.8: Highest Educational Qualification of respondents

Highest Educational qualification	Frequency	% of sample
Undergraduate Degree	254.0	39.1
Postgraduate Degree	133.0	20.5
A-Level	120.0	18.5
Diploma	70.0	10.8
Other (please specify)	26.0	4.0
No response	25.0	3.9
Certificate	10.0	1.5
Access / Foundation	11.0	1.7
Total	649.0	100.0

Overall about 15% of the respondents were studying for a postgraduate qualification (LLM, MBA in International Management, MRES, and CEFIMS and CEDEP programmes – see question 1). However, the figures above show that over 31% of respondents have a first-degree qualification. This indicates that a significant proportion of the students on the first-degree programmes have already participated in higher education and have another degree qualification. They may be changing to a different field of study, for example from another degree to law, or they may be supplementing a qualification from a local institution with a more prestigious qualification from the University of London. Likewise, over 20% of respondents have a postgraduate qualification already, and at this level they are likely to be taking a qualification in another field of specialisation. Only a small percentage of students are taking an Access course and almost all have traditional qualifications. Only 18.5% of students have A-levels as their highest educational qualification although 84.6% are engaged in undergraduate study. These figures suggest that a significant minority of students (32.5%) did not have an undergraduate degree. This finding is important as such students are unlikely to have had any experience of using a university library and academic electronic resources. Also worthy of note is the fact that respondents are generally more highly qualified than the minimum requirements for participation in their programme of study and are generally more highly qualified than students in the UK following the normal routes to entry to equivalent programmes; furthermore, a high proportion have participated in higher education already.

Table 5.8.1: Highest Educational Qualification of Respondents by Gender

Highest Educational Qualification	Frequency	% of sample	Female	% Female	Male	% Male	No Response	%
Undergraduate Degree	254.0	39.1	146.0	57.5	107.0	42.1	1.0	0.4
Postgraduate Degree	133.0	20.5	51.0	38.3	82.0	61.7	0.0	0.0
Diploma	70.0	10.8	36.0	51.4	34.0	48.6	0.0	0.0
Certificate	10.0	1.5	5.0	50.0	5.0	50.0	0.0	0.0
Access / Foundation	11.0	1.7	5.0	45.5	6.0	54.5	0.0	0.0
A-Level	120.0	18.5	72.0	60.0	48.0	40.0	0.0	0.0
Other	26.0	4.0	12.0	46.2	14.0	53.8	0.0	0.0
No response	25.0	3.9	14.0	56.0	11.0	44.0	0.0	0.0
Total	649.0	100.0						

The number of women with an undergraduate degree already is approximately the same proportion as those engaged in undergraduate study. The two sets of results with a marked difference are those for respondents who have a postgraduate degree and those for whom A-levels are the highest qualification. There are far more men with a postgraduate degree than women (61.7% men and 38.3% women), and there is a larger proportion of women with A-levels as their highest educational qualification (60% women and 40% men). These figures suggest that, when it comes to pursuing postgraduate study, Gender is a key determinant. One possible explanation of the difference in male and female career patterns is family responsibilities. The chi-square test for independence returned a p-value of 0.010, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between highest education qualification and gender.

Table 5.8.2: Highest Educational Qualification of Respondents by Age Range

Highest Educational qualification	Frequency	% of sample	Under 25	% under 25	26-35	% 26-35	36-45	% 36-45	46-55	% 46-55	56+	% %6+	NR
Undergraduate Degree	254.0	39.1	85.0	33.5	99.0	39.0	51.0	20.1	10.0	3.9	8.0	3.1	1.0
Postgraduate Degree	133.0	20.5	12.0	9.0	57.0	42.9	35.0	26.3	16.0	12.0	12.0	9.0	1.0
Diploma	70.0	10.8	23.0	32.9	28.0	40.0	16.0	22.9	3.0	4.3	0.0	0.0	0.0
Certificate	10.0	1.5	1.0	10.0	7.0	70.0	2.0	20.0	0.0	0.0		0.0	0.0
Access / Foundation	11.0	1.7	2.0	18.2	7.0	63.6	2.0	18.2	0.0	0.0	0.0	0.0	0.0
A-Level	120.0	18.5	68.0	56.7	33.0	27.5	12.0	10.0	7.0	5.8	0.0	0.0	0.0
Other	26.0	4.0	7.0	26.9	9.0	34.6	5.0	19.2	4.0	15.4	1.0	3.8	0.0
No response	25.0	3.9	15.0	60.0	6.0	24.0	4.0	16.0	0.0	0.0	0.0	0.0	0.0
Total	649.0	100.0											

Unsurprisingly, those respondents with A-levels as their highest educational qualification are most highly represented in the youngest age range (over 50% and at around 30% among those with diplomas and undergraduate degrees). Also, as might be expected, those with a postgraduate degree as their highest educational qualification are generally from higher age ranges, notably 26-35 and 36-45. However, the striking figures are those of respondents in the 26-35 age range accessing higher education with the highest educational qualification of a certificate or Access / Foundation course qualification. The figures show that 63.6% or almost two thirds of all students whose highest qualification is 'Access or Foundation' are in the 26-35 or higher age range. There are therefore more mature entrants who do not meet traditional higher educational entry requirements and are more likely to find studying independently (without peers, tutors etc.) and using library resources more challenging. These findings are supported by the cross-tabulation of 'highest educational qualification' and library use' (Table 5.8.7), which shows that the highest levels of non-use of the Online Library were from those with a certificate or Access / Foundation course qualifications. The chi-square test for independence returned a p-value of 7E-13 (means move 13 decimal places to the left), which is much less than 0.05 and therefore supports the hypothesis that there is a significant relationship between highest educational qualification and age.

Table 5.8.3: Highest Educational Qualification of Respondents by Programme of Study

Highest Educational qualification	Undergraduate Degree	Postgraduate Degree	Diploma	Certificate	Access/ Foundation	A-Level	Other (please specify)	No response
Frequency	254	133	70	10	11	120	26	25
%	39.1	20.5	10.8	1.5	1.7	18.5	4.0	3.9
Cefims	8	9	1	0	0	0	0	0
% Cefims	3.1	6.8	1.4	0.0	0.0	0.0	0.0	0.0

Highest Educational qualification	Undergraduate Degree	Postgraduate Degree	Diploma	Certificate	Access/ Foundation	A-Level	Other (please specify)	No response
CEDEP	6	8	1	0	0	0	0	1
% CEDEP	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EMFSS	91	45	39	7	7	52	11	3
% EMFSS	35.8	33.8	55.7	70.0	63.6	43.3	42.3	12.0
Int Mgt	8	5	4	1	1	1	0	1
% Int Mgt	3.1	3.8	5.7	10.0	9.1	0.8	0.0	4.0
Laws	126	39	25	2	3	67	12	20
% Laws	49.6	29.3	35.7	20.0	27.3	55.8	46.2	80.0
LLM	12	22	0	0	0	0	1	0
% LLM	4.7	16.5	0.0	0.0	0.0	0.0	3.8	0.0
MRES	1	5	0	0	0	0	2	0
% MRES	0.4	3.8	0.0	0.0	0.0	0.0	7.7	0.0
Other	2	0	0	0	0	0	0	0
% Other	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0

The figures confirm one of the earlier conclusions that those with a first degree already may be changing their subject of study, perhaps to a more career-orientated course. 50% of those with an undergraduate degree already are on the undergraduate law programme and 35% are on the EMFSS programme. These figures also suggest that although these students may have experience of using a university library, they may not be familiar with the resources in their new chosen programme / discipline. For instance, it is unlikely that students from other social sciences degrees would have encountered legal resources and legal databases. However, given the preponderance of respondents on those two programmes, almost all the categories of highest educational qualification are dominated by those two programmes. Around 30% of those with a postgraduate degree already are engaged in undergraduate study on the law or EMFSS programmes. The chi-square test for independence returned a p-value of 0.00, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between highest education qualification and programme of study.

Table 5.8.4: Highest Educational Qualification of Respondents by English Language Proficiency

Highest Educational qualification	Frequency	% of sample	Yes	% Yes	No	% No	NR	% No Response
Undergraduate Degree	254	39.1	122	48.0	118	46.5	14	5.5
Postgraduate Degree	133	20.5	73	54.9	52	39.1	8	6.0
Diploma	70	10.8	42	60.0	28	40.0	0	0.0
Certificate	10	1.5	4	40.0	6	60.0	0	0.0
Access / Foundation	11	1.7	5	45.5	6	54.5		0.0
A-Level	120	18.5	56	46.7	61	50.8	3	2.5
Other (please specify)	26	4.0	18	69.2	8	30.8	0	0.0
No response	25	3.9	11	44.0	14	56.0	0	0.0

The highest levels of respondents with another language apart from English as their first language can be found among those taking Certificate or Access / Foundation courses, followed by those whose

highest qualification is A-levels. There are higher levels of respondents with English as a first language than not among undergraduate students, and even higher levels among postgraduate students. These findings might suggest a correlation between English language proficiency and progression to higher-degree studies. However, the chi-square test returned a p-value of 0.364, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between highest educational qualification and language proficiency.

Table 5.8.5: Highest Educational Qualification of Respondents by Mode of Study

Highest Educational qualification	At Ins & Tuition	% At Inst & Tuition	At ins No Tuition	% at Inst No Tuition	Indep No Tuition	% Indep No Tuition	Indep & Tuition	% Indep & Tuition	No Response	% NR
Undergraduate Degree	84.0	33.1	28.0	11.0	119.0	46.9	22.0	8.7	1.0	0.4
Postgraduate Degree	19.0	14.3	8.0	6.0	85.0	63.9	21.0	15.8	0.0	0.0
Diploma	24.0	34.3	14.0	20.0	27.0	38.6	5.0	7.1	0.0	0.0
Certificate	0.0	0.0	1.0	10.0	7.0	70.0	2.0	20.0	0.0	0.0
Access / Foundation	1.0	9.1	1.0	9.1	9.0	81.8		0.0	0.0	0.0
A-Level	49.0	40.8	22.0	18.3	41.0	34.2	7.0	5.8	1.0	0.8
Other (please specify)	6.0	23.1	2.0	7.7	17.0	65.4	1.0	3.8		0.0
No response	18.0	72.0	1.0	4.0	3.0	12.0	2.0	8.0	1.0	4.0

Overall, these findings demonstrate that, for this sample of students, large proportions at all levels of educational achievement are studying independently rather than at an institution, and only small numbers resort to private tuition (see Table 5.7). This is especially the case among those with Certificate or Access / Foundation course qualifications but also among those with a postgraduate degree. Those who have A-levels as their highest qualification are the category with the largest proportion at an institution and almost the highest proportion also taking private tuition, followed by diploma students and undergraduate students. The chi-square test returned a p-value of 5E-07 (means move 7 decimal places to the left), which is much less than 0.05 and therefore supports the hypothesis that there is a significant relationship between highest educational qualification and mode of study.

Table 5.8.6: Highest Educational Qualification of Respondents by Country.

Response	Undergraduate Degree	Postgraduate Degree	Diploma	Certificate	Access/ Foundation	A-Level	Other (please specify)	No response
% 3 diff countries	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Albania	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0
% Armenia	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
% Australia	1.2	1.5	1.4	0.0	0.0	0.0	0.0	0.0
% Austria	1.2	1.5	0.0	0.0	0.0	0.8	0.0	0.0
% Bahamas	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
% Bahrain	1.2	0.8	0.0	0.0	0.0	1.6	0.0	0.0
% Bangladesh	2.8	0.0	0.0	0.0	0.0	1.7	0.0	4.0
% Barbados	0.4	0.8	0.0	0.0	0.0	0.0	0.0	0.0
% Belgium	0.8	2.3	0.0	0.0	0.0	0.0	3.8	0.0
% Brazil	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
% Bulgaria	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
% Cambodia	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Cameroon	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0
% Canada	3.1	5.3	5.7	0.0	0.0	4.2	0.0	8.0
% Cayman Islands	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
% Colombia	0.4	0.8	0.0	0.0	0.0	0.0	0.0	0.0
% Croatia	0.4	0.0	0.0	10.0	0.0	0.0	0.0	0.0
% Cyprus	0.4	0.8	1.4	0.0	0.0	0.0	0.0	0.0
% Czech Republic	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0
% Denmark	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0
% Dominica	0.8	0.0	0.0	0.0	0.0	0.0	3.8	0.0
% Egypt	0.4	0.0	0.0	0.0	0.0	1.7	0.0	0.0
% France	0.4	0.8	0.0	0.0	0.0	0.0	0.0	0.0
% Germany	0.8	1.5	0.0	10.0	18.2	0.0	3.8	0.0
% Ghana	0.0	1.5	0.0	0.0	0.0	0.0	0.0	4.0
% Greece	0.8	0.8	0.0	0.0	0.0	0.0	3.8	0.0
% Guatemala	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
% Guyana	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
% Hong Kong	6.7	5.3	2.9	0.0	0.0	2.5	0.0	0.0

Response	Undergraduate Degree	Postgraduate Degree	Diploma	Certificate	Access/ Foundation	A-Level	Other (please specify)	No response
% India	0.4	3.8	0.0	0.0	0.0	0.8	0.0	8.0
% Indonesia	0.4	0.8	1.4	0.0	0.0	0.0	0.0	0.0
% Iran	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0
% Israel	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
% Italy	0.8	1.5	0.0	0.0	0.0	1.7	0.0	0.0
% Jamaica	4.3	1.5	0.0	0.0	0.0	0.0	3.8	4.0
% Japan	0.8	0.8	1.4	0.0	0.0	1.7	0.0	0.0
% Kenya	0.8	0.8	1.4	0.0	0.0	0.0	3.8	0.0
% Kuwait	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Lithuania	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0
% Macedonia	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0
% Madagascar	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
% Malawi	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Malaysia	4.7	4.5	1.4	0.0	9.1	5.8	0.0	0.0
% Malta	1.6	3.8	0.0	0.0	0.0	1.7	0.0	4.0
% Martinique	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
% Mauritius	2.8	1.5	2.9	0.0	0.0	8.3	3.8	12.0
% Myanmar	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
% Namibia	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0
% New Zealand	0.8	1.5	0.0	0.0	0.0	0.8	0.0	0.0
% Nigeria	3.2	2.3	2.9	10.0	18.2	2.5	0.0	8.0
% No response	4.7	3.8	4.3	20.0	18.2	1.7	0.0	0.0
% Other	0.4	0.8	2.9	0.0	0.0	0.0	0.0	0.0
% Pakistan	3.9	1.5	1.4	0.0	0.0	5.8	3.8	4.0
% Peru	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
% Poland	0.8	1.5	0.0	0.0	0.0	0.8	0.0	4.0
% Portugal	0.4	0.0	1.4	0.0	0.0	0.0	0.0	4.0
% Russia	5.5	3.8	1.4	0.0	0.0	2.5	7.7	4.0
% Rwanda	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Saint Lucia	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0
% Saudi Arabia	0.0	0.0	1.4	0.0	18.2	0.8	3.8	0.0
% Serbia	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0

Response	Undergraduate Degree	Postgraduate Degree	Diploma	Certificate	Access/ Foundation	A-Level	Other (please specify)	No response
% Singapore	11.8	6.8	17.1	0.0	9.1	11.7	3.8	0.0
% South Africa	0.0	0.0	2.9	0.0	0.0	0.0	3.8	0.0
% South Korea	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Spain	2.0	1.5	5.7	0.0	0.0	4.2	0.0	8.0
% Sri Lanka	0.4	0.8	5.7	0.0	0.0	5.8	0.0	0.0
% St Vincent and the Grenadines	0.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0
% Sudan	0.0	0.8	0.0	20.0	0.0	0.0	3.8	0.0
% Sweden	0.4	0.0	1.4	0.0	0.0	0.0	0.0	0.0
% Switzerland	3.1	3.0	0.0	0.0	0.0	0.0	3.8	0.0
% Thailand	0.8	0.8	2.9	10.0	0.0	1.7	3.8	0.0
% The Netherlands	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
% Trinidad and Tobago	6.7	3.8	8.6	0.0	0.0	16.7	11.5	0.0
% Uganda	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
% United Arab Emirates	0.4	0.0	1.4	0.0	0.0	0.0	0.0	0.0
% United Kingdom	6.7	7.5	10.0	0.0	9.1	7.5	15.4	8.0
% United States	2.4	3.8	0.0	0.0	0.0	2.5	11.5	4.0
% Uruguay	2.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
% Vietnam	1.2	0.0	0.0	0.0	0.0	0.8	0.0	0.0

Those with an undergraduate degree as their highest qualification are drawn from a wide variety of countries but are in the highest proportions from the countries already noted as having the highest penetration of the programmes, i.e. Malaysia, Hong Kong, Singapore, Mauritius, Trinidad and Tobago as well as the UK but also Canada and Spain. Those with a postgraduate degree are drawn in higher proportions from the same countries (except Spain) but also Switzerland, Nigeria and the USA, and are generally drawn from a more narrow variety of countries. Although involving fewer respondents, the Access / Foundation and Certificate programmes include students from different countries such as Colombia, Guatemala, Iran, Saudi Arabia, South Africa, USA, and Vietnam, suggesting that the programmes provide a route for those accessing higher education by non-traditional routes. Those with a Diploma as their highest qualification come from different countries again and are more concentrated in particular counties (e.g. 25% from Russia, 16.7% from France. A chi-square test has not been conducted because of the number of cells with zeros or no responses.

Table 5.8.7: Highest Educational Qualification of Respondents by Library Use

Highest Educational qualification	Frequency	%	No	% No	Yes	% Yes	NR	% No Response
Undergraduate Degree	254	39.1	49	19.3	202	79.5	3	1.2
Postgraduate Degree	133	20.5	26	19.5	103	77.4	4	3.0
Diploma	70	10.8	11	15.7	54	77.1	5	7.1
Certificate	10	1.5	3	30.0	7	70.0		0.0
Access / Foundation	11	1.7	4	36.4	6	54.5	1	9.1
A-Level	120	18.5	24	20.0	89	74.2	7	5.8
Other (please specify)	26	4.0	4	15.4	21	80.8	1	3.8
No response	25	3.9	4	16.0	21	84.0	1	4.0
Total	649	100						

Table 5.8.7: Highest Educational Qualification of Respondents by Library Use
High proportions of respondents indicated use of the Online Library although 20% of undergraduate and postgraduate students did not use the library and there were small but significant numbers of 'no responses'. The highest levels of non-use of the Online Library were from those with a Certificate or Access / Foundation course qualifications who would have had less experience of higher education (30 and 36.4% non-use). However, those with A-levels as their highest qualification returned a non-use rate of 20%, the same as those who already had a degree. The chi-square test value of 0.760 is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between highest education qualification and library use.

5.9 Purpose of Information Activity

Table 5.9: Purpose of Respondents' Information Activity

Purpose of information gathering	Frequency	Percentage (%) of sample
Preparation for exams and tests	479	73.8
Course work and assignments	423	65.2
To supplement course materials	314	48.4
General Reading / Current awareness	192	29.6
Dissertation and Research	83	12.8
Other (please specify)	1	0.2

These findings show that the purpose of the respondents' information activity is firmly task-orientated to specific goals. Respondents could choose more than one answer. 65.2% indicated use for course work and assignments while 73.8% chose preparation for examinations and tests. Almost 50% indicated use to supplement course reading, which tends to indicate wider reading unless it actually means finding recommended reading that has not been supplied in full text in the course materials. The category of general reading and current awareness, which represents a good indication of the need for broad materials less focused on specific recommended items, was chosen by only 29.6%, while dissertation and research, which would require broad and deep collections, was chosen by 12.8%. One student did not specify the purpose of their information activity. These findings clearly have implications for the nature of the materials provided by the Online Library and, more broadly, for the nature of the course and its requirements.

Table 5.9.1: Purpose of Respondents' Information Activity by Gender

Purpose of Information Activity	Frequency	%	Female	% Female	Male	% Male	No Response	% No Response
Course work and assignments	423	65.2	224	53.0	198	46.8	1	0.2
General reading/current awareness	192	29.6	106	55.2	86	44.8	0	0.0
Dissertation and research	83	12.8	44	53.0	38	45.8	1	1.2
Preparation for exams and tests	479	73.8	252	52.6	226	47.2	1	0.2
To supplement course materials	314	48.4	168	53.5	146	46.5	0	0.0
Other (please specify)	1	0.2	1	100.0	0	0.0	*0*	0.0
Total	649							

The findings show that more female respondents engage in 'general reading activities' (55%), supplement their course reading (54%), and also do more in-depth research (53.6%) than their male counterparts. The 'Other' category represents only 1 response and is not significant. The chi-square test returned a p-value of 0.000, which is less than 0.05 and supports the hypothesis that there is a significant relationship between distance learners' information-seeking activities and gender.

Table 5.9.2: Purpose of Respondents' Information Activity by Age Range

Purpose of information gathering	Under 25	% under 25	26-35	% 26-35	36-45	% 36-45	46-55	% 46-55	56+	% 56+	NR	% NR
Coursework and assignments	140.0	33.1	152.0	35.9	85.0	20.1	27.0	6.4	17.0	4.0	2.0	0.5
General Reading/Current awareness	68.0	35.4	73.0	38.0	33.0	17.2	11.0	5.7	7.0	3.6		0.0
Dissertation and Research	15.0	18.1	33.0	39.8	20.0	24.1	8.0	9.6	6.0	7.2	1.0	1.2
Preparation for exams and tests	177.0	37.0	179.0	37.4	81.0	16.9	23.0	4.8	17.0	3.5	2.0	0.4
To supplement course materials	97.0	30.9	123.0	39.2	62.0	19.7	23.0	7.3	8.0	2.5	1.0	0.3
Other (please specify)	1.0	100.0		0.0		0.0		0.0		0.0		0.0
Total												

Comparing this set of responses to the general distribution of age ranges, there is little variation. This tends to suggest that age is not a significant factor in determining the purpose of information activity. There may be a correlation of purpose of information activity by level of programme which is in part itself determined by age range (see 5.9.3 below). The chi-square test returned a p-value of 0.217, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between distance learners' information-seeking activities and age.

Table 5.9.3: Purpose of Respondents' Information Activity by Level of Programme

Purpose of information gathering	PG	% PG	UG	% UG	Diploma	% Diploma	Cert	% Cert	Access	% Access	NR	% No Response
Course work and assignments	91	21.5	316	74.7	5	1.2	3	0.7	6	6.6	2	0.5
General Reading/Current awareness	52	27.1	134	69.8	1	0.5	1	0.5	4	7.7	0	0.0
Dissertation and Research	46	55.4	33	39.8	2	2.4	2	2.4	0	0.0	0	0.0
Preparation for exams and tests	85	17.7	377	78.7	3	0.6	4	0.8	7	8.2	3	0.6
To supplement course materials	74	23.6	222	70.7	6	1.9	1	0.3	7	9.5	4	1.3
Other (please specify)	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0

Of those indicating the purpose of 'dissertation and research', 55.4% are postgraduate students, although 39.8% indicating this purpose are undergraduates (this purpose, however, was chosen by only around 12% of the total respondents). Unsurprisingly, 'course work and assignments' and 'preparation for examinations and tests' drew the largest number of respondent choices from among undergraduates. There was a majority of undergraduates among those indicating 'general reading and current awareness' although postgraduates, who are also represented, may have included this type of information activity in 'dissertation and research'. The 'Other' percentage represents only one response. The chi-square test retuned a p-value of 0.001, which is less than 0.05 and supports the hypothesis that there is a significant relationship between purpose of information-seeking activity and level of programme

Table 5.9.4: Purpose of Respondents' Information Activity by English Language Proficiency

Purpose of information gathering	Yes	% Yes	No	% No	NR	% No Response
Course work and assignments	219	51.8	179	42.3	25	5.9
General Reading/Current awareness	95	49.5	78	40.6	19	9.9
Dissertation and Research	45	54.2	38	45.8		0.0
Preparation for exams and tests	247	51.6	213	44.5	19	4.0
To supplement course materials	168	53.5	127	40.4	19	6.1
Other (please specify)	1	100.0			0	
Total						

There seems to be little correlation between English language proficiency and the purpose of the information activity undertaken, which seems to be determined more by level of programme. The chi-square test returned a p-value of 0.940, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' information-seeking activities and English language proficiency.

Table 5.9.5: Purpose of Respondents' Information Activity by Mode of Study

Purpose of information gathering	Course work and assignments	General Reading/Current awareness	Dissertation and Research	Preparation for exams and tests	To supplement course materials	Other (please specify)
At institution &Tuition	147	59	7	161	102	0.00
% At Institution and Tuition	34.8	30.7	8.4	33.6	32.50	0.00
At Institution with no Tuition	43	20	18	58	47	0.00
% At institution no Tuition	10.2	10.4	21.7	12.1	15.00	0.0
Independent no Tuition	189	93	43	220	139	1
% Independent no Tuition	44.7	48.4	51.8	45.9	44.3	100.0

Purpose of information gathering	Course work and assignments	General Reading/Current awareness	Dissertation and Research	Preparation for exams and tests	To supplement course materials	Other (please specify)
Independent +Tuition	41	19	14	38	26	0
% Independent with Tuition	9.7	9.9	16.9	7.9	8.3	0.0
No response	3	1	1	2	0	0
% No response	0.7	0.5	1.2	0.4	0.0	0.0

Overall, the findings indicate that respondents who study independently perform more general and current awareness activities (48.4% instead of 47.5%) and more research and dissertation activities (51.8%) than those registered at an institution (see Table 5.7 for an explanation of Mode of Study). This indicates the need for broad materials that are less focused on specific recommended items and broad and deep collections. On the other hand, respondents who are registered at an institution performed more 'coursework and assignment-related' activities (34.8% instead 31%) as well as exam and test-related activities (33.6%). Although there is a clear indication that the mode of study influences respondents' information-seeking activities, this could be linked to the level of the programme because, as already established, the majority of students who are studying independently are postgraduates while the majority of those registered with an institution are undergraduates. The chi-square test retuned a p-value of 0.001, which is less than 0.05 and supports the hypothesis that there is a significant relationship between Purpose of information Activity and Mode of study.

Table 5.9.6: Purpose of Respondents' Information Activity by Country

Response	Course work and assignments	General Reading/Current awareness	Dissertation and Research	Preparation for exams and tests	To supplement course materials	Other (please specify)
% 3 diff countries	0.0	0.5	0.0	0.2	0.3	0.0
% Albania	0.0	0.5	0.0	0.0	0.0	0.0
% Armenia	0.2	0.5	0.0	0.2	0.3	0.0
% Australia	1.2	0.0	1.2	0.2	0.3	0.0
% Austria	1.4	0.5	2.4	1.0	1.0	0.0
% Bahamas	0.2	0.5	0.0	0.2	0.3	0.0
% Bahrain	0.9	0.5	0.0	0.8	0.6	0.0
% Bangladesh	1.9	2.1	0.0	2.1	1.6	0.0
% Barbados	0.2	0.0	0.0	0.2	0.6	0.0
% Belgium	1.2	1.0	1.2	1.0	1.3	0.0
% Brazil	0.5	1.0	0.0	0.4	1.0	0.0
% Bulgaria	0.2	0.5	1.2	0.2	0.3	0.0
% Cambodia	0.7	0.0	0.0	0.4	0.6	0.0
% Cameroon	0.0	0.5	0.0	0.2	0.3	0.0
% Canada	5.4	4.7	4.8	4.2	4.1	0.0
% Cayman Islands	0.0	0.5	1.2	0.2	0.0	0.0
% Colombia	0.0	0.0	0.0	0.4	0.0	0.0
% Croatia	0.2	0.0	1.2	0.2	0.0	0.0

Response	Course work and assignments	General Reading/Current awareness	Dissertation and Research	Preparation for exams and tests	To supplement course materials	Other (please specify)
% Cyprus	0.2	0.0	1.2	0.4	1.0	0.0
% Czech Republic	0.5	0.0	2.4	0.0	0.6	0.0
% Denmark	0.0	0.0	0.0	0.4	0.6	0.0
% Dominica	0.7	0.0	0.0	0.6	1.0	0.0
% Egypt	0.7	0.0	0.0	0.6	0.6	0.0
% France	0.0	0.0	0.0	0.0	0.6	0.0
% Germany	0.9	0.0	1.2	1.0	0.3	0.0
% Ghana	0.5	1.6	2.4	0.0	0.6	0.0
% Greece	0.2	0.0	1.2	0.6	0.3	0.0
% Guatemala	0.0	0.5	0.0	0.0	0.0	0.0
% Guyana	0.2	0.0	1.2	0.2	0.0	0.0
% Hong Kong	5.7	4.2	3.6	4.4	4.8	0.0
% India	1.2	2.6	0.0	1.9	1.9	0.0
% Indonesia	0.5	0.0	1.2	0.2	0.3	0.0
% Iran	0.0	0.0	0.0	0.2	0.0	0.0
% Israel	0.2	0.0	0.0	0.2	0.3	0.0
% Italy	0.9	1.0	2.4	1.3	0.0	0.0
% Jamaica	2.6	2.1	1.2	2.5	2.2	0.0
% Japan	1.4	0.5	0.0	0.8	1.3	0.0
% Kenya	0.9	0.5	0.0	0.8	1.3	0.0
% Kuwait	0.2	0.0	1.2	0.2	0.0	0.0
% Lithuania	0.0	0.5	0.0	0.2	0.3	0.0
% Macedonia	0.0	0.5	0.0	0.2	0.0	0.0
% Madagascar	0.0	0.5	0.0	0.0	0.3	0.0
% Malawi	0.2	0.0	0.0	0.2	0.6	0.0
% Malaysia	5.7	5.7	2.4	4.8	5.1	0.0
% Malta	0.9	2.1	3.6	1.9	1.0	0.0
% Martinique	0.2	0.0	0.0	0.2	0.3	0.0
% Mauritius	3.3	2.6	3.6	3.8	4.1	0.0
% Myanmar	0.2	0.5	0.0	0.0	0.3	0.0
% Namibia	0.2	0.5	0.0	0.0	0.3	0.0
% New Zealand	0.9	1.6	0.0	0.6	0.6	0.0
% Nigeria	2.8	3.1	2.4	2.5	1.6	0.0
% No response	2.4	5.7	4.8	3.5	4.5	0.0
% Other	0.9	0.5	0.0	0.8	0.3	0.0
% Pakistan	3.8	4.2	3.6	3.3	2.9	0.0
% Peru	0.0	0.5	0.0	0.2	0.3	0.0
% Poland	0.5	1.6	2.4	1.0	1.3	100.0
% Portugal	0.7	0.5	0.0	0.4	0.3	0.0
% Russia	3.8	2.6	8.4	3.1	3.5	0.0
% Rwanda	0.2	0.0	0.0	0.0	0.0	0.0
% Saint Lucia	0.0	0.0	1.2	0.0	0.0	0.0
% Saudi Arabia	1.2	0.0	1.2	0.4	0.6	0.0
% Serbia	0.0	0.0	0.0	0.2	0.0	0.0
% Singapore	7.8	10.9	7.2	10.2	7.3	0.0

Response	Course work and assignments	General Reading/Current awareness	Dissertation and Research	Preparation for exams and tests	To supplement course materials	Other (please specify)
% South Africa	0.7	1.0	0.0	0.4	0.6	0.0
% South Korea	0.2	0.5	0.0	0.2	0.3	0.0
% Spain	2.6	4.2	1.2	3.1	2.2	0.0
% Sri Lanka	2.6	2.6	1.2	2.5	2.2	0.0
% St Vincent and the Grenadines	0.0	0.0	0.0	0.4	0.0	0.0
% Sudan	0.9	0.5	0.0	0.8	1.0	0.0
% Sweden	0.2	0.0	1.2	0.4	0.3	0.0
% Switzerland	2.4	1.6	3.6	1.9	1.3	0.0
% Thailand	1.2	1.0	2.4	1.5	0.6	0.0
% The Netherlands	0.0	0.0	0.0	0.2	0.3	0.0
% Trinidad and Tobago	7.6	6.3	6.0	7.9	9.9	0.0
% Uganda	0.2	0.0	0.0	0.2	0.3	0.0
% United Arab Emirates	0.0	0.0	0.0	0.2	0.6	0.0
% United Kingdom	6.9	8.3	2.4	8.6	9.9	0.0
% United States	3.8	3.1	0.0	2.7	2.5	0.0
% Uruguay	1.4	0.0	0.0	1.3	1.0	0.0
% Vietnam	1.2	0.0	1.2	1.0	0.6	0.0

There seem to be no significant variations between these findings and those showing the distribution of students by country and level of programme.

Table 5.9.7: Purpose of Respondents' Information Activity by Information Sources Used Most Frequently.

Purpose of information gathering	Course work and assignments	General Reading/Current awareness	Dissertation and Research	Preparation for exams and tests	To supplement course materials	Other (please specify)
Frequency	423	192	83	479	314	1
Course textbooks	361.0	158.0	60.0	404.0	263.0	1.0
% Course textbooks	85.3	82.3	72.3	84.3	83.8	100.0
Free sources on the internet	367.0	158.0	59.0	392.0	249.0	1.0
% Free sources on the internet	86.8	82.3	71.1	81.8	79.3	100.0
Course VLE	231.0	119.0	33.0	260.0	142.0	1.0
% Course VLE	54.6	62.0	39.8	54.3	45.2	100.0
Online Library	250.0	124.0	58.0	270.0	187.0	1.0
% Online Library	59.1	64.6	69.9	56.4	59.6	100.0
E-books	45.0	24.0	17.0	46.0	44.0	1.0
% E-books	10.6	12.5	20.5	9.6	14.0	100.0
Purchase Books	128.0	55.0	24.0	156.0	101.0	0.0

Purpose of information gathering	Course work and assignments	General Reading/Current awareness	Dissertation and Research	Preparation for exams and tests	To supplement course materials	Other (please specify)
% Purchase Books	30.3	28.6	28.9	32.6	32.2	0.0
Newspapers	28.0	21.0	8.0	35.0	28.0	0.0
% Newspapers	6.6	10.9	9.6	7.3	8.9	0.0
Thesis and Dissertation	19.0	12.0	13.0	14.0	16.0	0.0
% Thesis and Dissertation	4.5	6.3	15.7	2.9	5.1	0.0
Print journals conference proceedings	25.0	19.0	10.0	26.0	27.0	0.0
% Print journals conference proceedings	5.9	9.9	12.0	5.4	8.6	0.0
Other (family and friends)	59.0	1.0	3.0	60.0	28.0	0.0
% Other (family and friends)	13.9	0.5	3.6	12.5	8.9	0.0

The use of course textbooks (generally 80.1%) is less relevant for but still widely used for dissertation and research, as are free resources on the Internet (generally 79%). The VLE is designed to deliver course materials and not for research or for general reading but it is used proportionately more for general reading and current awareness at 61% (generally 53%) but much less for dissertations and research (39.8%) and by definition less for supplementing course materials (but still 45.2%). The Online Library (generally 56.9%) is used rather more for general reading (64.6%) and for dissertations and research (70.1%), although it is still used less than course textbooks and the Internet. The small number of respondents using e-books mainly used them for dissertation and research and to supplement course materials rather than for more directly course-related work. Books purchased are used for all purposes, a little less for general reading and research at just over 28% and a little more for examination preparation and to supplement course materials at just over 32%. Newspapers (generally 8.2%), are more used for general reading and current awareness, presumably the latter, at 10.9% and dissertations and research at 9.6%. Theses (generally 4.3%) and print journals (generally 6.5%) are both used proportionately far more for dissertations and research (15.7% and 12% respectively). Students usually turn to the same resources: course textbooks and free Internet resources, to a lesser extent the Online Library and fewer to the course VLE, and then to purchased textbooks. However, there is a more concentrated use of certain resources to support research, and these are the sources more suited to research support with a wider coverage of materials. The unexpected result is the high use of the course VLE for general reading (62%). The chi-square test returned a p-value of 0.000 which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' information-seeking activities and Information Sources Used Most Frequently.

5.10 Information Sources

Table 5.10: Information Sources Used Most Frequently

Information Source	Frequency	Percentage (%) of sample)
Course textbooks	520	80.1

Information Source	Frequency	Percentage (%) of sample)
Free sources on the internet	513	79.0
Online Library	369	56.9
Course VLE	344	53.0
Purchase Books	205	31.6
E-books	70	10.8
Other (family and friends)	62	9.6
Newspapers	53	8.2
Print journals conference proceedings	42	6.5
Thesis and Dissertation	28	4.3
Other	20	3.1

Course textbooks are used most extensively among respondents (over 80%), and this is unsurprising given the overwhelming number of undergraduate students. These are supplemented by the purchase of books, made by just under a third of respondents, and the use of e-books by nearly 11%. Interestingly, the Course VLE, which one would have thought was essential, was cited by only 53%. The Online Library of selected high-quality materials was cited by rather more respondents at 56.9%. However, one of the most interesting findings, which has important implications for the provision of materials whether by the Online Library or other methods of provision by the teaching institution, is that 79% of respondents cited free sources on the Internet. There are, of course, many reliable free resources on the Internet but, equally, there are many unreliable, dated, and interpreted resources. The other interesting finding is the frequent use of 'family and friends' as an information source, which was specifically cited by 62 students (almost 10%). Interestingly enough, this source was not even listed as an option from which to choose.

Of the 62, 55 students or 88.7% were undergraduates, while 7 students or 11.3% were postgraduates. Although this result could be related to the proportionately higher numbers of undergraduates, when compared with the more balanced gender ratio of 32 females to 30 males it may suggest that postgraduate students depend less on informal sources, which cannot be cited when conducting research.

Table 5.10.1: Information Sources Used Most Frequently by Gender

Information Source	Frequency	%	Female	% Female	Male	% Male	No Response	% No Response
Course textbooks	520	80.1	277	53.3	243	46.7	0	0.0
Free sources on the internet	513	79.0	278	54.2	234	45.6	1	0.2
Course VLE	344	53.0	192	55.8	151	43.9	0	0.0
Online Library	369	56.9	199	53.9	169	45.8	1	0.3
E-books	70	10.8	28	40.0	42	60.0	0	0.0
Purchase Books	205	31.6	100	48.8	105	51.2	0	0.0
Newspapers	53	8.2	20	37.7	33	62.3	0	0.0
Thesis and Dissertation	28	4.3	11	39.3	17	60.7	0	0.0

Information Source	Frequency	%	Female	% Female	Male	% Male	No Response	% No Response
Print journals conference proceedings	42	6.5	22	52.4	20	47.6	0	0.0
Other (family and friends)	62	9.6	32	51.6	30	48.4	0	0.0
Other	20	3.1	12	60.0	8	40.0	0	0.0
Total	649							

There seems to be little significance in these findings. The proportion of women is similar to those overall, with perhaps a slightly higher proportion of men purchasing books and using e-books than their overall representation might indicate. The higher use of theses and dissertations by men may coincide with the higher number of men undertaking postgraduate degrees (but see 10.2 and 10.3 below). The chi-square test returned a p-value of 0.09, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between the 'Use of Information Sources and gender'.

Table 5.10.2: Information Sources Used Most Frequently by Age Range

Information Source	Frequency	%	Under 25	% under 25	26-35	% 26-35	36-45	% 36-45	46-55	% 46-55	56+	% 56+	NR	%
Course textbooks	520	80.1	174	33.5	199	38.3	95	18.3	35	6.7	15	2.9	2	0.4
Free sources on the internet	513	79.0	177	34.5	192	37.4	98	19.1	28	5.5	16	3.1	2	0.4
Course VLE	344	53.0	138	40.1	120	34.9	53	15.4	25	7.3	7	2.0	1	0.3
Online Library	369	56.9	106	28.7	149	40.4	69	18.7	27	7.3	17	4.6	1	0.3
E-books	70	10.8	30	42.9	21	30.0	11	15.7	6	8.6	2	2.9	0	0.0
Purchase Books	205	31.6	66	32.2	78	38.0	29	14.1	21	10.2	9	4.4	2	1.0
Newspapers	53	8.2	19	35.8	11	20.8	15	28.3	3	5.7	4	7.5	0	1.0
Thesis and Dissertation	28	4.3	15	53.6	7	25.0	3	10.7	2	7.1	1	3.6	0	0.0
Print journals conference proceedings	42	6.5	12	28.6	19	45.2	5	11.9	4	9.5	2	4.8	0	0.0
Other (family and friends)	62	9.6	24	38.7	25	40.3	7	11.3	2	3.2	4	6.5	0	0.0
Other	20	3.1	2	10.0	13	65.0	3	15.0	2	10.0	0	0.0	0	0.0

In general, the users of each category of information sources reflect the general disposition of respondents across the age ranges, although the 26-35-year-olds are proportionally a little more heavily represented, for example, in the use of the Online Library and the purchase of books. Print journals and conference proceedings appear to be more used by older age ranges which are more represented among the higher-degree studies, and this may be clarified in 10.3. However, the chi-square text returned a p-value of 0.105, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between 'Information Sources Used Most Frequently' and age.

Table 5.10.3: Information Sources Used Most Frequently by Level of Programme

Information Source	Frequency	%	PG	% PG	UG	% UG	Dip	% Dip	Cert	% Cert	Access	% Access	NR	% No Response
Course textbooks	520	80.1	111	21.3	382	73.5	11	2.1	5	1.0	8	1.5	3	0.6
Free sources on the internet	513	79.0	108	21.1	383	74.7	7	1.4	4	0.8	8	1.6	3	0.6
Course VLE	344	53.0	45	13.1	283	82.3	4	1.2	3	0.9	9	2.6	0	0.0
Online Library	369	56.9	104	28.2	251	68.0	4	1.1	4	1.1	4	1.1	2	0.5
E-books	70	10.8	24	34.3	41	58.6	1	1.4	0	0.0	4	5.7	0	0.0
Purchase Books	205	31.6	41	20.0	155	75.6	1	0.5	1	0.5	5	2.4	2	1.0
Newspapers	53	8.2	14	26.4	34	64.2	1	1.9	0	0.0	3	5.7	1	1.9
Thesis and Dissertation	28	4.3	10	35.7	16	57.1	2	7.1	0	0.0	0	0.0	0	0.0
Print journals conference proceedings	42	6.5	10	23.8	32	76.2	0	0.0	0	0.0	0	0.0	0	0.0
Other (family and friends)	62	9.6	7	11.3	55	88.7	0	0.0	0	0.0	0	0.0	0	0.0
Other	20	3.1	9	45.0	9	45.0	2	10.0	0	0.0	0	0.0	0	0.0

The differences between the proportions of undergraduate and postgraduate use of many resources seem to represent the large number of undergraduate students in the overall sample. However, despite smaller percentages, postgraduate students make up a greater proportion of users of several types of information sources than their overall proportion of students (15.1%) would indicate: Course textbooks (21.3%), Free sources on the Internet (21.1%), Online Library (28.2%), particularly E-books (34.3%), purchase books (20%), Newspapers (26.4%), particularly Theses and dissertations (35.7%), and Print journals (23.8%). This suggests wider reading at a postgraduate level. Furthermore, a very small number of postgraduate students (7) frequently use 'family and friends' as a key information source. A chi-square test returned a p-value of 3.775E-04 (means move 4 decimal places to the left), which is less

than 0.05 and supports the hypothesis that there is indeed a significant relationship between 'most frequently used information sources' and level of programme.

Table 5.10.4: Information Sources Used Most Frequently by English Language Proficiency

Information Source	Frequency	%	Yes	% Yes	No	% No	NR	% No Response
Course textbooks	520	80.1	269	51.7	230	44.2	21	4.0
Free sources on the internet	513	79.0	261	50.9	229	44.6	23	4.5
Course VLE	344	53.0	179	52.0	163	47.4	2	0.6
Online Library	369	56.9	202	54.7	149	40.4	18	4.9
E-books	70	10.8	41	58.6	29	41.4	0	0.0
Purchase Books	205	31.6	106	51.7	93	45.4	6	2.9
Newspapers	53	8.2	23	43.4	30	56.6	0	0.0
Thesis and Dissertation	28	4.3	11	39.3	17	60.7	0	0.0
Print journals conference proceedings	42	6.5	26	61.9	16	38.1	0	0.0
Other (family and friends)	62	9.6	29	46.8	29	46.8	4	6.5
Other	20	3.1	9	45.0	11	55.0	0	0

The overall level of proficiency in English is 51%. Strangely, the level of proficiency is below the average for the sample among the users of Newspapers (although they may be printed in the local first language), and Theses and dissertations. The level of proficiency is higher in the users of E-books and Print journals. However, the chi-square test returned a p-value of 0.463, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between distance learners' most frequently used information sources and English language proficiency.

Table 5.10.5: Information Sources Used Most Frequently by Programme of Study

Information Source	CEDEP	% CEDEP	CEFIMS	% CEFIMS	EMFSS	% EMFSS	INT MGT	% INT MGT	LAWS	% LAWS	LLM	% LLM	MRES	% MRES	OTHER	% OTHER
Textbooks	9	1.7	13	2.5	194	37.3	16	3.1	248	47.7	31	6.0	7	1.3	2	0.4
Free Internet	11	2.1	14	2.7	182	35.5	18	3.5	255	49.7	26	5.1	5	1.0	2	0.4
VLE	3	0.9	7	2.0	111	32.3	11	3.2	200	58.1	7	2.0	4	1.2	1	0.3
Online Library	11	3.0	10	2.7	143	38.8	15	4.1	157	42.5	25	6.8	7	1.9	1	0.3
E-books	2	2.9	3	4.3	49	70.0	5	7.1	5	7.1	6	8.6	0	0.0	0	0.0
Purchase Books	5	2.4	87	42.4		0.0	6	2.9	95	46.3	11	5.4	1	0.5	0	0.0

Information Source	CEDEP	% CEDEP	CEFIMS	% CEFIMS	EMFSS	% EMFSS	INT MGT	% INT MGT	LAWS	% LAWS	LLM	% LLM	MRES	% MRES	OTHER	% OTHER
Newspapers	1	1.9	3	5.7	37	69.8	1	3.6	7	13.2	3	5.7	0	0.0	1	1.9
Dissertation	3	10.7	1	3.6	19	67.9	1	0.0	2	7.1	0	0.0	1	3.6	1	3.6
Print journals	1	2.4	2	4.8	17	40.5	0	0	6	14.3		0.0	0	0.0	0	0.0
Family /friends	0.0	0.0	2	3.2	7	11.3	0	0	48	77.4	5	8.1	0	0	0	0
Other	3	0	0	0	8	40.0	1		6	30.0	0	0	0	0	0	0

The findings show some distinct differences in distribution of respondents on the various programmes in their use of types of resources. EMFSS students are far more likely to use e-books than any other students, and this may well indicate the reasonable availability of major texts in this format. They are also much more likely to use newspapers, dissertations and print journals, and this may also reflect both availability and the likelihood of coverage of relevant material. A very large number of law students consult family and friends compared to students on other courses, and this echoes the findings of the pilot study about the collaborative nature of law studies. The chi-square test returned a p-value of 0.00, which is less than 0.05 and supports the hypothesis that there is a significant relationship between 'Information Sources Used Most Frequently' and Programme of Study.

Table 5.10.6: Information Sources Used Most Frequently by Mode of Study

Information Source	Frequency	%	At Ins+Tuition	% at Inst & Tuition	At Ins No Tuition	% at Inst No Tuition	Indep No Tuition	% Indep No Tuition	Independent with private tuition	% Indep & Tuition	No Response	% No Response
Course textbooks	520	80.1	171	32.9	59	11.3	245	47.1	42	8.1	3	0.6
Free sources on the internet	513	79.0	177	34.5	49	9.6	238	46.4	46	9.0	3	0.6
Course VLE	344	53.0	121	35.2	38	11.0	147	42.7	35	10.2	3	0.9
Online Library	369	56.9	109	29.5	40	10.8	179	48.5	39	10.6	2	0.5
E-books	70	10.8	12	17.1	16	22.9	35	50.0	6	8.6	1	1.4
Purchase Books	205	31.6	51	24.9	19	9.3	112	54.6	22	10.7	1	0.5
Newspapers	53	8.2	15	28.3	9	17.0	27	50.9	2	3.8	0	0.0
Thesis and Dissertation	28	4.3	7	25.0	12	42.9	6	21.4	2	7.1	1	0.0
Print journals conference proceedings	42	6.5	8	19.0	11	26.2	18	42.9	5	11.9	0	0.0
Other (family and friends)	62	9.6	38	61.3	20	32.3	4	6.5	0	0.0	0	0.0
Other	20	3.1	0	0.0	1	5.0	16	80.0	3	0.0	0	0.0

These results do not differ markedly from the overall distribution of students among modes of study (see Table 5.7) except in the areas already identified above: family and friends, use of e-books, and use of print journals. These differences are driven not so much by mode of study but by the nature and level of the programme. A chi-square test returned a p-value of 7.74272E-16 (means to move 16 decimal places to the left), which is much smaller than 0.05 and supports the hypothesis that there is a significant relationship between distance learners' Most Frequently Used Information Sources and Mode of Study.

Table 5.10.7: Information Sources Used Most Frequently by Country (Geographical Location)

Response	Course text books	Free sources on the internet	Course VLE	Online Library	E-books	Purchase Books	News papers	Thesis and Dissertation	Print journals / Conference proceedings	Other (family and friends)	Other
Number of respondents	520.0	513.0	344.0	369.0	70.0	205.0	53.0	28.0	42.0	62.0	20.0
Percentage %	80.1	79.0	53.0	56.9	10.8	31.6	8.2	4.3	6.5	9.6	3.1
3 diff countries	1.0	1.0	1.0	1.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0
% 3 diff countries	0.2	0.2	0.3	0.3	0.0	0.5	1.9	3.6	0.0	0.0	0.0
Albania		1.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0
% Albania	0.0	0.2	0.0	0.3	1.4	0.5	1.9	0.0	2.4	0.0	0.0
Armenia	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
% Armenia	0.2	0.2	0.3	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0
Australia	5.0	3.0	3.0	4.0	2.0	3.0	2.0	0.0	0.0	0.0	0.0
% Australia	1.0	0.6	0.9	1.1	2.9	1.5	3.8	0.0	0.0	0.0	0.0
Austria	4.0	7.0	3.0	2.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
% Austria	0.8	1.4	0.9	0.5	1.4	0.5	1.9	0.0	2.4	1.6	0.0
Bahamas	1.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Bahamas	0.2	0.2	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bahrain		4	6	6	3	2	1	0.0	0.0	2	1
% Bahrain		0.8	1.2	1.8	0.8	2.8	0.5	0.0	0.0	4.8	1.6
Bangladesh	7.0	8.0	8.0	6.0		2.0	0.0	0.0	0.0	1.0	0.0
% Bangladesh	1.3	1.6	2.3	1.6	0.0	1.0	0.0	0.0	0.0	1.6	0.0
Barbados	2.0	1.0	1.0	1.0		1.0			0.0	0.0	0.0
% Barbados	0.4	0.2	0.3	0.3	0.0	0.5	0.0	0.0	0.0	0.0	
Belgium	5.0	5.0	4.0			3.0				3.0	1.0
% Belgium	1.0	1.0	1.2	0.0	0.0	1.5	0.0	0.0	0.0	4.8	5.0
Brazil	3.0	2.0		2.0		1.0	1.0			0.0	0.0
% Brazil	0.6	0.4	0.0	0.5	0.0	0.5	1.9	0.0	0.0	0.0	0.0
Bulgaria	0.0	0.0	0.0	1.0					0.0	0.0	0.0
% Bulgaria	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cambodia	3.0	2.0	1.0	2.0					0.0	0.0	0.0
% Cambodia	0.6	0.4	0.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Response	Course text books	Free sources on the internet	Course VLE	Online Library	E-books	Purchase Books	News papers	Thesis and Dissertation	Print journals / Conference proceedings	Other (family and friends)	Other
Cameroon	1.0	1.0	0.0			1.0		0.0	0.0	0.0	0.0
% Cameroon	0.2	0.2	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Canada	23.0	23.0	14.0	20.0	1.0	9.0	4.0		4.0	7.0	0.0
% Canada	4.4	4.5	4.1	5.4	1.4	4.4	7.5	0.0	9.5	11.3	0.0
Cayman Islands	1.0	1.0		1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
% Cayman Islands	0.2	0.2	0.0	0.3	0.0	0.0	0.0	0.0	0.0	1.6	0.0
Colombia	2.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Colombia	0.4	0.2	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Croatia	1.0	1.0	1.0	1.0		1.0				0.0	0.0
% Croatia	0.2	0.2	0.3	0.3	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Cyprus	3.0	3.0		2.0	1.0	1.0	0.0	0.0		0.0	0.0
% Cyprus	0.6	0.6	0.0	0.5	1.4	0.5	0.0	0.0	0.0	0.0	0.0
Czech Republic	0.0	0.0		2.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0
% Czech Republic	0.0	0.0	0.0	0.5	2.9	0.0	0.0	7.1	0.0	0.0	0.0
Denmark	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Denmark	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dominica	3.0	3.0	3.0	1.0	0.0		0.0	0.0	0.0	0.0	0.0
% Dominica	0.6	0.6	0.9	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Egypt	3.0	1.0	2.0	1.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
% Egypt	0.6	0.2	0.6	0.3	0.0	1.0	0.0	0.0	4.8	0.0	0.0
France	2.0	2.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
% France	0.4	0.4	0.3	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Germany	6.0	4.0	2.0	4.0		3.0	0.0	0.0	0.0	0.0	1.0
% Germany	1.2	0.8	0.6	1.1	0.0	1.5	0.0	0.0	0.0	0.0	5.0
Ghana	2.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Ghana	0.4	0.6	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Greece	3.0	2.0	1.0	3.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
% Greece	0.6	0.4	0.3	0.8	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Guatemala	1.0	1.0		1.0				0.0	0.0	0.0	0.0
% Guatemala	0.2	0.2	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Guyana	1.0	1.0				1.0				1.0	0.0
% Guyana	0.2	0.2	0.0	0.0	0.0	0.5	0.0	0.0	0.0	1.6	0.0
Hong Kong	19.0	19.0	14.0	23.0	4.0	8.0	1.0	1.0	2.0	2.0	2.0
% Hong Kong	3.7	3.7	4.1	6.2	5.7	3.9	1.9	3.6	4.8	3.2	10.0
India	9.0	8.0	6.0	4.0	3.0	4.0	2.0	3.0	2.0	0.0	0.0
% India	1.7	1.6	1.7	1.1	4.3	2.0	3.8	10.7	4.8	0.0	0.0
Indonesia	2	3		1		2	0.0	0.0	0.0	0.0	0.0
% Indonesia	0.4	0.6	0	0.3	0	1	0.0	0.0	0.0	0.0	0.0

Response	Course text books	Free sources on the internet	Course VLE	Online Library	E-books	Purchase Books	News papers	Thesis and Dissertation	Print journals / Conference proceedings	Other (family and friends)	Other
Iran	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
% Iran	0.0	0.2	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0
Israel	1.0	1.0	1.0			1.0				0.0	0.0
% Israel	0.2	0.2	0.3	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Italy	3.0	5.0	3.0	5.0	1.0	2.0	0.0	0.0	2.0	1.0	0.0
% Italy	0.6	1.0	0.9	1.4	1.4	1.0	0.0	0.0	4.8	1.6	0.0
Jamaica	14.0	13.0	8.0	7.0	2.0	5.0	0.0	0.0	0.0	3.0	0.0
% Jamaica	2.7	2.5	2.3	1.9	2.9	2.4	0.0	0.0	0.0	4.8	0.0
Japan	5.0	4.0	4.0	4.0		1.0	0.0	0.0	0.0	1.0	0.0
% Japan	1.0	0.8	1.2	1.1	0.0	0.5	0.0	0.0	0.0	1.6	0.0
Kenya	4.0	3.0	2.0	3.0		5.0	0.0	0.0	0.0	0.0	0.0
% Kenya	0.8	0.6	0.6	0.8	0.0	2.4	0.0	0.0	0.0	0.0	0.0
Kuwait		1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Kuwait	0.0	0.2	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lithuania	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
% Lithuania	0.2	0.2	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Macedonia	1.0	1.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0
% Macedonia	0.2	0.2	0.0	0.0	0.0	0.5	1.9	0.0	0.0	0.0	0.0
Madagascar		1.0		1.0	1.0			1.0	0.0	0.0	
% Madagascar	0.0	0.2	0.0	0.3	1.4	0.0	0.0	3.6	0.0	0.0	0.0
Malawi	2.0	1.0		1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
% Malawi	0.4	0.2	0.0	0.3	0.0	0.0	0.0	0.0	0.0	1.6	
Malaysia	22.0	22.0	11.0	21.0		12.0	4.0	2.0	3.0	2.0	2.0
% Malaysia	4.2	4.3	3.2	5.7	0.0	5.9	7.5	7.1	7.1	3.2	10.0
Malta	11.0	11.0	9.0	9.0		4.0	3.0	1.0	0.0	0.0	0.0
% Malta	2.1	2.1	2.6	2.4	0.0	2.0	5.7	3.6	0.0	0.0	0.0
Martinique	1.0	1.0		1.0		1.0	0.0	0.0	0.0	0.0	0.0
% Martinique	0.2	0.2	0.0	0.3	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Mauritius	16.0	20.0	16.0	9.0	2.0	4.0	1.0	0.0	2.0	3.0	0.0
% Mauritius	3.1	3.9	4.7	2.4	2.9	2.0	1.9	0.0	4.8	4.8	0.0
Myanmar	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Myanmar	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Namibia	1.0			1.0	0.0	0.0	0.0	0.0		0.0	0.0
% Namibia	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New Zealand	5.0	4.0	3.0	2.0		1.0	0.0	0.0	0.0	0.0	0.0
% New Zealand	1.0	0.8	0.9	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Nigeria	17	19	11	9	2	9	2	0.0	0.0	1	3
% Nigeria	3.2	3.7	3.2	2.4	2.9	4.4	3.8	0	0	1.6	15
No response	21.0	22.0	9.0	14.0	2.0	5.0	2.0		3.0	2.0	1.0
% No	4.0	4.3	2.6	3.8	2.9	2.4	3.8	0.0	7.1	3.2	5.0

Response	Course text books	Free sources on the internet	Course VLE	Online Library	E-books	Purchase Books	News papers	Thesis and Dissertation	Print journals / Conference proceedings	Other (family and friends)	Other
response											
Other	4.0	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Other	0.8	0.8	1.2	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Pakistan	19.0	21.0	3.0	12.0	3.0	6.0	3.0	2.0		3.0	0.0
% Pakistan	3.7	4.1	0.9	3.3	4.3	2.9	5.7	7.1	0.0	4.8	0.0
Peru	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
% Peru	0.2	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	5.0
Poland	5.0	5.0	5.0	4.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
% Poland	1.0	1.0	1.5	1.1	1.4	0.0	0.0	0.0	0.0	0.0	0.0
Portugal	3.0	3.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
% Portugal	0.6	0.6	0.3	0.3	1.4	0.5	0.0	0.0	0.0	0.0	0.0
Russia	21.0	17.0	13.0	12.0	8.0	7.0	4.0	5.0	0.0	0.0	0.0
% Russia	4.0	3.3	3.8	3.3	11.4	3.4	7.5	17.9	0.0	0.0	0.0
Rwanda	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Rwanda	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saint Lucia	1.0	1.0		1.0				1.0	0.0	0.0	0.0
% Saint Lucia	0.2	0.2	0.0	0.3	0.0	0.0	0.0	3.6	0.0	0.0	0.0
Saudi Arabia	4.0	5.0	5.0	5.0	2.0	2.0		0.0	0.0	0.0	0.0
% Saudi Arabia	0.8	1.0	1.5	1.4	2.9	1.0	0.0	0.0	0.0	0.0	0.0
Serbia	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
% Serbia	0.2	0.2	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Singapore	49.0	44.0	46.0	41.0	11.0	19.0	8.0	0.0	7.0	1.0	0.0
% Singapore	9.4	8.6	13.4	11.1	15.7	9.3	15.1	0.0	16.7	1.6	0.0
South Africa	3.0	2.0	3.0	3.0	2.0		2.0		1.0	0.0	0.0
% South Africa	0.6	0.4	0.9	0.8	2.9	0.0	3.8	0.0	2.4	0.0	0.0
South Korea	1.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
% South Korea	0.2	0.2	0.3	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Spain	16.0	18.0	13.0	8.0	1.0	8.0	3.0		1.0	0.0	1.0
% Spain	3.1	3.5	3.8	2.2	1.4	3.9	5.7	0.0	2.4	0.0	5.0
Sri Lanka	12.0	12.0	9.0	9.0	1.0	1.0				5.0	1.0
% Sri Lanka	2.3	2.3	2.6	2.4	1.4	0.5	0.0	0.0	0.0	8.1	5.0
St Vincent and the Grenadines	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
% St Vincent and the Grenadines	0.4	0.4	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Sudan	2.0	3.0	3.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Sudan	0.4	0.6	0.9	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sweden	2.0		1.0	2.0		1.0	0.0	0.0	0.0	0.0	0.0
% Sweden	0.4	0.0	0.3	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0

Response	Course text books	Free sources on the internet	Course VLE	Online Library	E-books	Purchase Books	News papers	Thesis and Dissertation	Print journals / Conference proceedings	Other (family and friends)	Other
Switzerland	12.0	12.0	4.0	8.0	2.0	6.0		0.0	0.0	0.0	0.0
% Switzerland	2.3	2.3	1.2	2.2	2.9	2.9	0.0	0.0	0.0	0.0	0.0
Thailand	8.0	9.0	5.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
% Thailand	1.5	1.8	1.5	0.3	0.0	0.0	0.0	0.0	0.0	1.6	5.0
The Netherlands	1.0	1.0		1.0		1.0	1.0	0.0	0.0	0.0	0.0
% The Netherlands	0.2	0.2	0.0	0.3	0.0	0.5	1.9	0.0	0.0	0.0	0.0
Trinidad and Tobago	39.0	41.0	24.0	31.0	2.0	17.0	3.0	0.0	5.0	6.0	0.0
% Trinidad and Tobago	7.5	8.0	7.0	8.4	2.9	8.3	5.7	0.0	11.9	9.7	0.0
Uganda	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
% Uganda	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0
United Arab Emirates	2.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0
% United Arab Emirates	0.4	0.2	0.3	0.0	0.0	0.5	0.0	0.0	0.0	0.0	5.0
United Kingdom	42.0	37.0	26.0	29.0	3.0	17.0			3.0	9.0	1.0
% United Kingdom	8.1	7.2	7.6	7.9	4.3	8.3	0.0	0.0	7.1	14.5	5.0
United States	16.0	14.0	9.0	11.0	2.0	9.0	3.0		1.0	5.0	2.0
% United States	3.1	2.7	2.6	3.0	2.9	4.4	5.7	0.0	2.4	8.1	10.0
Uruguay	6.0	6.0	3.0	3.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0
% Uruguay	1.2	1.2	0.9	0.8	2.9	1.0	0.0	0.0	0.0	0.0	
Vietnam	2.0	5.0	4.0	2.0	0.0	2.0	0.0	0.0	0.0	1.0	1.0
% Vietnam	0.4	1.0	1.2	0.5	0.0	1.0	0.0	0.0	0.0	1.6	5.0

Table 5.10.7: Information Sources Used Most Frequently by Country (Geographical Location)
The users of Course textbooks, Free internet sources, Course VLE and the Online Library are distributed across a large number of countries whereas the purchase of books and use of e-books, print journals, theses and dissertations are much more focused on a smaller number of countries. A chi-square test has not been conducted because of the number of cells with zeros or no responses.

Table 5.10.8: Information Sources Used Most Frequently by Reasons for Preference of Sources

Information Source	Course textbooks	Free sources on the internet	Course VLE	Online Library	E-books	Purchase Books	Newspapers	Thesis and Dissertation	Print journals conference proceedings	Other (family and friends)	Other
Frequency	520.0	513.0	344.0	369.0	70.0	205.0	53.0	28.0	42.0	62.0	20.0
They are easy to access	396.0	395.0	265.0	286.0	53.0	157.0	34.0	22.0	33.0	54.0	13.0
% They are easy to access	76.2	77.0	77.0	77.5	75.7	76.6	64.2	78.6	78.6	87.1	65.0
They are easy to use	326.0	323.0	207.0	230.0	34.0	120.0	32.0	20.0	23.0	50.0	9.0
%They are easy to use	62.7	63.0	60.2	62.3	48.6	58.5	60.4	71.4	54.8	80.6	45.0
Readily available	297.0	294.0	181.0	205.0	45.0	114.0	31.0	17.0	26.0	45.0	8.0
% Readily available	57.1	57.3	52.6	55.6	64.3	55.6	58.5	60.7	61.9	72.6	40.0
I have previous experience	264.0	277.0	205.0	180.0	19.0	105.0	21.0	11.0	10.0	48.0	4.0
% I have previous experience	50.8	54.0	59.6	48.8	27.1	51.2	39.6	39.3	23.8	77.4	20.0
They are relevant	176.0	164.0	116.0	142.0	38.0	90.0	31.0	18.0	19.0	23.0	10.0
% They are relevant	33.8	32.0	33.7	38.5	54.3	43.9	58.5	64.3	45.2	37.1	50.0
They are reliable	122.0	112.0	75.0	92.0	27.0	47.0	21.0	15.0	15.0	11.0	5.0
%They are reliable	23.5	21.8	21.8	24.9	38.6	22.9	39.6	53.6	35.7	17.7	25.0
They are affordable	120.0	128.0	83.0	98.0	15.0	52.0	13.0	6.0	10.0	15.0	6.0
% They are affordable	23.1	25.0	24.1	26.6	21.4	25.4	24.5	21.4	23.8	24.2	30.0
They are high quality	90.0	88.0	58.0	77.0	22.0	40.0	12.0	7.0	10.0	9.0	4.0

Information Source	Course textbooks	Free sources on the internet	Course VLE	Online Library	E-books	Purchase Books	Newspapers	Thesis and Dissertation	Print journals conference proceedings	Other (family and friends)	Other
% They are high quality	17.3	17.2	16.9	20.9	31.4	19.5	22.6	25.0	23.8	14.5	20.0
Other	4.0	3.0	3.0	3.0	0.0	1.0	1.0		2.0		2.0
% Other	0.8	0.6	0.9	0.8	0.0	0.5	1.9	0.0	4.8	0.0	10.0

Course textbooks and free resources on the Internet are the most frequently used because they are easy to access (76.2% and 77%), easy to use (62.7% and 63%) and readily available 57.1% and 57.3%) in that order. Many of the respondents (a little over 50%) had previous experience of using them. However, although they are the most popular, fewer than a quarter of respondents felt that they were reliable (23.5% and 21.8%) and even fewer considered them high quality (17.3% and 17.2%) even though they preferred to use them. This indicates that ease of access and ease of use is preferred over quality and reliability. The Online Library and to a lesser extent the course VLE are the next preferred resources with considerably fewer respondents choosing them but a similar proportion considering them easy to access (77.5% and 77%) and use (62.3% and 60.2%) and readily available (55.6% and 52.6%). However only 24.9% of respondents considered the Online Library reliable compared to 21.8% who considered free Internet sources reliable. 77 respondents (20.9%) considered the Online Library high quality compared to 88 (17.2%) who considered that free resources on the Internet were high quality. Books purchased albeit by a lower number of respondents were considered highly relevant and easy to use and easy to access. There are unusual results as regards affordability with only 30% considering free to Internet resources affordable and 26.6% considering the Online Library (provided free to students) affordable. This contrasts with 25.4% who consider purchasing books affordable. This suggests that there are considerable hidden costs to accessing the Internet which affect the otherwise free online services.

Overall, the results indicate that choice of resources is driven by ease of access and use and ready availability also known as the 'Principle of Least Effort'. There is a considerable reliance on print course textbooks and purchased books to supplement them. These decision factors tend to mean that free Internet resources are chosen very frequently despite the acknowledged low quality and reliability. However it is notable that the perceived quality and reliability of selected resources on the course VLE and Online Library are considered very little higher in quality and reliability. This suggests that the information literacy levels among respondents are low as they cannot differentiate resources. It might be useful in further research to examine what books are bought and discover if they are primers, which is possible given the relative success rates between course textbooks and purchased books at finding information in table 5.10 above. Other sources including friends and family are unsurprisingly each to access and easy to use at over 80% but reliability at 17.7% and quality at 14.5% are low.

The chi-square test returned a p-value of 0.00 which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' Most Frequently Used Sources and Reasons for Preference of Sources, i.e. resource characteristics such as ease of use.

Table 5.10.9: Information Sources Used Most Frequently by Success at Accessing Resources.

Information Sources Used Most Frequently	Course textbooks	Free sources on the internet	Course VLE	Online Library	E-books	Purchase Books	Newspapers	Thesis and Dissertation	Print journals conference proceedings	Other (family and friends)	Other
Frequency	520.0	513.0	344.0	369.0	70.0	205.0	53.0	28.0	42.0	62.0	20.0
I always access the information I need	54.0	49.0	21.0	50.0	13.0	22.0	9.0	2.0	4.0	1.0	3.0
% always access the information I need	10.4	9.6	6.1	13.6	18.6	10.7	17.0	7.1	9.5	1.6	15.0
I regularly access the information I need	33.0	141.0	87.0	130.0	27.0	54.0	17.0	15.0	20.0	12.0	4.0
% I regularly access the information I need	6.3	27.5	25.3	35.2	38.6	26.3	32.1	53.6	47.6	19.4	20.0
I sometimes access the information I need	153.0	283.0	207.0	176.0	23.0	106.0	24.0	9.0	14.0	49.0	9.0
% I sometimes access the information I need	29.4	55.2	60.2	47.7	32.9	51.7	45.3	32.1	33.3	79.0	45.0
I never access the information I need	269.0	33.0	21.0	11.0	7.0	18.0	2.0	1.0	4.0	0.0	3.0
% I never access the information I need	51.7	6.4	6.1	3.0	10.0	8.8	3.8	3.6	9.5	0.0	15.0

Information Sources Used Most Frequently	Course textbooks	Free sources on the internet	Course VLE	Online Library	E-books	Purchase Books	Newspapers	Thesis and Dissertation	Print journals conference proceedings	Other (family and friends)	Other
No response	11.0	7.0	8.0	2.0	0.0	5.0	1.0	1.0	0.0	0.0	1.0
% No response	2.1	1.4	2.3	0.5	0.0	2.4	1.9	3.6	0.0	0.0	0.0

In terms of respondents' success at accessing the information needed, although course textbooks (supplemented by purchased books) represent the highest number of respondents who always access the information they need, this is almost equalled by free resources on the Internet but, more importantly, is also almost equalled by numbers using the Online Library. This means that a higher percentage of respondents using the Online Library always found the information they need (13.6% rather than 10.4% using course textbooks, 9.6% using free Internet resources and only 6.1% using the course VLE). However, the success rate of those using course textbooks falls away rapidly, with far fewer regularly accessing information 6.3% (compared to 35.2% in the Online Library, 25.3% in the Course VLE and 27.5% using free Internet resources), more only accessing information sometimes (29.4%), and the largest number never accessing the information they need (over half the number using course textbooks never accessing the information they need, at 51.7%). More respondents regularly found information on the Internet (27.5%) than those using textbooks (6.3%) or even on the course VLE 25.3% (although this reinforces the idea that there will always be some relevant information on the Internet but does not testify to its quality). However, a greater proportion of respondents regularly found the information they needed in the Online Library, and there was greater general success with the Online Library than the course VLE. Almost half of respondents always or regularly succeeded in the Online Library 48.7% (compared to 16.7% course textbooks, 37% Free Internet resources, and 32% course VLE) but still almost half only sometimes succeeded in the Online Library. Print journals (57%) and theses (60%) produced a relatively high rate of success but for a low number of respondents, and these sources are more used by postgraduates and experienced students (see Table 5.10.3). The chi-square test returned a p-value of 1.6977E-133 (means move 133 decimal places to the left) which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' Most Frequently Used Sources and Success in Accessing Resources or information literacy.

5.11 Reasons for Preference of Information Resources

Table 5.11: Reasons for Use of Information Sources (Reasons for Preferences)

Reasons for preference	Frequency	Percentage of Total Sample
They are easy to access	481	74.1
They are easy to use	376	57.9
Readily available	353	54.4
I have previous experience	314	48.4
They are relevant	222	34.2
They are affordable	150	23.1
They are reliable	144	22.2
They are high-quality	113	17.4
Other	5	0.8
Total	649	

Table 5.11: What are your reasons for your preferences? Respondents could choose more than one reason. As shown in Table 5.11 above, the majority of students (74%) frequently use resources that are easy to access and easy to use (58%). It is important to note that, for this group of students, neither quality (only 17%) nor reliability (22.2%) were major considerations. This explains the earlier finding about the types of information sources used, where the free internet sources were cited by a large number of respondents. Relevance is chosen by less than half the number of respondents (34.2%) than the number who chose 'easy to access (74.1%).This is an important finding for understanding the information-seeking behaviour of respondents and the implications for the design of any information resources offered to them. The lure of easy-to-access information at the expense of quality or reliability or even relevance is strong, as can be seen even in public life. The return rate for previous experience at almost 50% gives some indication that training might influence behaviour.

Table 5.11.1: Reasons for Use of Information Sources (Reasons for Preferences) by Gender

Reasons for preference	Frequency	Percentage (%) of Total sample)	Female	% Female	Male	% Male	No Response	% No Response
They are easy to use	376.0	57.9	206.0	54.8	170.0	45.2	0.0	0.0
They are easy to access	481.0	74.1	260.0	54.1	221.0	45.9	0.0	0.0
Readily available	353.0	54.4	195.0	55.2	158.0	44.8	0.0	0.0
They are reliable	144.0	22.2	71.0	49.3	73.0	50.7	0.0	0.0

Reasons for preference	Frequency	Percentage (%) of Total sample)	Female	% Female	Male	% Male	No Response	% No Response
I have previous experience	314.0	48.4	179.0	57.0	134.0	42.7	1.0	0.3
They are relevant	222.0	34.2	114.0	51.4	108.0	48.6	0.0	0.0
They are affordable	150.0	23.1	80.0	53.3	70.0	46.7	0.0	0.0
They are high-quality	113.0	17.4	57.0	50.4	56.0	49.6	0.0	0.0
Other	5.0	0.8	3.0	60.0	2.0	40.0	0.0	0.0

The balance of gender in the choice of reasons for preference of information resources reflects the overall balance of gender among respondents (52.5% women and 47.3% men), showing a slightly larger proportion of women than men. The only variations from this pattern are the results for reliability (50.7% of those choosing reliability were men) and previous experience (57% of those choosing previous experience were women). The responses for 'Other' were only 5. The chi-square test returned a p-value of 0.768, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between distance learners' 'Reasons for Use of Information Sources' and gender.

Table 5.11.2: Reasons for Use of Information Sources (Reasons for Preferences) by Age Range

Reasons for preference	Frequency	(%) of Total sample)	under 25	% under 25	25-35	% 26-35	36-45	% 36-45	46-55	% 46-55	56+	% 56+	No response	% No Response
They are easy to use	376.0	57.9	141.0	37.5	135.0	35.9	60.0	16.0	26.0	6.9	13.0	3.5	1.0	0.3
They are easy to access	481.0	74.1	162.0	33.7	187.0	38.9	88.0	18.3	29.0	6.0	14.0	2.9	1.0	0.2
Readily available	353.0	54.4	114.0	32.3	135.0	38.2	67.0	19.0	22.0	6.2	13.0	3.7	2.0	0.6
They are reliable	144.0	22.2	44.0	30.6	61.0	42.4	27.0	18.8	10.0	6.9	2.0	1.4	0.0	0.0

Reasons for preference	Frequency	(%) of Total sample)	under 25	% under 25	25-35	% 26-35	36-45	% 36-45	46-55	% 46-55	56+	% 56+	No response	% No Response
I have previous experience	314.0	48.4	108.0	34.4	117.0	37.3	56.0	17.8	25.0	8.0	8.0	2.5	0.0	0.0
They are relevant	222.0	34.2	70.0	31.5	87.0	39.2	47.0	21.2	12.0	5.4	5.0	2.3	1.0	0.5
They are affordable	150.0	23.1	50.0	33.3	63.0	42.0	25.0	16.7	9.0	6.0	3.0	2.0	0.0	0.0
they are high-quality	113.0	17.4	37.0	32.7	45.0	39.8	22.0	19.5	6.0	5.3	3.0	2.7	0.0	0.0
Other	5.0	0.8	0.0	0.0	2.0	40.0	2.0	40.0	0.0	0.0	1.0	20.0	0.0	0.0

The overall proportion of under-25-year-olds among respondents is 32.8%, the proportion of 26-35-year-olds is 37.9%, and that of 36-45-year-olds is 19.3%. The results for question 11.2 show a remarkably similar age distribution for all the various reasons and generally follow the overall age distribution fairly closely although under-25-year-olds chose 'easy to use' in greater numbers (37.5% rather than 32.8%) and rather fewer 26-35-year-olds chose 'easy to use' (35.9% rather than 37.9%). Rather more 26-35-year-olds chose 'reliability' than the overall distribution would suggest (42.4% rather than 37.9%). There were only 5 responses for 'Other' reasons; thus, the finding is not significant. The chi-square test returned a p-value of 0.995, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between distance learners' Reasons for Use of Information Sources and age.

Table 5.11.3: Reasons for Use of Information Sources (Reasons for Preferences) by Level of Programme

Reasons for preference	Frequency	(%) of Total Sample)	PG	% PG	UG	% UG	Dip	% Dip	Cert	% Cert	Access	% Access	No Response	% No Response
They are easy to use	376.0	57.9	75.0	19.9	288.0	76.6	3.0	0.8	2.0	0.5	5.0	1.3	3.0	0.8
They are easy to access	481.0	74.1	93.0	19.3	365.0	75.9	7.0	1.5	4.0	0.8	9.0	1.9	3.0	0.6
Readily available	353.0	54.4	86.0	24.4	253.0	71.7	7.0	2.0	3.0	0.8	4.0	1.1	0.0	0.0
They are reliable	144.0	22.2	43.0	29.9	88.0	61.1	6.0	4.2	2.0	1.4	4.0	2.8	1.0	0.7

Reasons for preference	Frequency	(%) of Total Sample)	PG	% PG	UG	% UG	Dip	% Dip	Cert	% Cert	Access	% Access	No Response	% No Response
I have previous experience	314.0	48.4	41.0	13.1	267.0	85.0	3.0	1.0	2.0	0.6	1.0	0.3	0	0.0
They are relevant	222.0	34.2	43.0	19.4	168.0	75.7	2.0	0.9	3.0	1.4	5.0	2.3	1.0	0.5
They are affordable	150.0	23.1	26.0	17.3	118.0	78.7	2.0	1.3	1.0	0.7	2.0	1.3	1.0	0.7
They are high-quality	113.0	17.4	32.0		80.0	0	1.0	0	0	0.0	0	0	0	0.0
Other	5.0	0.8	4.0	80.0	1.0	20.0	0.0	0.0		0.0	0.0	0.0	0	0.0

Overall, 84.6% of respondents are on undergraduate first degree programmes and 15.1% are on postgraduate degree programmes. The results for this question show the preponderance of undergraduate students among the respondents. However, there are some deviations from the expected proportions choosing each reason. Postgraduates choose 'easy to use' and 'easy to access' but also 'relevance' at rates of almost 20% rather than 15.1%. However, postgraduate students also chose 'reliability' at much higher rates than would be expected from the overall proportion in the sample, at 29.9% rather than 15.1%, while undergraduate students comprised only 61.1% of those who chose that reason rather than the overall 84.6%. The responses for 'Other' reasons represent only 5 respondents. The chi-square test returned a p-value of 0.003, which is less than 0.05 and supports the hypothesis that there is a significant relationship between 'Reasons for the Use of Information Sources' and Level of Programme.

Table 5.11.4: Reasons for Use of Information Sources (Reasons for Preferences) by English Language Proficiency

Reasons for preference	Frequency	Percentage (%) of Total sample)	Yes	% Yes	No	% No	NR	% No Response
They are easy to use	376.0	57.9	187.0	49.7	172.0	45.7	17.0	4.5
They are easy to access	481.0	74.1	264.0	54.9	205.0	42.6	12.0	2.5
Readily available	353.0	54.4	185.0	52.4	152.0	43.1	16.0	4.5
They are reliable	144.0	22.2	74.0	51.4	66.0	45.8	4.0	2.8
I have previous experience	314.0	48.4	169.0	53.8	138.0	43.9	7.0	2.2
They are relevant	222.0	34.2	120.0	54.1	97.0	43.7	5.0	2.3

Reasons for preference	Frequency	Percentage (%) of Total sample)	Yes	% Yes	No	% No	NR	% No Response
They are affordable	150.0	23.1	71.0	47.3	75.0	50.0	4.0	2.7
They are high-quality	113.0	17.4	56.0	49.6	53.0	46.9	4.0	3.5
Other	5.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0

The overall figures for English language proficiency show that 51% of respondents declared English as a first language while 45.1% reported another language as a first language. The figures for those with English as a first language choosing each reason vary from 47.3% to 54.1%. The only figure with a deviation from the overall percentage of almost 5% is that for 'affordable', where 50% of respondents (rather than the overall 45.1%) were undergraduates. The chi-square test produced a p-value of 0.782, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between the 'Reasons for use of Information Sources' and English language proficiency.

Table 5.11.5: Reasons for Use of Information Sources (Reasons for Preferences) by Programme of Study

Reasons for preference	CE DEP	% CE DEP	CEF IMS	% CEF IMS	EM FSS	% EMFS S	Int Mgt	% Int Mgt	Laws	% Laws	LL M	% LL M	MRES	% MR ES	Oth er	% Oth er
They are easy to use	8.0	2.1	8.0	2.1	136 .0	36.2	6.0	1.6	187.0	49.7	25.0	6.6	4.0	1.1	2. 0	0.5
They are easy to access	12.0	2.5	11.0	2.3	183 .0	38.0	12.0	2.5	236.0	49.1	20.0	4.2	5.0	1.0	2. 0	0.4
Readily available	11.0	3.1	11.0	3.1	142 .0	40.2	10.0	2.8	148.0	41.9	25.0	7.1	5.0	1.4	1. 0	0.3
They are reliable	4.0	2.8	4.0	2.8	84. 0	58.3	4.0	2.8	29.0	20.1	16.0	11.1	2.0	1.4	1. 0	0.7
I have previous experience	1.0	0.3	11.0	3.5	45. 0	14.3	20.0	6.4	231.0	73.6	3.0	1.0	3.0	1.0	0. 0	0.0
They are relevant	5.0	2.3	2.0	0.9	116 .0	52.3	6.0	2.7	82.0	36.9	8.0	3.6	1.0	0.5	2. 0	0.9
They are affordable	5.0	3.3	2.0	1.3	58. 0	38.7	2.0	1.3	78.0	52.0	5.0	3.3	0.0	0.0		0.0
They are high-quality	2.0	1.8	3.0	2.7	46. 0	40.7	4.0	3.5	45.0	39.8	12.0	10.6	0.0	0.0	1. 0	0.9
Other	1.0	20.0		0.0	3.0	60.0	0.0	0.0	0.0	0.0	1.0	20.0	0.0	0.0	0. 0	0.0

Table 5.11.5: Reasons for Use of Information Sources (Reasons for Preferences) by Programme of Study

The overall percentages for the various programmes were: LLB 45.3%, EMFSS 39.3%, LLM 5.4%, and International Management 3.2% (see Table 1.1). The figures above show that law students have previous experience of the information sources they use in greater proportions than students on other programmes (73.6% rather than the overall 45.3%). However, EMFSS students are more concerned with reliability and relevance (58.3% and 52.3% rather than the overall 39.3%), while law students choose those reasons rather less than might be expected (20.1% and 36.9% rather than 45.3%). The chi-square test returned a p-value of 33.6458E-107 (means to move 107 decimal places to the left), which is much less than 0.05 and supports the hypothesis that there is a significant relationship between Reason for Use of Information Sources and programme of study.

Table 5.11.6: Reasons for Use of Information Sources (Reasons for Preferences) by Mode of Study

Reasons for preference	Frequency	% of Total Sample	At Ins+Tuition	% at inst & Tuition	At Ins No Tuition	% at inst No Tuition	Indep No Tuition	% Indep No Tuition	Indep with Tuition	% Indep & Tuition	NR	% NR
They are easy to use	376.0	57.9	143.0	38.0	45.0	12.0	156.0	41.5	32.0	8.5		0.0
They are easy to access	481.0	74.1	156.0	32.4	66.0	13.7	215.0	44.7	42.0	8.7	2.0	0.4
Readily available	353.0	54.4	102.0	28.9	46.0	13.0	174.0	49.3	30.0	8.5	1.0	0.3
They are reliable	144.0	22.2	38.0	26.4	24.0	16.7	70.0	48.6	12.0	8.3		0.0
I have previous experience	314.0	48.4	128.0	40.8	22.0	7.0	128.0	40.8	33.0	10.5	3.0	1.0
They are relevant	222.0	34.2	62.0	27.9	36.0	16.2	103.0	46.4	20.0	9.0	1.0	0.5
They are affordable	150.0	23.1	52.0	34.7	18.0	12.0	66.0	44.0	14.0	9.3		0.0
They are high-quality	113.0	17.4	35.0	31.0	7.0	6.2	59.0	52.2	11.0	9.7	1.0	0.9
Other	5.0	0.8					5.0	100.0				

According to Table 5.7, 31% of students were at an institution supplemented by private tuition, 11.9% were at an institution with no further tuition (overall 42.9% at an institution), 47.9% were studying independently with no private tuition and 9.2% were studying independently with private tuition (57.1% overall were not at an institution). The figures above correspond quite closely with these overall figures in respect of respondents studying independently, although those studying independently with no tuition were only about 40% (rather than 47.9%) of those citing 'previous experience', and 40.8% of students at an institution with tuition (rather than the overall 31%) cited

'previous experience. 'Other' and 'No responses' have been omitted from the test. The chi-square test produced a p-value of 0.014, which is less than 0.05 and supports the hypothesis that there is a significant relationship between 'Reasons for Use of Information Sources and Mode of Study.

Table 5.11.7: Reasons for Use of Information Sources (Reasons for Preferences) by Country

Response	They are easy to use	They are easy to access	Readily available	They are reliable	I have previous experience	They are relevant	They are affordable	they are high quality	Other
% 3 diff countries	0.3	0.0	0.0	0.7	0.0	0.5	0.7	0.0	0.0
% Albania	0.0	0.0	0.0	0.7	0.3	0.5	0.0	0.9	0.0
% Armenia	0.0	0.2	0.0	0.0	0.3	0.0	0.0	0.0	0.0
% Australia	0.8	0.6	1.1	1.4	1.0	0.9	1.3	1.8	0.0
% Austria	1.9	1.2	2.0	0.0	1.3	1.8	2.0	0.0	0.0
% Bahamas	0.3	0.2	0.3	0.0	0.3	0.0	0.0	0.0	0.0
% Bahrain	1.3	1.0	1.4	0.0	0.6	0.5	0.7	0.9	0.0
% Bangladesh	2.1	1.7	1.1	0.7	1.6	1.4	2.7	1.8	0.0
% Barbados	0.5	0.4	0.6	1.4	0.3	0.0	0.0	0.9	0.0
% Belgium	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Brazil	0.8	0.4	0.8	2.1	0.0	0.9	0.0	1.8	0.0
% Bulgaria	0.0	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0
% Cambodia	0.0	0.2	0.6	0.0	0.3	0.0	0.7	0.0	0.0
% Cameroon	0.0	0.2	0.3	0.0	0.0	0.0	0.7	0.0	0.0
% Canada	4.0	4.0	4.8	1.4	5.1	3.2	6.0	1.8	20.0
% Cayman Islands	0.3	0.2	0.3	0.7	0.0	0.0	0.0	0.0	0.0
% Colombia	0.3	0.2	0.0	0.0	0.0	0.5	0.0	0.0	0.0
% Croatia	0.3	0.2	0.3	0.7	0.0	0.5	0.0	0.9	0.0
% Cyprus	0.8	0.2	0.6	0.7	0.3	0.5	0.0	0.9	0.0
% Czech Republic	0.5	0.4	0.6	0.0	0.0	0.9	0.0	0.0	0.0
% Denmark	0.0	0.0	0.0	1.4	0.0	0.9	0.0	0.0	0.0
% Dominica	0.8	0.4	0.6	0.0	0.0	0.9	0.0	0.0	0.0
% Egypt	0.5	0.6	0.3	0.0	0.3	0.0	1.3	0.0	0.0
% France	0.3	0.4	0.0	0.7	0.3	0.0	0.0	0.0	0.0
% Germany	1.3	1.0	0.6	1.4	0.3	0.5	2.0	1.8	0.0
% Ghana	0.5	0.4	0.6	0.0	0.0	0.0	0.0	0.0	0.0
% Greece	0.5	0.2	0.8	0.0	0.6	0.5	0.0	0.9	0.0
% Guatemala	0.3	0.2	0.3	0.0	0.3	0.0	0.0	0.0	0.0
% Guyana	0.3	0.0	0.3	0.7	0.0	0.0	0.0	0.9	0.0
% Hong Kong	4.5	5.2	5.4	4.2	5.4	6.8	6.7	8.8	0.0
% India	1.6	1.2	0.6	2.8	1.9	2.3	1.3	2.7	0.0
% Indonesia	0.3	0.2	0.6	1.4	0.0	0.5	0.0	0.0	0.0
% Indonesia and Czech Republic	0.0	0.2	0.0	0.0	0.0	0.0	0.7	0.0	0.0
% Iran	0.0	0.2	0.0	0.0	0.0	0.5	0.0	0.0	0.0
% Israel	0.3	0.0	0.3	0.0	0.3	0.5	0.0	0.0	0.0
% Italy	1.6	1.2	1.1	0.0	1.3	0.5	0.7	0.0	0.0

Response	They are easy to use	They are easy to access	Readily available	They are reliable	I have previous experience	They are relevant	They are affordable	they are high quality	Other
% Jamaica	2.7	2.3	2.8	3.5	2.9	2.7	4.7	0.9	0.0
% Japan	0.3	0.6	0.8	0.7	1.6	0.0	2.0	0.9	0.0
% Kenya	0.3	0.8	0.8	0.0	1.3	0.5	2.0	1.8	0.0
% Kingdom of Bahrain	0.3	0.2	0.3	0.0	0.0	0.0	0.0	0.9	0.0
% Kuwait	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
% Lithuania	0.3	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0
% Macedonia	0.0	0.2	0.0	0.0	0.0	0.5	0.0	0.0	0.0
% Madagascar	0.0	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0
% Malawi	0.3	0.4	0.6	0.0	0.0	0.5	0.7	0.9	0.0
% Malaysia	6.4	5.0	3.7	4.2	5.1	3.6	2.7	4.4	20.0
% Malta	2.7	2.1	2.3	3.5	1.6	2.3	3.3	0.0	0.0
% Martinique	0.3	0.2	0.0	0.0	0.0	0.0	0.7	0.0	0.0
% Mauritius	3.2	2.7	3.7	1.4	3.8	1.8	1.3	1.8	0.0
% Myanmar	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Namibia	0.0	0.2	0.0	0.0	0.3	0.0	0.0	0.9	0.0
% New Zealand	1.1	1.0	0.3	0.0	1.6	0.9	0.7	0.0	0.0
% Nigeria	3.2	3	3.4	1.4	4.4	1.4	2	2.7	0
% No response	2.7	4.2	4.0	5.6	1.0	4.1	4.0	4.4	0.0
% Other	0.3	0.8	0.8	0.7	1.3	0.0	1.3	0.0	0.0
% Pakistan	4.5	4.0	3.7	2.1	4.8	4.1	4.0	2.7	0.0
% Peru	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Poland	1.1	0.8	0.6	0.7	1.3	0.9	2.7	1.8	0.0
% Portugal	0.5	0.4	0.8	0.7	0.6	0.5	0.7	0.9	0.0
% Russia	1.6	2.3	2.8	4.2	1.6	5.4	2.7	6.2	0.0
% Rwanda	0.3	0.2	0.3	0.7	0.0	0.0	0.0	0.0	0.0
% Saint Lucia	0.3	0.2	0.3	0.0	0.0	0.0	0.7	0.0	0.0
% Saudi Arabia	1.1	0.8	0.6	2.1	0.6	0.0	0.0	1.8	0.0
% Serbia	0.3	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0
% Singapore	11.2	12.3	10.2	16.0	8.6	13.1	8.7	10.6	20.0
% South Africa	0.0	0.6	0.8	2.1	0.3	0.0	1.3	0.9	0.0
% South Korea	0.0	0.2	0.3	0.0	0.0	0.5	0.0	0.0	0.0
% Spain	1.6	2.7	1.7	2.1	3.5	1.8	2.0	2.7	0.0
% Sri Lanka	2.9	2.5	2.3	2.1	2.5	1.4	2.7	0.9	0.0
% St Vincent and the Grenadines	0.0	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0
% Sudan	0.8	0.8	0.6	0.0	1.0	0.9	0.7	0.0	0.0
% Sweden	0.3	0.4	0.0	0.7	0.0	0.5	0.0	0.0	0.0
% Switzerland	1.3	1.5	2.5	1.4	2.9	1.8	2.7	0.9	0.0
% Thailand	0.4	0.5	0.2	0.1	0.2	0.1	0.1	0.1	0.0
% The Netherlands	0.3	0.0	0.3	0.0	0.0	0.5	0.0	0.0	0.0
% Trinidad and Tobago	7.7	8.3	8.2	6.9	8.3	8.6	6.7	8.0	0.0
% Uganda	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0
% United Arab	0.3	0.0	0.0	0.0	0.0	0.9	0.0	0.9	0.0

Response	They are easy to use	They are easy to access	Readily available	They are reliable	I have previous experience	They are relevant	They are affordable	they are high quality	Other
Emirates									
% United Kingdom	6.6	7.5	6.8	8.3	9.2	9.5	5.3	8.0	0.0
% United States	2.4	2.7	3.4	2.8	2.9	1.8	3.3	4.4	20.0
% Uruguay	1.6	0.4	0.3	0.0	1.3	0.5	0.0	0.0	0.0
% Vietnam	0.5	0.8	0.8	1.4	1.0	1.4	2.0	0.0	0.0

The distribution of responses by country for this question mirrors the overall distribution of students. There is a higher level of choice of sources for reliability, relevance and high quality, rather than ease of access and ease of use, in very few cases, for example Albania, Australia, Denmark, Germany, India, Hong Kong, Russia, Singapore, Spain and UK. Interestingly, a higher proportion of people citing 'affordable' seem to be mostly drawn from wealthier countries: Canada, Hong Kong, Singapore and UK. A chi-square test has not been conducted because of the number of cells with zeros or no responses.

5.12 Use of Online Library

Table 5.12: Respondents' Use of the Online Library

Use of the Online Library	Frequency	(%) of total respondents
Yes	499.0	76.9
No	129.0	19.9
No response	21.0	3.2
Total	649.0	100.0

Table 5.12: Do you use the Online Library at http://external.shl.london.ac.uk/. As shown in Table 14 above, the large majority of respondents (77.9%) use the Online Library. However 20% of respondents said that they never use the Online Library. These figures indicate that a significant number of students are not accessing the materials they require to complete their degree programmes.

Table 5.12.1: Respondents' Use of the Online Library by Gender

Use of the Online Library	Frequency	(%) of total respondents	Female	% Female	Male	% Male	No Response	% No Response
Yes	499.0	76.9	264.0	52.9	235.0	47.1	0.0	0.0
No	129.0	19.9	65.0	50.4	64.0	49.6	0.0	0.0
No response	21.0	3.2	12.0	57.1	9.0	42.9	0.0	0.0
Total	649.0	100.0						

Overall, 52.5% of respondents were female and 52.9% of those answering yes to this question on the use of the Online Library were female. There seems to be no significant variation by gender. The chi-square test produced a p-value of 0.610, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between use of the Online Library and gender.

Table 5.12.2: Respondents' Use of the Online Library by Age Range

Use of the Online Library	Frequency	(%) of total respondents	under 25	% Under 25	26-35	% 26-35	36-45	% 36-45	46-55	% 46-55	56+	% 56+	NR
Yes	499.0	76.9	163.0	32.7	186.0	37.3	93.0	18.6	34.0	6.8	21.0	4.2	2.0
No	129.0	19.9	42.0	32.6	55.0	42.6	27.0	20.9	5.0	3.9	0.0	0.0	0.0
No response	21.0	3.2	15.0	71.4	5.0	23.8	0.0	0.0	0.0	0.0	0.0	0.0	1.0
Total	649.0	100.0											

Overall, 32.8% of respondents were under 25, 37.9% were 26-35, 19.3% were 36-45, 6.5% were 46-55, and 3.2% were 56 and over. 21 people did not respond to this question, most of them under 25 (71%) and the rest 26-35. The proportions of respondents of each age range using and not using the Online Library almost exactly mirrored overall proportions. The chi-square test returned a p-value of 0.095 and supports the null hypothesis that there is no significant relationship use of the Online Library and age range.

Table 5.12.3: Respondents' Use of the Online Library by Level of Programme

Use of the Online Library	Yes	No	No response
Frequency	499	129	21
Percentage of total Sample	76.9	19.9	3.2
Postgraduate	128	18	5
% Postgraduate	25.7	14	23.8
Undergraduate	348	101	15
% Undergraduate	69.7	78.3	71.4
Diploma	8	4	0
% Diploma	1.6	3.1	0
Certificate	6	0	0
% Certificate	1.2	0	0
Access	6	6	0
% Access	1.2	4.7	0
No response	3	0	1
% No response	0.6	0	4.8

Overall proportions show that 84.6% of respondents are studying for a first degree but only 69.7% of respondents who use the library are undergraduate students, whereas 25.7% of respondents who use the library were postgraduate students (compared to 15.1% overall. There were 21 no responses (3.2% of total responses to this question). This suggests that postgraduate students are more likely than undergraduates to use the Online Library, a notion that can be linked with the earlier findings that postgraduate students are more likely to choose reliable and high-quality resources. The chi-square test returned a p-value of 0.003, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between Use of the Online Library and Level of Programme.

Table 5.12.4: Respondents' Use of the Online Library by English Language Proficiency

Use of the Online Library	Frequency	(%) of Total respondents	Yes	% Yes-English Proficiency	No-English Proficiency	% No-English Proficiency	NR	% No Response
Yes	499.0	76.9	261.0	52.3	216.0	43.3	22.0	4.4
No	129.0	19.9	60.0	46.5	68.0	52.7	1.0	0.8
No response	21.0	3.2	10.0	47.6	9.0	42.9	2.0	9.5
Total	649.0	100.0						

Overall, 51% of respondents declared English as their first language (with 44.1% stating another first language and 3.9% giving no response). In the figures above, 52.3% of those using the Online Library had English as a first language. There does not seem to be a significant variation from the overall English language proficiency rates. However, this may suggest that those whose first language is not English may comprise a significant proportion of those who do not use the Online Library. The chi-square test produced a p-value of 0.114, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between Online Library use and English language proficiency.

Table 5.12.5: Respondents' Use of the Online Library by Programme of Study

Do you use the Online Library	Yes	No	No response
Frequency	499.0	129.0	21.0
(%) of total respondents	76.9	19.9	3.2
CEDEP	13.0	3.0	3.0
% CEDEP	2.6	2.3	0.0
CEFIMS	14.0	4.0	4.0
% CEFIMS	2.8	3.1	0.0
EMFSS	210.0	36.0	36.0
% EMFSS	42.1	27.9	0.0
International Management	15.0	5.0	5.0

Do you use the Online Library	Yes	No	No response
% International Management	3.0	3.9	0.0
Laws	205.0	79.0	79.0
%Laws	41.1	61.2	0.0
LLM	34.0	0.0	0.0
% LLM	6.8	0.0	0.0
MRES	7.0	1.0	1.0
% MRES	1.4	0.8	0.0
Other	1.0	1.0	1.0
%Other	0.2	0.8	0.0

Overall, 45.3% of respondents are on the Law programme, 39.3% are on the EMFSS programme, 5.4% on the LLM, 3.2% on the International Management programme and smaller percentages on the other programmes. In the figures above for use of the Online Library, slightly fewer than the overall proportion of law students (41.1% rather than 45.3%) and slightly more EMFSS students (42.1% rather than 39.3%) use the Online Library. 6.8% rather than 5.4% of those using the Online Library are LLM students. The figures also show that over a quarter of the law students (79 out of 284 law respondents) do not use the Online Library. The chi-square test produced a p-value of 0.001, which is less than 0.05 and supports the hypothesis that there is a significant relationship between distance learners' use of the Online Library and programme of study.

Table 5.12.6: Respondents' Use of the Online Library by Mode of Study

Use of Online Library	Yes	No	No response
Frequency	499	129	21
Percentage of total respondents	76.9	19.9	3.2
At Ins+Tuition	155	38	8
% at Inst & Tuition	31.1	29.5	38.1
At Ins No Tuition	66	7	4
% at inst No tuition	13.2	5.4	19
Indep No Tuition	236	63	9
% Indep No tuition	47.3	48.8	42.9
Independent with Private Tuition	42	18	0
% Indep & Tuition	8.4	14	0
No Response	0	3	0
% No Response	0	2.3	0

According to Table 5.7, 31% of students were at an institution supplemented by private tuition, 11.9% were at an institution with no further tuition (overall 42.9% at an institution), 47.9% were studying independently with no private tuition and 9.2% were studying independently with private tuition (57.1% overall were not at an institution). The figures above show a remarkably close correlation of use of the Online Library with the overall distribution by mode of study. There was no response to this question by 21 respondents. The chi-square test produced a p-value of 0.031, which is less than 0.05

and supports the hypothesis that there is a significant relationship between use of the Online Library and mode of study.

Table 5.12.7: Respondents' Use of the Online Library by Country (Geographical Location)

Response	Yes	No	No response	Total
Number of respondents	499.0	129.0	21.0	649.0
Percentage %	76.9	19.9	3.2	100.0
3 diff countries	1.0	0.0	1.0	0.0
% 3 diff countries	0.2	0.0	4.8	0.0
Albania	1.0		0.0	0.0
% Albania	0.2	0.0	0.0	0.0
Armenia	0.0	1.0	0.0	0.0
% Armenia	0.0	0.8	0.0	0.0
Australia	4.0	1.0	0.0	0.0
% Australia	0.8	0.8	0.0	0.0
Austria	6.0	1.0	0.0	0.0
% Austria	1.2	0.8	0.0	0.0
Bahamas	1.0	0.0	0.0	0.0
% Bahamas	0.2	0.0	0.0	0.0
Bahrain	4.0	1.0	0.0	0.0
% Bahrain	0.8	0.8	0.0	0.0
Bangladesh	6.0	4.0	0.0	0.0
% Bangladesh	1.2	3.1	0.0	0.0
Barbados	1.0	1.0	0.0	0.0
% Barbados	0.2	0.8	0.0	0.0
Belgium	6.0	0.0	0.0	0.0
% Belgium	1.2	0.0	0.0	0.0
Brazil	2.0	1.0	0.0	0.0
% Brazil	0.4	0.8	0.0	0.0
Bulgaria	1.0	0.0	0.0	0.0
% Bulgaria	0.2	0.0	0.0	0.0
Cambodia	3.0	0.0	0.0	0.0
% Cambodia	0.6	0.0	0.0	0.0
Cameroon	1.0	0.0	0.0	0.0
% Cameroon	0.2	0.0	0.0	0.0
Canada	19.0	6.0	0.0	0.0
% Canada	3.8	4.7	0.0	0.0
Cayman Islands	1.0	0.0	0.0	0.0
% Cayman Islands	0.2	0.0	0.0	0.0
Colombia	2.0	0.0	0.0	0.0
% Colombia	0.4	0.0	0.0	0.0
Croatia	2.0	0.0	0.0	0.0
% Croatia	0.4	0.0	0.0	0.0
Cyprus	2.0	1.0	0.0	0.0
% Cyprus	0.4	0.8	0.0	0.0

Response	Yes	No	No response	Total
Czech Republic	2.0	0.0	0.0	
% Czech Republic	0.4	0.0	0.0	0.0
Denmark	2.0	0.0	0.0	0.0
% Denmark	0.4	0.0	0.0	0.0
Dominica	1.0	2.0	0.0	0.0
% Dominica	0.2	1.6	0.0	0.0
Egypt	3.0	0.0	0.0	0.0
% Egypt	0.6	0.0	0.0	0.0
France	0.0	2.0	0.0	0.0
% France	0.0	1.6	0.0	0.0
Germany	6.0	1.0	0.0	0.0
% Germany	1.2	0.8	0.0	0.0
Ghana	3.0	0.0	0.0	0.0
% Ghana	0.6	0.0	0.0	0.0
Greece	3.0	1.0	0.0	0.0
% Greece	0.6	0.8	0.0	0.0
Guatemala	1.0		0.0	0.0
% Guatemala	0.2	0.0	0.0	0.0
Guyana	1.0	0.0	0.0	0.0
% Guyana	0.2	0.0	0.0	0.0
Hong Kong	23.0	6.0	1.0	0.0
% Hong Kong	4.6	4.7	4.8	0.0
India	9.0	0.0	0.0	0.0
% India	1.8	0.0	0.0	0.0
Indonesia	2.0	0.0	0.0	0.0
% Indonesia	0.4	0.0	0.0	0.0
Indonesia and Czech Republic	1.0	0.0	0.0	0.0
% Indonesia and Czech Republic	0.2	0.0	0.0	0.0
Iran	1.0	0.0	0.0	0.0
% Iran	0.2	0.0	0.0	0.0
Israel	1.0	0.0	0.0	0.0
% Israel	0.2	0.0	0.0	0.0
Italy	4.0	2.0	0.0	0.0
% Italy	0.8	1.6	0.0	0.0
Jamaica	13.0	2.0	0.0	0.0
% Jamaica	2.6	1.6	0.0	0.0
Japan	6.0	1.0	0.0	0.0
% Japan	1.2	0.8	0.0	0.0
Kenya	4.0	1.0	0.0	0.0
% Kenya	0.8	0.8	0.0	0.0
Kingdom of Bahrain	1.0	0.0	0.0	0.0
% Kingdom of Bahrain	0.2	0.0	0.0	0.0
Kuwait	1.0	0.0	0.0	0.0
% Kuwait	0.2	0.0	0.0	0.0

Response	Yes	No	No response	Total
Lithuania	1.0	0.0	0.0	0.0
% Lithuania	0.2	0.0	0.0	0.0
Macedonia	1.0	0.0	0.0	0.0
% Macedonia	0.2	0.0	0.0	0.0
Madagascar	1.0	0.0	0.0	0.0
% Madagascar	0.2	0.0	0.0	0.0
Malawi	1.0	1.0	0.0	0.0
% Malawi	0.2	0.8	0.0	0.0
Malaysia	26.0	0.0	1.0	0.0
% Malaysia	5.2	0.0	4.8	0.0
Malta	10.0	1.0	1.0	0.0
% Malta	2.0	0.8	4.8	0.0
Martinique	1.0	0.0	0.0	0.0
% Martinique	0.2	0.0	0.0	0.0
Mauritius	14.0	9.0	2.0	0.0
% Mauritius	2.8	7.0	9.5	0.0
Myanmar	1.0	0.0	0.0	0.0
% Myanmar	0.2	0.0	0.0	0.0
Namibia	1.0	0.0	0.0	0.0
% Namibia	0.2	0.0	0.0	0.0
New Zealand	4.0	1.0	0.0	0.0
% New Zealand	0.8	0.8	0.0	0.0
Nigeria	8.0	3.0	0.0	0.0
% Nigeria	1.6	2.3	0.0	0.0
Nigeria / UK	6.0	3.0	1.0	0.0
% Nigeria / UK	1.2	2.3	4.8	0.0
No response	20.0	3.0	2.0	0.0
% No response	4.0	2.3	9.5	0.0
Other	0.0	3.0	1.0	0.0
% Other	0.0	2.3	4.8	0.0
Pakistan	15.0	5.0	2.0	0.0
% Pakistan	3.0	3.9	9.5	0.0
Peru	1.0	0.0	0.0	0.0
% Peru	0.2	0.0	0.0	0.0
Poland	4.0	2.0	0.0	0.0
% Poland	0.8	1.6	0.0	0.0
Portugal	2.0	1.0	0.0	0.0
% Portugal	0.4	0.8	0.0	0.0
Russia	19.0	7.0	0.0	0.0
% Russia	3.8	5.4	0.0	0.0
Rwanda	1.0	0.0	0.0	0.0
% Rwanda	0.2	0.0	0.0	0.0
Saint Lucia	1.0	0.0	0.0	0.0
% Saint Lucia	0.2	0.0	0.0	0.0
Saudi Arabia	4.0	1.0	0.0	0.0
% Saudi Arabia	0.8	0.8	0.0	0.0

Response	Yes	No	No response	Total
Serbia		1.0	0.0	0.0
% Serbia	0.0	0.8	0.0	0.0
Singapore	53.0	13.0	2.0	0.0
% Singapore	10.6	10.1	9.5	0.0
South Africa	3.0	0.0	0.0	0.0
% South Africa	0.6	0.0	0.0	0.0
South Korea	0.0	1.0	0.0	0.0
% South Korea	0.0	0.8	0.0	0.0
Spain	14.0	3.0	1.0	0.0
% Spain	2.8	2.3	4.8	0.0
Sri Lanka	11.0	2.0	0.0	0.0
% Sri Lanka	2.2	1.6	0.0	0.0
St Vincent and the Grenadines	2.0	0.0	0.0	0.0
% St Vincent and the Grenadines	0.4	0.0	0.0	0.0
Sudan	0.0	3.0	1.0	0.0
% Sudan	0.0	2.3	4.8	0.0
Sweden	1.0	1.0	0.0	0.0
% Sweden	0.2	0.8	0.0	0.0
Switzerland	12.0	1.0	0.0	0.0
% Switzerland	2.4	0.8	0.0	0.0
Thailand	4.0	4.0	1.0	0.0
% Thailand	0.8	3.1	4.8	0.0
The Netherlands	1.0	0.0	0.0	0.0
% The Netherlands	0.2	0.0	0.0	0.0
Trinidad and Tobago	40.0	8.0	3.0	0.0
% Trinidad and Tobago	8.0	6.2	14.3	0.0
Uganda	0.0	1.0	0.0	0.0
% Uganda	0.0	0.8	0.0	0.0
United Arab Emirates	1.0	1.0	0.0	0.0
% United Arab Emirates	0.2	0.8	0.0	0.0
United Kingdom	39.0	10.0	1.0	0.0
% United Kingdom	7.8	7.8	4.8	0.0
United States	17.0	1.0	0.0	0.0
% United States	3.4	0.8	0.0	0.0
Uruguay	4.0	2.0	0.0	0.0
% Uruguay	0.8	1.6	0.0	0.0
Vietnam	3.0	2.0	0.0	0.0
% Vietnam	0.6	1.6	0.0	0.0
NR	1.0	0.0	0.0	0.0
% NR	0.2	0.0	0.0	0.0

There does not seem to be any firm correlation between country of residence and use of the Online Library. Despite a higher proportion of students in some countries, e.g. Malaysia and the United States, the overall proportion of about three quarters of students who do use the Online Library is repeated for

most countries. A chi-square test has not been conducted because of the number of cells with zeros or no responses.

5.13 Where Respondents Heard of Online Library

Table 5.13: Where Respondents Heard of Online Library

Where Respondent Heard of Online Library	Frequency	Percentage of Total Participants
Course pack	445	68.6
VLE	261	40.2
Other (handbooks)	83	12.8
Tutor	52	8.0
Fellow student	24	3.7
Other (UoL website)	21	3.2
Other (lectures)	15	2.3
Other General	12	1.8
Never heard of it	3	0.5

Table 5.13: Where Respondents Heard of Online Library

The responses to this question may be of assistance to the University Library's communications strategy. Respondents could choose more than one answer. It is likely that almost all students learned of the Online Library from direct communications from the University of London, either through the course pack, which should be the primary means of communicating the existence of the Online Library, or by reference from the VLE when use of the Online Library becomes necessary. The number of students who had never heard of the Online Library was only 3, or less than 0.5% of respondents. This finding is important to the extent that it demonstrates that other findings regarding use or non-use of the Online Library or other sources are not simply the result of a significant number of respondents not knowing of the Online Library's existence.

Table 5.13.1: Where Respondents Heard of Online Library by Gender

Where Respondent Heard of Online Library	Frequency	percentage of Total participants	Female	% Female	Male	% Male	NR	% No Response
Tutor	52.0	8.0	30.0	57.7	22.0	42.3	0.0	0.0
Course pack	445.0	68.6	224.0	50.3	220.0	49.4	1.0	0.2
VLE	261.0	40.2	153.0	58.6	107.0	41.0	1.0	0.4
Fellow student	24.0	3.7	13.0	54.2	11.0	45.8	0.0	0.0
Other General	12.0	1.8	6.0	50.0	6.0	50.0	0.0	0.0
Other(lectures)	15.0	2.3	11.0	73.3	4.0	26.7	0.0	0.0
Other (UoL website)	21.0	3.2	11.0	52.4	10.0	47.6	0.0	0.0
Other (handbooks)	83.0	12.8	50.0	60.2	33.0	39.8	0.0	0.0
Never heard of it	3.0	0.5	0.0	0.0	3.0	100.0	0.0	0.0

Overall, 52.5% of respondents were female. The distribution by gender of respondents generally conforms to this figure, slightly fewer responses for course pack, slightly more for VLE, overwhelmingly the two largest sources for learning about the Online Library. There are some variations from the overall proportion of females among the other responses but these represent far fewer respondents. Of those who chose 'Other (lectures)' there was a significant variation with 73.3% women although the answer was chosen by rather few respondents. In Table 5.7.1 it was established that a significantly higher percentage of women than men attend an institution (and therefore attend lectures). A chi-square test returned a p-value of 6.8236E-193 (means to move 193 decimal places to the left), which is less than 0.05 and supports the hypothesis that there is a significant relationship between where respondents heard about the library and gender.

Table 5.13.2: Where Respondents Heard of Online Library by Age Range

Where Respondent Heard of Online Library	Frequency	percentage of Total participants	under 25	% under 25	26-35	% 26-35	36-45	% 36-45	46-55	% 46-55	56+	% 56+	NR	% No Response
Tutor	52.0	8.0	18.0	34.6	21.0	40.4	9.0	17.3	3.0	5.8		0.0	1.0	1.9
Course pack	445.0	68.6	146.0	32.8	169.0	38.0	86.0	19.3	30.0	6.7	13.0	2.9	1.0	0.2
VLE	261.0	40.2	92.0	35.2	102.0	39.1	46.0	17.6	13.0	5.0	8.0	3.1	0	0.0
Fellow student	24.0	3.7	8.0	33.3	10.0	41.7	3.0	12.5	3.0	12.5		0.0	0	0.0
Other General	12.0	1.8	4.0	33.3	3.0	25.0	2.0	16.7	2.0	16.7	1.0	0.0	0	0.0
Other(lectures)	15.0	2.3	10.0	66.7	2.0	13.3	2.0	13.3		0.0	1.0	6.7	0	0.0
Other (UoL website)	21.0	3.2	10.0	47.6	7.0	33.3	3.0	14.3	1.0	4.8		0.0	0	0.0
Other (handbooks)	83.0	12.8	24.0	28.9	43.0	51.8	8.0	9.6	7.0	8.4	1.0	1.2	0	0.0
Never heard of it	3.0	0.5	0	0.0	3.0	100.0		0.0		0.0		0.0	0	0.0

32.8% of respondents to the survey overall were under 25 and this was approximately the percentage of under-25-year-olds choosing the most popular answers to this question. However, 66.7% of those who had heard of the Online Library at lectures were under 25 and 47.6% had heard of it from the UL website (as respondents could choose more than one answer, this does not mean that they had not heard of it by other routes, and in fact exactly the same percentage of respondents choosing 'Course Pack' were under 25 as the percentage of overall respondents to the survey were under 25: 32.8%). 37.9% of respondents to the survey overall were 26-35 and, again, the percentages for the most popular answers were very close to this percentage although 51.8% of those choosing 'Handbooks' were 26-35 years old. There seems to be little variation from the overall age distribution of respondents, especially for

the most popular answers, except that the under-25-year-olds are more likely to have learned about the Online Library from online sources and 26-35-year-olds from handbooks. The chi-square test produced a p-value of 0.418, which is more than 0.05 and supports the null hypothesis that there is no significant relationship between how distance learners heard about the Online Library and age.

Table 5.13.3: Where Respondents Heard of Online Library by Level of Programme

Where Respondent Heard of Online Library	Frequency	percentage of Total participants	PG	% PG	UG	% UG	Diploma	% Diploma	Cert	% Cert	Access	% Access	NR	% NR
Tutor	52.0	8.0	8.0	15.4	42.0	80.8	0.0	0.0	0.0	0.0	0.0	0.0	2.0	3.8
Course pack	445.0	68.6	102.0	22.9	329.0	73.9	7.0	1.6	2.0	0.4	4.0	0.9	1.0	0.2
VLE	261.0	40.2	41.0	15.7	205.0	78.5	3.0	1.1	4.0	1.5	7.0	2.7	1.0	0.4
Fellow student	24.0	3.7	9.0	37.5	13.0	54.2	2.0	8.3		0.0	0.0	0.0	0.0	0.0
Other General	12.0	1.8	1.0	8.3	9.0	75.0	1.0	8.3	0.0	0.0	1.0	8.3	0.0	0.0
Other(lectures)	15.0	2.3	0.0	0.0	15.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other (UoL website)	21.0	3.2	2.0	9.5	19.0	90.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other (handbooks)	83.0	12.8	10.0	12.0	73.0	88.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Never heard of it	3.0	0.5	3.0	100.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 5.13.3: Where Respondents Heard of Online Library by Level of Programme
Overall, 84.6% of respondents were undergraduates, and undergraduates are more likely to be attending an institution; this explains the high proportions of undergraduates choosing the most popular answers of Course Pack and VLE in particular. Much smaller numbers chose the other answers (and respondents could choose more than one answer) but it is noticeable that postgraduates – 15.1% of respondents overall – represented 22.9% of those choosing 'Course Pack' and 37.5% of those choosing 'Fellow Student'. Postgraduates are less likely to attend an institution and rely more on the Course Pack and Fellow Students; not surprisingly, no postgraduate chose 'Lectures' as a source of information about the Online Library. The chi-square test produced a value of 0.008, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between how distance learners heard about the Online Library and level of programme.

Table 5.13.4: Where Respondents Heard of Online Library by English Language Proficiency

Where Respondent Heard of Online Library	Frequency	percentage of Total participants	Yes	% Yes	No	% No	NR	% No Response
Tutor	52.0	8.0	23.0	44.2	28.0	53.8	1.0	1.9
Course pack	445.0	68.6	225.0	50.6	198.0	44.5	22.0	4.9

VLE	261.0	40.2	113.0	43.3	147.0	56.3	1.0	0.4
Fellow student	24.0	3.7	15.0	62.5	9.0	37.5	0.0	0.0
Other General	12.0	1.8	9.0	75.0	3.0	25.0	0.0	0.0
Other(lectures)	15.0	2.3	5.0	33.3	10.0	66.7	0.0	0.0
Other (UoL website)	21.0	3.2	7.0	33.3	14.0	66.7	0.0	0.0
Other (handbooks)	83.0	12.8	42.0	50.6	31.0	37.3	10.0	12.0
Never heard of it	3.0	0.5	0.0	0.0	3.0	100.0	0.0	0.0

51% of respondents overall declared English as their first language. In this question those with English as a first language comprised over 50% of those who heard about the Online Library from the Course Pack (50.6%), Fellow Student (62.5%, perhaps because there are more students and more students in institutions in countries where the first language of the students is English), Other General (75%), and Handbooks (50.6%). However, those whose first language was not English comprised over 50% of those who heard about the Online Library from their tutor (53.8%), from the VLE (56.3%), Lectures (56.7%), and the UoL website (56.7%). The numbers are small for all answers except Course Pack and VLE but there is a variation which suggests that those without English as a first language are relying on more support from tutors and lecturers to guide them or take more time to learn about the availability of the Online Library from other sources. The chi-square test returned a p-value of 0.019, which is less than 0.05 and supports the hypothesis that there is a significant relationship between how distance learners heard about the Online Library and English language proficiency.

Table 5.13.5: Where Respondents Heard of Online Library by Programme

Where Respondent Heard of Online Library	Frequency	percentage of Total participants	Cedep	% Cedep	Cefims	% Cefims	EMFSS	% EMFSS	INTMGT	% Int Mgt	Laws	% Laws	LLM	% LLM	MRES	% MRES	Other	% Other
Tutor	52.0	8.0	1.0	1.9	1.0	1.9	21.0	40.4	5.0	9.6	22.0	42.3	0.0	0.0	1.0	1.9	1.0	1.9
Course pack	445.0	68.6	11.0	2.5	16.0	3.6	166.0	37.3	6.0	1.3	215.0	48.3	26.0	5.8	3.0	0.7	2.0	0.4
VLE	261.0	40.2	2.0	0.8	1.0	0.4	95.0	36.4	13.0	5.0	134.0	51.3	8.0	3.1	7.0	2.7	1.0	0.4
Fellow student	24.0	3.7	2.0	8.3	0.0	0.0	7.0	29.2	0.0	0.0	12.0	50.0	3.0	12.5	0.0	0.0	0.0	0.0
Other General	12.0	1.8	0.0	0.0	0.0	0.0	6.0	50.0	1.0	8.3	5.0	41.7	0.0	0.0	0.0	0.0	0.0	0.0
Other(lectures)	15.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Other (UoL website)	21.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Other (handbooks)	83.0	12.8	0.0	0.0	0.0	0.0	17.0	20.5	0.0	0.0	66.0	79.5	0.0	0.0	0.0	0.0	0.0	0.0
Never heard of it	3.0	0.5	1.0	33.3	0.0	0.0	1.0	33.3	0.0	0.0	0.0	0.0	1.0	33.3	0.0	0.0	0.0	0.0

As we know from Table 5.1.1, 45.3% of the respondents are law undergraduate students, and the proportions of students answering Course Pack and VLE are around this percentage, likewise for the replies Tutor, Fellow Student, and Other General. However, law undergraduate students represent all those learning about the Online Library from Lectures and from the UoL website and most of those learning about it from Handbooks. The other main undergraduate programme, EMFSS, represents 39.3% of respondents overall and this corresponds to the proportions of EMFSS students choosing the most popular responses, but rather more than the proportions choosing Fellow Student or Handbooks. Unlike the law students, none chose Lectures or the UoL website. The interesting responses come from the postgraduate students. LLM students represent 5.4% of the overall respondents but 12.5% of those who chose 'Fellow Student', and the responses show the likelihood that they are not at an institution because none chose 'Tutor' or 'Lectures'. As only 3 people chose 'Never heard of it', the high percentages for Cedep, EMFSS and LLM are not significant. The chi-square test returned a p-value of 3.54775E-09 (means to move 9 decimal places to the left), which is less than 0.05 and supports the hypothesis that there is a significant relationship between how distance learners heard about the Online Library and Programme of Study.

Table 5.13.6: Where Respondents Heard of Online Library by Mode of Study

Where Respondent Heard of Online Library	Frequency	percentage of Total participants	At Ins+Tuition	% at inst & tuition	At INS NO Tuition	% at inst NO tuition	IndepNO tuition	% Indep NO tuition	Independent with private tuition	% Indep & tuition	No Response	% No Response
Tutor	52.0	8.0	25.0	48.1	9.0	17.3	9.0	17.3	9.0	17.3		0.0
Course pack	445.0	68.6	152.0	34.2	41.0	9.2	206.0	46.3	44.0	9.9	2.0	0.4
VLE	261.0	40.2	90.0	34.5	32.0	12.3	115.0	44.1	21.0	8.0	3.0	1.1
Fellow student	24.0	3.7	8.0	33.3	4.0	16.7	8.0	33.3	4.0	16.7	0.0	0.0
Other General	12.0	1.8	1.0	8.3	4.0	33.3	5.0	41.7	2.0	16.7	0.0	0.0
Other(lectures)	15.0	2.3	10.0	66.7	0.0	0.0	4.0	26.7	0.0	0.0	1.0	6.7
Other (UoL website)	21.0	3.2	12.0	57.1	0.0	0.0	9.0	42.9	0.0	0.0	0.0	0.0
Other (handbooks)	83.0	12.8	42.0	50.6	0.0	0.0	36.0	43.4	4.0	4.8	1.0	1.2
Never heard of it	3.0	0.5	0.0	0.0	1.0	33.3	2.0	66.7	0.0	0.0	0.0	0.0

According to Table 5.7, 31% of students were at an institution supplemented by private tuition, 11.9% were at an institution with no further tuition (overall 42.9% at an institution), 47.9% were studying independently with no private tuition and 9.2% were studying independently with private tuition (57.1% overall were not at an institution). Of the two most popular answers, Course Pack and VLE, about the same proportions chose these answers as the overall proportions at institutions or studying

independently. 65.4% of the 50 respondents who chose 'Tutor' and 66.7% of the 15 respondents who chose 'Lectures' were at an institution (compared to 42.9% overall who were at an institution) although, surprisingly, the same proportion, 17.3%, chose Tutor from those studying independently without private tuition and studying independently with tuition. A chi-square test returned a p-value of 2.89655E-05 (means to move 5 decimal places to the left), which is less than 0.05 and supports the hypothesis that there is a significant relationship between where respondents heard of the Online Library and mode of study.

Table 5.13.7: Where Respondents Heard of Online Library by Country (Geographical Location)

Where Respondent Heard of Online Library	Tutor	Course pack	VLE	Fellow student	Other General	Other(lectures)	Other (UoL website)	Other (handbooks)	Never heard of it
Number of respondents	52.0	445.0	261.0	24.0	12.0	15.0	21.0	83.0	3.0
Percentage %	8.0	68.6	40.2	3.7	1.8	2.3	3.2	12.8	0.5
3 diff countries	0.0	1.0	1.0	0.0	0.0	0.0		0.0	0.0
% 3 diff countries	0.0	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Albania	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Albania	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Armenia	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Armenia	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Australia	0.0	3.0	2.0	0.0	1.0	0.0	0.0	1.0	0.0
% Australia	0.0	0.7	0.8	0.0	8.3	0.0	0.0	1.2	0.0
Austria	0.0	7.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0
% Austria	0.0	1.6	0.8	0.0	0.0	0.0	0.0	1.2	0.0
Bahamas	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0
% Bahamas	0.0	0.2	0.0	4.2	0.0	0.0	0.0	1.2	0.0
Bahrain	0.0	4.0	2.0	0.0	0.0	0.0	1.0	2.0	0.0
% Bahrain	0.0	0.9	0.8	0.0	0.0	0.0	4.8	2.4	0.0
Bangladesh	1.0	7.0	2.0	0.0	0.0	0.0	4.0	2.0	0.0
% Bangladesh	1.9	1.6	0.8	0.0	0.0	0.0	19.0	2.4	0.0
Barbados	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Barbados	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Belgium	0.0	5.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
% Belgium	0.0	1.1	0.4	0.0	0.0	6.7	0.0	0.0	0.0
Brazil	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Brazil	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bulgaria	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Bulgaria	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cambodia	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Cambodia	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cameroon	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
% Cameroon	0.0	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Canada	1.0	17.0	15.0	0.0	1.0	1.0	1.0	3.0	0.0
% Canada	1.9	3.8	5.7	0.0	8.3	6.7	4.8	3.6	0.0
Cayman Islands	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Cayman Islands	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Where Respondent Heard of Online Library	Tutor	Course pack	VLE	Fellow student	Other General	Other(lectures)	Other (UoL website)	Other (handbooks)	Never heard of it
Colombia	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
% Colombia	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Croatia	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Croatia	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cyprus	0.0	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
% Cyprus	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Czech Republic	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
% Czech Republic	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Denmark	0.0	2.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
% Denmark	0.0	0.4	0.0	0.0	0.0	0.0	0.0	1.2	0.0
Dominica	2.0	3.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
% Dominica	3.8	0.7	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Egypt	0.0	1.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
% Egypt	0.0	0.2	0.8	0.0	0.0	0.0	0.0	0.0	0.0
France	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
% France	0.0	0.2	0.0	0.0	8.3	0.0	0.0	0.0	0.0
Germany	0.0	4.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0
% Germany	0.0	0.9	1.1	0.0	0.0	0.0	0.0	0.0	0.0
Ghana	0.0		2.0	1.0	0.0	0.0	0.0	0.0	0.0
% Ghana	0.0	0.0	0.8	4.2	0.0	0.0	0.0	0.0	0.0
Greece	0.0	3.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
% Greece	0.0	0.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Guatemala	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
% Guatemala	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Guyana	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Guyana	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hong Kong	3.0	19.0	13.0	0.0	0.0	0.0	0.0	6.0	0.0
% Hong Kong	5.8	4.3	5.0	0.0	0.0	0.0	0.0	7.2	0.0
India	3.0	6.0	4.0	1.0	0.0	1.0	0.0	0.0	0.0
% India	5.8	1.3	1.5	4.2	0.0	6.7	0.0	0.0	0.0
Indonesia	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
% Indonesia	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Indonesia and Czech Republic	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Indonesia and Czech Republic	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Iran	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Iran	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Israel	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
% Israel	0.0	0.2	0.0	0.0	0.0	0.0	0.0	1.2	0.0
Italy		3.0	3.0	0.0	0.0	0.0	0.0	0.0	2.0
% Italy	0.0	0.7	1.1	0.0	0.0	0.0	0.0	0.0	66.7
Jamaica	3.0	11.0	7.0	2.0	0.0	0.0	0.0	4.0	0.0
% Jamaica	5.8	2.5	2.7	8.3	0.0	0.0	0.0	4.8	0.0
Japan	1.0	5.0	3.0	0.0	0.0	0.0	0.0	1.0	0.0

Where Respondent Heard of Online Library	Tutor	Course pack	VLE	Fellow student	Other General	Other(lectures)	Other (UoL website)	Other (handbooks)	Never heard of it
% Japan	1.9	1.1	1.1	0.0	0.0	0.0	0.0	1.2	0.0
Kenya	0.0	3.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
% Kenya	0.0	0.7	0.0	0.0	8.3	0.0	0.0	0.0	0.0
Kingdom of Bahrain	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Kingdom of Bahrain	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kuwait	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
% Kuwait	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Lithuania	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Lithuania	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Macedonia	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Macedonia	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Madagascar	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Madagascar	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Malawi	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
% Malawi	0.0	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Malaysia	4.0	18.0	10.0	1.0	1.0	0.0	2.0	5.0	0.0
% Malaysia	7.7	4.0	3.8	4.2	8.3	0.0	9.5	6.0	0.0
Malta	2.0	9.0	8.0	0.0	1.0	1.0	0.0	2.0	0.0
% Malta	3.8	2.0	3.1	0.0	8.3	6.7	0.0	2.4	0.0
Martinique	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Martinique	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mauritius	0.0	16.0	10.0	0.0	0.0	0.0	1.0	3.0	0.0
% Mauritius	0.0	3.6	3.8	0.0	0.0	0.0	4.8	3.6	0.0
Myanmar	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Myanmar	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Namibia	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
% Namibia	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
New Zealand	0.0	5.0	2.0	1.0	0.0	1.0	0.0	1.0	0.0
% New Zealand	0.0	1.1	0.8	4.2	0.0	6.7	0.0	1.2	0.0
Nigeria	1.0	5.0	5.0	2.0	0.0	0.0	0.0	0.0	0.0
% Nigeria	1.9	1.1	1.9	8.3	0.0	0.0	0.0	0.0	0.0
Nigeria / UK	1.0	8.0	8.0	1.0	0.0	1.0	1.0	0.0	0.0
% Nigeria / UK	1.9	1.8	3.1	4.2	0.0	6.7	4.8	0.0	0.0
No response	5.0	14.0	4.0	0.0	0.0	0.0	2.0	4.0	0.0
% No response	9.6	3.1	1.5	0.0	0.0	0.0	9.5	4.8	0.0
Other	1.0	3.0	3.0	0.0	0.0	0.0	1.0	0.0	0.0
% Other	1.9	0.7	1.1	0.0	0.0	0.0	4.8	0.0	0.0
Pakistan	3.0	15.0	6.0	0.0	0.0	1.0	0.0	6.0	0.0
% Pakistan	5.8	3.4	2.3	0.0	0.0	6.7	0.0	7.2	0.0
Peru	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
% Peru	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Poland	0.0	5.0	2.0	0.0	0.0	1.0	1.0	1.0	0.0
% Poland	0.0	1.1	0.8	0.0	0.0	6.7	4.8	1.2	0.0
Portugal	0.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
% Portugal	0.0	0.4	0.8	0.0	0.0	0.0	0.0	0.0	0.0

Where Respondent Heard of Online Library	Tutor	Course pack	VLE	Fellow student	Other General	Other(lectures)	Other (UoL website)	Other (handbooks)	Never heard of it
Russia	1.0	15.0	9.0	4.0	0.0	1.0	0.0	1.0	0.0
% Russia	1.9	3.4	3.4	16.7	0.0	6.7	0.0	1.2	0.0
Rwanda	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Rwanda	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saint Lucia	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Saint Lucia	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saudi Arabia	1.0	3.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
% Saudi Arabia	1.9	0.7	0.0	0.0	8.3	0.0	0.0	0.0	0.0
Serbia	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
% Serbia	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Singapore	6.0	41.0	36.0	5.0	1.0	1.0	0.0	8.0	1.0
% Singapore	11.5	9.2	13.8	20.8	8.3	6.7	0.0	9.6	33.3
South Africa	0.0	0.0	2.0	0.0	1.0	0.0	0.0	0.0	0.0
% South Africa	0.0	0.0	0.8	0.0	8.3	0.0	0.0	0.0	0.0
South Korea		1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
% South Korea	0.0	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Spain	0.0	15.0	9.0	1.0	1.0	1.0	2.0	5.0	0.0
% Spain	0.0	3.4	3.4	4.2	8.3	6.7	9.5	6.0	0.0
Sri Lanka	1.0	11.0	6.0		0.0	0.0	0.0	1.0	0.0
% Sri Lanka	1.9	2.5	2.3	0.0	0.0	0.0	0.0	1.2	0.0
St Vincent and the Grenadines	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% St Vincent and the Grenadines	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sudan	1.0	4.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0
% Sudan	1.9	0.9	0.8	0.0	0.0	0.0	0.0	1.2	0.0
Sweden	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
% Sweden	1.9	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Switzerland	0.0	9.0	6.0	0.0	0.0	0.0	2.0	1.0	0.0
% Switzerland	0.0	2.0	2.3		0.0	0.0	9.5	1.2	0.0
Thailand	1.0	6.0	3.0	0.0	0.0	1.0	1.0	1.0	0.0
% Thailand	1.9	1.3	1.1	0.0	0.0	6.7	4.8	1.2	0.0
The Netherlands	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% The Netherlands	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	
Trinidad and Tobago	3.0	41.0	14.0	0.0	2.0	1.0	0.0	8.0	0.0
% Trinidad and Tobago	5.8	9.2	5.4	0.0	16.7	6.7		9.6	0.0
Uganda		1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Uganda	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	
United Arab Emirates		2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% United Arab Emirates	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
United Kingdom	4.0	37.0	23.0	3.0	0.0	1.0	1.0	7.0	0.0
% United Kingdom	7.7	8.3	8.8	12.5	0.0	6.7	4.8	8.4	0.0
United States		13.0	7.0	0.0	0.0	0.0	0.0	2.0	0.0
% United States	0.0	2.9	2.7	0.0	0.0	0.0	0.0	2.4	0.0
Uruguay		6.0	2.0	1.0	0.0	0.0	0.0	2.0	0.0

Where Respondent Heard of Online Library	Tutor	Course pack	VLE	Fellow student	Other General	Other(lectures)	Other (UoL website)	Other (handbooks)	Never heard of it
% Uruguay	0.0	1.3	0.8	4.2	0.0	0.0	0.0	2.4	0.0
Vietnam		3.0	2.0	0.0	0.0	1.0	1.0	1.0	0.0
% Vietnam	0.0	0.7	0.8	0.0	0.0	6.7	4.8	1.2	0.0
NR	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
% NR	0.0	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0

In general, the findings of this question follow the overall proportions in each country albeit modified by the fact that greater proportions of respondents in certain countries, notably those countries identified in earlier tables such as Malaysia, Singapore, Hong Kong and Mauritius, are more likely to be in institutions and therefore more likely to choose 'Tutor' and 'Lectures'. A chi-square test has not been conducted because of the number of cells with zeros or no responses.

5.14 Where Respondents Access the Online Library from

Table 5.14: Where Respondents Access the Online Library from

Where Access Online Library From	Frequency	% Total Participants
At home	565	87.1
At work	142	21.9
Other (at an institution)	37	5.7
At internet café	21	3.2
Other	12	1.8
Total	649	

Table 5.14: Where Respondents Access the Online Library from
Respondents could choose more than one answer. As shown by Table 5.16, a large majority of participants access the Online Library from home. This could be related to the fact that easy access to a computer and an internet connection are essential requirements for registering on the University of London programmes; thus, the group is already self-selected and those who do not have a computer and internet connection at home or at work are unlikely to register.

Table 5.14.1: Where Respondents Access the Online Library from by Gender

Where Access Online Library From	Frequency	Percentage of total participants	Female	% Female	Male	% Male	NR	% No Response
At home	565.0	87.1	303.0	53.6	261.0	46.2	1.0	0.2
At work	142.0	21.9	76.0	53.5	65.0	45.8	1.0	0.7
At internet café	21.0	3.2	14.0	66.7	7.0	33.3		0.0

Where Access Online Library From	Frequency	Percentage of total participants	Female	% Female	Male	% Male	NR	% No Response
Other (at an institution)	37.0	5.7	19.0	51.4	18.0	48.6		0.0
Other	12.0	1.8	6.0	50.0	6.0	50.0		0.0
Total 649								

Overall, 52.5% of respondents were female. Access from Home and from Work were identified by 565 and 142 respondents respectively, and all the other answers together attracted 70 responses. There is only a slightly higher percentage of women choosing Home and Work and slightly fewer choosing Institution; therefore, generally there is no significant variation by gender. A variation occurs among the respondents choosing the answer Internet café, of whom 66.7% are women (although this represents only 14 responses). The chi-square test returned a p-value of 0.687, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between where respondents access the Online Library from and gender.

Table 5.14.2: Where Respondents Access the Online Library from by Age Range

Where Access Online Library From	Frequency	Percentage of total participants	under 25	%	26-35	%	36-45	%	46-55	%	56+	%	NR	%
At home	565.0	87.1	189.0	33.5	214.0	37.9	109.0	19.3	34.0	6.0	18.0	3.2	1.0	0.2
At work	142.0	21.9	26.0	18.3	61.0	43.0	33.0	23.2	15.0	10.6	6.0	4.2	1.0	0.7
At internet café	21.0	3.2	6.0	28.6	12.0	57.1	2.0	9.5	1.0	4.8		0.0	0	0.0
Other (at an institution)	37.0	5.7	21.0	56.8	13.0	35.1	3.0	8.1	0	0.0	0	0.0	0	0.0
Other	12.0	1.8	4.0	33.3	3.0	25.0	2.0	16.7	2.0	16.7	1.0	8.3	0	0.0

32.8% of respondents to the survey overall were under 25 and this corresponds closely to the proportion accessing the Online Library from home. However, only 26% access it from work while 57.1% (only 12 responses) access it from an internet café and 35.1% (only 13 responses) from an institution, because more of the under-25-year-olds are at an institution rather than at work (see Table 5.7.1). For the older age ranges, the situation is reversed, with more at work and fewer at an institution. For those small numbers (12 respondents) who use an internet café, over 57% are in the 26-35 age range (and we learned from the previous table that two thirds are women). The chi-square test returned a p-value of 0.002, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between where the Online Library is accessed from and age.

Table 5.14.3: Where Respondents Access the Online Library from by Level of Programme

Where the participants access the library from	Frequency	Percentage of total participants	PG	% PG	UG	% UG	Dip	% Dipl	Cert	% Cert	Access	% Access	NR	% No Response
At home	565.0	87.1	133.0	23.5	404.0	71.5	11.0	1.9	5.0	0.9	8.0	1.4	4.0	0.7
At work	142.0	21.9	39.0	27.5	95.0	66.9	1.0	0.7	2.0	1.4	5.0	3.5	0.0	0.0
At internet café	21.0	3.2	4.0	19.0	16.0	76.2	0.0	0.0	0.0	0.0	1.0	4.8	0.0	0.0
Other (at an institution)	37.0	5.7	6.0	16.2	31.0	83.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	12.0	1.8	2.0	16.7	8.0	66.7	1.0	8.3	0.0	0.0	1.0	8.3	0.0	0.0
Total 649														

Overall, 84.6% of respondents are undergraduates and are generally more likely to be at an institution; this explains the general distribution of figures above with the preponderance throughout of undergraduates, proportionately rather fewer at work and rather more at an institution. There are 15.1% postgraduates among the respondents overall but rather more than that proportion accessing the Online Library from home, from work, and from an institution (only 4 respondents). However, the chi-square test returned a p-value of 0.568, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between place of access of the Online Library and level of programme.

Table 5.14.4: Where Respondents Access the Online Library from by English Language Proficiency

Where the participants access the library from	Frequency	Percentage of total participants	Yes	% Yes	No	% No	NR	% No Response
At home	565.0	87.1	289.0	51.2	253.0	44.8	23.0	4.1
At work	142.0	21.9	82.0	57.7	57.0	40.1	3.0	2.1
At internet café	21.0	3.2	10.0	47.6	8.0	38.1	3.0	14.3
Other (at an institution)	37.0	5.7	10.0	27.0	21.0	56.8	6.0	16.2
Other	12.0	1.8	6.0	50.0	6.0	50.0		0.0

51% of respondents overall declared English as their first language. This approximates to the proportion of respondents with English as a first language who access the Online Library from home (51.2%) and from an internet café (47.6%), a slightly greater proportion among those who access it from work (57.7%) and a considerably lower proportion who access it from an institution (27%) – see

Table 4.5, which shows that a greater proportion of those without English as a first language attend institutions. The chi-square test returned a p-value of 0.062, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between place of access and English language proficiency.

Table 5.14.5: Where Respondents Access the Online Library from by Programme of Study

Where Access Online Lbrary From	Frequency	Percentage of total participants	Cedep	% Cedep	Cefims	% Cefims	EMFSS	% EMFSS	INT MGT	% Int Mgt	Laws	% Laws	LLM	% LLM	MRES	% MRES	Other	% Other
At home	565.0	87.1	13.0	2.3	15.0	2.7	232.0	41.1	18.0	3.2	247.0	43.7	30.0	5.3	8.0	1.4	2.0	0.4
At work	142.0	21.9	2.0	1.4	8.0	5.6	44.0	31.0	9.0	6.3	66.0	46.5	8.0	5.6	3.0	2.1	2.0	1.4
At internet café	21.0	3.2	1.0	4.8	0.0	0.0	9.0	42.9	0.0	0.0	11.0	52.4	0.0	0.0	0.0	0.0	0.0	0.0
Other (at an institution)	37.0	5.7	0.0	0.0	0.0	0.0	7.0	18.9	0.0	0.0	30.0	81.1	0.0	0.0	0.0	0.0	0.0	0.0
Other	12.0	1.8	0.0	0.0	0.0	0.0	9.0	75.0	2.0	16.7	0.0	0.0	1.0	8.3	0.0	0.0	0.0	0.0

The two programmes which constitute the large majority of the respondents are the undergraduate law programme and the undergraduate EMFSS programme (45.3% and 39.3% respectively). Over 81% of those accessing the Online Library from an institution are law students, who do make up the majority of those at an institution; the at home and at work proportions are about the same as the overall proportions for law students, with the few respondents using an internet café representing a slightly greater proportion. Similarly, the figures for EMFSS respondents at home and at an internet café are comparable with overall proportions on that programme but rather fewer (31%) access the Online Library from work and only 13.9% of those accessing it from an institution are EMFSS students but only about 16.3% of those at an institution are following the EMFSS programme. The figures above also show that those on the main postgraduate courses, International Management and the LLM, mainly access the Online Library from work, and it is likely that the degrees are connected with and an extension of existing careers. The chi-square test returned a p-value of 2.88921E-63 (means move 63 decimal places to the left) and therefore supports the hypothesis that there is a slight but significant relationship between place of Online Library access and programme of study.

Table 5.14.6: Where Respondents Access the Online Library from by Mode of Study

Where the participants access the library from	Frequency	Percentage of total participants	At Ins+Tuition	% at inst & tuition	At INS NO Tuition	% at inst NO tuition	IndepNO tuition	% indep NO tuition	Independent with private tuition	% indep & tuition	No Response	% No Response
At home	565.0	87.1	176.0	31.2	71.0	12.6	264.0	46.7	52.0	9.2	2.0	0.4
At work	142.0	21.9	33.0	23.2	16.0	11.3	77.0	54.2	16.0	11.3		0.0
At internet café	21.0	3.2	10.0	47.6	1.0	4.8	10.0	47.6		0.0		0.0
Other (at an institution)	37.0	5.7	33.0	89.2	1.0	2.7	2.0	5.4	1.0	2.7		0.0
Other	12.0	1.8	2.0	16.7	4.0	33.3	4.0	33.3	1.0	8.3	1.0	8.3

According to Table 5.7, 31% of students were at an institution supplemented by private tuition, 11.9% were at an institution with no further tuition (overall 42.9% at an institution) 47.9% were studying independently with no private tuition and 9.2% were studying independently with private tuition (57.1% overall were not at an institution). The usage from home very closely follows the overall proportions for mode of study, while usage from work follows the overall proportions although rather more respondents studying independently access the Online Library from work. One might expect those studying independently to be in employment. Unsurprisingly, those accessing the Online Library from an institution are those registered at an institution, which at least offers reassurance about the integrity of the data. The chi-square test returned a p-value of 1.51308E-10 (means move 10 decimal places to the left), which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between place of library access and Mode of Study.

Table 5.14.7: Where Respondents Access the Online Library from by Country

Response	At home	At work	At internet café	Other (at an institution)	Other
Number of respondents	565.0	142.0	21.0	37.0	12.0
Percentage %	87.1	21.9	3.2	5.7	1.8
3 diff countries	1.0	0.0	0.0	0.0	1.0
% 3 diff countries	0.2	0.0	0.0	0.0	8.3
Albania	1.0	1.0	0.0	0.0	0.0
% Albania	0.2	0.7	0.0	0.0	0.0
Armenia	0.0	0.0	0.0	0.0	0.0
% Armenia	0.0	0.0	0.0	0.0	0.0
Australia	5.0	0.0	0.0	0.0	0.0
% Australia	0.9	0.0	0.0	0.0	0.0
Austria	7.0	1.0	0.0	0.0	0.0

Response	At home	At work	At internet café	Other (at an institution)	Other
% Austria	1.2	0.7	0.0	0.0	0.0
Bahamas	0.0	1.0	0.0	0.0	0.0
% Bahamas	0.0	0.7	0.0	0.0	0.0
Bahrain	5.0	0.0	3.0	0.0	0.0
% Bahrain	0.9	0.0	14.3	0.0	0.0
Bangladesh	10.0	3.0	0.0	2.0	0.0
% Bangladesh	1.8	2.1	0.0	5.4	0.0
Barbados	1.0	0.0	0.0	0.0	0.0
% Barbados	0.2	0.0	0.0	0.0	0.0
Belgium	5.0	4.0	0.0	0.0	0.0
% Belgium	0.9	2.8	0.0	0.0	0.0
Brazil	3.0	0.0	0.0	0.0	0.0
% Brazil	0.5	0.0	0.0	0.0	0.0
Bulgaria	1.0	0.0	0.0	0.0	0.0
% Bulgaria	0.2	0.0	0.0	0.0	0.0
Cambodia	2.0	0.0	0.0	0.0	0.0
% Cambodia	0.4	0.0	0.0	0.0	0.0
Cameroon	1.0	0.0	0.0	0.0	0.0
% Cameroon	0.2	0.0	0.0	0.0	0.0
Canada	23.0	5.0	0.0	1.0	0.0
% Canada	4.1	3.5	0.0	2.7	0.0
Cayman Islands	1.0	0.0	0.0	0.0	0.0
% Cayman Islands	0.2	0.0	0.0	0.0	0.0
Colombia	1.0	1.0	0.0	0.0	0.0
% Colombia	0.2	0.7	0.0	0.0	0.0
Croatia	2.0	0.0	0.0	0.0	0.0
% Croatia	0.4	0.0	0.0	0.0	0.0
Cyprus	2.0	1.0	0.0	0.0	0.0
% Cyprus	0.4	0.7	0.0	0.0	0.0
Czech Republic	2.0	0.0	0.0	0.0	0.0
% Czech Republic	0.4	0.0	0.0	0.0	0.0
Denmark	2.0	1.0	0.0	0.0	0.0
% Denmark	0.4	0.7	0.0	0.0	0.0
Dominica	3.0	2.0	0.0	0.0	0.0
% Dominica	0.5	1.4	0.0	0.0	0.0
Egypt	3.0	0.0	0.0	0.0	0.0
% Egypt	0.5	0.0	0.0	0.0	0.0
France	1.0	0.0	0.0	0.0	0.0
% France	0.2	0.0	0.0	0.0	0.0
Germany	7.0	1.0	0.0	0.0	0.0
% Germany	1.2	0.7	0.0	0.0	0.0
Ghana	2.0	0.0	1.0	0.0	0.0
% Ghana	0.4	0.0	4.8	0.0	0.0
Greece	4.0	0.0	0.0	0.0	0.0
% Greece	0.7	0.0	0.0	0.0	0.0
Guatemala	1.0	0.0	0.0	0.0	0.0

Response	At home	At work	At internet café	Other (at an institution)	Other
% Guatemala	0.2	0.0	0.0	0.0	0.0
Guyana	1.0	1.0	0.0	0.0	0.0
% Guyana	0.2	0.7	0.0	0.0	0.0
Hong Kong	28.0	10.0	2.0	1.0	0.0
% Hong Kong	5.0	7.0	9.5	2.7	0.0
India	9.0	2.0	0.0	1.0	0.0
% India	1.6	1.4	0.0	2.7	0.0
Indonesia	2.0	0.0	0.0	0.0	0.0
% Indonesia	0.4	0.0	0.0	0.0	0.0
Indonesia and Czech Republic	1.0	0.0	0.0	0.0	0.0
% Indonesia and Czech Republic	0.2	0.0	0.0	0.0	0.0
Iran	1.0	0.0	0.0	0.0	0.0
% Iran	0.2	0.0	0.0	0.0	0.0
Israel	1.0	0.0	0.0	0.0	0.0
% Israel	0.2	0.0	0.0	0.0	0.0
Italy	5.0	1.0	0.0	0.0	0.0
% Italy	0.9	0.7	0.0	0.0	0.0
Jamaica	14.0	4.0	1.0	1.0	
% Jamaica	2.5	2.8	4.8	2.7	0.0
Japan	6.0	0.0	0.0	0.0	0.0
% Japan	1.1	0.0	0.0	0.0	0.0
Kenya	1.0	3.0	0.0	0.0	0.0
% Kenya	0.2	2.1	0.0	0.0	0.0
Kuwait	1.0	0.0	0.0	0.0	0.0
% Kuwait	0.2	0.0	0.0	0.0	0.0
Lithuania	1.0	0.0	0.0	0.0	0.0
% Lithuania	16.7	0.0	0.0	0.0	0.0
Macedonia	1.0	0.0	0.0	0.0	0.0
% Macedonia	0.2	0.0	0.0	0.0	0.0
Madagascar	1.0	0.0	0.0	0.0	0.0
% Madagascar	0.2	0.0	0.0	0.0	0.0
Malawi	1.0	2.0	0.0	0.0	0.0
% Malawi	0.2	1.4	0.0	0.0	0.0
Malaysia	22.0	5.0	2.0	2.0	1.0
% Malaysia	3.9	3.5	9.5	5.4	8.3
Malta	11.0	3.0	0.0	0.0	0.0
% Malta	1.9	2.1	0.0	0.0	0.0
Martinique	1.0	0.0	0.0	0.0	0.0
% Martinique	0.2	0.0	0.0	0.0	0.0
Mauritius	16.0	5.0	1.0	3.0	2.0
% Mauritius	2.8	3.5	4.8	8.1	16.7
Myanmar	0.0	1.0	0.0	0.0	0.0
% Myanmar	0.0	0.7	0.0	0.0	0.0
Namibia	0.0	1.0	0.0	0.0	0.0

Response	At home	At work	At internet café	Other (at an institution)	Other
% Namibia	0.0	0.7	0.0	0.0	0.0
New Zealand	5.0	2.0	0.0	1.0	0.0
% New Zealand	0.9	1.4	0.0	2.7	0.0
Nigeria	10.0	3.0	1.0	2.0	0.0
% Nigeria	1.8	2.1	4.8	5.4	0.0
Nigeria / UK	9.0	1.0	0.0	0.0	1.0
% Nigeria / UK	1.6	0.7	0.0	0.0	8.3
No response	22.0	5.0	1.0	3.0	
% No response	3.9	3.5	4.8	8.1	0.0
Other	4.0	1.0	0.0	0.0	0.0
% Other	0.7	0.7	0.0	0.0	0.0
Pakistan	20.0	6.0	0.0	2.0	1.0
% Pakistan	3.5	4.2	0.0	5.4	8.3
Peru	1.0	0.0	0.0	0.0	0.0
% Peru	0.2	0.0	0.0	0.0	0.0
Poland	5.0	2.0	0.0	1.0	0.0
% Poland	0.9	1.4	0.0	2.7	0.0
Portugal	3.0	0.0	0.0	0.0	0.0
% Portugal	0.5	0.0	0.0	0.0	0.0
Russia	24.0	4.0	0.0	0.0	1.0
% Russia	4.2	2.8	0.0	0.0	8.3
Rwanda	1.0	0.0	0.0	0.0	0.0
% Rwanda	0.2	0.0	0.0	0.0	0.0
Saint Lucia	1.0	0.0	0.0	0.0	0.0
% Saint Lucia	0.2	0.0	0.0	0.0	0.0
Saudi Arabia	5.0	4.0	0.0	0.0	0.0
% Saudi Arabia	0.9	2.8	0.0	0.0	0.0
Serbia	1.0	0.0	0.0	0.0	0.0
% Serbia	0.2	0.0	0.0	0.0	0.0
Singapore	61.0	15.0	3.0	4.0	3.0
% Singapore	10.8	10.6	14.3	10.8	25.0
South Africa	3.0	2.0	0.0	0.0	0.0
% South Africa	0.5	1.4	0.0	0.0	0.0
South Korea	1.0	0.0	0.0	0.0	0.0
% South Korea	0.2	0.0	0.0	0.0	0.0
Spain	15.0	3.0	1.0	3.0	0.0
% Spain	2.7	2.1	4.8	8.1	0.0
Sri Lanka	13.0	1.0		0.0	0.0
% Sri Lanka	2.3	0.7	0.0	0.0	0.0
St Vincent and the Grenadines	0.0	2.0	0.0	0.0	0.0
% St Vincent and the Grenadines	0.0	1.4	0.0	0.0	0.0
Sudan	3.0	0.0	1.0	0.0	0.0
% Sudan	0.5	0.0	4.8	0.0	0.0
Sweden	2.0	0.0	0.0	0.0	0.0
% Sweden	0.4	0.0	0.0	0.0	0.0
Switzerland	11.0	3.0	0.0		1.0

Response	At home	At work	At internet café	Other (at an institution)	Other
% Switzerland	1.9	2.1	0.0	0.0	8.3
Thailand	7.0	2.0	0.0	1.0	0.0
% Thailand	1.2	1.4	0.0	2.7	0.0
The Netherlands	1.0	1.0	0.0	0.0	0.0
% The Netherlands	0.2	0.7	0.0	0.0	0.0
Trinidad and Tobago	46.0	11.0	3.0	1.0	0.0
% Trinidad and Tobago	8.1	7.7	14.3	2.7	0.0
Uganda	0.0	0.0	0.0	0.0	0.0
% Uganda	0.0	0.0	0.0	0.0	0.0
United Arab Emirates	1.0	0.0	0.0	0.0	0.0
% United Arab Emirates	0.2	0.0	0.0	0.0	0.0
United Kingdom	44.0	5.0	1.0	5.0	0.0
% United Kingdom	7.8	3.5	4.8	13.5	0.0
United States	16.0	6.0	0.0	0.0	0.0
% United States	2.8	4.2	0.0	0.0	0.0
Uruguay	5.0	2.0	0.0	1.0	0.0
% Uruguay	0.9	1.4	0.0	2.7	0.0
Vietnam	4.0	1.0	0.0	2.0	0.0
% Vietnam	0.7	0.7	0.0	5.4	0.0
NR	1.0	1.0	0.0	0.0	0.0
% NR	0.2	0.7	0.0	0.0	0.0

Of the small number of respondents who access the Online Library from an internet café (21 respondents), there are 14.3 from Bahrain, 4.8% from Ghana, 9.5% from Hong Kong, 4.8% Jamaica, 9.5 Malaysia, 4.8% Mauritius, 4.8% Nigeria, 14.3% Singapore, 4.8% Spain, 4.8% Sudan, 14.3% Trinidad & Tobago, 4.8% UK. This tends to suggest that the use of internet cafes is not confined to countries which are generally low-income. In Europe generally, the balance is firmly towards access from home with little or no access from work; however, in several countries, particularly where there are large numbers of respondents, e.g. Singapore, significant numbers of respondents access the Online Library from work. Those few (37) accessing the Online Library from an institution are spread over several countries, with no country having more than 5 (UK). A chi-square test has not been conducted because of the number of cells with zeros or no responses.

5.15 How Respondents Access the Online Library

Table 5.15: How Respondents Access the Online Library

How Respondents Access the Online Library	Frequency	Percentage of total participants
From the VLE	364	56.1
My Athens	219	33.7
From the University website	144	22.2

How Respondents Access the Online Library	Frequency	Percentage of total participants
From my bookmarks	67	10.3
Directly at website	63	9.7
I Google it	31	4.8
Other (non-specific)	10	1.5

Respondents could choose more than one answer. There are three answers with more than 140 respondents; the other answers drew less than 70 respondents each. 56.1% of respondents access the Online Library via the VLE, as one might expect, as students are referred to material from the VLE; 33.7% use MyAthens which authorises access to all the materials and shows a certain sophistication in use of the Online Library; 22.2% access it from the University website. The answers to this question seem to suggest a relatively organised approach to accessing the Online Library, with only a small minority simply Googling it. However, the multiple entry routes used may add to the complexity of accessing the Online Library and may have implications for the presentation of information and for the provision of assistance.

Table 5.15.1: How Respondents Access the Online Library by Gender

How Respondents Access the Online Library	Frequency	Percentage of total participants	Female	% Female	Male	% Male	NR	% NO Response
From the VLE	364.0	56.1	204.0	56.0	159.0	43.7	1.0	0.3
From the University website	144.0	22.2	85.0	59.0	59.0	41.0	0.0	0.0
From my bookmarks	67.0	10.3	33.0	49.3	34.0	50.7	0.0	0.0
I Google it	31.0	4.8	15.0	48.4	16.0	51.6	0.0	0.0
My Athens	219.0	33.7	108.0	49.3	111.0	50.7	0.0	0.0
Directly at website	63.0	9.7	35.0	55.6	28.0	44.4	0.0	0.0
Other (non-specific)	10.0	1.5	5.0	50.0	5.0	50.0	0.0	0.0
Total 649								

Overall, 52.5% of respondents were female, and the various indicators tested here give 56%, 59%, 49.3%, 48.4%, 49.3%, 55.6%, and 50% females. The highest percentage of females chose 'access direct from the University website' and the lowest chose 'I Google it' but all were reasonably close to the overall percentage of women. There is a slight indication that men resort to Google or to their bookmarks more than women and that women go directly more often than men either to the University website or to the Online Library website. However, there is a slightly greater take-up of the MyAthens site by men. The chi-square test returned a p-value of 0.514, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between how distance learners access the library and gender.

Table 5.15.2: How Respondents Access the Online Library by Age Range

How Respondents Access the Online Library	Frequency	Percentage of total participants	under 25	% Under 25	26-35	% 26-35	36-45	% 36-45	46-55	% 46-55	56+	% 56+	NR	% No Response
From the VLE	364.0	56.1	126.0	34.6	139.0	38.2	60.0	16.5	26.0	7.1	11.0	3.0	2.0	0.5
From the University website	144.0	22.2	53.0	36.8	51.0	35.4	27.0	18.8	10.0	6.9	2.0	1.4	1.0	0.7
From my bookmarks	67.0	10.3	14.0	20.9	30.0	44.8	18.0	26.9	3.0	4.5	2.0	3.0		
I Google it	31.0	4.8	8.0	25.8	13.0	41.9	4.0	12.9	5.0	16.1	1.0	3.2		
My Athens	219.0	33.7	62.0	28.3	89.0	40.6	40.0	18.3	22.0	10.0	6.0	2.7		
Directly at website	63.0	9.7	22.0	34.9	26.0	41.3	7.0	11.1	4.0	6.3	4.0	6.3		
Other (non-specific)	10.0	1.5	4.0	40.0	2.0	20.0	4.0	40.0		0.0		0.0		
Total 649														

32.8% of respondents to the survey overall were under 25; 37.9% of respondents were 26-35; 19.3% were 36-45, 6.5% 46-55, and 3.2% over 56 years old. It appears from these figures that the proportions of each age range accessing the Online Library conformed closely to the overall proportions (Table 2) for access via the VLE but rather greater proportions from the older age ranges used bookmarks or Google. The chi-square test returned a p-vale of 1.1905E-10 (means to move 10 decimal places to the left), which is less than 0.05 and supports the hypothesis that there is a small but significant relationship between how distance learners access the Online Library and age.

Table 5.15.3: How Respondents Access the Online Library by Level of Programme

How Respondents Access the Online Library	Frequency	Percentage of total participants	PG	% PG	UG	% UG	Diploma	% Dipl	Cert	% Cert	Access	% Access	NR	% No Response
From the VLE	364.0	56.1	76.0	20.9	273.0	75.0	3.0	0.8	4.0	1.1	6.0	1.6	2.0	0.5
From the University website	144.0	22.2	22.0	15.3	119.0	82.6	0.0	0.0	1.0	0.7	1.0	0.7	1.0	0.7
From my bookmarks	67.0	10.3	17.0	25.4	43.0	64.2	2.0	3.0	1.0	1.5	4.0	6.0	0.0	0.0
I Google it	31.0	4.8	5.0	16.1	24.0	77.4	1.0	3.2	0.0	0.0	0.0	0.0	1.0	3.2
My Athens	219.0	33.7	60.0	27.4	143.0	65.3	7.0	3.2	1.0	0.5	6.0	2.7	2.0	0.9
Directly at website	63.0	9.7	9.0	14.3	54.0	85.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other (non-specific)	10.0	1.5	0.0	0.0	8.0	80.0	1.0	10.0	0.0	0.0	1.0	0.0	0.0	0.0

Table 5.15.3: How Respondents Access the Online Library by Level of Programme

Overall, 84.6% of respondents were undergraduates, which explains the general preponderance throughout of undergraduates. Among undergraduates, rather fewer than the overall proportions accessed the Online Library from the VLE or used their bookmarks or MyAthens. There are 15.1% postgraduates among the respondents overall and rather more than this proportion accessed via the VLE (20.9%), used their bookmarks (25.4%), or MyAthens (27.4%). The chi-square test returned a p-value of 0.017, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between how distance learners access the Online Library and level of programme.

Table 5.15.4: How Respondents Access the Online Library by English Language Proficiency

How Respondents Access the Online Library	Frequency	Percentage of total participants	Yes	% Yes	NO	% No	NR	% No Response
From the VLE	364.0	56.1	175.0	48.1	167.0	45.9	22.0	6.0
From the University website	144.0	22.2	66.0	45.8	73.0	50.7	5.0	3.5
From my bookmarks	67.0	10.3	37.0	55.2	29.0	43.3	1.0	1.5
I Google it	31.0	4.8	18.0	58.1	13.0	41.9	0.0	0.0
My Athens	219.0	33.7	113.0	51.6	98.0	44.7	8.0	3.7
Directly at website	63.0	9.7	41.0	65.1	22.0	34.9	0.0	0.0
Other (non-specific)	10.0	1.5	5.0	50.0	5.0	50.0	0.0	0.0
Total 649								

51% of respondents overall declared English as their first language. There seem to be considerable variations from this baseline figure among the answers. Those with English as a first language seem to prefer accessing the Online Library from their bookmarks (55.2%), from Google (58.1%), or directly at the Online Library website (65.1%). Meanwhile, those without English as a first language (overall 45.1%) seemed to prefer the VLE route, the University website or MyAthens and were rather less well represented for the other answers. However, the chi-square test for independence returned a p-value of 0.267, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between how learners access the Online Library and English language proficiency.

Table: 5.15.5: How Respondents Access the Online Library by Programme of Study

How respondents Access the Online Library	Frequency	Percentage of total participants	Cedep	% Cedep	Cefims	% Cefims	EMFSS	% EMFSS	INTMGT	% Int Mgt	Laws	% Laws	LLM	% LLM	MRES	% MRES	Other	% Other
From the VLE	364.0	56.1	6.0	1.6	4.0	1.1	126.0	34.6	14.0	3.8	181.0	49.7	26.0	7.1	6.0	1.6	1.0	0.3
From the University website	144.0	22.2	4.0	2.8	5.0	3.5	45.0	31.3	2.0	1.4	85.0	59.0	1.0	0.7	2.0	1.4	0	0.0

How respondents Access the Online Library	Frequency	Percentage of total participants	Cedep	% Cedep	Cefims	% Cefims	EMFSS	% EMFSS	INTMGT	% Int Mgt	Laws	% Laws	LLM	% LLM	MRES	% MRES	Other	% Other
From my bookmarks	67.0	10.3	2.0	3.0	0.0	0.0	44.0	65.7	2.0	3.0	14.0	20.9	4.0	6.0	1.0	1.5	0.0	0.0
I Google it	31.0	4.8	1.0	3.2	1.0	3.2	15.0	48.4	2.0	6.5	11.0	35.5	0.0	0.0		0.0	1.0	3.2
My Athens	219.0	33.7	3.0	1.4	8.0	3.7	94.0	42.9	7.0	3.2	89.0	40.6	13.0	5.9	3.0	1.4	2.0	0.9
Directly at website	63.0	9.7	0	0.0	1.0	1.6	18.0	28.6	0	0.0	41.0	65.1	2.0	3.2	1.0	1.6	0.0	0.0
Other (non-specific)	10.0	1.5	0	0.0	0	0.0	8.0	80.0	0	0.0	2.0	20.0	0.0	0.0	0	0.0	0.0	0.0

The two programmes constituting the large majority of the respondents are the undergraduate law programme and the undergraduate EMFSS programme (45.3% and 39.3% respectively), as can be seen from the responses to this question. There are different patterns of use between the two programmes. More law respondents access the Online Library from the VLE (Law 49.6%, EMFSS 34.6%) or from the University website (Law 59%, EMFSS 31.3%) or directly at the Online Library website (e.g., Law respondents directly at the Online Library website 65.1%, EMFSS respondents by the same route 28.6%). The EMFSS students tended to use Google and MyAthens relatively more and bookmarks much more (Law 20.9%, EMFSS 65.7%). There were only 10 'Other' replies. The chi-square test for independence returned a p-value of 7.94873E-09 (means move 9 decimal places to the left), which is less than 0.05 and supports the hypothesis that there is a significant relationship between how distance learners access the Online Library and programme of study.

Table 5.15.6: How Respondents Access the Online Library by Mode of Study

How respondents Access the Online Library	Frequency	Percentage of total participants	At Ins+Tuition	% at inst & tuition	At INS NO Tuition	% at inst NO tuition	IndepNO tuition	% Indep NO tuition	Independent with private tuition	% indep	No Response	% No Response
From the VLE	364.0	56.1	120.0	33.0	45.0	12.4	168.0	46.2	30.0	8.2	1.0	0.3
From the University website	144.0	22.2	55.0	38.2	14.0	9.7	60.0	41.7	13.0	9.0	2.0	1.4
From my bookmarks	67.0	10.3	16.0	23.9	9.0	13.4	37.0	55.2	4.0	6.0	1.0	1.5
I Google it	31.0	4.8	8.0	25.8	7.0	22.6	11.0	35.5	5.0	16.1	0.0	0.0
My Athens	219.0	33.7	63.0	28.8	21.0	9.6	109.0	49.8	26.0	11.9	0.0	0.0

How respondents Access the Online Library	Frequency	Percentage of total participants	At Ins+Tuition	% at inst & tuition	At INS NO Tuition	% at inst NO tuition	IndepNO tuition	% Indep NO tuition	Independent with private tuition	% indep	No Response	% No Response
Directly at website	63.0	9.7	26.0	41.3	2.0	3.2	27.0	42.9	8.0	12.7	0.0	0.0
Other (non-specific)	10.0	1.5	1.0	10.0	3.0	30.0	6.0	60.0	0.0	0.0	0.0	0.0

According to Table 5.7, 31% of students were at an institution supplemented by private tuition, 11.9% were at an institution with no further tuition (overall 42.9% at an institution), 47.9% were studying independently with no private tuition and 9.2% were studying independently with private tuition (57.1% overall were not at an institution). Among those at an institution, access from the University website and directly at the Online Library website was preferred whereas those respondents studying independently were relatively better represented in the Bookmarks and MyAthens answers. 48.4% who answered 'I Google it' were at an institution (rather than the overall 42.9%) but those at an institution but without supplementary tuition choosing this answer comprised 22.6% (rather than 11.9% overall). This suggests that tuition may have an effect on information-seeking behaviour by advising more effective ways of accessing the Online Library. The chi-square test for independence returned a p-value of 0.088, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between how respondents access the Online Library and mode of study.

Table 5.15.7: How Respondents Access the Online Library by Country

Response	From the VLE	From the University website	From my bookmarks	I Google it	My Athens	Directly at website	Other (non-specific)
% 3 diff countries	0.3	0.0	0.0	0.0	0.0	0.0	0.0
% Albania	0.0	0.7	0.0	3.2	0.0	1.6	0.0
% Armenia	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Australia	0.0	0.7	0.0	3.2	1.8	0.0	0.0
% Austria	1.1	0.7	0.0	0.0	1.8	1.6	0.0
% Bahamas	0.3	0.7	0.0	3.2	0.5	0.0	0.0
% Bahrain	1.4	2.1	0.0	0.0	1.9	0.0	0.0
% Bangladesh	1.9	0.7	1.5	0.0	2.3	3.2	0.0
% Barbados	0.3	0.0	0.0	0.0	0.0	0.0	0.0
% Belgium	1.1	0.7	3.0	0.0	0.5	1.6	0.0
% Brazil	0.0	1.4	0.0	0.0	0.9	0.0	10.0
% Bulgaria	0.3	0.7	0.0	0.0	0.0	0.0	0.0
% Cambodia	0.3	0.0	0.0	0.0	0.0	0.0	0.0
% Cameroon	0.3	0.0	0.0	0.0	0.0	0.0	0.0
% Canada	3.6	4.9	6.0	0.0	2.3	6.3	20.0

Response	From the VLE	From the University website	From my bookmarks	I Google it	My Athens	Directly at website	Other (non-specific)
% Cayman Islands	0.3	0.0	0.0	0.0	0.0	0.0	0.0
% Colombia	0.3	0.7	0.0	0.0	0.0	0.0	0.0
% Croatia	0.0	0.0	3.0	0.0	0.0	0.0	0.0
% Cyprus	0.3	0.0	0.0	0.0	0.9	0.0	0.0
% Czech Republic	0.0	0.0	0.0	0.0	0.9	0.0	0.0
% Denmark	0.0	1.4	0.0	0.0	0.9	0.0	0.0
% Dominica	0.8	0.0	1.5	0.0	0.9	0.0	0.0
% Egypt	0.3	0.7	0.0	0.0	0.0	0.0	0.0
% France	0.0	0.0	0.0	3.2	0.5	0.0	0.0
% Germany	0.8	1.4	3.0	0.0	1.4	0.0	0.0
% Ghana	0.8	1.4	0.0	0.0	0.5	0.0	0.0
% Greece	0.8	0.0	1.5	0.0	0.0	0.0	0.0
% Guatemala	0.3	0.0	0.0	0.0	0.0	0.0	0.0
% Guyana	0.3	0.0	0.0	0.0	0.0	0.0	0.0
% Hong Kong	5.8	4.2	4.5	3.2	4.6	4.8	0.0
% India	1.4	1.4	0.0	6.5	2.3	0.0	0.0
% Indonesia	0.5	0.0	0.0	0.0	0.5	0.0	0.0
% Indonesia and Czech Republic	0.0	0.0	0.0	0.0	0.5	0.0	0.0
% Iran	0.3	0.0	0.0	0.0	0.5	0.0	0.0
% Israel	0.3	0.0	0.0	0.0	0.5	0.0	0.0
% Italy	0.8	0.7	3.0	0.0	0.9	1.6	0.0
% Jamaica	2.2	4.2	0.0	3.2	3.2	4.8	0.0
% Japan	1.4	0.7	0.0	0.0	0.5	0.0	0.0
% Kenya	0.8	0.0	0.0	0.0	0.9	0.0	0.0
% Kuwait	0.3	0.0	1.5	0.0	0.0	0.0	0.0
% Lithuania	0.0	0.7	0.0	0.0	0.0	1.6	0.0
% Macedonia	0.0	0.7	0.0	0.0	0.0	0.0	0.0
% Madagascar	0.0	0.0	1.5	0.0	0.0	0.0	0.0
% Malawi	0.5	0.0	0.0	0.0	0.0	0.0	0.0
% Malaysia	4.9	4.2	3.0	9.7	3.7	4.8	0.0
% Malta	1.9	1.4	3.0	0.0	2.7	0.0	0.0
% Martinique	0.3	0.0	0.0	0.0	0.0	0.0	0.0
% Mauritius	3.0	4.2	0.0	6.5	3.2	3.2	10.0
% Myanmar	0.3	0.0	0.0	0.0	0.0	0.0	0.0
% Namibia	0.3	0.0	0.0	0.0	0.5	0.0	0.0
% New Zealand	0.3	0.7	0.0	0.0	1.4	1.6	0.0
% Nigeria	2.2	2.8	3	0	4.1	4.8	10
% No response	4.1	0.7	6.0	3.2	4.1	1.6	10.0
% Other	0.8	0.7	0.0	0.0	1.4	1.6	0.0
% Pakistan	4.4	3.5	6.0	3.2	1.8	4.8	0.0
% Peru	0.3	0.0	0.0	0.0	0.5	0.0	0.0

Response	From the VLE	From the University website	From my bookmarks	I Google it	My Athens	Directly at website	Other (non-specific)
% Poland	1.1	1.4	0.0	0.0	0.9	0.0	0.0
% Portugal	0.5	0.0	0.0	3.2	0.0	0.0	0.0
% Russia	2.5	4.9	6.0	3.2	5.0	4.8	10.0
% Rwanda	0.0	0.7	0.0	0.0	0.0	0.0	0.0
% Saint Lucia	0.0	0.0	0.0	0.0	0.5	0.0	0.0
% Saudi Arabia	0.5	0.0	0.0	3.2	1.8	0.0	0.0
% Serbia	0.0	0.0	1.5	0.0	0.0	0.0	0.0
% Singapore	11.5	6.9	11.9	6.5	10.0	11.1	10.0
% South Africa	0.8	0.0	3.0	0.0	0.5	0.0	0.0
% South Korea	0.3	0.0	0.0	0.0	0.0	0.0	0.0
% Spain	3.6	4.9	1.5	3.2	2.3	4.8	0.0
% Sri Lanka	2.2	4.2	0.0	3.2	1.8	1.6	0.0
% St Vincent and the Grenadines	0.5	0.0	0.0	0.0	0.0	0.0	0.0
% Sudan	0.8	0.7	0.0	0.0	0.0	0.0	0.0
% Sweden	0.0	0.0	1.5	0.0	0.5	0.0	0.0
% Switzerland	1.6	2.8	4.5	0.0	1.4	0.0	0.0
% Thailand	0.8	1.4	0.0	3.2	1.8	1.6	0.0
% The Netherlands	0.0	0.7	0.0	0.0	0.0	0.0	0.0
% Trinidad and Tobago	6.9	10.4	10.4	9.7	6.4	9.5	10.0
% Uganda	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% United Arab Emirates	0.3	0.0	0.0	0.0	0.0	0.0	0.0
% United Kingdom	8.8	7.6	7.5	12.9	7.8	7.9	0.0
United States	10.0	2.0	1.0	1.0	7.0	2.0	1.0
% United States	2.7	1.4	1.5	3.2	3.2	3.2	10.0
% Uruguay	1.1	1.4	0.0	0.0	0.0	3.2	0.0
% Vietnam	0.5	1.4	0.0	0.0	0.9	3.2	0.0

Table 5.15.7: How Respondents Access the Online Library by Country

Looking at the figures for the answer 'I Google it', there is no clear pattern although these respondents seem to be from countries where one might expect a fairly high level of information literacy; these are generally countries such as Portugal, Russia and Spain as well as Malaysia, Singapore and the UK. There is a much wider range of countries represented by respondents choosing 'from the VLE'. A chi-square test has not been conducted because of the number of cells with zeros or no responses.

5.16A Login Method

Table 5.16A: Respondents' Preferred Login Method

Preferred Login Method	Frequency	Percentage of total participants
Portal password	208.0	32.0
Athens	183.0	28.2
Both	169.0	26.0
No Response	86.0	13.3
Other (specify	3.0	0.5
Total 649		

As shown in Table 5.16A above, the majority of respondents prefer using the Portal or Shibboleth authentication to access Online Library resources. This suggests that the integration of curriculum resources with library resources as well a single point of entry to all learning resources is important to this sample of students. This may be because students don't have to look in multiple places, thereby saving time. This question is related to the next one (5.16B) in which the students are asked to specify the reasons for their preferences. It is important to note that there was a significant level of non-response to this question (13.3%), which suggests quite a high level of unfamiliarity with the terminology or with the actual method of login. Only 3 respondents specified 'Other'.

Table 5.16A.1: Respondents' Preferred Login Method by Gender

Preferred Login Method	Frequency	Percentage of total participants	Female	% Female	Male	% Male	No Response	% No Response
Athens	183.0	28.2	94.0	51.4	88.0	48.1	1.0	0.5
Portal password	208.0	32.0	111.0	53.4	97.0	46.6	0.0	0.0
Both	169.0	26.0	87.0	51.5	82.0	48.5	0.0	0.0
Other (specify	3.0	0.5	1.0	33.3	2.0	66.7	0.0	0.0
No Response	68.0	10.5	48.0	70.6	38.0	55.9	0.0	0.0
Total 649								

The percentage of women choosing each of the answers was very close to the overall percentage of women responding, and there seems to be no significant correlation between login method and gender. However, among the non-responses (as noted above, there was a high level (58 or 13.3%) of non-responses to this question) 70.6% were from females and this may indicate a higher level of unfamiliarity with the terminology or the actual process of logging on. The chi-square test returned a p-value of 0.918, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' preferred login method and gender.

Table 5.16A.2: Respondents' Preferred Login Method by Age Range

Preferred Login Method	Frequency	Percentage of total participants	under 25	% Under 25	26-35	% 26-35	36-45	%36-45	46-55	% 46-55	56+	% 56+	NR	% No Response
Athens	183.0	28.2	44.0	24.0	75.0	41.0	42.0	23.0	16.0	8.7	5.0	2.7	1.0	0.5
Portal password	208.0	32.0	79.0	38.0	82.0	39.4	28.0	13.5	10.0	4.8	8.0	3.8	1.0	0.5
Both	169.0	26.0	68.0	40.2	57.0	33.7	30.0	17.8	8.0	4.7	6.0	3.6		0.0
Other (specify	3.0	0.5	1.0	33.3		0.0	1.0	33.3	1.0	33.3		0.0		0.0
No Response	86.0	13.3	21.0	24.4	32.0	37.2	24.0	27.9	8.0	9.3	1.0	1.2		0.0

Table 5.16A.2: Respondents' Preferred Login Method by Age Range

32.8% of respondents to the survey overall were under 25; 37.9% of respondents were 26-35; 19.3% were 36-45, 6.5% 46-55, and 3.2% over 56 years old. Among the non-responses, which seem to be both numerous and significant for this question, there are relatively more 36-45-year-olds (27.9% rather than the overall 19.3%) and slightly more 46-55-year-olds (9.3% rather than the overall 6.5%). Among under-25-year-olds, the Portal password or both the Portal and Athens were preferred, while 26-35, 36-45 and 46-55-year-olds marginally preferred Athens. There were only 3 'Other' responses. However, over-56-year-olds preferred the Portal password. This suggests that the younger respondents are more likely to adopt the Portal as a single method of access to all information and services or at least be more flexible in their access routes. The chi-square test for independence returned a p-value of 0.021, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between learner's preferred login method and age.

Table 5.16A.3: Respondents' Preferred Login Method by Level of Programme

Preferred Login Method	Athens	Portal password	Both	Other (specify	No Response
Frequency	183.0	208.0	169.0	3.0	86.0
Percentage of total participants	28.2	32.0	26.0	0.5	13.3
PG	47.0	41.0	29.0	0.0	34.0
% PG	25.7	19.7	17.2	0.0	39.5
UG	125.0	158.0	132.0	3.0	46.0
% UG	68.3	76.0	78.1	100.0	53.5
Diploma	5.0	3.0	2.0	0.0	2.0
%Dipl	2.7	1.4	1.2	0.0	2.3
Cert	3.0	0.0	2.0	0.0	1.0
% Cert	1.6	0.0	1.2	0.0	1.2
Access	1.0	5.0	3.0	0.0	3.0
% Access	0.5	2.4	1.8	0.0	3.5
NR	2.0	1.0	1.0	0.0	0.0
% No Response	1.1	0.5	0.6	0.0	0.0

Overall, 84.6% of respondents were undergraduates and 15.1% were postgraduates. The figures for this question show that rather more undergraduates prefer using the Portal password or both the Portal and Athens, whereas postgraduates prefer Athens; this generally endorses the finding above for age ranges where older respondents preferred Athens. There were only three 'Other' responses; thus, the 100% undergraduate response is not significant. There was a considerably higher 'No response' rate from postgraduates (39.5% rather than the overall proportion of postgraduates responding to the whole survey of 15.1%) and rather fewer proportionately from undergraduates (53.5% rather than the overall 84.6%). The chi-square test returned a p-value of 0.187, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between respondents' preferred login method and level of programme.

Table 5.16A.4: Respondents' Preferred Login Method by English Language Proficiency

Preferred Login Method	Frequency	Percentage of total participants	Yes	% Yes	NO	% No	NR	% No Response
Athens	183.0	28.2	91.0	49.7	87.0	47.5	5.0	2.7
Portal password	208.0	32.0	99.0	47.6	100.0	48.1	9.0	4.3
Both	169.0	26.0	90.0	53.3	74.0	43.8	5.0	3.0
Other (specify	3.0	0.5	1.0	33.3	2.0	66.7		0.0
No Response	86.0	13.3	50.0	58.1	30.0	34.9	6.0	7.0
Total 649								

51% of respondents overall declared English as their first language. Those respondents with English as a first language marginally tended to use Athens more but the use of both methods was the preferred response. Those with another first language would use either Athens or the Portal rather than both, with a marginal preference for the Portal. Proportionally, more respondents with English as a first language gave no response (58.1% rather than the overall 51%). The chi-square test returned a p-value of 0.610, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between respondents' preferred login method and English Language proficiency.

Table 5.16A.5: Respondents' Preferred Login Method by Programme of Study

Preferred Login Method	Athens	Portal password	Both	Other (specify	No Response
Frequency	183.0	208.0	169.0	3.0	86.0
Percentage of total participants	28.2	32.0	26.0	0.5	13.3
Cedep	4.0	5.0	4.0	0.0	3.0
% Cedep	2.2	2.4	2.4	0.0	3.5
Cefims	8.0	3.0	3.0	0.0	4.0
% Cefims	4.4	1.4	1.8	0.0	4.7
EMFSS	67.0	86.0	63.0	3.0	36.0
% EMFSS	36.6	41.3	37.3	100.0	41.9

Preferred Login Method	Athens	Portal password	Both	Other (specify	No Response
INTMGT	9.0	8.0	2.0	0.0	2.0
% Int Mgt	4.9	3.8	1.2	0.0	2.3
Laws	83.0	92.0	85.0	0.0	34.0
% Laws	45.4	44.2	50.3	0.0	39.5
LLM	8.0	12.0	9.0	0.0	6.0
% LLM	4.4	5.8	5.3	0.0	7.0
MRES	4.0	1.0	2.0	0.0	1.0
% MRES	2.2	0.5	1.2	0.0	1.2
Other	0.0	1.0	1.0	0.0	0.0
% Other	0.0	0.5	0.6	0.0	0.0

The two programmes which constitute the large majority of the respondents are the undergraduate law programme and the undergraduate EMFSS programme (45.3% and 39.3% respectively), as can be seen from the responses to this question. Among the law respondents there is a marginal preference for Athens but a more marked preference for both routes. The EMFSS students, in contrast, marginally prefer the Portal password. Among the postgraduate programmes, the Athens route is generally preferred although the LLM students marginally prefer the Portal, unlike their undergraduate law colleagues. The fact that all three 'Other' responses were from EMFSS students does not seem significant. The chi-square test for independence returned a p-value of 0.462, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between respondents' preferred login method and programme of study.

Table 5.16A.6: Respondents' Preferred Login Method by Mode of Study

Preferred Login Method	Athens	Portal password	Both	Other (specify	No Response
Frequency	183	208	169	3	86
Percentage of total participants	28.2	32	26	0.5	20
At Ins+Tuition	58	68	55		10
% at Inst & Tuition	31.7	32.7	32.5	0	11.6
At INS No Tuition	15	29	22	1	51
% at inst NO tuition	8.2	13.9	13	33.3	59.3
Indep NO Tuition	92	92	71	2	5
%Indep NO Tuition	50.3	44.2	42	66.7	5.8
Independent with Private Tuition	18	17	20	0	0
% Indep & Tuition	9.8	8.2	11.8	0	0
No Response	0	2	1	0	0
% No Response	0	1	0.6	0	0

According to Table 5.7, 31% of students were at an institution supplemented by private tuition, 11.9% were at an institution with no further tuition (overall 42.9% at an institution), 47.9% were studying

independently with no private tuition and 9.2% were studying independently with private tuition (57.1% overall were not at an institution). In this question, almost exactly the same proportion of those at an institution with tuition as in the overall survey chose each route. Those at an institution with no additional tuition chose the Portal slightly more often than they chose Athens. Those studying independently with no tuition chose Athens in marginally greater numbers (50.3% rather than the overall 47.9%) rather than the Portal (44.2% rather than the overall 47.9%). The chi-square test returned a p-value of 0.450, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between respondents' preferred login method and mode of study.

Table 5.16A.7: Respondents' Preferred Login Method by Country (Geographical Location)

Response	Athens	Portal password	Both	Other (specify	No Response
Number of respondents	183	208	169	3	86
Percentage %	28.2	32	26	0.5	13.3
3 diff countries	1	0	0	0	0
% 3 diff countries	0.5	0	0	0	0
Albania	0	1	0	0	0
% Albania	0	0.5	0	0	0
Armenia	0	0	0	0	1
% Armenia	0	0	0	0	1.2
Australia	3	2	0	0	1
% Australia	1.6	1	0	0	1.2
Austria	3	2	2	0	0
% Austria	1.6	1	1.2	0	0
Bahamas	1	0	0	0	0
% Bahamas	0.5	0	0	0	0
Bahrain	0.0	4	2	0	0
% Bahrain	0	1.9	1.2	0	0
Bangladesh	3	3	4	0	0
% Bangladesh	1.6	1.4	2.4	0	0
Barbados	0	0	1	0	1
% Barbados	0	0	0.6	0	1.2
Belgium	2	1	3	0	0
% Belgium	1.1	0.5	1.8	0	0
Brazil	0	1	2	0	0
% Brazil	0	0.5	1.2	0	0
Bulgaria	0	1	0	0	0
% Bulgaria	0	0.5	0	0	0
Cambodia	0	1	0	0	2
% Cambodia	0	0.5	0	0	2.3
Cameroon	1	0	0	0	0
% Cameroon	0.5	0	0	0	0
Canada	5	5	9	0	7
% Canada	2.7	2.4	5.3	0	8.1
Cayman Islands	0	0	1	0	0

Response	Athens	Portal password	Both	Other (specify	No Response
% Cayman Islands	0	0	0.6	0	0
Colombia	1	0	0	0	1
% Colombia	0.5	0	0	0	1.2
Croatia	1	1	0	0	0
% Croatia	0.5	0.5	0	0	0
Cyprus	1	0	2	0	0
% Cyprus	0.5	0	1.2	0	0
Czech Republic	2	0	0	0	0
% Czech Republic	1.1	0	0	0	0
Denmark	1	0	0	0	1
% Denmark	0.5	0	0	0	1.2
Dominica	1	0	2	0	0
% Dominica	0.5	0	1.2	0	0
Egypt	0	3	0	0	0
% Egypt	0	1.4	0	0	0
France	1	0	0	0	1
% France	0.5	0	0	0	1.2
Germany	4	2	0	0	1
% Germany	2.2	1	0	0	1.2
Ghana	1	0	0	0	2
% Ghana	0.5	0	0	0	2.3
Greece	1	2	0	0	1
% Greece	0.5	1	0	0	1.2
Guatemala	0	0	1	0	0
% Guatemala	0	0	0.6	0	0
Guyana	0	0	1	0	0
% Guyana	0	0	0.6	0	0
Hong Kong	9	7	10	0	4
% Hong Kong	4.9	3.4	5.9	0	4.7
India	4	1	2	0	2
% India	2.2	0.5	1.2	0	2.3
Indonesia	1	2	0	0	0
% Indonesia	0.5	1	0	0	0
Iran	0	0	1	0	0
% Iran	0	0	0.6	0	0
Israel	0	0	0	0	1
% Israel	0	0	0	0	1.2
Italy	0	0	5	0	1
% Italy	0	0	3	0	1.2
Jamaica	2	6	3	0	4
% Jamaica	1.1	2.9	1.8	0	4.7
Japan	2	3	2	0	0
% Japan	1.1	1.4	1.2	0	0
Kenya	2	1	1	0	1
% Kenya	1.1	0.5	0.6	0	1.2

Response	Athens	Portal password	Both	Other (specify	No Response
Kuwait	1	0	0	0	0
% Kuwait	0.5	0	0	0	0
Lithuania	0	0	1	0	0
% Lithuania	0	0	0.6	0	0
Macedonia	0	1	0	0	0
% Macedonia	0	0.5	0	0	0
Madagascar	1	0	0	0	0
% Madagascar	0.5	0	0	0	0
Malawi	0	2	0	0	0
% Malawi	0	1	0	0	0
Malaysia	3	5	12	1	6
% Malaysia	1.6	2.4	7.1	33.3	7
Malta	4	7	0	0	1
% Malta	2.2	3.4	0	0	1.2
Martinique	1	0	0	0	0
% Martinique	0.5	0	0	0	0
Mauritius	6	8	7	1	3
% Mauritius	3.3	3.8	4.1	33.3	3.5
Myanmar	0	0	1	0	0
% Myanmar	0	0	0.6	0	0
Namibia	1	0	0	0	0
% Namibia	0.5	0	0	0	0
New Zealand	2	2	1	0	0
% New Zealand	1.1	1	0.6	0	0
No response	5	6	9	0	5
% No response	2.7	2.9	5.3	0	5.8
Other	0	2	1	0	1
% Other	0	1	0.6	0	1.2
Pakistan	8	9	5	0	0
% Pakistan	4.4	4.3	3	0	0
Peru	1	0	0	0	0
% Peru	0.5	0	0	0	0
Poland	0	3	3	0	0
% Poland	0	1.4	1.8	0	0
Portugal	2	0	1	0	0
% Portugal	1.1	0	0.6	0	0
Russia	7	10	3	1	5
% Russia	3.8	4.8	1.8	33.3	5.8
Rwanda	0	1	0	0	0
% Rwanda	0	0.5	0	0	0
Saint Lucia	1	0	0	0	0
% Saint Lucia	0.5	0	0	0	0
Saudi Arabia	2	2	0	0	1
% Saudi Arabia	1.1	1	0	0	1.2
Serbia	1	0	0	0	0

Response	Athens	Portal password	Both	Other (specify	No Response
% Serbia	0.5	0	0	0	0
Singapore	14	31	18	0	5
% Singapore	7.7	14.9	10.7	0	5.8
South Africa	0	0	3	0	0
% South Africa	0	0	1.8	0	0
South Korea	1	0	0	0	0
% South Korea	0.5	0	0	0	0
Spain	5	4	6	0	3
% Spain	2.7	1.9	3.6	0	3.5
Sri Lanka	3	3	3	0	4
% Sri Lanka	1.6	1.4	1.8	0	4.7
St Vincent and the Grenadines	0	1	0	0	1
% St Vincent and the Grenadines	0	0.5	0	0	1.2
Sudan	1	1	2	0	0
% Sudan	0.5	0.5	1.2	0	0
Sweden	2	0	0	0	0
% Sweden	1.1	0	0	0	0
Switzerland	4	4	3	0	2
% Switzerland	2.2	1.9	1.8	0	2.3
Thailand	3	5	0	0	1
% Thailand	1.6	2.4	0	0	1.2
The Netherlands	1	0	0	0	0
% The Netherlands	0.5	0	0	0	0
Trinidad and Tobago	15	16	13	0	7
% Trinidad and Tobago	8.2	7.7	7.7	0	8.1
Uganda	0	0	0	0	1
% Uganda	0	0	0	0	1.2
United Arab Emirates	0	0	1	0	1
% United Arab Emirates	0	0	0.6	0	1.2
United Kingdom	20	15	11	0	4
% United Kingdom	10.9	7.2	6.5	0	4.7
United States	5	7	5	0	1
% United States	2.7	3.4	3	0	1.2
Uruguay	2	4	0	0	0
% Uruguay	1.1	1.9	0	0	0
Vietnam	3	1	1	0	0
% Vietnam	1.6	0.5	0.6	0	0

The respondents' preferred login methods (Table 5.16A.7) show no significant variations relating to country of residence. A chi-square test has not been conducted because of the number of cells with zeros or no responses.

Table 5.16A.8: Respondents' Preferred Login Method by Reason for Login Method

Preferred Login Method	Athens	Portal password	Both	Other (specify	No Response
Frequency	183.0	208.0	169.0	3.0	86.0
Availability	0.0	0.0	27.0	0.0	0.0
% Availability	0.0	0.0	16.0	0.0	0.0
Convenient	4.0	39.0	6.0	0.0	1.0
% Convenient	2.2	18.8	3.6	0.0	1.2
Easy to use	64.0	41.0	19.0	0.0	2.0
% Easy to use	35.0	19.7	11.2	0.0	2.3
Familiarity	30.0	13.0	2.0	0.0	0.0
% Familiarity	16.4	6.3	1.2	0.0	0.0
Gives an alternative	1.0	3.0	31.0	0.0	0.0
% Gives an alternative	0.5	1.4	18.3	0.0	0.0
Not specified	1.0	0.0	0.0	0.0	1.0
% Not specified	0.5	0.0	0.0	0.0	1.2
One password	9.0	12.0	5.0	1.0	22.0
% One password	4.9	5.8	3.0	33.3	0.0
Quick	17.0	17.0	17.0	0.0	0.0
% Quick	9.3	8.2	10.1	0.0	0.0
Reliable	17.0	8.0	9.0	0.0	0.0
% Reliable	9.3	3.8	5.3	0.0	0.0
No Response	40.0	75.0	53.0	2.0	60.0
% No Response	21.9	36.1	31.4	66.7	69.8

Overall, although the portal password is preferred over Athens by 25 respondents (less than 4%), there is no one clear preferred method between portal password and Athens (208 compared with 183). Other methods are almost unrepresented. There is an almost equally large response of 'both' methods which is explained by the reasons 'availability' (16%) and 'gives an alternative' (18%). The largest number of responses for each main method is ease of use (Athens 35% and rather less for Portal Password 19.7%), which supports the Principle of Least Effort (PLE). The next most frequent response for portal password is convenience (18.7%) whereas for Athens it is familiarity (16.4%). This also suggests more strongly that the portal password is more convenient than Athens (18.8% rather than 2.2% for Athens). The chi-square test returned a p-value of 1.86136E-33 (means move 33 decimal places to the left), which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' preferred login method and reason for login method or resource characteristics.

5.16B Reason for Login Method

Table 5.16B: Reason for Preferred Login Method

Reason for preference	Frequency	Percentage of Total participants
No response	230	35.4
Easy to use	126	19.4
Quick	51	7.9
Convenient	50	7.7
One password	49	7.6
Familiarity	45	6.9
Gives an alternative	35	5.4
Reliable	34	5.2
Availability	27	4.2
Total	647	

Table 5.16B: Reason for preferred Login Method

As shown in Table 16B, the top four reasons given by students for their login method preference were 'easy to use' (by 19.4% of the respondents), 'quick' (by 7.9% of the respondents), 'convenient' (given by 7.7% of the respondents), and 'one password' (given by 7.6% of the respondents). These findings are related to earlier findings (see Table 16A) in which the largest number of students expressed a preference for Shibboleth, the one-stop shop access method, presumably for these reasons. Distance learners' preference for one-stop shop, easy to use, fast and convenient methods of accessing library resources (taking the findings of all these similar characteristics together) has implications for the design of Online Library services for distance learners.

Table 5.16B.1 Reason for Preferred Login Method by Gender

Reason for preference	Frequency	Percentage of Total participants	Female	% Female	Male	% Male	NR	% No Response
Availability	27	4.2	16.0	59.3	11.0	40.7	0.0	0.0
Convenient	50	7.7	27.0	54.0	23.0	46.0	0.0	0.0
Easy to use	126	19.4	72.0	57.1	53.0	42.1	1.0	0.8
Familiarity	45	6.9	22.0	48.9	23.0	51.1	0.0	0.0
Gives an alternative	35	5.4	17.0	48.6	18.0	51.4	0.0	0.0
One password	49	7.6	24.0	49.0	25.0	51.0	0.0	0.0
Quick	51	7.9	34.0	66.7	17.0	33.3	0.0	0.0
Reliable	34	5.2	15.0	44.1	19.0	55.9	0.0	0.0
No response	230	35.4	112.0	48.7	118.0	51.3	0.0	0.0

As shown in Table 5.16B.1, the top four reasons given by female respondents for their login method preference were 'quick' (given by 66.7% of the respondents), 'availability' (given by 59.3% of the respondents), 'easy to use ' (given by 57.1%), and 'convenient (which was given by 54% of the female respondents). The top four reasons given by the male respondents were 'reliable' which was given by 55.9% of the male respondents, 'gives an alternative' (51.4%), 'familiarity' (51.1%) and 'one password' (51%). Although the order of the preferences varies slightly between males and females, it is important to note that all the options given attracted more than a 30% response rate for both male and female respondents. These figures demonstrate that all the above resources' characteristics (availability, convenience, ease of use, familiarity, quick, reliable) as well as the ability to access them with one password and giving an alternative are important to all distance learners irrespective of gender. The chi-square test for independence returned a p-value of 0.436, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learner's reasons for the preferred login method and gender.

Table 5.16B.2 Reason for Preferred Login Method by Age Range

Reason for preference	Availability	Convenient	Easy to use	Familiarity	Gives an alternative	One password	Quick	Reliable	No response
Frequency	27	50	126	45	35	49	51	34	230
Percentage of Total participants	4.2	7.7	19.4	6.9	5.4	7.6	7.9	5.2	35.4
under 25	9.0	15.0	36.0	11.0	10.0	21.0	29.0	13.0	69.0
% Under 25	33.3	30.0	28.6	24.4	28.6	42.9	56.9	38.2	30.0
26-35	10.0	23.0	49.0	20.0	15.0	12.0	12.0	10.0	94.0
% 26-35	37.0	46.0	38.9	44.4	42.9	24.5	23.5	29.4	40.9
36-45	7.0	7.0	25.0	7.0	9.0	11.0	5.0	7.0	46.0
% 36-45	25.9	14.0	19.8	15.6	25.7	22.4	9.8	20.6	20.0
46-55	1.0	3.0	13.0	3.0	0.0	4.0	3.0	3.0	12.0
% 46-55	3.7	6.0	10.3	6.7	0.0	8.2	5.9	8.8	5.2
56+	0.0	2.0	3.0	3.0	1.0	1.0	2.0	1.0	8.0
% 56+	0.0	4.0	2.4	6.7	2.9	2.0	3.9	2.9	3.5
NR	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0
% No response	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.4

The figures in Table 5.16B.2 show that 'quick access' (56.9%) and one password (42.9%) were the most highly rated resource characteristics for the under-25s, while for the over-25s 'convenience' (46%) and 'familiarity' (44.4%) were the most important. This supports the notion that familiarity is important when doing extensive research such as at postgraduate level. However it is important to note that all age groups selected all the listed resources' characteristics (they could choose more than one). The chi-square test returned a p-value of 7.04664E-05 (means move 5 decimal places to the left), which is far smaller than 0.05 and supports the hypothesis that there is a significant relationship distance learner's reasons for preferred login and age.

Table 5.16B.3 Reason for Preferred Login Method by Level of Programme

Reason for preference	Availability	Convenient	Easy to use	Familiarity	Gives an alternative	One password	Quick	Reliable	No response
Frequency	27	50	126	45	35	49	51	34	230
Percentage of Total participants	4.2	7.7	19.4	6.9	5.4	7.6	7.9	5.2	35.4
PG	5.0	8.0	26.0	10.0	6.0	9.0	3.0	5.0	79.0
% PG	18.5	16.0	20.6	22.2	17.1	18.4	5.9	14.7	34.3
UG	21.0	40.0	98.0	31.0	29.0	37.0	47.0	27.0	132.0
% UG	77.8	80.0	77.8	68.9	82.9	75.5	92.2	79.4	57.4
Diploma	0.0	1.0	1.0	2.0	0.0	2.0	1.0	0.0	5.0
% Diploma	0.0	2.0	0.8	4.4	0.0	4.1	2.0	0.0	2.2
Cert	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	4.0
% Cert	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.9	1.7
Access	0.0	0.0	1.0	1.0	0.0	1.0	0.0	1.0	8.0
% Access	0.0	0.0	0.8	2.2	0.0	2.0	0.0	2.9	3.5
NR	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	2.0
% No Response	3.7	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.9

The figures in Table 5.16B.3 show that 'quick access' (92.2%) was the most highly rated resource characteristic for the undergraduates, while 'convenience' (22.2%) was the most important characteristic for the postgraduates. This corroborates the finding of question 5.16B.2 and indicates the factors that need to be borne in mind when developing library resources and training materials for undergraduate and postgraduate students. The chi-square test returned a p-vale of 2.9049E-244 (means move 244 decimal places to the left), which is less than 0.05 and therefore supports the hypothesis that there is a slight but significant relationship between distance learners' reasons for preferred login method and level of programme

Table 5.16B.4 Reason for Preferred Login Method by English Language Proficiency

Reason for preference	Frequency	Percentage of Total participants	Yes	% Yes	NO	% No	NR	% No Response
Availability	27	4.2	9	33.3	18	66.7	0	0
Convenient	50	7.7	25	50	24	36	1	2
Easy to use	126	19.4	72	57.1	51	14.3	3	2.4
Familiarity	45	6.9	25	55.6	18	40	2	4.4
Gives an alternative	35	5.4	22	62.9	13	37.1	0	0
One password	49	7.6	24	49	24	49	1	2
Quick	51	7.9	22	43.1	29	56.9	0	0
Reliable	34	5.2	17	50	16	47.1	1	2.9
No response	230	35.4	113	49.1	100	43.5	17	7.4

The figures in Table 5.16B.4 show that all students, regardless of whether English was their first or second language, valued all the resources' characteristics, with 'one password' attracting the same number of respondents (49%) for both categories of students. The chi-square test for independence returned a p-value of 0.201, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between learners' reasons for preferred login method and English language proficiency.

Table 5.16B.5 Reason for Preferred Login Method by Programme of Study

Reason for preference	Availability	Convenient	Easy to use	Familiarity	Gives an alternative	One password	Quick	Reliable	No response
Frequency	27	50	126	45	35	49	51	34	230
Percentage of Total participants	4.2	7.7	19.4	6.9	5.4	7.6	7.9	5.2	35.4
Cedep	0.0	1.0	1.0	2.0	0.0	0.0	0.0	1.0	11.0
% Cedep	0.0	2.0	0.8	4.4	0.0	0.0	0.0	2.9	4.8
Cefims	2.0	1.0	6.0	3.0	0.0	2.0	1.0	0.0	3.0
% Cefims	7.4	2.0	4.8	6.7	0.0	4.1	2.0	0.0	1.3
EMFSS	4.0	3.0	35.0	11.0	4.0	13.0	4.0	3.0	177.0
% EMFSS	14.8	6.0	27.8	24.4	11.4	26.5	7.8	8.8	77.0
INTMGT	2.0	6.0	7.0	2.0	0.0	2.0	0.0	1.0	0.0
% Int Mgt	7.4	12.0	5.6	4.4	0.0	4.1	0.0	2.9	0.0
Laws	18.0	35.0	71.0	24.0	25.0	29.0	45.0	24.0	23.0
% Laws	66.7	70.0	56.3	53.3	71.4	59.2	88.2	70.6	10.0
LLM	0.0	4.0	3.0	3.0	5.0	2.0	1.0	4.0	13.0
% LLM	0.0	8.0	2.4	6.7	14.3	4.1	2.0	11.8	5.7
MRES	1.0	0.0	3.0	0.0	1.0	1.0	0.0	1.0	1.0
% MRES	3.7	0.0	2.4	0.0	2.9	2.0	0.0	2.9	0.4
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
% Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9

The figures in Table 5.16B.5 show that, while all these reasons (availability, convenient, easy to use, familiarity, gives an alternative, one password, quick, reliable) were important in all the programmes of study, there were particularly high numbers from the law programme. The chi-square test returned a p-value of 2.4281E-244 (means move 244 decimal places to the left), which is much smaller than 0.05 and therefore supports the hypothesis that there is a slight but significant relationship between distance learners' reasons for preferred login method and programme of study.

Table 5.16B.6 Reason for Preferred Login Method by Mode of Study

Reason for preference	Availability	Convenient	Easy to use	Familiarity	Gives an alternative	One password	Quick	Reliable	No response
Frequency	27	50	126	45	35	49	51	34	230
Percentage of Total participants	4.2	7.7	19.4	6.9	5.4	7.6	7.9	5.2	35.4
At Ins+Tuition	12.0	19.0	45.0	18.0	12.0	12.0	27.0	11.0	45.0
% at inst & tuition	44.4	38.0	35.7	40.0	34.3	24.5	52.9	32.4	19.6
At INS NO Tuition	0.0	0.0	14.0	3.0	7.0	6.0	2.0	1.0	44.0
% at inst NO tuition	0.0	0.0	11.1	6.7	20.0	12.2	3.9	2.9	19.1
IndepNO tuition	10.0	25.0	51.0	17.0	14.0	29.0	18.0	19.0	123.0
% indep NO tuition	37.0	50.0	40.5	37.8	40.0	59.2	35.3	55.9	53.5
Independent with private tuition	5.0	5.0	15.0	7.0	2.0	2.0	3.0	3.0	18.0
% indep & tuition	18.5	10.0	11.9	15.6	5.7	4.1	5.9	8.8	7.8
No Response	0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0
% No response	0.0	2.0	0.8	0.0	0.0	0.0	2.0	0.0	0.0

According to Table 5.7, 31% of students were at an institution supplemented by private tuition, 11.9% were at an institution with no further tuition (overall 42.9% at an institution), 47.9% were studying independently with no private tuition and 9.2% were studying independently with private tuition (57.1% overall were not at an institution). The figures indicate that those studying independently chose 'reliable' and 'one password'. The differences may be related to the fact that those who attend institutions have alternative ways of accessing information sources while those who study independently do not and, as such, 'reliability' and one-stop shop are crucial. The chi-square test returned a p-value of 0.005, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' reasons for preferred login method and mode of study.

Table 5.16B.7 Reason for Preferred Login Method by Country

Response	Availability	Convenient	Easy to use	Familiarity	Gives an alternative	One password	Quick	Reliable	No response
Number of respondents	27.0	50.0	126.0	45.0	35.0	49.0	51.0	34.0	230.0
Percentage %	4.2	7.7	19.4	6.9	5.4	7.6	7.9	5.2	35.4
3 diff countries	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
% 3 diff countries	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4

Response	Availability	Convenient	Easy to use	Familiarity	Gives an alternative	One password	Quick	Reliable	No response
Albania	0.0	0.0	0.0	0.0					
% Albania	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Armenia	0.0	0.0		0.0	0.0		0.0	0.0	1.0
% Armenia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Australia	0.0	0.0	3.0	0.0	0.0	0.0	0.0	1.0	1.0
% Australia	0.0	0.0	2.4	0.0	0.0	0.0	0.0	2.9	0.4
Austria	0.0	0.0	1.0	1.0	1.0	1.0	0.0	2.0	1.0
% Austria	0.0	0.0	0.8	2.2	2.9	2.0	0.0	5.9	0.4
Bahamas	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
% Bahamas	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Bahrain	1.0	1.0	1.0	0.0	0.0	1.0	1.0	0.0	1.0
% Bahrain	3.7	2.0	0.8	0.0	0.0	2.0	2.0	0.0	0.4
Bangladesh	0.0	1.0	1.0	1.0	2.0	0.0	0.0	4.0	1.0
% Bangladesh	0.0	2.0	0.8	2.2	5.7	0.0	0.0	11.8	0.4
Barbados	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0
% Barbados	0.0	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.4
Belgium	0.0	0.0	0.0	1.0	2.0	2.0	0.0	0.0	1.0
% Belgium	0.0	0.0	0.0	2.2	5.7	4.1	0.0	0.0	0.4
Brazil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
% Brazil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3
Bulgaria	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
% Bulgaria	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Cambodia	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	1.0
% Cambodia	0.0	0.0	0.0	0.0	0.0	4.1	0.0	0.0	0.4
Cameroon	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Cameroon	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Canada	2.0	2.0	3.0	2.0	2.0	3.0	0.0	3.0	8.0
% Canada	7.4	4.0	2.4	4.4	5.7	6.1	0.0	8.8	3.5
Cayman Islands	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
% Cayman Islands	0.0	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.0
Colombia	0.0	0.0	0.00.0	0.0	0.0	0.0	0.0	0.0	2.0
% Colombia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
Croatia	0.0	0.0	1.0	0.0	0.0		0.0	0.0	1.0
% Croatia	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.4
Cyprus	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
% Cyprus	3.7	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.4
Czech Republic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
% Czech Republic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
Denmark	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
% Denmark	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
Dominica	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
% Dominica	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3
Egypt	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	2.0
% Egypt	0.0	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.9

Response	Availability	Convenient	Easy to use	Familiarity	Gives an alternative	One password	Quick	Reliable	No response
France	0.0		1.0	0.0	0.0	1.0	0.0	0.0	0.0
% France	0.0	0.0	0.8	0.0	0.0	2.0	0.0	0.0	0.0
Germany	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	4.0
% Germany	0.0	2.0	0.8	0.0	0.0	2.0	0.0	0.0	1.7
Ghana	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	2.0
% Ghana	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.9
Greece	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0
% Greece	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.9
Guatemala	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Guatemala	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Guyana	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
% Guyana	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Hong Kong	2.0	5.0	6.0	2.0	2.0	2.0	2.0		9.0
% Hong Kong	7.4	10.0	4.8	4.4	5.7	4.1	3.9	0.0	3.9
India	0.0	1.0	2.0	0.0	0.0	1.0	0.0		5.0
% India	0.0	2.0	1.6	0.0	0.0	2.0	0.0	0.0	2.2
Indonesia	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0
% Indonesia	0.0	0.0	0.8	0.0	0.0	2.0	0.0	0.0	0.4
Indonesia and Czech Republic	0.0	0.0	0.0	0.0			0.0		
% Indonesia and Czech Republic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Iran	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
% Iran	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Israel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
% Israel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Italy	0.0	0.0	1.0	0.0	0.0	1.0	2.0	0.0	2.0
% Italy	0.0	0.0	0.8	0.0	0.0	2.0	3.9	0.0	0.9
Jamaica	2.0	2.0	5.0	3.0	0.0	0.0	0.0	0.0	3.0
% Jamaica	7.4	4.0	4.0	6.7	0.0	0.0	0.0	0.0	1.3
Japan	2.0		4.0	0.0	0.0	0.0	0.0	0.0	1.0
% Japan	7.4	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.4
Kenya	0.0	0.0	2.0	1.0	0.0	2.0	0.0	0.0	0.0
% Kenya	0.0	0.0	1.6	2.2	0.0	4.1	0.0	0.0	0.0
Kuwait	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
% Kuwait	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Lithuania	0.0	0.0	0.0	0.0	0.00.0		0.0	0.0	1.0
% Lithuania	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Macedonia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
% Macedonia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Madagascar	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
% Madagascar	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Malawi	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0
% Malawi	0.0	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.4

Response	Availability	Convenient	Easy to use	Familiarity	Gives an alternative	One password	Quick	Reliable	No response
Malaysia	4.0	0.0	3.0	2.0	2.0	3.0	2.0	2.0	9.0
% Malaysia	14.8	0.0	2.4	4.4	5.7	6.1	3.9	5.9	3.9
Malta	0.0	1.0	3.0	2.0	0.0	0.0	0.0	0.0	6.0
% Malta	0.0	2.0	2.4	4.4	0.0	0.0	0.0	0.0	2.6
Martinique	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
% Martinique	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0
Mauritius	2.0	4.0	6.0	0.0	1.0	2.0	2.0	0.0	8.0
% Mauritius	7.4	8.0	4.8	0.0	2.9	4.1	3.9	0.0	3.5
Myanmar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
% Myanmar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Namibia	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
% Namibia	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0
New Zealand	0.0	2.0	0.0	0.0	1.0	0.0	1.0	0.0	1.0
% New Zealand	0.0	4.0	0.0	0.0	2.9	0.0	2.0	0.0	0.4
Nigeria	1.0	2.0	3.0	2.0	0.0	1.0	2.0	0.0	2.0
% Nigeria	3.7	4.0	2.4	4.4	0.0	2.0	3.9	0.0	0.9
Nigeria / UK	0.0	0.0	4.0	1.0	1.0	1.0	0.0	0.0	1.0
% Nigeria / UK	0.0	0.0	3.2	2.2	2.9	2.0	0.0	0.0	0.4
No response	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	21.0
% No response	0.0	2.0	0.8	0.0	2.9	2.0	0.0	0.0	9.1
Other	0.0	1.0	0.0	0.0	0.0	1.0	0.0	2.0	0.0
% Other	0.0	2.0	0.0	0.0	0.0	2.0	0.0	5.9	0.0
Pakistan	0.0	1.0	6.0	1.0	0.0	2.0	4.0	1.0	7.0
% Pakistan	0.0	2.0	4.8	2.2	0.0	4.1	7.8	2.9	3.0
Peru	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
% Peru	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0
Poland	1.0	0.0	1.0	0.0	1.0	0.0	2.0	0.0	1.0
% Poland	3.7	0.0	0.8	0.0	2.9	0.0	3.9	0.0	0.4
Portugal	0.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0
% Portugal	0.0	0.0	0.8	0.0	2.9	2.0	0.0	0.0	0.0
Russia	1.0	0.0	3.0	1.0	0.0	2.0	3.0	1.0	15.0
% Russia	3.7	0.0	2.4	2.2	0.0	4.1	5.9	2.9	6.5
Rwanda	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
% Rwanda	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Saint Lucia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
% Saint Lucia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Saudi Arabia	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
% Saudi Arabia	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
Serbia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
% Serbia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Singapore	4.0	7.0	12.0	3.0	1.0	6.0	4.0	1.0	30.0
% Singapore	14.8	14.0	9.5	6.7	2.9	12.2	7.8	2.9	13.0
South Africa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
% South Africa	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3

Response	Availability	Convenient	Easy to use	Familiarity	Gives an alternative	One password	Quick	Reliable	No response
South Korea	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
% South Korea	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Spain	0.0	2.0	6.0	1.0	1.0	0.0	3.0	0.0	5.0
% Spain	0.0	4.0	4.8	2.2	2.9	0.0	5.9	0.0	2.2
Sri Lanka	0.0	1.0	2.0	2.0	1.0	1.0	1.0		5.0
% Sri Lanka	0.0	2.0	1.6	4.4	2.9	2.0	2.0	0.0	2.2
St Vincent and the Grenadines	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0
% St Vincent and the Grenadines	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.4
Sudan	0.0	0.0	1.0	0.0	0.0		2.0	1.0	
% Sudan	0.0	0.0	0.8	0.0	0.0	0.0	3.9	2.9	0.0
Sweden	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0
% Sweden	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.4
Switzerland	0.0	1.0	4.0	2.0	1.0	1.0	1.0	0.0	3.0
% Switzerland	0.0	2.0	3.2	4.4	2.9	2.0	2.0	0.0	1.3
Thailand	0.0	1.0	0.0	1.0	0.0	1.0	2.0	2.0	2.0
% Thailand	0.0	2.0	0.0	2.2	0.0	2.0	3.9	5.9	0.9
The Netherlands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
% The Netherlands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
Trinidad and Tobago	1.0	3.0	11.0	6.0	5.0	2.0	7.0	2.0	14.0
% Trinidad and Tobago	3.7	6.0	8.7	13.3	14.3	4.1	13.7	5.9	6.1
Uganda	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
% Uganda	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
United Arab Emirates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
% United Arab Emirates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9
United Kingdom	3.0	2.0	13.0	3.0	3.0	2.0	4.0	6.0	14.0
% United Kingdom	11.1	4.0	10.3	6.7	8.6	4.1	7.8	17.6	6.1
United States	0.0	1.0	3.0	4.0	2.0	1.0	1.0	3.0	3.0
% United States	0.0	2.0	2.4	8.9	5.7	2.0	2.0	8.8	1.3
Uruguay	0.0	2.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0
% Uruguay	0.0	4.0	1.6	0.0	0.0	0.0	3.9	0.0	0.0
Vietnam	0.0	0.0	1.0	0.0	0.0	1.0	1.0	1.0	1.0
% Vietnam	0.0	0.0	0.8	0.0	0.0	2.0	2.0	2.9	0.4
NR	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
% NR	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0

The reason for preferred login method (Table 5.16B.7) shows no significant variations relating to country of residence. A chi-square test has not been conducted because of the number of cells with zeros or no responses.

5.17 Online Library Information Resources

Table 5.17: Which Online Library Information Resources are Used by Respondents

Resource	Frequency	Percentage of Total Participants
Westlaw	371	57.2
Lexis Library	361	55.6
JSTOR	262	40.4
Justis	166	25.6
Academic search premier	145	22.3
HeinOnline	94	14.5
ABI/Inform	89	13.7
Business Source Premier	83	12.8
Science Direct	54	8.3
Sage journals	51	7.9
Case track	40	6.2
Wiley Interscience	31	4.8
Web of Knowledge	30	4.6
Educational Indexes (ERIC,BEI, AEI)	20	3.1
IBSS	19	2.9
Kluwer Arbitration	15	2.3

The two databases cited by over 55% of respondents are Lexis Library and Westlaw, both comprehensive law databases; law students comprise 50.7% of all respondents (LLB 45.3% and LLM 5.3%) and, given their need to consult case reports and legislation as well as descriptive and analytical literature, are more represented in the usage data. Another general law database, Justis, is among the more heavily used databases at 25.6%. The HeinOnline database, which contains mostly secondary literature rather than legislation and law reports, is less heavily used at 14.5%. JSTOR is the general database with broad coverage and is the most heavily used apart from the law databases. Specialist databases and those with a scientific rather than social science focus (e.g. Kluwer Arbitration, Casetrack, Science Direct and Web of Knowledge) are used rather infrequently. IBSS was cited by very few respondents despite its social science focus, and this emphasises the need for full text rather than bibliography.

Table 5.17.1: Which Online Library Information Resources are Used by Respondents by Gender

Resource	Frequency	Percentage of Total participants	Female	% Female	Male	% Male	NR	% NR
ABI/Inform	89	13.7	41.0	46.1	47.0	52.8	1.0	1.1
Academic Search Premier	145	22.3	76.0	52.4	69.0	47.6	0.0	0.0
Business Source Premier	83	12.8	49.0	59.0	33.0	39.8	1.0	1.2
Case track	40	6.2	24.0	60.0	16.0	40.0	0.0	0.0
Educational Indexes (ERIC,BEI, AEI)	20	3.1	10.0	50.0	10.0	50.0	0.0	0.0
IBSS	19	2.9	12.0	63.2	7.0	36.8	0.0	0.0
HeinOnline	94	14.5	60.0	63.8	34.0	36.2	0.0	0.0
JSTOR	262	40.4	130.0	49.6	131.0	50.0	1.0	0.4
Justis	166	25.6	78.0	47.0	88.0	53.0	0.0	0.0
Kluwer Arbitration	15	2.3	7.0	46.7	8.0	53.3	0.0	0.0
Lexis Library	361	55.6	191.0	52.9	170.0	47.1	0.0	0.0
Sage journals	51	7.9	29.0	56.9	22.0	43.1	0.0	0.0
Science Direct	54	8.3	22.0	40.7	32.0	59.3	0.0	0.0
Web of Knowledge	30	4.6	16.0	53.3	14.0	46.7	0.0	0.0
Westlaw	371	57.2	194.0	52.3	176.0	47.4	1.0	0.3
Wiley Interscience	31	4.8	16.0	51.6	14.0	45.2	1.0	3.2

52.5% of respondents were female and, allowing for non-responses, 47.3% were male. Reference should also be made to Table 5.1 which shows programme of study by gender, indicating that slightly more than the overall proportion of females are studying for the LLB but considerably less are studying for the LLM, and that the proportion of female respondents studying for the MRES and for International Management is considerably higher than the overall 52.5%. The higher-use databases seem to conform reasonably well to the overall percentages of women responding to the survey but the lower-use databases show more variation. For example, women used Business Source, Casetrack, IBSS and HeinOnline more than men, and men used Science Direct more. The greater use of HeinOnline by women is surprising given the preponderance of men on the postgraduate LLM and in any case may suggest that women are exploring further and using more descriptive literature in law. The chi-square test returned a p-value of 0.382, which is less than 0.05 and supports the hypothesis that there is a significant relationship between use of online library resources and gender.

Table 5.17.2: Which Online Library Information Resources are Used by Respondents by Age Range

Resource	Under 25	% Under 25	26-35	% 26-35	36-45	% 36-45	46-55	% 46-55	56+	% 56+	NR	% NR
ABI/Inform	23.0	25.8	36.0	40.4	19.0	21.3	8.0	9.0	3.0	3.4	0.0	0.0
Academic search premier	38.0	26.2	57.0	39.3	33.0	22.8	9.0	6.2	7.0	4.8	1.0	0.7
Business Source Premier	37.0	44.6	34.0	41.0	6.0	7.2	2.0	2.4	3.0	3.6	1.0	1.2
Case track	11.0	27.5	17.0	42.5	8.0	20.0	2.0	5.0	2.0	5.0	0.0	0.0
Educational Indexes (ERIC,BEI, AEI)	2.0	10.0	7.0	35.0	7.0	35.0	2.0	10.0	2.0	10.0	0.0	0.0
IBSS	2.0	10.5	4.0	21.1	11.0	57.9	1.0	5.3	1.0	5.3	0.0	0.0
HeinOnline	33.0	35.1	33.0	35.1	11.0	11.7	9.0	9.6	7.0	7.4	1.0	1.1
JSTOR	90.0	34.4	100.0	38.2	43.0	16.4	14.0	5.3	14.0	5.3	1.0	0.4
Justis	55.0	33.1	60.0	36.1	30.0	18.1	10.0	6.0	10.0	6.0	1.0	0.6
Kluwer Arbitration	5.0	33.3	5.0	33.3	2.0	13.3	0.0	0.0	3.0	20.0	0.0	0.0
Lexis Library	117.0	32.4	142.0	39.3	60.0	16.6	28.0	7.8	13.0	3.6	1.0	0.3
Sage journals	13.0	25.5	21.0	41.2	10.0	19.6	4.0	7.8	2.0	3.9	1.0	2.0
Science Direct	15.0	27.8	23.0	42.6	12.0	22.2	2.0	3.7	2.0	3.7	0.0	0.0
Web of Knowledge	11.0	36.7	7.0	23.3	6.0	20.0	6.0	20.0	0.0	0.0	0.0	0.0
Westlaw	126.0	34.0	141.0	38.0	62.0	16.7	30.0	8.1	11.0	3.0	1.0	0.3
Wiley Interscience	6.0	19.4	14.0	45.2	7.0	22.6	3.0	9.7	1.0	3.2	0.0	0.0

Overall, 32.8% of respondents were under 25, 37.9% were 26-35, 19.3% were 36-45, 6.5% were 46-55, and 3.2% were 56 and over. See also Table 5.2, which gives the programme of study analysed by age range. The general distribution by age for the various sources seems to conform to the overall distribution by age modified by the distribution by age among the various programmes. There are significant spikes in use of particular sources, for example IBSS by 36-45-year-olds (57.9% but only 10 respondents) and by Kluwer Arbitration by 56+ year-olds (20% but only 3 respondents). Generally, the older respondents seem to be more selective in their use of sources but the younger respondents use more of the general resources. The chi-square test returned a p-value of 0.012, which is less than 0.05 and supports the hypothesis that there is a significant relationship between 'which Online Library information resources are used' and age.

Table 5.17.3: Which Online Library Information Resources are Used by Respondents by Level of Programme

Resource	PG	% PG	UG	% UG	Diploma	% Diploma	Cert	% Cert	Access	% Access	NR	% NR
ABI/Inform	24.0	27.0	62.0	69.7	2.0	2.2	1.0	1.1	0.0	0.0	0.0	0.0
Academic search premier	26.0	17.9	107.0	73.8	6.0	4.1	1.0	0.7	3.0	2.1	2.0	1.4
Business Source Premier	20.0	24.1	59.0	71.1	2.0	2.4	0.0	0.0	2.0	2.4	0.0	0.0
Case track	17.0	42.5	22.0	55.0	0.0	0.0	1.0	2.5	0.0	0.0	0.0	0.0
Educational Indexes	8.0	40.0	9.0	45.0	0.0	0.0	0.0	0.0	3.0	15.0	0.0	0.0
IBSS	12.0	63.2	6.0	31.6	1.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0
HeinOnline	24.0	25.5	69.0	73.4	1.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0
JSTOR	76.0	29.0	175.0	66.8	6.0	2.3	2.0	0.8	2.0	0.8	1.0	0.4
Justis	41.0	24.7	123.0	74.1		0.0	2.0	1.2	0.0	0.0	0.0	0.0
Kluwer Arbitration	8.0	53.3	6.0	40.0	1.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0
Lexis Library	75.0	20.8	277.0	76.7	1.0	0.3	2.0	0.6	3.0	0.8	3.0	0.8
Sage journals	13.0	25.5	36.0	70.6	0.0	0.0	1.0	2.0	1.0	2.0	0.0	0.0
Science Direct	19.0	35.2	27.0	50.0	5.0	9.3	1.0	1.9	1.0	1.9	1.0	1.9
Web of Knowledge	8.0	26.7	19.0	63.3	0.0	0.0	0.0	0.0	2.0	6.7	1.0	3.3
Westlaw	79.0	21.3	286.0	77.1	0.0	0.0	2.0	0.5	1.0	0.3	3.0	0.8
Wiley Interscience	9.0	29.0	21.0	67.7	0.0	0.0	1.0	3.2	0.0	0.0	0.0	0.0

As noted above, in relation to age range, which itself is related to level of programme, the general databases including the standard legal databases are used more by those respondents on undergraduate programmes, and the figures for this question bear this out. The specialist databases, e.g. Kluwer Arbitration, are unsurprisingly used more by postgraduates, and generally postgraduates are using the databases more than undergraduates (compared to 15.1% postgraduate respondents overall), with many responses for sources over 20%. There also seems to be a greater use of reference and bibliographic

sources (as opposed to full-text sources) by postgraduates, e.g. Casetrack and IBSS. The chi-square test returned a p-value of 5.85353E-13 (means move 13 decimal places to the left) and supports the hypothesis that there is a significant relationship between which Online Library information resources are used by distance learners and level of programme.

Table 5.17.4: Which Online Library Information Resources are Used by Respondents by English Language Proficiency

Resource	Eng-Yes	% Yes	Eng-NO	% No	NR	% No Response
ABI/Inform	50.0	56.2	39.0	43.8	0.0	0.0
Academic search premier	76.0	52.4	64.0	44.1	5.0	3.4
Business Source Premier	55.0	66.3	28.0	33.7	0.0	0.0
Case track	19.0	47.5	21.0	52.5	0.0	0.0
Educational Indexes (ERIC,BEI, AEI)	15.0	75.0	4.0	20.0	1.0	5.0
IBSS	10.0	52.6	9.0	47.4	0.0	0.0
HeinOnline	55.0	58.5	38.0	40.4	1.0	1.1
JSTOR	132.0	50.4	124.0	47.3	6.0	2.3
Justis	86.0	51.8	77.0	46.4	3.0	1.8
Kluwer Arbitration	7.0	46.7	8.0	53.3	0.0	0.0
Lexis Library	178.0	49.3	164.0	45.4	19.0	5.3
Sage journals	33.0	64.7	18.0	35.3	0.0	0.0
Science Direct	26.0	48.1	28.0	51.9	0.0	0.0
Web of Knowledge	13.0	43.3	17.0	56.7	0.0	0.0
Westlaw	182.0	49.1	168.0	45.3	21.0	5.7
Wiley Interscience	23.0	74.2	7.0	22.6	1.0	3.2

English is the first language of 51% of respondents (see also Table 5.4.4, which gives programme of study analysed by English language proficiency). Although a greater proportion of LLB students do not have English as a first language, the majority of respondents citing use of the major law databases (Lexis Library and Westlaw) have English as a first language, suggesting that English language proficiency may have an impact on choice of these library resources. Most resources are used by more respondents with English language as a first language, e.g. Business Source Premier, Educational Indexes, Sage Journals, and Wiley Interscience. The databases used more by those with another language as a first language are Casetrack, Kluwer Arbitration, Science Direct and Web of Knowledge. However, the chi-square test returned a p-value of 0.058, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between respondents' use of Online Library resources and English language proficiency.

Table 5.17.5: Which Online Library Information Resources are Used by Respondents by Programme of Study

Resource	Cedep	% Cedep	Cefims	% Cefims	EMFSS	% EMFSS	Int. Mgt	% Int Mgt	Law	% Law	LLM	% LLM	MRES	% Mres	Other	% Other	NR	% NR
ABI/Inform	0.0	0.0	5.0	5.6	50.0	56.2	7.0	7.9	19.0	21.3	7.0	7.9	1.0	1.1	0.0	0.0	0.0	0.0
Academic search premier	1.0	0.7	3.0	2.1	90.0	62.1	6.0	4.1	36.0	24.8	6.0	4.1	3.0	2.1	0.0	0.0	0.0	0.0
Business Source Premier	1.0	1.2	6.0	7.2	59.0	71.1	8.0	9.6	6.0	7.2	1.0	1.2	1.0	1.2	1.0	1.2	0.0	0.0
Case track	0.0	0.0	1.0	2.5	12.0	30.0	0.0	0.0	15.0	37.5	12.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0
Educational Indexes ERIC,BEI, AEI	2.0	10.0	0.0	0.0	11.0	55.0	1.0	5.0	2.0	10.0	0.0	0.0	4.0	20.0	0.0	0.0	0.0	0.0
IBSS	5.0	26.3	0.0	0.0	11.0	57.9	0.0	0.0	2.0	10.5	1.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0
HeinOnline	0.0	0.0	0.0	0.0	14.0	14.9	0.0	0.0	63.0	67.0	17.0	18.1	0.0	0.0	0.0	0.0	0.0	0.0
JSTOR	9.0	3.4	11.0	4.2	121.0	46.2	12.0	4.6	85.0	32.4	20.0	7.6	3.0	1.1	1.0	0.4	0.0	0.0
Justis	0.0	0.0	8.0	4.8	21.0	12.7	110.0	66.3	25.0	15.1	2.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0
Kluwer Arbitration	0.0	0.0	0.0	0.0	3.0	20.0	0.0	0.0	7.0	46.7	5.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0
Lexis Library	0.0	0.0	12.0	3.3	73.0	20.2	0.0	0.0	247.0	68.4	28.0	7.8	1.0	0.3	0.0	0.0	0.0	0.0
Sage journals	0.0	0.0	1.0	2.0	31.0	60.8	4.0	7.8	8.0	15.7	0.0	0.0	1.0	2.0	6.0	11.8	0.0	0.0
Science Direct	7.0	13.0	2.0	3.7	39.0	72.2	1.0	1.9	4.0	7.4	0.0	0.0	1.0	1.9	0.0	0.0	0.0	0.0
Web of Knowledge	1.0	3.3	1.0	3.3	21.0	70.0	2.0	6.7	3.0	10.0	1.0	3.3	1.0	3.3	0.0	0.0	0.0	0.0
Westlaw	0.0	0.0	13.0	3.5	66.0	17.8	0.0	0.0	261.0	70.4	28.0	7.5	3.0	0.8	0.0	0.0	0.0	0.0
Wiley Interscience	2.0	6.5	2.0	6.5	22.0	71.0	2.0	6.5	3.0	9.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Given that, overall, law students, both LLB and LLM, constitute over 50% of respondents, it is not

surprising to see them well represented in the figures for this question, and they are extremely focused on the legal databases with only a small amount of use of other databases, with the exception of JSTOR, and a little scattering of use of general databases. This emphasises the specialist nature of legal programmes. Respondents on other programmes tend not to use legal databases to any large extent although there is some use by EMFSS respondents whose subject does have important legal elements. Likewise, there is very focused use by MRES respondents of the Educational Indexes. There is an anomaly in the use of Justis, a legal database that is simpler to use than Lexis and Westlaw, with less coverage of primary legal materials from the UK; 66% of the use is by International Management respondents rather than law respondents and this must be explained by some particular content. EMFSS students comprise the other large undergraduate programme; respondents on this programme dominate the use of several general articles databases and their usage is spread over a greater variety of sources. A chi-square test returned a p-value of 9.4797E-264 (means to move 264 decimal places to the left), which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' use of Online Library resources and programme of study.

Table 5.17.6: Which Online Library Information Resources are Used by Respondents by Mode of Study

Resource	Ins with Tuition	%at inst + tuition	Inst No Tuition	% at Inst No tuition	Ind No Tuition	% Indep No tuition	Ind+Tuitio n	% Indep +Tuition	N	% NR
ABI/Inform	19.0	21.3	18.0	20.2	42.0	47.2	10.0	11.2	0.0	0.0
Academic search premier	35.0	24.1	27.0	18.6	65.0	44.8	18.0	12.4	0.0	0.0
Business Source Premier	21.0	25.3	21.0	25.3	31.0	37.3	9.0	10.8	1.0	1.2
Case track	12.0	30.0	8.0	20.0	15.0	37.5	5.0	12.5	0.0	0.0
Educational Indexes (ERIC,BEI, AEI)	1.0	5.0	1.0	5.0	12.0	60.0	6.0	30.0	0.0	0.0
IBSS	1.0	5.3	3.0	15.8	10.0	52.6	5.0	26.3	0.0	0.0
HeinOnline	33.0	35.1	7.0	7.4	43.0	45.7	9.0	9.6	2.0	2.1
JSTOR	68.0	26.0	42.0	16.0	122.0	46.6	29.0	11.1	1.0	0.4
Justis	58.0	34.9	11.0	6.6	84.0	50.6	12.0	7.2	1.0	0.6
Kluwer Arbitration	4.0	26.7	1.0	6.7	7.0	46.7	2.0	13.3	1.0	6.7
Lexis Library	137.0	38.0	19.0	5.3	173.0	47.9	30.0	8.3	2.0	0.6
Sage journals	12.0	23.5	11.0	21.6	24.0	47.1	4.0	7.8	0.0	0.0
Science Direct	12.0	22.2	9.0	16.7	27.0	50.0	6.0	11.1	0.0	0.0
Web of Knowledge	6.0	20.0	4.0	13.3	19.0	63.3	1.0	3.3	0.0	0.0

Resource	Ins with Tuition	%at inst + tuition	Inst No Tuition	% at Inst No tuition	Ind No Tuition	% Indep No tuition	Ind+Tuition	% Indep +Tuition	N	% NR
Westlaw	145.0	39.1	20.0	5.4	175.0	47.2	29.0	7.8	2.0	0.5
Wiley Interscience	8.0	25.8	6.0	19.4	11.0	35.5	6.0	19.4	0.0	0.0

The overall survey figures demonstrate that the majority (56.7%) study independently without attending a teaching institution although, of these, 9.2% supplement independent study with some private tuition. 42.9% attend a teaching institution and, of these, 11.9% also have private tuition. The figures further show greater Online Library resources usage by those who study independently, and they thus reinforce the earlier findings that a large proportion of law respondents study independently (see Table 5.7.5) and generally make more use of legal databases. The chi-square test returned a p-value of 3.185E-135 (means move 135 decimal places to the left), which is less than 0.05 and supports the hypothesis that there is a significant relationship between use of Online Library resources and Mode of Study.

Table 5.17.7: Which Online Library Information Resources are Used by Respondents by Country

Response	ABI/Inform	Academic search premier	Business Source Premier	Case track	Educational Indexes (ERIC, BEI, AEI)	IBSS	Heinonline	JSTOR	Justis	Kluwer Arbitration	Lexis Library	Sage journals	Science Direct	Web of Knowledge	Westlaw	Wiley Interscience
Number of respondents	89	145	83	40	20	19	94	262	166	15	361	51	54	30	371	31
Percentage %	13.7	22.3	12.8	6.2	3.1	2.9	14.5	40.4	25.6	2.3	55.6	7.9	8.3	4.6	57.2	4.8
3 diff countries	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0		0.0	0.0
% 3 diff countries	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Albania	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0
% Albania	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.3	0.0	0.0	3.3	0.3	0.0
Armenia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Armenia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Australia	1.0	0.0	0.0	0.0	0.0	0.0	2.0	1.0	1.0	0.0	2.0	0.0	0.0	0.0	4.0	0.0
% Australia	1.1	0.0	0.0	0.0	0.0	0.0	2.1	0.4	0.6	0.0	0.6	0.0	0.0	0.0	1.1	0.0
Austria	4.0	4.0	1.0	0.0	0.0	2.0	1.0	6.0	2.0	1.0	4.0	0.0	3.0	0.0	4.0	0.0
% Austria	4.5	2.8	1.2	0.0	0.0	10.5	1.1	2.3	1.2	6.7	1.1	0.0	5.6	0.0	1.1	0.0
Bahamas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0
% Bahamas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.3	0.0	0.0	0.0	0.3	0.0
Bahrain	2.0	4.0	21.0	0.0	0.0	0.0	2.0	1.0	2.0	0.0	3.0	2.0	0.0	0.0	3.0	0.0
% Bahrain	2.2	2.8	2.4	0.0	0.0	0.0	2.1	0.4	1.2	0.0	0.8	4.0	0.0	0.0	0.8	0.0

Response	ABI/Inform	Academic search premier	Business Source Premier	Case track	Educational Indexes (ERIC, BEI, AEI)	IBSS	Heinonline	JSTOR	Justis	Kluwer Arbitration	Lexis Library	Sage journals	Science Direct	Web of Knowledge	Westlaw	Wiley Interscience
Bangladesh	1.0	0.0	0.0	0.0	0.0	0.0	1.0	3.0	6.0	0.0	8.0	0.0	0.0	0.0	9.0	0.0
% Bangladesh	1.1	0.0	0.0	0.0	0.0	0.0	1.1	1.1	3.6	0.0	2.2	0.0	0.0	0.0	2.4	0.0
Barbados	0.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0
% Barbados	0.0	0.7	0.0	2.5	0.0	0.0	1.1	0.0	0.6	0.0	0.6	0.0	0.0	0.0	0.5	0.0
Belgium	1.0	1.0	1.0	1.0	0.0	0.0	0.0	2.0	3.0	0.0	4.0	0.0	0.0	1.0	5.0	0.0
% Belgium	1.1	0.7	1.2	2.5	0.0	0.0	0.0	0.8	1.8	0.0	1.1	0.0	0.0	3.3	1.3	0.0
Brazil	2.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Brazil	2.2	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bulgaria	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
% Bulgaria	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0
Cambodia	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	3.0	0.0	0.0	0.0	3.0	0.0
% Cambodia	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.4	0.6	6.7	0.8	0.0	0.0	0.0	0.8	0.0
Cameroon	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0
% Cameroon	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.4	0.6	0.0	0.3	0.0	0.0	0.0	0.3	0.0
Canada	4.0	5.0	3.0	0.0	0.0	1.0	10.0	10.0	2.0	2.0	14.0	0.0	0.0	0.0	15.0	2.0
% Canada	4.5	3.4	3.6	0.0	0.0	5.3	10.6	3.8	1.2	13.3	3.9	0.0	0.0	0.0	4.0	6.5
Cayman Islands	0.0	0.0	0.0	1.0	0.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0
% Cayman Islands	0.0	0.0	0.0	2.5	0.0	0.0	1.1	0.4	0.6	0.0	0.3	0.0	0.0	0.0	0.3	0.0
Colombia	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0
% Colombia	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.6	0.0	0.3	0.0	0.0	0.0	0.3	0.0
Croatia	0.0	1.0	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0
% Croatia	0.0	0.7	0.0	2.5	5.0	5.3	0.0	0.4	0.0	0.0	0.3	0.0	1.9	3.3	0.0	0.0
Cyprus	0.0	1.0	0.0	1.0	1.0	0.0	1.0	2.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
% Cyprus	0.0	0.7	0.0	2.5	5.0	0.0	1.1	0.8	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Czech Republic	0.0	2.0	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
% Czech Republic	0.0	1.4	2.4	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	3.9	0.0	0.0	0.0	0.0
Denmark	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0
% Denmark	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.5	0.0
Dominica	0.0	1.0	2.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
% Dominica	0.0	0.7	2.4	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2
Egypt	0.0	0.0	2.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Egypt	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
France	1.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% France	1.1	0.7	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Germany	2.0	3.0	1.0	0.0	1.0	1.0	0.0	4.0	1.0	0.0	2.0	2.0	2.0	0.0	2.0	0.0
% Germany	2.2	2.1	1.2	0.0	5.0	5.3	0.0	1.5	0.6	0.0	0.6	3.9	3.7	0.0	0.5	0.0

Response	ABI/Inform	Academic search premier	Business Source Premier	Case track	Educational Indexes (ERIC, BEI, AEI)	IBSS	Hein Online	JSTOR	Justis	Kluwer Arbitration	Lexis Library	Sage journals	Science Direct	Web of Knowledge	Westlaw	Wiley Interscience
Ghana	0.0	3.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	2.0	1.0	0.0	0.0	0.0
% Ghana	0.0	2.1	0.0	0.0	10.0	0.0	0.0	0.4	0.0	0.0	0.0	3.9	1.9	0.0	0.0	0.0
Greece	1.0	0.0	0.0	0.0	1.0	0.0	1.0	3.0	1.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
% Greece	1.1	0.0	0.0	0.0	5.0	0.0	1.1	1.1	0.6	0.0	0.3	2.0	0.0	0.0	0.3	0.0
Guatemala	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Guatemala	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Guyana	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0
% Guyana	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.6	0.0	0.3	0.0	0.0	0.0	0.3	0.0
Hong Kong	5.0	8.0	1.0	2.0	2.0	0.0	4.0	11.0	11.0	0.0	19.0	1.0	2.0	2.0	19.0	2.0
% Hong Kong	5.6	5.5	1.2	5.0	10.0	0.0	4.3	4.2	6.6	0.0	5.3	2.0	3.7	6.7	5.1	6.5
India	2.0	2.0	1.0	0.0	0.0	0.0	0.0	2.0	3.0	0.0	6.0	0.0	0.0	1.0	6.0	0.0
% India	2.2	1.4	1.2	0.0	0.0	0.0	0.0	0.8	1.8	0.0	1.7	0.0	0.0	3.3	1.6	0.0
Indonesia	2.0	1.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	1.0
% Indonesia	2.2	0.7	0.0	2.5	0.0	0.0	0.0	0.0	0.6	0.0	0.3	0.0	1.9	0.0	0.3	3.2
Indonesia and Czech Republic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Indonesia and Czech Republic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Iran	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Iran	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Israel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0
% Israel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3	0.0
Italy	0.0	2.0	0.0	1.0	0.0	0.0	1.0	5.0	0.0	0.0	6.0	0.0	0.0	0.0	6.0	0.0
% Italy	0.0	1.4	0.0	2.5	0.0	0.0	1.1	1.9	0.0	0.0	1.7	0.0	0.0	0.0	1.6	0.0
Jamaica	3.0	1.0	3.0	0.0	0.0	0.0	2.0	4.0	7.0	0.0	9.0	3.0	0.0	0.0	10.0	1.0
% Jamaica	3.4	0.7	3.6	0.0	0.0	0.0	2.1	1.5	4.2	0.0	2.5	5.9	0.0	0.0	2.7	3.2
Japan	2.0	0.0	1.0	0.0	0.0	1.0	1.0	2.0	2.0	0.0	4.0	0.0	1.0	0.0	3.0	0.0
% Japan	2.2	0.0	1.2	0.0	0.0	5.3	1.1	0.8	1.2	0.0	1.1	0.0	1.9	0.0	0.8	0.0
Kenya	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	2.0	0.0	4.0	0.0	0.0	0.0	4.0	0.0
% Kenya	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	1.2	0.0	1.1	0.0	0.0	0.0	1.1	0.0
Kuwait	1.0	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
% Kuwait	1.1	0.7	1.2	0.0	5.0	0.0	0.0	0.4	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Lithuania	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0
% Lithuania	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	3.3	0.0	0.0
Macedonia	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
% Macedonia	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Madagascar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0
% Madagascar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0

Response	ABI/Inform	Academic search premier	Business Source Premier	Case track	Educational Indexes (ERIC, BEI, AEI)	IBSS	Hein Online	JSTOR	Justis	Kluwer Arbitration	Lexis Library	Sage journals	Science Direct	Web of Knowledge	Westlaw	Wiley Interscience
Malawi	1.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0
% Malawi	1.1	0.0	0.0	2.5	0.0	0.0	0.0	0.4	0.6	0.0	0.3	0.0	0.0	0.0	0.3	0.0
Malaysia	2.0	4.0	1.0	1.0	0.0	1.0	6.0	13.0	9.0	1.0	20.0	1.0	0.0	0.0	24.0	0.0
% Malaysia	2.2	2.8	1.2	2.5	0.0	5.3	6.4	5.0	5.4	6.7	5.5	2.0	0.0	0.0	6.5	0.0
Malta	0.0	1.0	1.0	1.0	1.0	0.0	0.0	3.0	0.0	0.0	6.0	2.0	2.0	1.0	6.0	1.0
% Malta	0.0	0.7	1.2	2.5	5.0	0.0	0.0	1.1	0.0	0.0	1.7	3.9	3.7	3.3	1.6	3.2
Martinique	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0
% Martinique	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3	0.0
Mauritius	2.0	4.0	2.0	0.0	1.0	1.0	2.0	8.0	7.0	0.0	16.0	2.0	1.0	0.0	16.0	2.0
% Mauritius	2.2	2.8	2.4	0.0	5.0	5.3	2.1	3.1	4.2	0.0	4.4	3.9	1.9	0.0	4.3	6.5
Myanmar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Myanmar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Namibia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Namibia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New Zealand	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	3.0	0.0	0.0	0.0	4.0	0.0
% New Zealand	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.8	0.0	0.0	0.0	1.1	0.0
No response	3.0	7.0	4.0	0.0	1.0	0.0	0.0	11.0	2.0	0.0	11.0	4.0	5.0	4.0	11.0	2.0
Nigeria	4	4	2	0	0	2	3	9	8	0	12	1	1	1	12	0
% Nigeria	4.5	2.8	2.4	0	0	10.6	1.1	4.5	4.8	0	3.3	2	1.9	3.3	3.3	0
% No response	3.4	4.8	4.8	0.0	5.0	0.0	0.0	4.2	1.2	0.0	3.0	7.8	9.3	13.3	3.0	6.5
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0
% Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.8	0.0	0.0	0.0	0.8	0.0
Pakistan	0.0	2.0	5.0	0.0	0.0	0.0	3.0	8.0	5.0	0.0	13.0	2.0	2.0	3.0	13.0	2.0
% Pakistan	0.0	1.4	6.0	0.0	0.0	0.0	3.2	3.1	3.0	0.0	3.6	3.9	3.7	10.0	3.5	6.5
Peru	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0
% Peru	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.4	0.0	6.7	0.3	0.0	0.0	0.0	0.0	0.0
Poland	0.0	2.0	0.0	1.0	0.0	0.0	3.0	4.0	2.0	0.0	5.0	0.0	1.0	1.0	4.0	1.0
% Poland	0.0	1.4	0.0	2.5	0.0	0.0	3.2	1.5	1.2	0.0	1.4	0.0	1.9	3.3	1.1	3.2
Portugal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	1.0	0.0	1.0	1.0	2.0	0.0
% Portugal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.6	0.0	0.3	0.0	1.9	3.3	0.5	0.0
Russia	5.0	7.0	2.0	4.0	0.0	1.0	2.0	19.0	6.0	5.0	5.0	0.0	7.0	2.0	7.0	1.0
% Russia	5.6	4.8	2.4	10.0	0.0	5.3	2.1	7.3	3.6	33.3	1.4	0.0	13.0	6.7	1.9	3.2
Rwanda	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0
% Rwanda	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	3.2
Saint Lucia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Saint	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Response	ABI/Inform	Academic search premier	Business Source Premier	Case track	Educational Indexes (ERIC, BEI, AEI)	IBSS	Hein Online	JSTOR	Justis	Kluwer Arbitration	Lexis Library	Sage journals	Science Direct	Web of Knowledge	Westlaw	Wiley Interscience
Lucia																
Saudi Arabia	0.0	2.0	0.0	0.0	0.0	0.0	0.0	3.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
% Saudi Arabia	0.0	1.4	0.0	0.0	0.0	0.0	0.0	1.1	0.6	0.0	0.3	0.0	1.9	0.0	0.3	0.0
Serbia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Serbia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Singapore	12.0	19.0	15.0	4.0	1.0	3.0	9.0	22.0	7.0	1.0	28.0	4.0	4.0	4.0	29.0	1.0
% Singapore	13.5	13.1	18.1	10.0	5.0	15.8	9.6	8.4	4.2	6.7	7.8	7.8	7.4	13.3	7.8	3.2
South Africa	0.0	3.0	3.0	1.0	2.0	0.0	0.0	0.0	1.0	0.0	3.0	0.0	0.0	2.0	1.0	0.0
% South Africa	0.0	2.1	3.6	2.5	10.0	0.0	0.0	0.0	0.6	0.0	0.8	0.0	0.0	6.7	0.3	0.0
South Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0
% South Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.3	0.0	0.0	0.0	0.3	0.0
Spain	2.0	5.0	0.0	0.0	0.0	0.0	2.0	8.0	4.0	1.0	12.0	5.0	1.0	0.0	11.0	2.0
% Spain	2.2	3.4	0.0	0.0	0.0	0.0	2.1	3.1	2.4	6.7	3.3	9.8	1.9	0.0	3.0	6.5
Sri Lanka	1.0	4.0	3.0	3.0	0.0	1.0	0.0	8.0	5.0	0.0	10.0	0.0	0.0	0.0	10.0	0.0
% Sri Lanka	1.1	2.8	3.6	7.5	0.0	5.3	0.0	3.1	3.0	0.0	2.8	0.0	0.0	0.0	2.7	0.0
St Vincent and the Grenadines	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% St Vincent and the Grenadines	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sudan	0.0	2.0	1.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0
% Sudan	0.0	1.4	1.2	0.0	0.0	0.0	2.1	0.8	1.2	0.0	0.8	0.0	0.0	0.0	0.8	0.0
Sweden	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Sweden	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Switzerland	1.0	3.0	2.0	1.0	0.0	0.0	2.0	5.0	5.0	0.0	10.0	1.0	0.0	1.0	9.0	1.0
% Switzerland	1.1	2.1	2.4	2.5	0.0	0.0	2.1	1.9	3.0	0.0	2.8	2.0	0.0	3.3	2.4	3.2
Thailand	1.0	1.0	0.0	0.0	0.0	1.0	1.0	3.0	2.0	0.0	4.0	0.0	0.0	0.0	5.0	0.0
% Thailand	1.1	0.7	0.0	0.0	0.0	5.3	1.1	1.1	1.2	0.0	1.1	0.0	0.0	0.0	1.3	0.0
The Netherlands	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% The Netherlands	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trinidad and Tobago	10.0	8.0	8.0	4.0	2.0	0.0	14.0	17.0	18.0	0.0	38.0	6.0	5.0	1.0	37.0	6.0
%	11.2	5.5	9.6	10.0	10.0	0.0	14.9	6.5	10.8	0.0	10.5	11.8	9.3	3.3	10.0	19.4

Response	ABI/Inform	Academic search premier	Business Source Premier	Case track	Educational Indexes (ERIC, BEI, AEI)	IBSS	Hein Online	JSTOR	Justis	Kluwer Arbitration	Lexis Library	Sage journals	Science Direct	Web of Knowledge	Westlaw	Wiley Interscience
Trinidad and Tobago																
Uganda	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Uganda	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
United Arab Emirates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
% United Arab Emirates	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
United Kingdom	7.0	10.0	7.0	3.0	0.0	2.0	8.0	20.0	16.0	1.0	30.0	3.0	3.0	0.0	36.0	2.0
% United Kingdom	7.9	6.9	8.4	7.5	0.0	10.5	8.5	7.6	9.6	6.7	8.3	5.9	5.6	0.0	9.7	6.5
United States	2.0	6.0	3.0	1.0	1.0	1.0	2.0	11.0	4.0	0.0	12.0	3.0	2.0	2.0	10.0	1.0
% United States	2.2	4.1	3.6	2.5	5.0	5.3	2.1	4.2	2.4	0.0	3.3	5.9	3.7	6.7	2.7	3.2
Uruguay		0.0	0.0	4.0	0.0	0.0	4.0	3.0	5.0	1.0	6.0	0.0	0.0	0.0	5.0	0.0
% Uruguay	0.0	0.0	0.0	10.0	0.0	0.0	4.3	1.1	3.0	6.7	1.7	0.0	0.0	0.0	1.3	0.0
Vietnam	1.0	1.0	0.0	0.0	0.0	0.0	0.0	2.0	1.0	0.0	3.0	0.0	1.0	0.0	3.0	1.0
% Vietnam	1.1	0.7	0.0	0.0	0.0	0.0	0.0	0.8	0.6	0.0	0.8	0.0	1.9	0.0	0.8	3.2

This analysis can be compared with Table 5.5.4, Programme of Study by Country of Residence, which gives an indication of the likely use of databases by subject of study. As might be expected, there is a close correlation between the use of, for example, law databases in certain countries and the number of law students in those countries; this finding holds true for other subjects where there is a large enough sample to give significant results. A chi-square test has not been conducted because of the number of cells with zeros or no responses.

Table 5.17.8: Online Library Information Resources Used by Success at Accessing Resources

Resource	Frequency	I always access the information I need	% I always access the information I need	I regularly access the information I need	% I regularly access the information I need	I sometimes access the information I need	% I sometimes access the information I need	I never access the information I need	% I never access the information I need	No response	% No response
ABI/Inform	89	13.0	14.6	40.0	44.9	34.0	38.2		0.0	2.0	2.2
Academic search premier	145	17.0	11.7	67.0	46.2	53.0	36.6	6.0	4.1	2.0	1.4
Business Source Premier	83	6.0	7.2	42.0	50.6	28.0	33.7	5.0	6.0	2.0	2.4
Case track	40	5.0	12.5	15.0	37.5	19.0	47.5	1.0	2.5	0.0	0.0
Educational	20	1.0	5.0	11.0	55.0	6.0	30.0	2.0	10.0		0.0

Resource	Frequency	I always access the information I need	% I always access the information I need	I regularly access the information I need	% I regularly access the information I need	I sometimes access the information I need	% I sometimes access the information I need	I never access the information I need	% I never access the information I need	No response	% No response
Indexes (ERIC,BEI, AEI)											
IBSS	19	4.0	21.1	3.0	15.8	12.0	63.2		0.0		0.0
Hein Online	94	12.0	12.8	30.0	31.9	50.0	53.2	1.0	1.1	1.0	1.1
JSTOR	262	31.0	11.8	99.0	37.8	122.0	46.6	8.0	3.1	2.0	0.8
Justis	166	21.0	12.7	43.0	25.9	97.0	58.4	4.0	2.4	1.0	0.6
Kluwer Arbitration	15	4.0	26.7	5.0	33.3	5.0	33.3	1.0	6.7	0.0	0.0
Lexis Library	361	40.0	11.1	98.0	27.1	211.0	58.4	9.0	2.5	3.0	0.8
Sage journals	51	3.0	5.9	24.0	47.1	19.0	37.3	3.0	5.9	2.0	3.9
Science Direct	54	9.0	16.7	20.0	37.0	19.0	35.2	4.0	7.4	2.0	3.7
Web of Knowledge	30	4.0	13.3	12.0	40.0	12.0	40.0	2.0	6.7		0.0
Westlaw	371	39.0	10.5	106.0	28.6	216.0	58.2	9.0	2.4	1.0	0.3
Wiley Interscience	31	7.0		10.0	32.3	13.0	41.9	1.0	3.2		0.0

The distribution of use of databases by subject follows the numbers on courses; for example, the highest numbers of users are for Lexis and Westlaw, the main legal databases, and the law courses are the most highly subscribed. There are generally around 10-16% of respondents who always find the information they need, with rather higher proportions of success for some of the specialist databases (Kluwer Arbitration 26.7%, IBSS 21%). However, there is more differentiation among resources for those who regularly find information. About 50% of those using most resources regularly find the information they need but fewer regularly succeeded using IBSS (15.8%), Casetrack (37.5%), HeinOnline (mainly US content less relevant to undergraduate law students, 31.9%), Justis (25.9% - law content), Kluwer Arbitration (33.3%), Lexis (27.2% - law content), Westlaw (28.6% - law content), and Wiley Interscience (32.3%). Few respondents admitted to never finding information. Of those regularly finding the information they need, there were generally about a third or more of respondents for each resource but well over a half of users of the law databases only sometimes found the information: HeinOnline (53.2%), Justis (58.4%), Lexis (58.5%), Westlaw (58.2%) (the only databases with over a half of respondents in this category) and the IBSS. There is a particularly low rate of success for JSTOR (46.6%) and IBSS (58.4%). The chi-square test returned a p-value of 6.29201E-06 (means move 6 decimal places to the left), which is less than 0.05 and supports the hypothesis that there is a significant relationship between use of Online Library Resources Used and Success in Accessing Resources or Information Literacy.

5.18 Success at Accessing Resources

Table 5.18: How Successful Respondents are at Accessing Online Library Resources

Success with accessing resources	Frequency	% of group
I sometimes access the information I need	337	51.9
I regularly access the information I need	190	29.3
I always access the information I need	64	9.9
I never access the information I need	41	6.3
No response	17	2.6
Total	649	

The distribution of levels of success gives low levels of 'always successful' (9.9%) and 'never successful' (6.3%), as might be expected. However, those respondents who chose 'regularly access the information I need' comprised only 29.3% whereas those respondents who only 'sometimes access the information I need' comprised 51.9%, a very low level. Therefore, overall, those who always or regularly access the information they need amounted to just over a third of respondents. The purpose of any model would be to understand the factors that lead to these results and the purpose of any application of changes to affect those factors would be to improve these results. The series of analyses below are therefore particularly important. The overall figures can be summarised as follows: 'always access' 9.9%; 'regularly access' 29.3%; 'sometimes access' 51.9%; 'never access' 6.3%.

Table 5.18.1: How successful respondents are at Accessing Online Library Resources by Gender

Success with accessing resources	Frequency	% of group	Female	% Female	Male	% Male
I always access the information I need	64	9.9	23.0	35.9	41.0	64.1
I regularly access the information I need	190	29.3	98.0	51.6	92.0	48.4
I sometimes access the information I need	337	51.9	195.0	57.9	142.0	42.1
I never access the information I need	41	6.3	18.0	43.9	23.0	56.1
No response	17	2.6	7.0	41.2	10.0	58.8

These figures can be compared with the overall figures for male and female respondents to determine whether there is any significant variation by gender: 52.5% women and 47.3% men. Only 35.9% of those who always access information are women rather than the overall 52.5%, and only 43.9%, rather than 52.5%, of those who never access the information they need are women. Only marginally fewer women than the overall proportion (51.9% rather than 52.25%) regularly access the information they need, whereas rather more than the overall proportion of women (57.9% rather than 52.5%) sometimes access the information they need. This presents a varied picture, with women generally being more successful at the lower end of the scale (never and sometimes) but men being more successful at the higher end of the scale (regularly and always), although the balance of gender at 'regularly' is only

marginally in favour of men. There were 17 (only 2.6% of the sample) 'No responses', the majority from men. The chi-square test for independence returned a p-value of 0.007, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' 'success at accessing Online Library resources' and gender.

Table 5.18.2: How Successful Respondents are at Accessing Online Library Resources by Age Range

Success with accessing resources	Under 25	% Under 25	26-35	% 26-35	35-45	% 36-45	46-55	% 46-55	56+	% 56+	NR	% No Response
I always access the information I need	16.0	25.0	23.0	35.9	11.0	17.2	6.0	9.4	8.0	12.5	0.0	0.0
I regularly access the information I need	61.0	32.1	73.0	38.4	37.0	19.5	12.0	6.3	7.0	3.7	0.0	0.0
I sometimes access the information I need	121.0	35.9	124.0	36.8	63.0	18.7	21.0	6.2	6.0	1.8	2.0	0.6
I never access the information I need	13.0	31.7	17.0	41.5	9.0	22.0	2.0	4.9	0.0	0.0	0.0	0.0
No response	2.0	11.8	9.0	52.9	5.0	29.4	1.0	5.9	0.0	0.0	0.0	0.0
Total	649											

Overall, in the survey 32.8% of respondents were under 25, 37.9% were 26-35, 19.3% were 36-45, 6.5% were 46-55, and 3.2% were 56 and over. Of those who regularly access the information they need, 32.1% are under 25, 38.4% are 26-35, 19.5% are 36-45, 6.3% are 46-55 years old, and 3.7% are 56 and over. These results are very close to the overall age distribution. The largest proportion of respondents chose 'sometimes access' and, of them, 35.9% were under 25 years old, 36.8% were 26-35, 18.7% were 36-45, 6.2% were 45-56, and 1.8% were 56 or over. This shows that slightly more than the overall proportion of younger respondents only sometimes access the information they need. Of those who always access the information they need, the figures generally show that the under-25-year-olds are less successful while those over 45 are the most successful. Of those who never access the information they need, the peak is among the 26-35 and 36-45-year-olds. These figures generally support the view that the older age ranges are more successful at accessing the information they need presumably because of their accumulated experience. This implies that skills can be self-learned but argues even more for skills training. The chi-square test returned a p-value of 0.022, which is less than

0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' success at accessing the Online Library resources and Age.

Table 5.18.3: How Successful Respondents are at Accessing Online Library Resources by Level of Programme

Success with accessing resources	PG	% PG	UG	% UG	Dip	% Dip	Acce ss	% Acce ss	Cert	% Cert	NR	% No Resp onse
I always access the information I need	27.0	42.2	34.0	53.1	1.0	1.6	0.0	0.0	2.0	3.1	0.0	0.0
I regularly access the information I need	57.0	30.0	124.0	65.3	5.0	2.6	2.0	1.1	1.0	0.5	1.0	0.5
I sometimes access the information I need	57.0	16.9	269.0	79.8	4.0	1.2	3.0	0.9	2.0	0.6	2.0	0.6
I never access the information I need	6.0	14.6	27.0	65.9	1.0	2.4	6.0	14.6	0.0	0.0	1.0	2.4
No response	4.0	23.5	10.0	58.8	1.0	5.9	1.0	5.9	1.0	5.9	0.0	0.0
Total	649											

Overall proportions show that 84.6% of respondents are studying for a first degree and 15.1% are postgraduate students. The figures for this question emphasise the finding that more experienced respondents are much more successful at accessing the information they need. Of those who always access information, 42.2% (rather than 15.1%) are postgraduate; of those who regularly access information, 30% are postgraduates while the figure for those who never access it is 14.6% (below the overall proportion of postgraduates. For undergraduates (84.6% of the overall survey respondents) the proportion is only 53.1% for 'always access', 65.3% for 'regularly access', and 79.8% for 'sometimes access'. It should be noted that 6 of the 12 Access students, the least experienced students, never find the information they need and a further three only sometimes find the information they need (another one is a no-response). The chi-square test returned a p- value of 1.16463E-11 (means move 11 decimal places to the left), which is less than 0.05 and therefore supports the hypothesis that there is a slight but significant relationship between distance learners' success at accessing the Online Library and level of programme.

Table 5.18.4: How Successful Respondents are at Accessing Online Library Resources by English Language Proficiency

Success with accessing resources	Frequency	% of group	yes	% Yes	NO	% No	NR	% No Response
I always access the information I need	64	9.9	33.0	51.6	26.0	40.6	5.0	7.8
I regularly access the information I need	190	29.3	104.0	54.7	77.0	40.5	9.0	4.7
I sometimes access the information I need	337	51.9	165.0	49.0	162.0	48.1	10.0	3.0
I never access the information I need	41	6.3	19.0	46.3	21.0	51.2	1.0	2.4
No response	17	2.6	10.0	58.8	7.0	41.2	0.0	0.0

Overall, 51% of respondents declared English as their first language (and 44.1% with another first language and 3.9% who gave no response). There is only a marginal variation from the overall distribution, with slightly more than the 51% with English as a first language regularly accessing the information they need (54.7%) and slightly less than the 51% only sometimes accessing (49%) or never accessing it (46.3%). This suggests that language is a factor but its effect is not as pronounced as one might have expected. The chi-square test returned a p-value of 0.395, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between respondents' success at accessing the Online Library and English language proficiency.

Table 5.18.5: How Successful Respondents are at Accessing Online Library Resources by Programme of Study

Success with accessing resources	I always access the information I need	I regularly access the information I need	I sometimes access the information I need	I never access the information I need	No response
Frequency	64	190	337	41	17
% of group	9.9	29.3	51.9	6.3	2.6
Cedep	1	4	9	1	1
Success with accessing resources	I always access the information I need	I regularly access the information I need	I sometimes access the information I	I never access the information I need	No response

			need		
% Cedep	1.6	2.1	2.7	2.4	5.9
Cefims	2	8	6	2	0
% Cefims	3.1	4.2	1.8	4.9	0
EMFSS	33	81	103	26	12
% EMFSS	51.6	42.6	30.6	63.4	70.6
Int Mgt	2	8	9	1	1
% Int Mgt	3.1	4.2	2.7	2.4	5.9
Law	17	73	193	10	1
% Law	26.6	38.4	57.3	24.4	5.9
LLM	7	11	15	0	2
% LLM	10.9	5.8	4.5	0	11.8
MRES	2	5	1	0	0
% MRES	3.1	2.6	0.3	0	0
Other	0	0	1	1	0
% Other	0	0	0.3	2.4	0

The EMFSS respondents are relatively more likely always to access or regularly to access the information they need (overall there is a smaller proportion of EMFSS students than law students but they form a higher proportion of those successful in accessing information). However, law students are twice as likely to access the information they need sometimes. This may reflect the fact that there are more different forms of information that law students need to access and verify. Interestingly, EMFSS students were represented among those who never accessed the information they need at more than double the rate of law students (63.4% EMFSS versus 24.4% law). Those on postgraduate programmes (as noted above) were generally more successful in accessing information. The chi-square test returned a p-value of 9.9129E-06 (means to move 6 decimal places to the left), which is much less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' success at accessing Online Library resources and programme of study.

Table 5.18.6: How Successful Respondents are at Accessing Online Library Resources by Mode of Study

Success with accessing resources	Ins+Tuition	% at Inst & Tuition	Ins NO Tuition	% at Inst No Tuition	Indep No Tuition	% Indep NO Tuition	Ind +Tuition	% Indep & Tuition	No response	% No response
I always access the information I need	16.0	25.0	3.0	4.7	41.0	64.1	4.0	6.3	0.0	0.0
Success with accessing	Ins+Tuition	% at Inst &	Ins NO Tuition	% at Inst No	Indep No	% Indep NO	Ind +Tuition	% Indep &	No response	% No response

resources		Tuition		Tuition	Tuition	Tuition		Tuition		
I regularly access the information I need	56.0	29.5	34.0	17.9	81.0	42.6	18.0	9.5	1.0	0.5
I sometimes access the information I need	120.0	35.6	34.0	10.1	152.0	45.1	29.0	8.6	2.0	0.6
I never access the information I need	7.0	17.1	5.0	12.2	23.0	56.1	6.0	14.6	0.0	0
No response	2.0	11.8	1.0	5.9	11.0	64.7	3.0	17.6	0.0	0

According to Table 5.7, 31% of students were at an institution supplemented by private tuition, 11.9% were at an institution with no further tuition (overall 42.9% at an institution), 47.9% were studying independently with no private tuition and 9.2% were studying independently with private tuition (57.1% overall were not at an institution). Those at an institution are generally better represented in the 'regularly' and 'sometimes' categories. Those studying independently are extremely well represented in the 'always access' category presumably because these are small numbers of respondents and many of the postgraduate students study independently. The proportion of those studying independently grows from 'regularly access' to 'sometimes access' to 'never access'. These figures tend to suggest that those studying independently are less successful than those at an institution in accessing the information they need. The chi-square test returned a p-value of 0.007, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' success at accessing Online Library resources and mode of study.

Table 5.18.7: How Successful Respondents are at Accessing Online Library Resources by Country

Response	I always access the information I need	I regularly access the information I need	I sometimes access the information I need	I never access the information I need	No response
Number of respondents	64	190	337	41	17
Percentage %	9.9	29.3	51.9	6.3	2.6
3 diff countries	0.0	0.0	0.0	0.0	0.0
% 3 diff countries	0.0	0.0	0.0	0.0	0.0
Albania	1.0	0.0	0.0	0.0	0.0
% Albania	1.6	0.0	0.0	0.0	0.0
Armenia	0.0	0.0	0.0	1.0	0.0
% Armenia	0.0	0.0	0.0	2.4	0.0
Australia	2.0	2.0	0.0	0.0	1.0

Response	I always access the information I need	I regularly access the information I need	I sometimes access the information I need	I never access the information I need	No response
% Australia	3.1	1.1	0.0	0.0	5.9
Austria	0.0	1.0	6.0	0.0	0.0
% Austria	0.0	0.5	1.8	0.0	0.0
Bahamas	0.0	0.0	1.0	0.0	0.0
% Bahamas	0.0	0.0	0.3	0.0	0.0
Bahrain	0.0	1.0	3.0	2.0	0.0
% Bahrain	0.0	0.5	0.9	4.8	0.0
Bangladesh	2.0	2.0	6.0	0.0	0.0
% Bangladesh	3.1	1.1	1.8	0.0	0.0
Barbados	0.0	0.0	2.0	0.0	0.0
% Barbados	0.0	0.0	0.6	0.0	0.0
Belgium	1.0	0.0	5.0	0.0	0.0
% Belgium	1.6	0.0	1.5	0.0	0.0
Brazil	2.0	0.0	1.0	0.0	0.0
% Brazil	3.1	0.0	0.3	0.0	0.0
Bulgaria	0.0	0.0	1.0	0.0	0.0
% Bulgaria	0.0	0.0	0.3	0.0	0.0
Cambodia	0.0	0.0	3.0	0.0	0.0
% Cambodia	0.0	0.0	0.9	0.0	0.0
Cameroon	0.0	0.0	1.0	0.0	0.0
% Cameroon	0.0	0.0	0.3	0.0	0.0
Canada	2.0	8.0	15.0	0.0	1.0
% Canada	3.1	4.2	4.5	0.0	5.9
Cayman Islands	0.0	1.0	0.0	0.0	0.0
% Cayman Islands	0.0	0.5	0.0	0.0	0.0
Colombia	1.0	0.0	0.0	0.0	1.0
% Colombia	1.6	0.0	0.0	0.0	5.9
Croatia	0.0	1.0	1.0	0.0	0.0
% Croatia	0.0	0.5	0.3	0.0	0.0
Cyprus	0.0	0.0	2.0	1.0	0.0
% Cyprus	0.0	0.0	0.6	2.4	0.0
Czech Republic	0.0	2.0	0.0	0.0	0.0
% Czech Republic	0.0	1.1	0.0	0.0	0.0
Denmark	0.0	2.0	0.0	0.0	0.0
% Denmark	0.0	1.1	0.0	0.0	0.0
Dominica	1.0	0.0	0.0	2.0	0.0
% Dominica	1.6	0.0	0.0	4.9	0.0
Egypt	0.0	1.0	2.0	0.0	0.0
% Egypt	0.0	0.5	0.6	0.0	0.0
France	0.0	1.0	0.0	0.0	1.0

Response	I always access the information I need	I regularly access the information I need	I sometimes access the information I need	I never access the information I need	No response
% France	0.0	0.5	0.0	0.0	5.9
Germany	1.0	5.0	1.0	0.0	0.0
% Germany	1.6	2.6	0.3	0.0	0.0
Ghana	1.0	2.0	0.0	0.0	0.0
% Ghana	1.6	1.1	0.0	0.0	0.0
Greece	0.0	3.0	0.0	1.0	0.0
% Greece	0.0	1.6	0.0	2.4	0.0
Guatemala	0.0	0.0	1.0	0.0	0.0
% Guatemala	0.0	0.0	0.3	0.0	0.0
Guyana	0.0	1.0	0.0	0.0	0.0
% Guyana	0.0	0.5	0.0	0.0	0.0
Hong Kong	7.0	6.0	15.0	2.0	0.0
% Hong Kong	10.9	3.2	4.5	4.9	0.0
India	1.0	3.0	5.0	0.0	0.0
% India	1.6	1.6	1.5	0.0	0.0
Indonesia	0.0	0.0	1.0	0.0	0.0
% Indonesia	0.0	0.0	0.9	0.0	0.0
Iran	0.0	0.0	0.0	1.0	0.0
% Iran	0.0	0.0	0.0	2.4	0.0
Israel	1.0	0.0	0.0	0.0	0.0
% Israel	1.6	0.0	0.0	0.0	0.0
Italy	1.0	3.0	2.0	0.0	0.0
% Italy	1.6	1.6	0.6	0.0	0.0
Jamaica	0.0	9.0	7.0	0.0	0.0
% Jamaica	0.0	4.7	2.1	0.0	0.0
Japan	0.0	1.0	6.0	0.0	0.0
% Japan	0.0	0.5	1.8	0.0	0.0
Kenya	0.0	0.0	3.0	2.0	0.0
% Kenya	0.0	0.0	0.9	4.9	0.0
Kuwait	0.0	1.0	0.0	0.0	0.0
% Kuwait	0.0	0.5	0.0	0.0	0.0
Lithuania	0.0	0.0	1.0	0.0	0.0
% Lithuania	0.0	0.0	0.3	0.0	0.0
Macedonia	0.0	1.0	0.0	0.0	0.0
% Macedonia	0.0	0.5	0.0	0.0	0.0
Madagascar	0.0	0.0	1.0	0.0	0.0
% Madagascar	0.0	0.0	0.3	0.0	0.0
Malawi	0.0	0.0	1.0	1.0	0.0
% Malawi	0.0	0.0	0.3	2.4	0.0
Malaysia	3.0	11.0	13.0	0.0	0.0

Response	I always access the information I need	I regularly access the information I need	I sometimes access the information I need	I never access the information I need	No response
% Malaysia	4.7	5.8	3.9	0.0	0.0
Malta	1.0	7.0	4.0	0.0	0.0
% Malta	1.6	3.7	1.2	0.0	0.0
Martinique	0.0	0.0	0.0	1.0	0.0
% Martinique	0.0	0.0	0.0	2.4	0.0
Mauritius	1.0	4.0	13.0	4.0	3.0
% Mauritius	1.6	2.1	3.9	9.8	17.6
Myanmar	0.0	1.0	0.0	0.0	0.0
% Myanmar	0.0	0.5	0.0	0.0	0.0
Namibia	0.0	1.0	0.0	0.0	0.0
% Namibia	0.0	0.5	0.0	0.0	0.0
New Zealand	0.0	0.0	5.0	0.0	0.0
% New Zealand	0.0	0.0	1.5	0.0	0.0
Nigeria	1.0	3.0	14.0	2.0	1.0
% Nigeria	1.6	1.6	4.2	4.8	5.9
No response	4.0	8.0	11.0	1.0	1.0
% No response	6.3	4.2	3.3	2.4	5.9
Other	0.0	0.0	4.0	0.0	0.0
% Other	0.0	0.0	1.2	0.0	0.0
Pakistan	0.0	7.0	13.0	1.0	1.0
% Pakistan	0.0	3.7	3.9	2.4	5.9
Peru	1.0	0.0	0.0	0.0	0.0
% Peru	1.6	0.0	0.0	0.0	0.0
Poland	1.0	0.0	5.0	0.0	0.0
% Poland	1.6	0.0	1.5	0.0	0.0
Portugal	1.0	0.0	2.0	0.0	0.0
% Portugal	1.6	0.0	0.6	0.0	0.0
Russia	3.0	11.0	12.0	0.0	0.0
% Russia	4.7	5.8	3.6	0.0	0.0
Rwanda	0.0	0.0	1.0	0.0	0.0
% Rwanda	0.0	0.0	0.3	0.0	0.0
Saint Lucia	0.0	0.0	1.0	0.0	0.0
% Saint Lucia	0.0	0.0	0.3	0.0	0.0
Saudi Arabia	2.0	0.0	0.0	3.0	0.0
% Saudi Arabia	3.1	0.0	0.0	7.3	0.0
Serbia	0.0	0.0	0.0	1.0	0.0
% Serbia	0.0	0.0	0.0	2.4	0.0
Singapore	5.0	18.0	38.0	5.0	2.0
% Singapore	7.8	9.5	11.3	12.2	11.8
South Africa	0.0	3.0	0.0	0.0	0.0

Response	I always access the information I need	I regularly access the information I need	I sometimes access the information I need	I never access the information I need	No response
% South Africa	0.0	1.6	0.0	0.0	0.0
South Korea	0.0	0.0	0.0	1.0	0.0
% South Korea	0.0	0.0	0.0	2.4	0.0
Spain	0.0	1.0	14.0	2.0	1.0
% Spain	0.0	0.5	4.2	4.9	5.9
Sri Lanka	0.0	8.0	5.0	0.0	0.0
% Sri Lanka	0.0	4.2	1.5	0.0	0.0
St Vincent and the Grenadines	0.0	0.0	2.0	0.0	0.0
% St Vincent and the Grenadines	0.0	0.0	0.6	0.0	0.0
Sudan	0.0	1.0	3.0	0.0	0.0
% Sudan	0.0	0.5	0.9	0.0	0.0
Sweden	1.0	1.0	0.0	0.0	0.0
% Sweden	1.6	0.5	0.0	0.0	0.0
Switzerland	1.0	7.0	4.0	1.0	0.0
% Switzerland	1.6	3.7	1.2	2.4	0.0
Thailand	0.0	2.0	6.0	1.0	0.0
% Thailand	0.0	1.1	1.8	2.4	0.0
The Netherlands	0.0	1.0	0.0	0.0	0.0
% The Netherlands	0.0	0.5	0.0	0.0	0.0
Trinidad and Tobago	6.0	13.0	30.0	2.0	0.0
% Trinidad and Tobago	9.4	6.8	8.9	4.9	0.0
Uganda	0.0	0.0	0.0	1.0	0.0
% Uganda	0.0	0.0	0.0	2.4	0.0
United Arab Emirates	0.0	0.0	0.0	1.0	1.0
% United Arab Emirates	0.0	0.0	0.0	2.4	5.9
United Kingdom	4.0	17.0	25.0	1.0	3.0
% United Kingdom	6.3	8.9	7.4	2.4	17.6
United States	3.0	5.0	10.0	0.0	0.0
% United States	4.7	2.6	3.0	0.0	0.0
Uruguay	2.0	1.0	3.0	0.0	0.0
% Uruguay	3.1	0.5	0.9	0.0	0.0
Vietnam	0.0	1.0	4.0	0.0	0.0
% Vietnam	0.0	0.5	1.2	0.0	0.0

There does not seem to be a significant variation from the overall distribution by country. A chi-square test has not been conducted because of the number of cells with zeros or no responses.

Table 5.18.8: How Successful Respondents are at Accessing Online Library Resources by Confidence in Using Electronic Resources.

Success with accessing resources	I always access the information I need	I regularly access the information I need	I sometimes access the information I need	I never access the information I need	No response
Frequency	64.0	190.0	337.0	41.0	17.0
Very confident	44.0	86.0	137.0	18.0	6.0
% Very confident	68.8	45.3	40.7	43.9	35.3
I find it fairly easy	11.0	71.0	90.0	13.0	2.0
% I find it fairly easy	17.2	37.4	26.7	31.7	11.8
Not confident	4.0	11.0	45.0	8.0	4.0
% Not confident	6.3	5.8	13.4	19.5	23.5
Other			2.0	1.0	
% Other	0.0	0.0	0.6	2.4	0.0
% No response	5.0	22.0	63.0	1.0	5.0
No response	7.8	11.6	18.7	2.4	29.4

Those who are very confident or find it fairly easy dominate the success rates (68.8% of those who always find the information they need are very confident and 17.2% find it fairly easy; 45.3% of those who regularly access the information they need are very confident and 37.4% find it fairly easy). However, among the larger number of respondents who only access information sometimes, or those who never access the information they need, there are still 40.7% and 44% who are very confident and 26.7% and 31.7% who find it fairly easy. To put this into perspective, of those who never access the information they need, 47% are very confident of their abilities or find it fairly easy, and among those who only access the information they need sometimes 75.6% are very confident or find it fairly easy. The chi-square test returned a p-value of 0.0003 which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' success at accessing Online Library resources and Confidence with Using Electronic Resources.

5.19 Use of Resources Not in the Online Library

Table 5.19: Use of Resources Not in the Online Library

Other resources used which are not in library	Frequency	Percentage of total participants
Recommended Textbooks	407	62.7
Tutor notes	226	34.8
Friends and family	193	29.7
Other (please specify)	24	3.7
Other resources used which are not in library	Frequency	Percentage of total participants
Other resources used which are not	Frequency	Percentage of total

in library		participants
I don't use any other information source	23	3.5
Total	649	

Respondents could choose more than one answer. Responses for Diploma, Certificate and Access are not tabulated as the number of responses was not significant. As shown in Table 5.22, the majority of respondents (63%) use recommended textbooks. This is followed by tutor notes (35%), and friends and family 30%). The large use of 'tutor notes' and 'friends and family' and the very low response rate for 'I don't use any other information source' suggests that tutors and family or networks in general are very important to the respondents and distance learners in general. The large-scale use of recommended textbooks is a well-known phenomenon at undergraduate level and to a certain extent at taught postgraduate level, whether by internal or distance learning students, as libraries are well aware.

Table 5.19.1: Use of Resources Not in the Online Library by Gender

Other resources used which are not in library	Frequency	Percentage of total participants	Female	% Female	Male	% Male	NR	% No Response
Tutor notes	226	34.8	132.0	58.4	94.0	41.6	0.0	0.0
Friends and family	193	29.7	102.0	52.8	90.0	46.6	1.0	0.5
Recommended Textbooks	407	62.7	199.0	48.9	207.0	50.9	1.0	0.2
I don't use any other information source	23	3.5	12.0	52.2	11.0	47.8	0.0	0.0
Other (please specify)	24	3.7	12.0	50.0	12.0	50.0	0.0	0.0

Overall, 52.5% of respondents were female and 47.3% male (allowing for no responses). There is only a small deviation from the general distribution by gender in this question. A slightly greater proportion of women (58.4%) use tutor notes - but see Table 5.7.1 where it is shown that a larger proportion of those at an institution with private tuition are female (56.2%) - and a slightly lower proportion use the recommended textbooks. The chi-square test returned a p-value of 0.159, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between distance learners' use of alternative information sources (i.e. resources not provided by the University's Online Library) and gender.

Table 5.19.2: Use of Resources Not in the Online Library by Age Range

Other resources used which are not in library	Under 25	% Under 25	26-35	% 26-35	36-45	% 36-45	46-55	%46-55	56+	% 56+	NR	% No response
Tutor notes	108.0	47.8	73.0	32.3	29.0	12.8	11.0	4.9	4.0	1.8	1.0	0.4
Other resources used which are not in library	Under 25	% Under 25	26-35	% 26-35	36-45	% 36-45	46-55	%46-55	56+	% 56+	NR	% No response
Friends and family	68.0	35.2	68.0	35.2	39.0	20.2	12.0	6.2	6.0	3.1	0.0	0.0
Recommended Textbooks	135.0	33.2	160.0	39.3	71.0	17.4	27.0	6.6	13.0	3.2	1.0	0.2
I don't use any other information source	4.0	17.4	12.0	52.2	5.0	21.7	2.0	8.7	0.0	0.0	0.0	0.0
Other (please specify)	4.0	16.7	8.0	33.3	9.0	37.5	1.0	4.2	2.0	8.3	0.0	0.0
Total 649												

Overall, 32.8% of respondents were under 25, 37.9% were 26-35, 19.3% were 36-45, 6.5% were 46-55, and 3.2% were 56 and over. Among these figures, under-25-year-olds are by far the most likely to use tutor notes, followed by 26-35 year olds; these are also the age ranges most likely to be following undergraduate degree programmes and to be attending teaching institutions. Friends and family remain equally important to all age ranges as, more or less, do recommended textbooks. By contrast, the answer 'I do not use any other information source' was chosen proportionately more by older age ranges and least often by under-25s (17.4% rather than the overall 32.8%). The chi-square test returned a p-value of 0.044, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' use of alternative information sources, such as lecture notes or friends and family, and age.

Table 5.19.3: Use of Resources Not in the Online Library by Level of Programme

Other resources used which are not in library	Frequency	Percentage of Total	PG	% PG	UG	% UG	Dip	% Dip	Cert	% Cert	Access	% Access	NR	% No Response
Tutor notes	226	34.8	33.0	14.6	189.0	83.6	1.0	0.4	1.0	0.4	1.0	3.0	1.0	0.5

Other resources used which are not in library	Frequency	Percentage of Total	PG	% PG	UG	% UG	Dip	% Dip	Cert	% Cert	Access	% Access	NR	% No Response
Friends and family	193	29.7	28.0	14.5	158.0	81.9	2.0	1.0	2.0	1.0	2.0	7.1	1.0	0.6
Recommended Textbooks	407	62.7	94.0	23.1	296.0	72.7	5.0	1.2	2.0	0.5	8.0	8.5	2.0	0.7
I don't use any other information source	23	3.5	10.0	43.5	9.0	39.1	4.0	17.4	0.0	0.0	0.0	0.0	0.0	0.0
Other (please specify)	24	3.7	10.0	41.7	14.0	58.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	649													

Overall proportions show that 84.6% of respondents are studying for a first degree and, here, undergraduates constituted over 80% of those choosing 'Friends and family' and 'Tutor notes' and over 70% of those choosing recommended textbooks but only 39.1% of those answering 'I don't use any other information source'. Rather more than the overall 15.1% postgraduates chose recommended textbooks (23.1%) and far more chose 'I don't use any other information source' (43.5%). Therefore, these figures demonstrate that undergraduates are more likely than postgraduates to use alternative sources of information and that, although both use recommended textbooks extensively, postgraduates are more likely than undergraduates to use recommended textbooks. The chi-square test returned a p-value of 4.85981E-10 (means move 10 decimal places to the left), which is less than 0.05 and therefore supports the hypothesis that there is a slight but significant relationship between distance learners' use of alternative information sources and level of programme.

Table 5.19.4: Use of Resources Not in the Online Library by Programme

Use of Other Resources not in the Online Library	Ce dep	% Cedep	Ce fi ms	% Cefi ms	EMF SS	% EM FS S	Int M gt	% Int M gt	La ws	% La ws	LL M	% LL M	MR ES	% MR ES	Ot he r	% Oth er	N R
Tutor notes	5.0	2.2	7.0	3.1	81.0	35.8	7.0	3.1	118. 0	52.2	3.0	1.3	3.0	1.3	2. 0	0.9	0. 0
Friends and family	2.0	1.0	6.0	3.1	36.0	18.7	0.0	0.0	140. 0	72.5	7.0	3.6	2.0	1.0	0. 0	0.0	0. 0
Recommend ed Textbooks	7.0	1.7	11. 0	2.7	169.0	41.5	14. 0	3.4	174. 0	42.8	25. 0	6.1	6.0	1.5	1. 0	0.2	0. 0

Use of Other Resources not in the Online Library	Ce dep	% Cedep	Ce fi ms	% Cefi ms	EMF SS	% EM FS S	Int M gt	% Int M gt	La ws	% La ws	LL M	% LL M	MR ES	% MR ES	Ot he r	% Oth er	N R
I don't use any other information source	1.0	4.3	3.0	13.0	9.0	39.1	5.0	21. 7	4.0	17.4	1.0	4.3	0.0	0.0	0. 0	0.0	0. 0
Other (please specify)	3.0	12.5	1.0	4.2	19.0	79.2	0.0	0.0	1.0	4.2	0.0	0.0	0.0	0.0	0. 0	0.0	0. 0

Overall, 45.3% of respondents are on the law programme, 39.3% are on the EMFSS programme, 5.4% on the LLM, 3.2% on the International Management programme and smaller percentages on the other programmes. Therefore, the highest percentages in each category should be from the LLB programme, and this is the case for 'Tutor notes' and 'Friends and family' but, in fact, there are far higher percentages for LLB respondents (52.2% and 72.5% respectively). Law respondents are far more reliant on friends and family than any other group. This suggests that law students in particular may have family and friends in the legal environment. LLB students, however, are much less likely to choose 'I don't use any other information source' (17.4% rather than the overall 45.3%). EMFSS respondents resort to alternative sources of information almost in proportion to their overall response rate to the survey (39.3%) but are also equally likely not to use any other source of information. However, EMFSS respondents represent almost 80% of those (only 24 in all) respondents who selected 'Other', and these may be work colleagues. It is notable that International Management respondents (3.2% overall) comprised 21.7% of those who selected 'I don't use any other information source'. Thus, for both main constituencies of respondents, alternative sources of information are important, as noted above, but friends and family and tutor notes are much more important for law students. The chi-square test returned a p-value of 1.8948E-13 (means to move 13 decimal places to the left), which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' use of resources not in the Online Library and programme of study or discipline.

Table 5.19.5: Use of Resources Not in the Online Library by Mode of Study

Other resources used which are not in library	Frequenc y	Percentage of total respondent s	At Inst+Tui	% at Ins & Tuitio n	AT Inst No Tuit ion	% at Ins NO Tuitio n	Indepe No Tuitio n	%indepNo Tuition	Indep with Tuitio n	% Indep & Tuitio n	No res pon se	% No response
Tutor notes	226	34.8	126.0	55.8	41.0	18.1	31.0	13.7	26.0	11.5	2.0	0.9
Friends and family	193	29.7	67.0	34.7	15.0	7.8	99.0	51.3	12.0	6.2	0.0	0.0
Recommende d Textbooks	407	62.7	120.0	29.5	56.0	13.8	196.0	48.2	35.0	8.6	0.0	0.0

Other resources used which are not in library	Frequenc y	Percentage of total respondent s	At Inst+Tui	% at Ins & Tuitio n	AT Inst No Tuit ion	% at Ins NO Tuitio n	Indepe No Tuitio n	%indepNo Tuition	Indep with Tuitio n	% Indep & Tuitio n	No res pon se	% No response
I don't use any other information source	23	3.5	6.0	26.1	4.0	17.4	11.0	47.8	2.0	8.7	0.0	0.0
Other (please specify)	24	3.7	1.0	4.2	4.0	16.7	16.0	66.7	3.0	12.5	0.0	0.0

According to Table 5.7, 31% of students were at an institution supplemented by private tuition, 11.9% were at an institution with no further tuition (overall 42.9% at an institution), 47.9% were studying independently with no private tuition and 9.2% were studying independently with private tuition (57.1% overall were not at an institution). Tutor notes are overwhelmingly used more by those studying at an institution, whether in receipt of additional tuition or not. Friends and family seem equally important regardless of whether students are studying at an institution or independently (with distribution of this response closely aligned to overall distribution). Likewise, the use of recommended textbooks follows the same profile as the response 'I don't use any other information source'. The other major deviation from the overall distribution pattern is that those studying independently with no supplementary tuition (47.9% of all respondents) comprised 66.7% of those who chose 'Other', suggesting that those with no recognised form of academic support resorted to other sources of information most often. The chi-square test returned a p-value of 4.02355E-16 (means move 16 decimal places to the left), which is less than 0.05. Therefore, the hypothesis that there is a significant relationship between learners' use of resources not in the Online Library and mode of study is supported.

Table 5.19.6: Use of Resources Not in the Online Library by English Language Proficiency

Other resources used which are not in library	Frequency	Percentage of Total Respondents	Yes	% Yes	NO	% No	No Response	% No Response
Tutor notes	226	34.8	120.0	53.1	104.0	46.0	2.0	0.9
Friends and Family	193	29.7	95.0	49.2	92.0	47.7	6.0	3.1
Recommended Textbooks	407	62.7	211.0	51.8	188.0	46.2	8.0	2.0
I don't use any other information source	23	3.5	7.0	30.4	16.0	69.6	0.0	0.0
Other (please specify)	24	3.7	10.0	41.7	13.0	54.2	1.0	4.2

Overall, 51% of respondents declared English as their first language (with 44.1% stating another first language and 3.9% giving no response). These figures show that English language proficiency did not affect the use of Tutor notes, Friends and Family or Recommended textbooks more than marginally,

but those with English as a first language were less likely to choose the 'I don't use any other information source' response (only 30.4% rather than the overall 51%), suggesting that those with English proficiency were more likely to use alternative information sources while those without English as a first language were more reliant on standard information sources. The chi-square test returned a p-value of 0.191, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' use of resources unavailable in the Online Library and English language proficiency.

Table 5.19.7: Use of Resources Not in the Online Library by Country

Use of Resources Not in the Online Library	Tutor notes	Friends and family	Recommended Textbooks	I don't use any other information source	Other (please specify)
3 diff countries	1.0	1.0	1.0	0.0	0.0
% 3 diff countries	0.4	0.5	0.2	0.0	0.0
Albania	0.0	0.0	1.0	0.0	0.0
% Albania	0.0	0.0	0.2	0.0	0.0
Armenia	1.0	1.0	1.0	0.0	0.0
% Armenia	0.4	0.5	0.2	0.0	0.0
Australia	1.0	1.0	2.0	0.0	2.0
% Australia	0.4	0.5	0.5	0.0	8.3
Austria	1.0	4.0	3.0	0.0	0.0
% Austria	0.4	2.1	0.7	0.0	0.0
Bahamas	0.0	1.0	1.0	0.0	0.0
% Bahamas	0.0	0.5	0.2	0.0	0.0
Bahrain	0.0	3.0	3.0	0.0	0.0
% Bahrain	0.0	1.5	0.7	0.0	0.0
Bangladesh	3.0	4.0	5.0	0.0	0.0
% Bangladesh	1.3	2.1	1.2	0.0	0.0
Barbados	1.0	0.0	2.0	0.0	0.0
% Barbados	0.4	0.0	0.5	0.0	0.0
Belgium	0.0	2.0	3.0	0.0	0.0
% Belgium	0.0	1.0	0.7	0.0	0.0
Brazil	0.0	0.0	3.0	0.0	0.0
% Brazil	0.0	0.0	0.7	0.0	0.0
Bulgaria	1.0	0.0	0.0	0.0	0.0
% Bulgaria	0.4	0.0	0.0	0.0	0.0
Cambodia	1.0	3.0	1.0	0.0	0.0
% Cambodia	0.4	1.6	0.2	0.0	0.0
Cameroon	0.0	0.0	1.0	0.0	0.0
% Cameroon	0.0	0.0	0.2	0.0	0.0
Canada	13.0	7.0	11.0	1.0	1.0
% Canada	5.8	3.6	2.7	4.3	4.2

Use of Resources Not in the Online Library	Tutor notes	Friends and family	Recommended Textbooks	I don't use any other information source	Other (please specify)
Cayman Islands	0.0	1.0	1.0	0.0	0.0
% Cayman Islands	0.0	0.5	0.2	0.0	0.0
Colombia	0.0	0.0	1.0	0.0	0.0
% Colombia	0.0	0.0	0.2	0.0	0.0
Croatia	1.0	0.0	2.0	0.0	0.0
% Croatia	0.4	0.0	0.5	0.0	0.0
Cyprus	0.0	0.0	2.0	0.0	0.0
% Cyprus	0.0	0.0	0.5	0.0	0.0
Czech Republic	0.0	0.0	0.0	2.0	0.0
% Czech Republic	0.0	0.0	0.0	8.7	0.0
Denmark	0.0	0.0	2.0	0.0	0.0
% Denmark	0.0	0.0	0.5	0.0	0.0
Dominica	2.0	0.0	0.0	0.0	1.0
% Dominica	0.9	0.0	0.0	0.0	4.2
Egypt	2.0	0.0	3.0	0.0	0.0
% Egypt	0.9	0.0	0.7	0.0	0.0
France	0.0	0.0	2.0	1.0	1.0
% France	0.0	0.0	0.5	4.3	4.2
Germany	1.0	1.0	7.0	0.0	0.0
% Germany	0.4	0.5	1.7	0.0	0.0
Ghana	0.0	0.0	3.0	0.0	0.0
% Ghana	0.0	0.0	0.7	0.0	0.0
Greece	1.0	1.0	3.0	0.0	0.0
% Greece	0.4	0.5	0.7	0.0	0.0
Guatemala	1.0	1.0	0.0	0.0	0.0
% Guatemala	0.4	0.5	0.0	0.0	0.0
Guyana	0.0	1.0	0.0	0.0	0.0
% Guyana	0.0	0.5	0.0	0.0	0.0
Hong Kong	12.0	5.0	23.0	1.0	0.0
% Hong Kong	5.3	2.6	5.7	4.3	0.0
India	3.0	4.0	6.0	0.0	3.0
% India	1.3	2.1	1.5	0.0	12.5
Indonesia	1.0	0.0	3.0	0.0	1.0
% Indonesia	0.4	0.0	0.7	0.0	4.2
Iran	0.0	0.0	0.0	0.0	0.0
% Iran	0.0	0.0	0.0	0.0	0.0
Israel	0.0	1.0	1.0	0.0	0.0
% Israel	0.0	0.5	0.2	0.0	0.0
Italy	1.0	3.0	3.0	2.0	0.0
% Italy	0.4	1.6	0.7	8.7	0.0
Jamaica	3.0	4.0	8.0	0.0	0.0

Use of Resources Not in the Online Library	Tutor notes	Friends and family	Recommended Textbooks	I don't use any other information source	Other (please specify)
% Jamaica	1.3	2.1	2.0	0.0	0.0
Japan	2.0	1.0	4.0	0.0	1.0
% Japan	0.9	0.5	1.0	0.0	4.2
Kenya	0.0	2.0	3.0	0.0	0.0
% Kenya	0.0	1.0	0.7	0.0	0.0
Kuwait	1.0	0.0	1.0	0.0	0.0
% Kuwait	0.4	0.0	0.2	0.0	0.0
Lithuania	0.0	1.0	0.0	0.0	0.0
% Lithuania	0.0	0.5	0.0	0.0	0.0
Macedonia	0.0	1.0	1.0	0.0	0.0
% Macedonia	0.0	0.5	0.2	0.0	0.0
Madagascar	0.0	0.0	0.0	0.0	0.0
% Madagascar	0.0	0.0	0.0	0.0	0.0
Malawi	1.0	0.0	0.0	0.0	0.0
% Malawi	0.4	0.0	0.0	0.0	0.0
Malaysia	9.0	11.0	15.0	1.0	0.0
% Malaysia	4.0	5.7	3.7	4.3	0.0
Malta	6.0	2.0	10.0	1.0	1.0
% Malta	2.7	1.0	2.5	4.3	4.2
Martinique	1.0	1.0	0.0	0.0	0.0
% Martinique	0.4	0.5	0.0	0.0	0.0
Mauritius	11.0	7.0	16.0	1.0	0.0
% Mauritius	4.9	3.6	3.9	4.3	0.0
Myanmar	0.0	0.0	0.0	0.0	0.0
% Myanmar	0.0	0.0	0.0	0.0	0.0
Namibia	1.0	0.0	1.0	0.0	0.0
% Namibia	0.4	0.0	0.2	0.0	0.0
New Zealand	3.0	3.0	3.0	0.0	1.0
% New Zealand	1.3	1.6	0.7	0.0	4.2
Nigeria	9.0	7.0	11.0	1.0	0.0
% Nigeria	4.0	3.6	2.7	4.3	0.0
No response	8.0	3.0	15.0	1.0	0.0
% No response	3.5	1.6	3.7	4.3	0.0
Other	1.0	3.0	2.0	0.0	0.0
% Other	0.4	1.6	0.5	0.0	0.0
Pakistan	8.0	8.0	12.0	3.0	1.0
% Pakistan	3.5	4.1	2.9	13.0	4.2
Peru	0.0	0.0	1.0	0.0	1.0
% Peru	0.0	0.0	0.2	0.0	4.2
Poland	2.0	3.0	6.0	0.0	0.0
% Poland	0.9	1.6	1.5	0.0	0.0

Use of Resources Not in the Online Library	Tutor notes	Friends and family	Recommended Textbooks	I don't use any other information source	Other (please specify)
Portugal	1.0	0.0	1.0	0.0	0.0
% Portugal	0.4	0.0	0.2	0.0	0.0
Russia	9.0	6.0	19.0	2.0	0.0
% Russia	4.0	3.1	4.7	8.7	0.0
Rwanda	0.0	0.0	1.0	0.0	0.0
% Rwanda	0.0	0.0	0.2	0.0	0.0
Saint Lucia	0.0	0.0	1.0	0.0	0.0
% Saint Lucia	0.0	0.0	0.2	0.0	0.0
Saudi Arabia	0.0	1.0	5.0	0.0	0.0
% Saudi Arabia	0.0	0.5	1.2	0.0	0.0
Serbia	0.0	0.0	1.0	0.0	0.0
% Serbia	0.0	0.0	0.2	0.0	0.0
Singapore	36.0	19.0	41.0	0.0	1.0
% Singapore	15.9	9.8	10.1	0.0	4.2
South Africa	0.0	0.0	3.0	0.0	0.0
% South Africa	0.0	0.0	0.7	0.0	0.0
South Korea	0.0	1.0	1.0	0.0	0.0
% South Korea	0.0	0.5	0.2	0.0	0.0
Spain	5.0	9.0	12.0	0.0	1.0
% Spain	2.2	4.7	2.9	0.0	4.2
Sri Lanka	9.0	2.0	10.0	0.0	0.0
% Sri Lanka	4.0	1.0	2.5	0.0	0.0
St Vincent and the Grenadines	0.0	0.0	2.0	0.0	0.0
% St Vincent and the Grenadines	0.0	0.0	0.5	0.0	0.0
Sudan	0.0	3.0	1.0	1.0	0.0
% Sudan	0.0	1.6	0.2	4.3	0.0
Sweden	0.0	0.0	1.0	0.0	0.0
% Sweden	0.0	0.0	0.2	0.0	0.0
Switzerland	2.0	5.0	7.0	1.0	1.0
% Switzerland	0.9	2.6	1.7	4.3	4.2
Thailand	4.0	2.0	6.0	0.0	1.0
% Thailand	1.8	1.0	1.5	0.0	4.2
The Netherlands	0.0	1.0	1.0	0.0	0.0
% The Netherlands	0.0	0.5	0.2	0.0	0.0
Trinidad and Tobago	23.0	22.0	36.0	0.0	0.0
% Trinidad and Tobago	10.2	11.4	8.8	0.0	0.0
Uganda	0.0	0.0	1.0	0.0	0.0
% Uganda	0.0	0.0	0.2	0.0	0.0
United Arab Emirates	0.0	0.0	2.0	0.0	1.0

Use of Resources Not in the Online Library	Tutor notes	Friends and family	Recommended Textbooks	I don't use any other information source	Other (please specify)
% United Arab Emirates	0.0	0.0	0.5	0.0	4.2
United Kingdom	13.0	14.0	31.0	2.0	3.0
% United Kingdom	5.8	7.3	7.6	8.7	12.5
United States	6.0	1.0	6.0	1.0	2.0
% United States	2.7	0.5	1.5	4.3	8.3
Uruguay	3.0	4.0	5.0	1.0	0.0
% Uruguay	1.3	2.1	1.2	4.3	0.0
Vietnam	1.0	1.0	4.0	0.0	0.0
% Vietnam	0.4	0.5	1.0	0.0	0.0

There is a wide distribution of respondents among a large number of countries selecting Tutor notes and Friends and family, and a large number of respondents among fewer countries selecting recommended textbooks. However, those selecting 'I don't use any other sources of information' are grouped in fewer countries, many of them but not all in Europe, Canada or the USA. This correlates with the figures in Table 5.19.6 showing that almost 70% of those selecting this answer (don't use other sources) did not have English as a first language. Those with less English proficiency are more likely to be concentrated in certain countries, e.g. other European countries or countries that were heavily influenced not by the UK but by other European countries. These respondents are more likely to focus on a smaller number of information sources. A chi-square test has not been conducted because of the number of cells with zeros or no responses.

5.20 Reason for Preference of Resources Not in the Online Library

Table 5.20: Reason for Preference of Resources Not in the Online Library

*Note: Frequency here refers to the number of **'occurrences'** when a specific variable was mentioned in the answer to Question 20 which asked students to state the reasons why they frequently used resources not provided by the Online library.*

Reason for resource preference	Frequency	Percentage (%) of sample)
Easy to access	179	27.6
Reliable	92	14.2
Easy to use	91	14.0
Readily available	89	13.7
Relevant	48	7.4
Convenient	35	5.4
Affordable	20	3.1

Reason for resource preference	Frequency	Percentage (%) of sample)
Recommended	20	3.1
No Choice	13	2.0
Familiarity	9	1.4
Free	8	1.2
High Quality	5	0.8
Other	5	0.8
Comprehensive	4	0.6
Up to Date	1	0.2
Total number of respondents 649		

Table 5.20: Reason for Preference of Resources Not in the Online Library

Question 20: Why do you prefer the resources you use most frequently?
510 out of a total of 649 respondents who responded answered this question, giving a response rate of 78.6%. This means that 139 0r 21% of the students did not respond to the question. 20 or 3.1% students out of 510 said that affordability influenced the choice of information sources. The largest number of students who responded to this question said that they used sources that were easy to access (179 or 28%); this was followed by reliable (14.2%), easy to use (14%), and readily available (13.7%). Relevance was only chosen by 7.4%, and high quality by only 0.8%; just 1 student overall mentioned 'up to date'. The overall message from these findings, despite the reasonable score for reliability, is that respondents followed the line of least resistance and chose resources on the basis of ease both of access and use. This coordinates with the relatively high use of free internet resources.

Table 5.20.1: Reason for Preference of Resources Not in the Online Library by Gender

Reason for resource preference	Frequency	Percentage (%) of sample)	Female	% Female	Male	% Male
Affordable	20	3.1	11	55.0	9	45.0
Comprehensive	4	0.6	2	50.0	2	50.0
Convenient	35	5.4	16	45.7	19	54.3
Easy to access	179	27.6	96	53.6	83	46.4
Easy to use	91	14.0	60	65.9	31	34.1
Familiarity	9	1.4	3	33.3	6	66.7
Free	8	1.2	3	37.5	5	62.5

Reason for resource preference	Frequency	Percentage (%) of sample)	Female	% Female	Male	% Male
High Quality	5	0.8	3	60.0	5	100.0
No Choice	13	2.0	5	38.5	8	61.5
Other	5	0.8	1	20.0	4	80.0
Readily available	89	13.7	36	40.4	53	59.6
Recommended	20	3.1	14	70.0	6	30.0
Relevant	48	7.4	24	50.0	24	50.0
Reliable	92	14.2	51	55.4	41	44.6
Up to Date	1	0.2	1	100.0	0	0.0

Overall, 52.5% of respondents were female. Women seemed more likely to select easy-to-use resources (65.9%) and high-quality resources (60%) and were much more likely to act on advice and select recommended resources (70%). Men, however, seemed more likely to select convenient (54.3%), familiar (66.7%), and readily available resources (59.6%), and not to select recommended resources (30%). However, the chi-square test returned a p-value of 0.09, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between the distance learners' preferences for non-Online Library resources and gender.

Table 5.20.2: Reason for Preference of Resources Not in the Online Library by Age Range

Reason for resource preference	Frequency	Percentage (%) of sample)	Under 25	% Under 25	26 - 35	% 26 - 35	36 - 45	% 36-45	46 - 55	% 46 - 55	56 +	% 56 +	NR	% No Response
Affordable	20	3.1	7	35.0	9	45.0	4	20.0	0	0.0	0	0.0	0	0.0
Comprehensive	4	0.6	2	50.0	2	50.0		0.0	0	0.0	0	0.0	0	0.0
Convenient	35	5.4	13	37.1	10	28.6	8	22.9	3	8.6	1	2.9	0	0.0
Easy to access	179	27.6	57	31.8	74	41.3	34	19.0	10	5.6	4	2.2	0	0.0
Easy to use	91	14.0	44	48.4	23	25.3	17	18.7	3	3.3	4	4.4	0	0.0
Familiarity	9	1.4	4	44.4	3	33.3	2	22.2	0	0.0	0	0.0	0	0.0
Free	8	1.2	4	50.0	3	37.5	1	12.5	0	0.0	0	0.0	0	0.0
High	5	0.8	1	20.0	4	80.		0.0	0	0.0	0	0.0	0	0.0

Reason for resource preference	Frequency	Percentage (%) of sample)	Under 25	% Under 25	26 - 35	% 26 - 35	36 - 45	% 36-45	46 - 55	% 46 - 55	56 +	% 56 +	NR	% No Response
Quality						0								
No Choice	13	2.0	4	30.8	2	15.4	3	23.1	1	7.7	3	23.1	0	0.0
Other	5	0.8		0.0	4	80.0		0.0	1	20.0		0.0	0	0.0
Readily available	89	13.7	21	23.6	33	37.1	19	21.3	9	10.1	6	6.7	1	1.1
Recommended	20	3.1	3	15.0	11	55.0	3	15.0	1	5.0	1	5.0	1	5.0
Relevant	48	7.4	22	45.8	15	31.3	5	10.4	4	8.3	2	4.2	0	0.0
Reliable	92	14.2	27	29.3	42	45.7	14	15.2	6	6.5	3	3.3	0	0.0
Up to Date	1	0.2	0	0.0	0	0.0	1	100.0	0	0.0	0	0.0	0	0.0

Table 5.20.2: Reason for Preference of Resources Not in the Online Library by Age Range

Overall, 32.8% of respondents were under 25, 37.9% were 26-35, 19.3% were 36-45, 6.5% were 46-55, and 3.2% were 56 and over. Among these figures, under-25-year-olds disproportionately chose 'easy to use', 'familiar', 'free' (50% rather than the overall 32.8%) and 'relevant', again suggesting the line of least resistance at the expense of quality. 26-35-year-olds were much more likely to choose high quality (80% rather than the overall 37.9%), comprehensive, recommended, and reliable. However the 26-35-year-olds also chose 'easy to access (41.3% rather than 37.9% overall), and 'easy to use' but at rather lower levels. In the older age ranges, the choices conform more to the expected profile but there is some indication that the 36-45 year olds revert to the choices of convenience, familiarity, and readily available, and none in this age range or older chose high quality. The chi-square test returned a p-value of 0.007, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' reasons for preference for resources not in the online library and age range.

Table 5.20.3: Reason for Preference of Resources Not in the Online Library by Level of Programme

Reason for resource preference	Frequency	Percentage (%) of sample)	PG	% PG	UG	% UG	Diploma	% Dip	Cert	% Cert	Access	% Access	NR	% No Response
Affordable	20	3.1	4	20.0	16	80.0	0	0.0	0	0.0	0	0.0	0	0.0

Reason for resource preference	Frequency	Percentage (%) of sample)	PG	% PG	UG	% UG	Diploma	% Dip	Cert	% Cert	Access	% Access	NR	% No Response
Comprehensive	4	0.6	2	50.0	2	50.0	0	0.0	0	0.0	0	0.0	0	0.0
Convenient	35	5.4	4	11.4	28	80.0	1	2.9	0	0.0	1	2.9	1	2.9
Easy to access	179	27.6	131	73.2	38	21.2	5	2.8	1	0.6	4	2.2	0	0.0
Easy to use	91	14.0	76	83.5	12	13.2	0	0.0	1	1.1	2	2.2	0	0.0
Familiarity	9	1.4	1	11.1	7	77.8	0	0.0	0	0.0	1	11.1	0	0.0
Free	8	1.2	0	0.0	6	75.0	1	12.5	1	12.5	0	0.0	0	0.0
High Quality	5	0.8	2	40.0	3	60.0	0	0.0	0	0.0	0	0.0	0	0.0
No Choice	13	2.0	5	38.5	8	61.5	0	0.0	0	0.0	0	0.0	0	0.0
Other	5	0.8	0	0.0	4	80.0	0	0.0	0	0.0	1	20.0	0	0.0
Readily available	89	13.7	22	24.7	59	66.3	5	5.6	0	0.0	2	2.2	1	1.1
Recommended	20	3.1	6	30.0	11	55.0	0	0.0	1	5.0	2	10.0	0	0.0
Relevant	48	7.4	13	27.1	34	70.8	0	0.0	0	0.0	0	0.0	1	2.1
Reliable	92	14.2	25	27.2	67	72.8	0	0.0	0	0.0	0	0.0	0	0.0
Up to Date	1	0.2	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Overall, 84.6% of respondents were undergraduates and in none of the choices did undergraduates comprise than 80% of the respondents. Undergraduates were more likely to choose affordable, free, convenient, familiar, readily available, relevant and reliable rather than high quality and recommended, and the answers 'easy to access' and 'easy to use' attracted a very low percentage of replies from undergraduates. Postgraduates (15.1% of respondents to the survey overall) were much less likely to figure among the replies 'free', 'familiar' or convenient' but accounted for 73.2% of 'easy to access' and 83.5% of 'easy to use'. This is a remarkable finding and perhaps contrary to expectations. Postgraduate respondents are much more likely to prefer resources that are easy to access and easy to use, perhaps because of more pressing time constraints even though they also chose 'high quality', 'recommended', 'relevant' and 'reliable' at higher rates than their overall proportion. Postgraduates were also much more likely to select 'no choice', and this may have conditioned their replies to the other questions. The chi-square test returned a value of 6.3004E-26 (means to move 26 decimal places to the left), which is less than 0.05 and supports the hypothesis that there is a small but significant relationship between distance learners' preferences for information sources not in the Online Library and level of programme.

Table 5.20.4: Reason for Preference of Resources Not in the Online Library by English Language Proficiency

Reason for resource preference	Frequency	Percentage (%) of sample)	Yes	% Yes	NO	% No	No Response	% No Response
Affordable	20	3.1	11	55.0	7	35.0	2	10.0
Comprehensive	4	0.6	3	75.0	1	25.0	0	0.0
Convenient	35	5.4	16	45.7	18	51.4	1	2.9
Easy to access	179	27.6	96	53.6	79	44.1	4	2.2
Easy to use	91	14.0	47	51.6	42	46.2	2	2.2
Familiarity	9	1.4	5	55.6	4	44.4	0	0.0
Free	8	1.2	3	37.5	5	62.5	0	0.0
High Quality	5	0.8	3	60.0	2	40.0	0	0.0
No Choice	13	2.0	8	61.5	4	30.8	1	7.7
Other	5	0.8	4	80.0	1	20.0	0	0.0
Readily available	89	13.7	50	56.2	38	42.7	1	1.1
Recommended	20	3.1	13	65.0	7	35.0	0	0.0
Relevant	48	7.4	28	58.3	18	37.5	2	4.2
Reliable	92	14.2	50	54.3	40	43.5	2	2.2
Up to Date	1	0.2	0	0.0	1	100.0	0	0.0

51% of respondents overall declared English as their first language. Those with English as a first language were more likely to choose 'comprehensive' (75%), 'high quality' (60%), and 'recommended' (65%) but also 'no choice' (61.5%). Those without English as a first language were more likely to choose 'convenient' (51.3%) and free (62.5%). This indicates a possible difference in reasons for preferring other resources, with those with less English proficiency using less reliable and lower-quality resources. However, the chi-square test returned a p-value of 0.090, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between respondents' reasons for preference of resources not in the Online Library and English language.

Table 5.20.5: Reason for Preference of Resources Not in the Online Library by Programme

Reason for resource preference	Cedep	% Cedep	Cefims	% Cefims	EMFSS	% EMFSS	Int Mgt	% Int Mgt	Laws	% Laws	LLM	% LLM	MRES	% MRES	Other	% Other	NR	% NR
Affordable	0	0.0	0	0.0	9	45.0	0	0.0	9	45.0	2	10.0	0	0.0	0	0.0	0	0.0
Comprehensive	0	0.0	0	0.0	2	50.0	0	0.0	2	50.0	0	0.0	0	0.0	0	0.0	0	0.0
Convenient	0	0.0	1	2.9	11	31.4	2	5.7	19	54.3	2	5.7	0	0.0	0	0.0	0	0.0
Easy to access	8	4.5	2	1.1	64	35.8	5	2.8	88	49.2	10	5.6	2	1.1	0	0.0	0	0.0
Easy to use	1	1.1	2	2.2	38	41.8	2	2.2	45	49.5	2	2.2	1	1.1	1	1.1	0	0.0
Familiarity	1	11.1	0	0.0	7	77.8	0	0.0	1	11.1	0	0.0	0	0.0	0	0.0	0	0.0
Free	0	0.0	0	0.0	7	87.5	0	0.0	1	12.5	0	0.0	0	0.0	0	0.0	0	0.0
High Quality	0	0.0	1	20.0	4	80.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
No Choice	0	0.0	0	0.0	7	53.8	1	7.7	2	15.4	2	15.4	1	7.7	0	0.0	0	0.0
Other	0	0.0	0	0.0	3	60.0	1	20.0	1	20.0	0	0.0	0	0.0	0	0.0	0	0.0
Readily available	2	2.2	2	2.2	35	39.3	3	3.4	38	42.7	8	9.0	1	1.1	0	0.0	0	0.0
Recommended	0	0.0	0	0.0	9	45.0	1	5.0	7	35.0	3	15.0	0	0.0	0	0.0	0	0.0
Relevant	3	6.3	1	2.1	34	70.8	0	0.0	9	18.8	0	0.0	1	2.1	0	0.0	0	0.0
Reliable	1	1.1	3	3.3	30	32.6	2	2.2	44	47.8	9	9.8	2	2.2	1	1.1	0	0.0
Up to Date	1	100.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

The two programmes that account for the large majority of the respondents are the undergraduate law programme and the undergraduate EMFSS programme (45.3% and 39.3% respectively). Law students chose comprehensive, convenient, easy to access, easy to use and reliable at rates in excess of their overall proportion of respondents. This corresponds to use of the major comprehensive law databases. However, law students chose familiar, free, high quality and relevant at very low levels. EMFSS chose familiarity, free (87.5%), high quality (80%) and relevant (70.8%) at much higher rates. These results are a little contradictory, suggesting EMFSS respondents are more concerned about quality but also more likely to use free resources. It is interesting that the outstanding reason for EMFSS respondents choosing alternative information resources is the fact that they are 'free', and they also choose 'no choice' at a high rate (53%). However, the chi-square test returned a p-value of 4.000E-04 (means

move four decimal places to the left), which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between respondents' reasons for preference of resources not in the Online Library and programme of study.

Table 5.20.6: Reason for Preference of Resources Not in the Online Library by Mode of Study

Reason for resource preference	Frequency	(%) of sample	At Ins+Tuition	% at Ins & Tuition	At INS No Tuition	%at Ins No tuition	Ind No Tuition	% ind No tuition	Independent with private Tuition	% Ind & Tuition	No Response	% No Response
Affordable	20	3.1	6	30.0	3	15.0	9	45.0	2	10.0	0	0.0
Comprehensive	4	0.6	2	50.0		0.0	1	25.0	1	25.0	0	0.0
Convenient	35	5.4	14	40.0	1	2.9	18	51.4	2	5.7	0	0.0
Easy to access	179	27.6	47	26.3	23	12.8	91	50.8	17	9.5	1	0.6
Easy to use	91	14.0	33	36.3	16	17.6	38	41.8	4	4.4	0	0.0
Familiarity	9	1.4		0.0	1	11.1	7	77.8	1	11.1	0	0.0
Free	8	1.2	2	25.0	2	25.0	4	50.0	0	0.0	0	0.0
High Quality	5	0.8	1	20.0	1	20.0	2	40.0	1	20.0	0	0.0
No Choice	13	2.0	4	30.8	1	7.7	5	38.5	3	23.1	0	0.0
Other	5	0.8	2	40.0	2	40.0	1	20.0	0	0.0	0	0.0
Readily available	89	13.7	26	29.2	7	7.9	48	53.9	8	9.0	0	0.0
Recommended	20	3.1	3	15.0	3	15.0	14	70.0	0	0.0	0	0.0
Relevant	48	7.4	11	22.9	11	22.9	24	50.0	2	4.2	0	0.0
Reliable	92	14.2	32	34.8	11	12.0	39	42.4	9	9.8	0	0.0
Up to Date	1	0.2	0	0.0	0	0.0	0	0.0	1	100.0	0	0.0
Total number of respondents 649												

According to Table 5.7, 31% of students were at an institution supplemented by private tuition, 11.9% were at an institution with no further tuition (overall 42.9% at an institution), 47.9% were studying independently with no private tuition and 9.2% were studying independently with private tuition (57.1% overall were not at an institution). Respondents studying independently seemed to be more likely to use familiar resources but they also use recommended resources. They also generally seemed more likely to use convenient, easy-to-access and free resources and to be more concerned about affordability. However, the chi-square test returned a p-value of 0.164, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between learners' preference for non-Online Library resources and mode of study.

Table 5.20.7: Reason for Preference of Resources Not in the Online Library by Country

Response	Affordable	Comprehensive	Convenient	Easy to access	Easy to use	Familiarity	Free	High Quality	No Choice	Other	Readily available	Recommended	Relevant	Reliable	Up to Date
Number of respondents	20	4	35	179	91	9	8	5	13	5	89	20	48	92	1
Percentage %	3.1	0.6	5.4	27.6	14.0	1.4	1.2	0.8	2.0	0.8	13.7	3.1	7.4	14.2	0.2
3 diff countries	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
% 3 diff countries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Albania	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Albania	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Armenia	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
% Armenia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Australia	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0
% Australia	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Austria	0	0	0	3	1	0	0	0	0	0	1	1	1	1	0
% Austria	0.0	0.0	0.0	1.7	1.1	0.0	0.0	0.0	0.0	0.0	1.1	5.0	2.1	1.1	0.0
Bahamas	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
% Bahamas	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bahrain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bahrain	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bangladesh				3	3								1	2	
% Bangladesh	0.0	0.0	0.0	1.7	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.2	0.0
Barbados	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
% Barbados	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Belgium				2	1	0	0	0	0	0	1	0	0	1	0
% Belgium	0.0	0.0	0.0	1.1	1.1	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	1.1	0.0
Brazil			1	0	0	0	0	0	0	0	1	0		0	0
% Brazil	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0
Bulgaria	0		0	1	0	0	0	0	0	0	0	0	1	0	0
% Bulgaria	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0
Cambodia	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0
% Cambodia	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	1.1	5.0	0.0	0.0	0.0
Cameroon	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
% Cameroon	0.0	0.0	0.0	0.0	0.0	11.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Canada	0	0	0	6	4	0	0	0	1		4	1	0	2	1
% Canada	0.0	0.0	0.0	3.4	4.4	0.0	0.0	0.0	7.7	0.0	4.5	5.0	0.0	2.2	100.0
Cayman	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0

Response	Affordable	Comprehensive	Convenient	Easy to access	Easy to use	Familiarity	Free	High Quality	No Choice	Other	Readily available	Recommended	Relevant	Reliable	Up to Date
Islands															
% Cayman Islands	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Colombia					1							1			
% Colombia	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0
Croatia	0	0	0	0	0	0	0	0	0	0	1	0		1	0
% Croatia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	1.1	0.0
Cyprus	0	00	0	1	0	0	0	0	0	0	0	0	0	2	0
% Cyprus	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0
Czech Republic	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
% Czech Republic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	1.1	0.0
Denmark	0		1	0	0	0		0	0	0	0	0	1	0	0
% Denmark	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0
Dominica	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
% Dominica	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Egypt	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
% Egypt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	2.1	0.0	0.0
France	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
% France	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Germany	0		1	1	1	0	0	0	0	0	2	0	2	0	0
% Germany	0.0	0.0	2.9	0.6	1.1	0.0	0.0	0.0	0.0	0.0	2.2	0.0	4.2	0.0	0.0
Ghana	0		0	1	0	0	0	0	0	0	0	0	1	1	0
% Ghana	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	1.1	0.0
Greece	0	0	0	1		2		1	1	0	0	0	0	0	0
% Greece	0.0	0.0	0.0	0.6	0.0	22.2	0.0	20.0	7.7	0.0	0.0	0.0	0.0	0.0	0.0
Guatemala	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
% Guatemala	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Guyana	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
% Guyana	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0
Hong Kong	1		3	8	6	1				2	3	2		7	
% Hong Kong	5.0	0.0	8.6	4.5	6.6	11.1	0.0	0.0	0.0	40.0	3.4	10.0	0.0	7.6	0.0
India	1	0	1	3	1	0	0	0	0	0	0	0	1	1	0
% India	5.0	0.0	2.9	1.7	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	1.1	0.0
Indonesia			1											1	
% Indonesia	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Indonesia and Czech Republic	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
% Indonesia	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Response	Affordable	Comprehensive	Convenient	Easy to access	Easy to use	Familiarity	Free	High Quality	No Choice	Other	Readily available	Recommended	Relevant	Reliable	Up to Date
and Czech Republic															
Iran	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
% Iran	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Israel	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
% Israel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Italy	0	0	0	2	1	0	0	0	0	0	1			1	0
% Italy	0.0	0.0	0.0	1.1	1.1	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	1.1	0.0
Jamaica	0	0	2	4	1	1	0	0	0	0	2	0	1	2	0
% Jamaica	0.0	0.0	5.7	2.2	1.1	11.1	0.0	0.0	0.0	0.0	2.2	0.0	2.1	2.2	0.0
Japan	0	0	2	2	1	0	0	0	0	0	1	0	0	1	0
% Japan	0.0	0.0	5.7	1.1	1.1	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	1.1	0.0
Kenya	0	0	0	2	0	0	0	0	0	0	3	0	0	0	0
% Kenya	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	3.4	0.0	0.0	0.0	0.0
Kuwait	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
% Kuwait	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	0.0	0.0	0.0	0.0	0.0	0.0
Lithuania	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
% Lithuania	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Macedonia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Macedonia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Madagascar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Madagascar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Malawi	0	0	1	0	0	0	0	0	0	0	1	0	0		0
% Malawi	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0
Malaysia	1			4	5				4		3		1	2	
% Malaysia	5.0	0.0	0.0	2.2	5.5	0.0	0.0	0.0	30.8	0.0	3.4	0.0	2.1	2.2	0.0
Malta	0		1	3	2	0	0	1	0	0	4	0	1	2	0
% Malta	0.0	0.0	2.9	1.7	2.2	0.0	0.0	20.0	0.0	0.0	4.5	0.0	2.1	2.2	0.0
Martinique	0	0	0	0	0	0		0	0	0	1	0	0	0	0
% Martinique	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0
Mauritius	1	0	0	11	1	0	0	0	0	0	4	0	1	1	0
% Mauritius	5.0	0.0	0.0	6.1	1.1	0.0	0.0	0.0	0.0	0.0	4.5	0.0	2.1	1.1	0.0
Myanmar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Myanmar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Namibia	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
% Namibia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0
New Zealand	0		1	0	0	0	0	0	0	0	0	0	1	3	0
% New	0.0	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	3.3	0.0

Response	Affordable	Comprehensive	Convenient	Easy to access	Easy to use	Familiarity	Free	High Quality	No Choice	Other	Readily available	Recommended	Relevant	Reliable	Up to Date
Zealand															
Nigeria	0	0	2	5	4	0	0	0	0	1	4	1	1	0	0
% Nigeria	0.0	0.0	5.8	2.8	4.4	0.0	0.0	0.0	0.0	20.0	4.5	5.0	2.1	0.0	0.0
No response	2	0	1	4	1		2	1	2	0	0	1	1	1	0
% No response	10.0	0.0	2.9	2.2	1.1	0.0	25.0	20.0	15.4	0.0	0.0	5.0	2.1	1.1	0.0
Other	1	0	0	2	1	0	0	0	0	0	0	0	0	0	0
% Other	5.0	0.0	0.0	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pakistan			2	4	5	0	1	1	0	0	2	1	4	2	0
% Pakistan	0.0	0.0	5.7	2.2	5.5	0.0	12.5	20.0	0.0	0.0	2.2	5.0	8.3	2.2	0.0
Peru	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
% Peru	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0
Poland	0	0	0	2	2	0	0	0	0	0	2	0	1	0	0
% Poland	0.0	0.0	0.0	1.1	2.2	0.0	0.0	0.0	0.0	0.0	2.2	0.0	2.1	0.0	0.0
Portugal	0		1	1	0	0	0	0	0	0	0	0	1	0	0
% Portugal	0.0	0.0	2.9	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	0.0
Russia	0	0	0	4	4	0	1	0	0	0	3	0	4	4	0
% Russia	0.0	0.0	0.0	2.2	4.4	0.0	12.5	0.0	0.0	0.0	3.4	0.0	8.3	4.3	0.0
Rwanda	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
% Rwanda	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Saint Lucia	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
% Saint Lucia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0
Saudi Arabia	0	1	1	1	0	0	0	0	0	0	0	0	0	1	0
% Saudi Arabia	0.0	25.0	2.9	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Serbia	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
% Serbia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0
Singapore	2	2	3	25	12	0	2			2	11	3	3	12	
% Singapore	10.0	50.0	8.6	14.0	13.2	0.0	25.0	0.0	0.0	40.0	12.4	15.0	6.3	13.0	0.0
South Africa	0	0	0	3	0	0	0	0	0	0	2	0	0	1	0
% South Africa	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	1.1	0.0
South Korea	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% South Korea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spain	1	0	0	5	3	1	1	0	0	0	1	0	1	5	0
% Spain	5.0	0.0	0.0	2.8	3.3	11.1	12.5	0.0	0.0	0.0	1.1	0.0	2.1	5.4	0.0
Sri Lanka			1	6	3						3		3	2	
% Sri Lanka	0.0	0.0	2.9	3.4	3.3	0.0	0.0	0.0	0.0	0.0	3.4	0.0	6.3	2.2	0.0

Response	Affordable	Comprehensive	Convenient	Easy to access	Easy to use	Familiarity	Free	High Quality	No Choice	Other	Readily available	Recommended	Relevant	Reliable	Up to Date
St Vincent and the Grenadines	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0
% St Vincent and the Grenadines	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0
Sudan	0	0	0	1	1	0	0	0	0	0	0	1	0	1	0
% Sudan	0.0	0.0	0.0	0.6	1.1	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	1.1	0.0
Sweden	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Sweden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Switzerland	0	0	0	5	1	0	1	0	0	0	2	0	1	3	0
% Switzerland	0.0	0.0	0.0	2.8	1.1	0.0	12.5	0.0	0.0	0.0	2.2	0.0	2.1	3.3	0.0
Thailand	0	0	0	6	1	0	0	0	0	0	0	1	0	0	0
% Thailand	0.0	0.0	0.0	3.4	1.1	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0
The Netherlands	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
% The Netherlands	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trinidad and Tobago	4	1	4	12	9	2	0	0	1	0	10	0	6	8	0
% Trinidad and Tobago	20.0	25.0	11.4	6.7	9.9	22.2	0.0	0.0	7.7	0.0	11.2	0.0	12.5	8.7	0.0
Uganda	0	0	0	1	0	0	0	0	0		0	0	0	0	0
% Uganda	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
United Arab Emirates	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0
% United Arab Emirates	0.0	0.0	0.0	0.6	1.1	0.0	0.0	0.0	7.7	0.0	0.0	0.0	0.0	0.0	0.0
United Kingdom	5		2	13	5	0	0	0	1	0	5	3	6	8	0
% United Kingdom	25.0	0.0	5.7	7.3	5.5	0.0	0.0	0.0	7.7	0.0	5.6	15.0	12.5	8.7	0.0
United States	1		1	4	4	1		1	0	0	2	0	1	2	0
% United States	5.0	0.0	2.9	2.2	4.4	11.1	0.0	20.0	0.0	0.0	2.2	0.0	2.1	2.2	0.0
Uruguay	0	0	1	2	0	0	0	0	1	0	2	0	0	2	0
% Uruguay	0.0	0.0	2.9	1.1	0.0	0.0	0.0	0.0	7.7	0.0	2.2	0.0	0.0	2.2	0.0
Vietnam	00		0	2	1	0	0	0	0	0	1	0	0	0	0
% Vietnam	0.0	0.0	0.0	1.1	1.1	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0

One might expect those choosing 'free' (only 8 respondents) to be located in poorer countries but in fact they are located in Hong Kong, Pakistan, Singapore, Spain and Switzerland. Affordability was chosen by 20 respondents located in Hong Kong, India, Malaysia, Singapore, Spain, and Trinidad and Tobago, with the highest number in the UK. This tends to suggest that, for the respondents, cost is as much a factor in countries with a higher standard of living in general as in generally poorer countries. The largest number of respondents chose 'easy to access' and they were located throughout the various countries in proportions that reflect the general distribution of students and do not seem to be affected by country of residence. A chi-square test has not been conducted because of the number of cells with zeros or no responses.

5.21 Does Online Library Meet All Library and Information Needs?

Table 5.21: Does Online Library Meet All Library and Information Needs?

Does OLL meet needs	Frequency	Percentage of total participants
Yes	297	45.6
NO	296	45.6
No Response	56	8.6
Total	649	

This reveals that the Online Library, while it may meet some needs for more of the respondents, only meets the needs of half of those who offered an opinion. This can be compared with the 44.4% of respondents who acknowledged that they needed training in the use of electronic resources (see Table 5.26)

Table 5.21.1: Does Online Library Meet All Library and Information Needs by Gender

Does OLL meet needs	Female	% Female	male	% Male	No Response	% No Response
Yes	160.0	53.9	136.0	45.8	1.0	0.3
NO	152.0	51.4	144.0	48.6	0.0	0.0
No Response	29.0	51.8	27.0	48.2	0.0	0.0
Total						

There seems to be little significance in these findings, and gender does not affect these results. The chi-square test returned a p-value of 0.5, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between whether the Online Library meets all the library and information needs of distance learners and gender.

Table 5.21.2: Does Online Library Meet All Library and Information Needs by Age Range

Does OLL meet needs	Under 25	% under 25	26-35	% 26-35	36-45	% 36-45	46-55	% 46-55	56+	% 56+	NR	% No response
Yes	104.0	35.0	113.0	38.0	51.0	17.2	20.0	6.7	8.0	2.7	1.0	0.3
No	92.0	31.1	110.0	37.2	62.0	20.9	19.0	6.4	12.0	4.1	1.0	0.3
No Response	17.0	30.4	23.0	41.1	12.0	21.4	3.0	5.4	1.0	1.8	0.0	0.0

The figures seem to show that, generally, there is little difference between the equal division of respondents shown in Table 21 and the division shown at each age range except among the 35-46-year-olds and the over-55-year-olds, where there are fewer who believe all their information needs are met by the Online Library. This may be explained by the fact that the older students may have greater information needs or greater expectations and they are more likely to be postgraduate students who have wider information needs. The chi-square test returned a p-value of 0.614, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between whether the Online Library meets all the library and information needs of respondents and their age.

Table 5.21.3: Does Online Library Meet All Library and Information Needs by Level of Programme

Does OLL meet needs	Frequency	Percentage of total participants	PG	% PG	UG	% UG	Dip	% Dip	Cert	% Cert	Access	% Access	NR	% No response
Yes	297	45.8	54.0	18.2	231.0	77.8	5.0	1.7	2.0	0.7	4.0	1.3	1.0	0.3
No	296	45.6	87.0	29.4	193.0	65.2	5.0	1.7	2.0	0.7	6.0	2.0	3.0	1.0
No Response	56	8.6	10.0	17.9	40.0	71.4	2.0	3.6	2.0	3.6	2.0	3.6	0.0	0.0

Overall, 84.6% of respondents were undergraduates and 15.1% were postgraduates. As expected and implied by Table 21.2, undergraduates are more likely than not to believe that the Online Library meets all their information needs. However, postgraduates are much more likely to believe that the Online Library does not meet all their information needs. Postgraduates are more likely to have much wider and less well-defined information needs. The chi-square test returned a p-value of 0.021, which is less

than 0.05 and supports the hypothesis that there is a significant relationship between whether the Online Library meets all the library and information needs of respondents and level of programme.

Table 5.21.4: Does Online Library Meet All Library and Information Needs by English Language Proficiency

Does OLL meet needs	Frequency	Percentage of total participants	yes	% Yes	No	% No	NR	% No Response
Yes	297	45.8	141.0	47.5	139.0	46.8	17.0	5.7
NO	296	45.6	160.0	54.1	130.0	43.9	6.0	2.0
No Response	56	8.6	30.0	53.6	24.0	42.9	2.0	3.6
Total	649							

51% of respondents overall declared English as their first language, and the figures suggest that rather more of those believe that the Online Library does not meet all their information needs, whereas those with another language as their first language appear more likely to believe that the Online Library meets all their information needs. It is important to note that the percentages for No Response represent only 8.6% of all responses to this question. However, the chi-square test returned a p-value of 0.25, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between whether the Online Library meets all the library and information needs of distance learners and English Language proficiency.

Table 5.21.5: Does Online Library Meet All Library and Information Needs by Programme of Study

Does OLL meet needs	Frequency	Percentage of total participants	Cedep	% Cedep	Cefims	% Cefims	EMFSS	% EMFSS	Inter Mgt	% Int Mgt	Law	% Law	LLM	% LLM	MRES	% MRES	Other	% Ce
Yes	297	45.8	4.0	1.3	5.0	1.7	101.0	34.0	7.0	2.4	164.0	55.2	14.0	4.7	2.0	0.7	0.0	0
No	296	45.6	4.0	1.4	11.0	3.7	130.0	43.9	13.0	4.4	103.0	34.8	19.0	6.4	6.0	2.0	2.0	0
No Response	56	8.6	4.0	7.1	2.0	3.6	24.0	42.9	1.0	1.8	27.0	48.2	2.0	3.6	0.0	0.0	0.0	0
Total	649																	

The two programmes that account for the large majority of the respondents are the undergraduate law programme and the undergraduate EMFSS programme (45.3% and 39.3% respectively). There is an interesting deviation from the overall 50/50 split among respondents when analysed by programme of

study. Law undergraduate students are much more likely than EMFSS students to believe that the Online Library meets all their information needs, and this may be because the law databases are more comprehensive and the respondents' information needs better defined. As established in earlier tables, the postgraduate programmes return results indicating that postgraduate students are less likely to believe that the Online Library meets all their information needs. The chi-square test returned a p-value of 0.0004, which is less than 0.05 and supports the hypothesis that there is a significant relationship between whether the Online Library meets all the library and information needs of distance learners and programme of study

Table 5.21.6: Does Online Library Meet All Library and Information Needs by Mode of Study

Does OLL meet needs	Frequency	Percentage of total respondents	At Ins+ Tui	% at inst & tuition	At Ins No Tuition	% at Inst No tuition	Ind No Tuition	% Indep no Tuition	Ind +Tui	% Indep & Tuition	NR	% No Response
Yes	297	45.8	115.0	38.7	38.0	12.8	118.0	39.7	23.0	7.7	3.0	1.0
No	296	45.6	68.0	23.0	33.0	11.1	161.0	54.4	34.0	11.5	0.0	0.0
No Response	56	8.6	18.0	32.1	6.0	10.7	29.0	51.8	3.0	5.4	0.0	0.0
Total	649											

Table 5.21.6: Does Online Library Meet All Library and Information Needs by Mode of Study

According to Table 5.7, 31% of students were at an institution supplemented by private tuition, 11.9% were at an institution with no further tuition (overall 42.9% at an institution), 47.9% were studying independently with no private tuition and 9.2% were studying independently with private tuition (57.1% overall were not at an institution). Compared to the overall equal division between those who believe that the Online Library meets all their information needs and those who do not, these results show a large variation. Those at an institution are much more likely to feel that the Online Library meets all their information needs compared to those studying independently. This is perhaps explained by the fact that those at an institution are more focused and follow the syllabus and recommended reading more closely and also by the fact that there are more postgraduates studying independently and, as seen above, they are less likely to have all their information needs satisfied by the Online Library. The chi-square test returned a p-value of 9.72105E-05 (means to move 5 decimal places to the left), which is less than 0.05 and supports the hypothesis that there is a significant relationship between whether the Online Library meets all library and information needs of distance learners and mode of study.

Table 5.21.7: Does Online Library Meet All Library and Information Needs by Country

Response	Yes	No	No Response
3 diff countries	0.0	1.0	0.0
% 3 diff countries	0.0	0.0	0.0
Albania	1.0	0.0	0.0
% Albania	0.3	0.0	0.0
Armenia	0.0	1.0	0.0
% Armenia	0.0	0.3	0.0
Australia	2.0	3.0	0.0
% Australia	0.7	1.0	0.0
Austria	1.0	4.0	2.0
% Austria	0.3	1.4	3.6
Bahamas	1.0	0.0	1.0
% Bahamas	0.3	0.0	1.8
Bahrain	2.0	3.0	0.0
% Bahrain	0.7	1.0	0.0
Bangladesh	9.0	1.0	0.0
% Bangladesh	3.0	0.3	0.0
Barbados	1.0	0.0	1.0
% Barbados	0.3	0.0	1.8
Belgium	1.0	5.0	0.0
% Belgium	0.3	1.7	0.0
Brazil	2.0	1.0	0.0
% Brazil	0.7	0.3	0.0
Bulgaria	0.0	1.0	0.0
% Bulgaria	0.0	0.3	0.0
Cambodia	2.0	1.0	0.0
% Cambodia	0.7	0.3	0.0
Cameroon	0.0	1.0	0.0
% Cameroon	0.0	0.3	0.0
Canada	10.0	14.0	2.0
% Canada	3.4	4.7	3.6
Cayman Islands	0.0	1.0	0.0
% Cayman Islands	0.0	0.3	0.0
Colombia	0.0	0.0	2.0
% Colombia	0.0	0.0	3.6
Croatia	0.0	2.0	0.0
% Croatia	0.0	0.7	0.0
Cyprus	0.0	3.0	0.0
% Cyprus	0.0	1.0	0.0
Czech Republic	2.0	0.0	0.0
% Czech Republic	0.7	0.0	0.0
Denmark	0.0	2.0	0.0
% Denmark	0.0	0.7	0.0

Response	Yes	No	No Response
Dominica	1.0	2.0	0.0
% Dominica	0.3	0.7	0.0
Egypt	2.0	1.0	0.0
% Egypt	0.7	0.3	0.0
France	1.0	1.0	0.0
% France	0.3	0.3	0.0
Germany	4.0	3.0	0.0
% Germany	1.3	1.0	0.0
Ghana	1.0	2.0	0.0
% Ghana	0.3	0.7	0.0
Greece	3.0	0.0	1.0
% Greece	1.0	0.0	1.8
Guatemala	0.0	1.0	0.0
% Guatemala	0.0	0.3	0.0
Guyana	0.0	1.0	0.0
% Guyana	0.0	0.3	0.0
Hong Kong	18.0	8.0	4.0
% Hong Kong	6.1	2.7	7.1
India	7.0	2.0	0.0
% India	2.4	0.7	0.0
Indonesia	2.0	1.0	0.0
% Indonesia	0.7	0.3	0.0
Indonesia and Czech Republic	0.0	0.0	0.0
% Indonesia and Czech Republic	0.0	0.0	0.0
Iran	0.0	1.0	0.0
% Iran	0.0	0.3	0.0
Israel	0.0	1.0	0.0
% Israel	0.0	0.3	0.0
Italy	3.0	3.0	0.0
% Italy	1.0	1.0	0.0
Jamaica	5.0	10.0	1.0
% Jamaica	1.7	3.4	1.8
Japan	3.0	3.0	1.0
% Japan	1.0	1.0	1.8
Kenya	2.0	2.0	1.0
% Kenya	0.7	0.7	1.8
Kuwait	0.0	1.0	0.0
% Kuwait	0.0	0.3	0.0
Lithuania	0.0	1.0	0.0
% Lithuania	0.0	0.3	0.0
Macedonia	0.0	1.0	0.0
% Macedonia	0.0	0.3	0.0
Madagascar	0.0	1.0	0.0

Response	Yes	No	No Response
% Madagascar	0.0	0.3	0.0
Malawi	0.0	2.0	0.0
% Malawi	0.0	0.7	0.0
Malaysia	15.0	11.0	1.0
% Malaysia	5.1	3.7	1.8
Malta	2.0	9.0	1.0
% Malta	0.7	3.0	1.8
Martinique	0.0	1.0	0.0
% Martinique	0.0	0.3	0.0
Mauritius	11.0	12.0	2.0
% Mauritius	3.7	4.1	3.6
Myanmar	1.0	0.0	0.0
% Myanmar	0.3	0.0	0.0
Namibia	0.0	1.0	0.0
% Namibia	0.0	0.3	0.0
New Zealand	4.0	1.0	0.0
% New Zealand	1.3	0.3	0.0
Nigeria	4.0	14.0	3.0
% Nigeria	1.4	4.7	5.4
No response	12.0	8.0	5.0
% No response	4.0	2.7	8.9
Other	2.0	1.0	1.0
% Other	0.7	0.3	1.8
Pakistan	9.0	12.0	1.0
% Pakistan	3.0	4.1	1.8
Peru	1.0	0.0	0.0
% Peru	0.3	0.0	0.0
Poland	2.0	4.0	0.0
% Poland	0.7	1.4	0.0
Portugal	2.0	1.0	0.0
% Portugal	0.7	0.3	0.0
Russia	17.0	7.0	2.0
% Russia	5.7	2.4	3.6
Rwanda	0.0	1.0	0.0
% Rwanda	0.0	0.3	0.0
Saint Lucia	0.0	1.0	0.0
% Saint Lucia	0.0	0.3	0.0
Saudi Arabia	0.0	5.0	0.0
% Saudi Arabia	0.0	1.7	0.0
Serbia	0.0	1.0	0.0
% Serbia	0.0	0.3	0.0
Singapore	37.0	24.0	7.0
% Singapore	12.5	8.1	12.5
South Africa	3.0	0.0	0.0

Response	Yes	No	No Response
% South Africa	1.0	0.0	0.0
South Korea	0.0	1.0	0.0
% South Korea	0.0	0.3	0.0
Spain	9.0	8.0	1.0
% Spain	3.0	2.7	1.8
Sri Lanka	7.0	5.0	1.0
% Sri Lanka	2.4	1.7	1.8
St Vincent and the Grenadines	0.0	2.0	0.0
% St Vincent and the Grenadines	0.0	0.7	0.0
Sudan	3.0	1.0	0.0
% Sudan	1.0	0.3	0.0
Sweden	1.0	1.0	0.0
% Sweden	0.3	0.3	0.0
Switzerland	6.0	6.0	1.0
% Switzerland	2.0	2.0	1.8
Thailand	4.0	3.0	2.0
% Thailand	1.3	1.0	3.6
The Netherlands	0.0	1.0	0.0
% The Netherlands	0.0	0.3	0.0
Trinidad and Tobago	17.0	28.0	6.0
% Trinidad and Tobago	5.7	9.5	10.7
Uganda	0.0	1.0	0.0
% Uganda	0.0	0.3	0.0
United Arab Emirates	0.0	2.0	0.0
% United Arab Emirates	0.0	0.7	0.0
United Kingdom	27.0	19.0	4.0
% United Kingdom	9.1	6.4	7.1
United States	6.0	10.0	2.0
% United States	2.0	3.4	3.6
Uruguay	5.0	1.0	0.0
% Uruguay	1.7	0.3	0.0
Vietnam	4.0	1.0	0.0
% Vietnam	1.3	0.3	0.0

There seems to be little in the way of a pattern emerging from the analysis of the responses by country of residence, and the responses are more conditioned by the factors analysed in the earlier tables. A chi-square test has not been conducted because of the number of cells with zeros or no responses.

5.22 Suggestions for Improvements to Service

Table 5.22: Suggestions for improvements to service

Resources	Frequency
Access to a broader range of resources:	
O All recommended "essential reading" textbooks, articles, and journals.	85
o More E-books and scanned books	32
o All expensive texts	18
O All recommended "further reading" textbooks, articles, and journals.	13
o All textbooks which are difficult to locate outside the UK	4
o Print sources and access to "real" library	4
More Resources (General as well as some specific ones)	**131**
o Most recent journal issues	
o Older Journal Issues	287
o Canadian databases such as Quick law for statutes and case law	
o Books and journals on Criminal justice	
o More Legal resources related International articles on EU Law	
o More Foreign Law / International Case Law	
o More full-text instead of abstracts	
o Access to Caribbean articles	
o Access to geography and environment resources	
o Access to company law resources	
o Access to a physical library when "the internet goes down"	
More guidance and support in using the Online library	31
o Tutorial notes	
o Simple notes and Case summaries	
o Instant chat with librarian and other students	
o Simple notes and Case summaries	
o Information on which journals are free and which ones are not	
o Better training guides	
o Instructions on how to structure a dissertation	
o Brief summary of the articles in each database and what years they cover	
o Quicker response to enquiries	
o Clear login instructions	
o Finding a case from a citation	
o Tips on how to quickly find relevant information	
o Lecture notes on some topics	7
More support to prepare for exams	
o Past exam papers	
o Sample answers to exam questions with examiners' reports	
o Make available materials relevant to exams	

Resources	Frequency
o Previous years' exam papers along with examiners' reports	
o Sample of answered exam questions for each course	127
Easier and improved access to Online Library resources	
o Easier to access journals	
o Easier to find and access journals	
o Easier to find and access cases	
o Improved access to articles listed in the subject guide	
o A rationalisation of resources should be considered	
o Easier access to journals in my field (Biodiversity)	
o One single point of access for all services	
o Streamlined access - one password for everything	
o Ensure that passwords work all the time	
o A more intuitive way of finding articles	
o Remove restrictions so that all students have access to the entire library	
o Make the Online library more user-friendly	32
o Run on mobile devices	
Improved search facilities	
o Ability to browse journals	
o Accurate and relevant search results	
o Easier search options	
o Direct links to articles from VLE and Portal	
o Improved A-Z and Journal finder search tools	
o Master search engine that cross-searches all databases	
o Quick relevant search results (time-saving feature)	
o Quick relevant search results (time-saving feature)	
o Quick relevant search results (time-saving feature)	
o Available Online should mean one can read it	
o Master search engine that cross-searches all databases	
More individual support for students who live outside the UK	4
o Provide all texts that are difficult to locate ("most of the essential and further reading texts are difficult to locate in my country")	
o Provide all expensive texts and all those that are difficult to come by	
o Provide access to a physical library "sometimes the Internet goes down"	
o Provide resources with a local perspective e.g. "I live in Canada; as I am learning I am trying to determine the Canadian position on the different issues"	
More opportunities to communicate with tutors and fellow students	
O "The physical library encourages study and enhances socialisation with	4

Resources	Frequency
peers".	
o "Instant chat possibility with librarian	
o "Forum to exchange ideas with other students"	
o "Communicating and socialising with other students"	
Increase awareness	1
o Improve publicity so students don't miss it	
Total	**780**

Table 5.22: Suggestions for improvements to service

As shown by Table 5.22 above, suggestions for improvements to the library service can be divided into the following eight broad categories:

- Access to a broader range of resources
- More guidance and support in using the Online Library
- More support to prepare for exams
- Easier and improved access to Online Library resources
- Improved search facilities
- More individual support for students who live outside the UK
- More opportunities to communicate with tutors and fellow students
- Increase awareness

As might be expected, there is significant support for making more resources available in the Online Library. Given that the respondents are taught course students, the provision of all essential recommended reading is a high priority and that of all further reading is desirable. The support for the provision of e-books may indicate a problem in obtaining or affording textbooks. There are various requests for additional resources which in some cases exhibit minority interests (Canadian law, which does not appear as a topic in the programmes of study but may be a comparative interest or even a non-study need - see the later individual response on Canadian issues) but others indicate inadequacies in the databases; for example many of them have only a limited coverage of older volumes of journals.

There seems to be little support for a 'real' library of print materials and those few choosing that response are likely to be the same few who agree that a physical library encourages study and socialisation with peers. Most respondents are likely to feel that these responses are unrealistic in their situation and they have little experience of good physical libraries. There is considerable support for the provision of model or sample answers to examination questions, which is always popular among students whose future is determined by written examinations and who have less experience of examinations and require examination skills. This is notably the case with LLB students, who face 'legal problem questions' that require different skills from those required for essay questions.

There is also support for more guidance or training in the use of the Online Library, almost equalled by the number of respondents asking for the Online Library to be made more user-friendly.

5.23 Access to Other Libraries

Table 5.23: Access to Other Local Libraries

Access to local libraries	Frequency	Percentage of total respondents (%)
No	351	54.1
Yes	212	32.7
No response	86	13.3
Total	649	100.0

Table 5.23: Access to Other Local Libraries
A large majority of respondents do not have access to other local libraries (54.1% compared to 32.7%, with a significant number of 'no responses'). This emphasises the reliance on the Online Library and the need for it to cover more of the essential and further reading expressed in answers to question 22. Although the list of libraries given in question 24 gives an idea of the type of library, it does not indicate the respondents' satisfaction with these local libraries. Previous studies (Loudoun 2010 b), Unwind et al. 1998) found that, although distance learners made significant use of public libraries near them, they found them lacking in terms of meeting their information needs. In the pilot study, students said that public libraries were only used as a place to study.

Table 5.23.1: Access to Other Local Libraries by Gender

Access to local libraries	Frequency	Percentage of total respondents	Female	% Female	Male	% Male	NR	% No Response
Yes	212	32.7	122.0	57.5	89.0	42.0	1.0	0.5
No	351	54.1	181.0	51.6	170.0	48.4	0.0	0.0
No response	86	13.3	38.0	44.2	48.0	55.8	0.0	0.0
Total	649							

Overall, 52.5% of respondents to the survey were female. Only slightly more of those who had access to another library were women (57.5%). The chi-square test returned a p-value of 0.149, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' access to other local libraries and gender.

Table 5.23.2: Access to Other Local Libraries by Age Range

Access to local libraries	Frequency	Percentage of total respondents	Under 25	% Under 25	26-35	% 26-35	36-46	% 36-45	46-55	% 46-55	56+	% 56+	NR	% NR
Yes	212	32.7	74.0	34.9	72.0	34.0	34.0	16.0	23.0	10.8	8.0	3.8	1.0	0.5
No	351	54.1	117.0	33.3	138.0	39.3	70.0	19.9	13.0	3.7	12.0	3.4	1.0	0.3
No response	86	13.3	22.0	25.6	36.0	41.9	21.0	24.4	6.0	7.0	1.0	1.2	0.0	0.0
Total	649	100												

A greater proportion of students aged 46-55 and 56+ have access to libraries compared to lower age ranges, although these are low numbers of respondents; these may perhaps have access to libraries at their place of work (see Question 24). The under-25-year-olds are also more likely to have access to a local library but that is the age range whose members are also likely to be at a teaching institution. The age ranges 25-35 and 36-45 are less likely to have access to local libraries. The chi-square test returned a p-value of 0.012, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' access to other local libraries and age.

Table 5.23.3: Access to Other Local Libraries by Level of Programme

Access to local libraries	Frequency	Percentage of total respondents	PG	% PG	UG	% UG	Dip	% Dip l	Cert	% Cert	Access	% Access	NR	% NR
Yes	212	32.7	54.0	25.5	147.0	69.3	4.0	1.9	2.0	0.9	3.0	1.4	2.0	0.9
No	351	54.1	89.0	25.4	241.0	68.7	8.0	2.3	3.0	0.9	8.0	2.3	2.0	0.6
No response	86	13.3	8.0	9.3	76.0	88.4	0.0	0.0	1.0	1.2	1.0	1.2	0.0	0.0
Total	649	100.0												

There seems to be no significant difference in answers to this question by level of programme. Small numbers also replied to the level of programme with Diploma (yes: 4, no: 8), Certificate (yes: 2, no: 3), Access (yes: 3, no: 8). The chi-square test returned a p-value of 0.059, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' access to other local libraries and level of programme.

Table 5.23.4: Access to Other Local Libraries by English Language Proficiency

Access to local libraries	Frequency	Percentage of total respondents	Yes	% Yes	No	% No	NR	% No Response
English -Yes	212	32.7	115.0	54.2	87.0	41.0	10.0	4.7
English - No	351	54.1	175.0	49.9	166.0	47.3	10.0	2.8

Access to local libraries	Frequency	Percentage of total respondents	Yes	% Yes	No	% No	NR	% No Response
English - No response	86	13.3	41.0	47.7	40.0	46.5	5.0	5.8
Total	649	100.0						

The figures suggest that those with English as a first language may be more likely to have access to a local library (54.2%), whereas those with another language as a first language may be less likely to have access to a local library (47.3%) although the difference is not very marked. The chi-square test returned a p-value of 0.401, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between respondents' access to other local libraries and English language proficiency.

Table 5.23.5: Access to Other Libraries by Programme of Study

Access to local libraries	Yes	No	No response
Frequency	212	351	86
Percentage of total respondents	32.7	54.1	13.3
Cedep	6	10	0
% Cedep	2.8	2.8	0
Cefims	10	7	1
% Cefims	4.7	2	1.2
EMFSS	105	128	22
% EMFSS	49.5	36.5	25.6
Int. Mgt	7	13	1
% Int Mgt	3.3	3.7	1.2
laws	75	159	60
% Laws	35.4	45.3	69.8
LLM	4	29	2
% LLM	1.9	8.3	2.3
MRES	3	5	0
% MRES	1.4	1.4	0
Other	2	0	0
% Other	0.9	0	0
NR	0	0	0
% No response	0	0	0

Table 5.23.5: Access to Other Libraries by Programme of Study
Of those respondents who had access to a local library, EMFSS students were more likely to have access than the (larger number of) law students, be they LLB or LLM. Cefims students also answered

yes in a relatively large proportion. This suggests that those pursuing financial and economic studies who generally study independently rather more than at an institution may have better access to a library, perhaps at their place of work (see Question 24). The chi-square test returned a p-value of 0.002, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' access to other local libraries and programme of study.

Table 5.23.6: Access to Other Libraries by Mode of Study

Access to local libraries	Frequency	Percentage of total respondents	At Inst+Tui	% at Inst & tuition	At ins No Tuition	% at Ins No Tuition	In No Tuition	% Indep NO tuition	Ind+Tui	% Indep & tuition	NR	% No Response
Yes	212	32.7	72.0	34.0	37.0	17.5	79.0	37.3	22.0	10.4	2.0	0.9
No	351	54.1	100.0	28.5	33.0	9.4	184.0	52.4	33.0	9.4	1.0	0.3
No response	86	13.3	29.0	33.7	7.0	8.1	45.0	52.3	5.0	5.8	0.0	0.0
Total	649	100										

These figures confirm that those at an institution are more likely to have access to a local library than those studying independently, although the smaller number of independent students who also have private tuition are slightly more likely to have access to a local library. This suggests that the teaching institutions attended do provide library facilities but it does not show how satisfactory those facilities are. It also suggests that respondents may be including private or personal libraries or those of their tutors in their responses (see Question 23 for further clarification of the nature of the libraries). The chi-square test returned a p-value of 0.002, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between respondents' access to other libraries and programme of study.

Table 5.23.7: Access to Other Libraries by Country

Response	Yes	No	No response
Number of respondents	212	351	86
Percentage %	32.7	54.1	13.3
3 diff countries	1.0	0.0	0.0
% 3 diff countries	0.5	0.0	0.0
Albania	1.0	0.0	0.0
% Albania	0.5	0.0	0.0
Armenia	0.0	1.0	0.0
% Armenia	0.0	0.3	0.0
Australia	5.0	0.0	0.0
% Australia	2.4	0.0	0.0
Austria	4.0	2.0	1.0
% Austria	1.9	0.6	1.2
Bahamas	0.0	0.0	1.0

Response	Yes	No	No response
% Bahamas	0.0	0.0	1.2
Bahrain	1.0	4.0	1.0
% Bahrain	0.5	1.2	1.2
Bangladesh	3.0	7.0	0.0
% Bangladesh	1.4	2.0	0.0
Barbados	1.0	1.0	0.0
% Barbados	0.5	0.3	0.0
Belgium	2.0	3.0	1.0
% Belgium	0.9	0.9	1.2
Brazil	0.0	3.0	0.0
% Brazil	0.0	0.9	0.0
Bulgaria	0.0	1.0	0.0
% Bulgaria	0.0	0.3	0.0
Cambodia	0.0	1.0	2.0
% Cambodia	0.0	0.3	2.3
Cameroon	0.0	0.0	1.0
% Cameroon	0.0	0.0	1.2
Canada	13.0	11.0	2.0
% Canada	6.1	3.1	2.3
Cayman Islands	0.0	1.0	0.0
% Cayman Islands	0.0	0.3	0.0
Colombia	1.0	0.0	1.0
% Colombia	0.5	0.0	1.2
Croatia	1.0	1.0	0.0
% Croatia	0.5	0.3	0.0
Cyprus	1.0	2.0	0.0
% Cyprus	0.5	0.6	0.0
Czech Republic	2.0	0.0	0.0
% Czech Republic	0.9	0.0	0.0
Denmark	2.0	0.0	0.0
% Denmark	0.9	0.0	0.0
Dominica	3.0	0.0	0.0
% Dominica	1.4	0.0	0.0
Egypt	0.0	3.0	0.0
% Egypt	0.0	0.9	0.0
France	0.0	2.0	0.0
% France	0.0	0.6	0.0
Germany	1.0	6.0	0.0
% Germany	0.5	1.7	0.0
Ghana	2.0	1.0	0.0
% Ghana	0.9	0.3	0.0
Greece	1.0	3.0	0.0
% Greece	0.5	0.9	0.0
Guatemala	0.0	1.0	0.0

Response	Yes	No	No response
% Guatemala	0.0	0.3	0.0
Guyana	0.0	1.0	0.0
% Guyana	0.0	0.3	0.0
Hong Kong	7.0	17.0	6.0
% Hong Kong	3.3	4.8	7.0
India	2.0	6.0	1.0
% India	0.9	1.7	1.2
Indonesia	0.0	3.0	0.0
% Indonesia	0.0	0.9	0.0
Iran	0.0	1.0	0.0
% Iran	0.0	0.3	0.0
Israel	0.0	0.0	1.0
% Israel	0.0	0.0	1.2
Italy	0.0	5.0	1.0
% Italy	0.0	1.4	1.2
Jamaica	3.0	8.0	4.0
% Jamaica	1.4	2.3	4.7
Japan	2.0	2.0	3.0
% Japan	0.9	0.6	3.5
Kenya	0.0	1.0	4.0
% Kenya	0.0	0.3	4.7
Kuwait	0.0	1.0	0.0
% Kuwait	0.0	0.3	0.0
Lithuania	1.0	0.0	0.0
% Lithuania	0.5	0.0	0.0
Macedonia	0.0	1.0	0.0
% Macedonia	0.0	0.3	0.0
Madagascar	0.0	1.0	0.0
% Madagascar	0.0	0.3	0.0
Malawi	0.0	2.0	0.0
% Malawi	0.0	0.6	0.0
Malaysia	4.0	22.0	1.0
% Malaysia	1.9	6.3	1.2
Malta	2.0	10.0	0.0
% Malta	0.9	2.8	0.0
Martinique	0.0	1.0	0.0
% Martinique	0.0	0.3	0.0
Mauritius	7.0	13.0	5.0
% Mauritius	3.3	3.7	5.8
Myanmar	0.0	1.0	0.0
% Myanmar	0.0	0.3	0.0
Namibia	0.0	1.0	0.0
% Namibia	0.0	0.3	0.0
New Zealand	2.0	3.0	0.0

Response	Yes	No	No response
% New Zealand	0.9	0.9	0.0
Nigeria	5.0	11.0	5.0
% Nigeria	2.4	3.1	5.9
No response	13.0	12	1.0
% No response	6.1	3.4	1.2
Other	2.0	1.0	1.0
% Other	0.9	0.3	1.2
Pakistan	5.0	14.0	3.0
% Pakistan	2.4	4.0	3.5
Peru	0.0	1.0	0.0
% Peru	0.0	0.3	0.0
Poland	2.0	2.0	2.0
% Poland	0.9	0.6	2.3
Portugal	0.0	3.0	0.0
% Portugal	0.0	0.9	0.0
Russia	8.0	15.0	3.0
% Russia	3.8	4.3	3.5
Rwanda	0.0	1.0	0.0
% Rwanda	0.0	0.3	0.0
Saint Lucia	0.0	1.0	0.0
% Saint Lucia	0.0	0.3	0.0
Saudi Arabia	0.0	5.0	0.0
% Saudi Arabia	0.0	1.4	0.0
Serbia	0.0	1.0	0.0
% Serbia	0.0	0.3	0.0
Singapore	31.0	29.0	8.0
% Singapore	14.6	8.3	9.3
South Africa	2.0	1.0	0.0
% South Africa	0.9	0.3	0.0
South Korea	1.0	0.0	0.0
% South Korea	0.5	0.0	0.0
Spain	5.0	10.0	3.0
% Spain	2.4	2.8	3.5
Sri Lanka	6.0	7.0	0.0
% Sri Lanka	2.8	2.0	0.0
St Vincent and the Grenadines	2.0	0.0	0.0
% St Vincent and the Grenadines	0.9	0.0	0.0
Sudan	0.0	4.0	0.0
% Sudan	0.0	1.1	0.0
Sweden	0.0	2.0	0.0
% Sweden	0.0	0.6	0.0
Switzerland	4.0	7.0	2.0
% Switzerland	1.9	2.0	2.3

Response	Yes	No	No response
Thailand	2.0	4.0	3.0
% Thailand	0.9	1.1	3.5
The Netherlands	1.0	0.0	0.0
% The Netherlands	0.5	0.0	0.0
Trinidad and Tobago	14.0	30.0	7.0
% Trinidad and Tobago	6.6	8.5	8.1
Uganda	0.0	1.0	0.0
% Uganda	0.0	0.3	0.0
United Arab Emirates	1.0	1.0	0.0
% United Arab Emirates	0.5	0.3	0.0
United Kingdom	18.0	26.0	6.0
% United Kingdom	8.5	7.4	7.0
United States	11.0	3.0	4.0
% United States	5.2	0.9	4.7
Uruguay	3.0	2.0	1.0
% Uruguay	1.4	0.6	1.2
Vietnam	1.0	3.0	1.0
% Vietnam	0.5	0.9	1.2

There seems to be little correlation between the availability of local libraries to respondents and the general economic wealth of a country, be it Trinidad and Tobago or Spain, the UK or Hong Kong. A chi-square test has not been conducted because of the number of cells with zeros or no responses.

5.24 Use of Other Libraries

Table 5.24: Respondents' Use of Other Libraries

*(Frequency here refers to the number of times a type of library was mentioned in the answers to question 24).*Type of Other Library Used	Frequency (Occurrences when a type of library was mentioned)	Percentage
Nearest University Library	80	35.9
Public Libraries	51	22.9
Special Libraries	45	20.2
Supporting Institutions' libraries	33	14.8
Other Libraries (Workplace Libraries)	14	6.3

Total number of times a type of library was mentioned	223	100

Students were asked to say whether they used any other libraries that were local to them and to name them if possible. From the list, libraries were categorised. The aim of this question was to understand what other useful information sources, including local libraries, students had access to in addition to the Online Library and, if possible, to compile a list of useful libraries per region which could then be recommended to other students who were not aware of them. Out of 649 respondents, 193 students responded to this question, giving a total response rate of 30%. The results indicate that a significant number of students use other libraries that are closer to where they live. The most used type of libraries are 'Other University Libraries', which were mentioned 80 times or 35.9%, followed by Public Libraries, which were mentioned 51 times or 22.9%; this was followed by 'Special Libraries', which were mentioned 45 times or 20.2%, and 'Supporting Institutions Libraries', which were mentioned 33 times or 14.8%. Finally, 'Other Libraries', a category that includes workplace libraries and private collections, were mentioned 14 times or 6.3%. The fact that supporting institutions' libraries were not the most cited type of libraries is somewhat surprising and could mean that these libraries may not have suitable resources.

Further categorisation revealed that the majority of libraries were in Asia, and in most other regions access to other libraries was limited.

5.25 Level of Confidence

Table 5.25: Level of Confidence in Using Electronic Resources

Level of confidence	Frequency	Percentage of total participants
Very confident	291	44.8
I find it fairly easy	187	28.8
Not confident	72	11.1
Other	3	0.5
No response	96	14.8
Total		0

There was a significant level of non-response to this question (14.8%), either because respondents could not gauge their level of confidence or because they felt hesitant about admitting it. Nearly 45% felt very confident while nearly 30% found the use of electronic resources fairly easy. This seems to indicate that nearly three quarters of respondents did not have a significant problem using electronic resources. However, it should be borne in mind that a user's confidence does not necessarily indicate their level of expertise. Other findings (see Table 18) suggested that a large proportion of users only sometimes (51.9%) or never (6.3%) found the information for which they searched, although this state of affairs may not simply be due to their search skills.

Table 5.25.1: Level of Confidence in Using Electronic Resources by Gender

Level of confidence	Frequency	Percentage of total Respondents	Female	% Female	Male	% Male	NR	% No Response
Very confident	291	44.8	139.0	47.8	151.0	51.9	1.0	0.3
Level of confidence	Frequency	Percentage of total Respondents	Female	% Female	Male	% Male	NR	% No Response
I find it fairly easy	187	28.8	109.0	58.3	78.0	41.7	0.0	0.0
Not confident	72	11.1	33.0	45.8	39.0	54.2	0.0	0.0
Other	3	0.5	2.0	66.7	1.0	33.3	0.0	0.0
No response	96	14.8	58.0	60.4	38.0	39.6	0.0	0.0

A large proportion of those who did not respond (60.4%) or gave an 'Other' reply (66.7%) were women. Among those who were not confident, a lower proportion were women (45.8% whereas the overall proportion of women in the survey was 52.5%), and a higher proportion of women found it fairly easy (58.3%) although a slightly lower proportion of those who declared they were very confident (47.8%) were women. Overall, it seems that women are not disadvantaged by lack of confidence in the use of electronic resources although there may be some overestimation of their skills by both men and women. The chi-square test returned a p-value of 0.054, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between distance learner's level of confidence in using electronic resources and gender.

Table 5.25.2: Level of Confidence in Using Electronic Resources by Age Range

Level of Confidence	Very confident	I Find it Fairly Easy	Not Confident	Other	No Response
Frequency	291	187	72	3	96
Percentage of Total Respondents	44.8	28.8	11.1	0.5	14.8
Under 25	80	70	21	1	41
% Under 25	27.5	37.4	29.2	33.3	42.7
26-35	120	61	30	1	34
% 26-35	41.2	32.6	41.7	33.3	35.4
36-45	57	36	16	1	15
% 36-45	19.6	19.3	22.2	33.3	15.6
46-55	21	13	2	0	6

Level of Confidence	Very confident	I Find it Fairly Easy	Not Confident	Other	No Response
% 46-55	7.2	7.0	2.8	0.0	6.3
56+	13	6	2	0	0
% 56+	4.5	3.2	2.8	0.0	0.0
No Response	0	1	1	0	0
% No response	0.0	0.5	1.4	0.0	0.0

Overall, in the survey 32.8% of respondents were under 25, 37.9% were 26-35, 19.3% were 36-45, 6.5% were 46-55, and 3.2% were 56 and over. Among these figures there is a mixed picture. Of those who are very confident, the under-25s seem underrepresented, the 26-35-year-olds seem overrepresented and the other age ranges follow the general distribution. This is reversed for the 'fairly easy' category, with the under-25s overrepresented, the 26-35-year-olds underrepresented and the other age ranges again following the general distribution. However, those who are not confident occur more frequently in the 26-35 age range and the 36-45 range. The 'Other' reply complicates the picture and may indicate a more extensive problem for the 36-45 range, which produced a third of the 'Other' replies. Overall, both the younger age ranges were more confident but the 26-35 age range contained both more very confident and more not confident responses, indicating a mixture of perceived ability. The middle age range indicated the most problems while the older age ranges followed the general distribution. Although there are differences within the sample drawn, as noted above, the chi-square test returned a p-value of 0.348, which is greater than 0.05 and therefore supports the null hypothesis that overall there is no significant relationship between distance learners' level of confidence in using electronic resources and age.

Table 5.25.3: Level of Confidence in Using Electronic Resources by Level of Programme

Level of Confidence	Very confident	I Find it Fairly Easy	Not Confident	Other	No Response
Frequency	291	187	72	3	96
Percentage of total Respondents	44.8	28.8	11.1	0.5	14.8
PG	83	128	10	1	11
% PG	28.5	68.4	13.9	33.3	11.5
UG	195	46	57	1	83
% UG	67	24.6	79.1	33.3	86.5
Dip	4	5	3	0	0
% Dip	1.4	2.7	4.2	0	0
Cert	2	3	0	0	1

Level of Confidence	Very confident	I Find it Fairly Easy	Not Confident	Other	No Response
% Cert	0.7	1.6	0	0	1
Access	5	4	2	0	1
% Access	1.7	2.1	2.8	0	1
No Response	2	1	0	1	0
% No Response	0.7	0.5	0	33.3	0

Overall, given the general distribution of respondents by level of programme, it is clear that postgraduates (15.1% overall of respondents but 28.3% giving 'very confident' and 68.4% giving 'fairly easy' responses) are overwhelmingly more confident. Undergraduates are less confident and constitute nearly 80% of the not confident responses and most of the non-responses. The chi-square test returned a p-value of 2.17282E-20 (means to move 20 decimal places to the left), which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between respondents' confidence in using electronic resources and programme of study

Table 5.25.4: Level of Confidence in Using Electronic Resources by English Language Proficiency

Level of confidence	Frequency	Percentage of Total Respondents	Yes	% Yes	No	% No	No response	% No response
Very confident	291	44.8	150.0	51.5	121.0	41.6	20.0	6.9
I find it fairly easy	187	28.8	93.0	49.7	90.0	48.1	4.0	2.1
Not confident	72	11.1	37.0	51.4	34.0	47.2	1.0	1.4
Other	3	0.5	2.0	66.7	1.0	33.3	0.0	0.0
No response	96	14.8	49.0	51.0	47.0	49.0	0.0	0.0

51% of respondents overall declared English as their first language. There is little deviation from this distribution among the answers to this question except in the 'Other' reply which is chosen by more of those with English as a first language, perhaps indicating a reply between fairly easy and very confident. The chi-square test returned a p-value of 0.621, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' confidence in using electronic resources and English language proficiency.

Table 5.25.5: Level of Confidence in Using Electronic Resources by Programme of Study

Level of Confidence	Very confident	I find it fairly easy	Not confident	Other	No response
Frequency	291	187	72	3	96
Percentage of Total	44.8	28.8	11.1	0.5	14.8

Level of Confidence	Very confident	I find it fairly easy	Not confident	Other	No response
Respondents					
Cedep	11	3	1	1	0
% Cedep	3.8	1.6	1.4	33.3	0
Cefims	10	6	1	0	1
% Cefims	3.4	3.2	1.4	0	1
EMFSS	139	76	25	1	14
% EMFSS	47.8	40.6	34.7	33.3	14.6
Int. Mgt	11	7	2	0	1
% Int Mgt	3.8	3.7	2.8	0	1
Law	98	80	37	1	78
% Law	33.7	42.8	51.4	33.3	81.3
LLM	19	11	4	0	1
% LLM	6.5	5.9	5.6	0	1
MRES	3	3	1	0	1
% MRES	1	1.6	1.4	0	1
Other	0	1	1	0	0
% Other	0	0.5	1.4	0	0
NR	0	0	0	0	0
% No response	0	0	0	0	0

Table 5.25.5: Level of Confidence in Using Electronic Resources by Programme of Study

The two programmes that account for the large majority of the respondents are the undergraduate law programme and the undergraduate EMFSS programme (45.3% and 39.3% respectively). Among the law students, tackling rather different electronic resources concerned with case reports and legislation, there are fewer who are very confident or find it fairly easy but more who are not confident, and these respondents are responsible for a very large proportion of the non-responses. This may indicate a problem with the use of databases by law students and a potentially larger problem if non-responses come from those with less rather than more confidence. In contrast, EMFSS students are overrepresented among those who are very confident and (marginally) among those who find it fairly easy. Among the other programmes, there is an expected distribution of answers, with those taking the postgraduate programmes showing more confidence. In spite these noticeable differences in parts of the sample drawn, the chi-square test returned a p-value of 0.414, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant overall relationship between distance learners' level of confidence in using electronic resources and programme of study.

Table 5.25.6: Level of Confidence in Using Electronic Resources by Mode of Study

Level of confidence	Very confident	I find it fairly easy	Not confident	Other	No response

Level of confidence	Very confident	I find it fairly easy	Not confident	Other	No response
Frequency	291	187	72	3	96
Percentage of Total Respondents	44.8	28.8	11.1	0.5	14.8
At Inst+Tuition	76	52	26	1	46
% at Inst & Tuition	26.1	27.8	36.1	33.3	47.9
At ins No Tuition	35	30	6	0	6
% At inst No Tuition	12	16	8.3	0	6.3
Ind No Tuition	157	81	33	2	35
% indep No tuition	54	43.3	45.8	66.7	36.5
Ind+Tuition	23	22	7	0	8
% Indep & Tuition	7.9	11.8	9.7	0	8.3
No response	0	2	0	0	1
% No response	0	1.1	0	0	1

According to Table 5.7, 31% of students were at an institution supplemented by private tuition, 11.9% were at an institution with no further tuition (overall 42.9% at an institution), 47.9% were studying independently with no private tuition and 9.2% were studying independently with private tuition (57.1% overall were not at an institution). The pattern of responses is consistent across the modes of study following the general distribution although, interestingly, there is a slightly lower level of response among the very confident and fairly easy categories from those at institutions and a higher level of confidence from those studying independently with no supplementary tuition. This may suggest higher levels of skill but may also suggest that those studying independently do not have peers with whom to compare their skills. The chi-square test returned a p-value of 0.151, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' level of confidence in using electronic resources and mode of study.

Table 5.25.7: Level of Confidence in Using Electronic Resources by Country

Response	Very confident	I find it fairly easy	Not confident	Other	No response
Number of respondents	291	187	72	3	96
Percentage %	44.8	28.8	11.1	0.5	14.8
3 diff countries	0.0	1.0	0.0	0.0	0.0
% 3 diff countries	0.0	0.0	0.0	0.0	0.0
Albania	1.0	0.0	0.0	0.0	0.0

Response	Very confident	I find it fairly easy	Not confident	Other	No response
% Albania	0.3	0.0	0.0	0.0	0.0
Armenia	0.0	1.0	0.0	0.0	0.0
% Armenia	0.0	0.5	0.0	0.0	0.0
Australia	3.0	1.0	0.0	0.0	1.0
% Australia	1.0	0.5	0.0	0.0	1.0
Austria	3.0	3.0	0.0	0.0	1.0
% Austria	1.0	1.6	0.0	0.0	1.0
Bahamas	1.0	0.0	0.0	0.0	0.0
% Bahamas	0.3	0.0	0.0	0.0	0.0
Bahrain	3.0	1.0	1.0	0.0	1.0
% Bahrain	1.0	0.5	1.4	0.0	1.0
Bangladesh	5.0	1.0	1.0	0.0	3.0
% Bangladesh	1.7	0.5	1.4	0.0	3.1
Barbados	2.0	0.0	0.0	0.0	0.0
% Barbados	0.7	0.0	0.0	0.0	0.0
Belgium	5.0	1.0	0.0	0.0	0.0
% Belgium	1.7	0.5	0.0	0.0	0.0
Brazil	3.0	0.0	0.0	0.0	0.0
% Brazil	1.0	0.0	0.0	0.0	0.0
Bulgaria	1.0	0.0	0.0	0.0	0.0
% Bulgaria	0.3	0.0	0.0	0.0	0.0
Cambodia	1.0	2.0	0.0	0.0	0.0
% Cambodia	0.3	1.1	0.0	0.0	0.0
Cameroon	0.0	1.0	0.0	0.0	0.0
% Cameroon	0.0	0.5	0.0	0.0	0.0
Canada	12.0	5.0	4.0	0.0	5.0
% Canada	4.1	2.7	5.6	0.0	5.2
Cayman Islands	0.0	1.0	0.0	0.0	0.0
% Cayman Islands	0.0	0.5	0.0	0.0	0.0
Colombia	0.0	1.0	0.0	0.0	1.0
% Colombia	0.0	0.5	0.0	0.0	1.0
Croatia	2.0	0.0	0.0	0.0	0.0
% Croatia	0.7	0.0	0.0	0.0	0.0
Cyprus	2.0	1.0	0.0	0.0	0.0
% Cyprus	0.7	0.5	0.0	0.0	0.0
Czech Republic	2.0	0.0	0.0	0.0	0.0
% Czech Republic	0.7	0.0	0.0	0.0	0.0
Denmark	2.0	0.0	0.0	0.0	0.0
% Denmark	0.7	0.0	0.0	0.0	0.0
Dominica	1.0	2.0	0.0	0.0	0.0
% Dominica	0.3	1.1	0.0	0.0	0.0
Egypt	2.0	0.0	1.0	0.0	0.0

Response	Very confident	I find it fairly easy	Not confident	Other	No response
% Egypt	0.7	0.0	1.4	0.0	0.0
France	1.0	0.0	1.0	0.0	0.0
% France	0.3	0.0	1.4	0.0	0.0
Germany	5.0	2.0	0.0	0.0	0.0
% Germany	1.7	1.1	0.0	0.0	0.0
Ghana	1.0	1.0	0.0	0.0	1.0
% Ghana	0.3	0.5	0.0	0.0	1.0
Greece	1.0	2.0	1.0	0.0	0.0
% Greece	0.3	1.1	1.4	0.0	0.0
Guatemala	1.0	0.0	0.0	0.0	0.0
% Guatemala	0.3	0.0	0.0	0.0	0.0
Guyana	0.0	0.0	1.0	0.0	0.0
% Guyana	0.0	0.0	1.4	0.0	0.0
Hong Kong	12.0	12.0	2.0	0.0	4.0
% Hong Kong	4.1	6.4	2.8	0.0	4.2
India	2.0	5.0	1.0	0.0	1.0
% India	0.7	2.7	1.4	0.0	1.0
Indonesia	1.00.0	0.0	2.0	0.0	0.0
% Indonesia	0.30.0	0.0	2.8	0.0	0.0
Iran	0.0	1.0	0.0	0.0	0.0
% Iran	0.0	0.5	0.0	0.0	0.0
Israel	0.0	0.0	0.0	0.0	1.0
% Israel	0.0	0.0	0.0	0.0	1.0
Italy	4.0	1.0	0.0	0.0	1.0
% Italy	1.4	0.5	0.0	0.0	1.0
Jamaica	7.0	3.0	1.0	0.0	4.0
% Jamaica	2.4	1.6	1.4	0.0	4.2
Japan	2.0	2.0	2.0	0.0	1.0
% Japan	0.7	1.1	2.8	0.0	1.0
Kenya	2.0	3.0	0.0	0.0	0.0
% Kenya	0.7	1.6	0.0	0.0	0.0
Kuwait	1.0	0.0	0.0	0.0	0.0
% Kuwait	0.3	0.0	0.0	0.0	0.0
Lithuania	0.0	1.0	0.0	0.0	0.0
% Lithuania	0.0	0.5	0.0	0.0	0.0
Macedonia	1.0	0.0	0.0	0.0	0.0
% Macedonia	0.3	0.0	0.0	0.0	0.0
Madagascar	1.0	0.0	0.0	0.0	0.0
% Madagascar	0.3	0.0	0.0	0.0	0.0
Malawi	2.0	0.0	0.0	0.0	0.0
% Malawi	0.7	0.0	0.0	0.0	0.0
Malaysia	13.0	8.0	4.0	1.0	1.0

Response	Very confident	I find it fairly easy	Not confident	Other	No response
% Malaysia	4.5	4.3	5.6	33.3	1.0
Malta	3.0	8.0	0.0	0.0	1.0
% Malta	1.0	4.3	0.0	0.0	1.0
Martinique	0.0	1.0	0.0	0.0	0.0
% Martinique	0.0	0.5	0.0	0.0	0.0
Mauritius	7.0	7.0	5.0	0.0	6.0
% Mauritius	2.4	3.7	6.9	0.0	6.3
Myanmar	0.0	1.0	0.0	0.0	0.0
% Myanmar	0.0	0.5	0.0	0.0	0.0
Namibia	1.0	0.0	0.0	0.0	0.0
% Namibia	0.3	0.0	0.0	0.0	0.0
New Zealand	1.0	0.0	2.0	0.0	2.0
% New Zealand	0.3	0.0	2.8	0.0	2.1
Nigeria	4.0	6.0	4.0	0.0	7.0
% Nigeria	1.3	3.2	5.6	0.0	7.3
No response	17.0	3.0	3.0	0.0	3.0
% No response	5.8	1.6	4.2	0.0	3.1
Other	2.0	0.0	0.0	0.0	2.0
% Other	0.7	0.0	0.0	0.0	2.1
Pakistan	7.0	9.0	3.0	0.0	3.0
% Pakistan	2.4	4.8	4.2	0.0	3.1
Peru	1.0	0.0	0.0	0.0	0.0
% Peru	0.3	0.0	0.0	0.0	0.0
Poland	2.0	2.0	1.0	0.0	1.0
% Poland	0.7	1.1	1.4	0.0	1.0
Portugal	3.0	0.0	0.0	0.0	0.0
% Portugal	1.0	0.0	0.0	0.0	0.0
Russia	7.0	12.0	5.0	0.0	2.0
% Russia	2.4	6.4	6.9	0.0	2.1
Rwanda	0.0	0.0	1.0	0.0	0.0
% Rwanda	0.0	0.0	1.4	0.0	0.0
Saint Lucia	1.0	0.0	0.0	0.0	0.0
% Saint Lucia	0.3	0.0	0.0	0.0	0.0
Saudi Arabia	3.0	2.0	0.0	0.0	0.0
% Saudi Arabia	1.0	1.1	0.0	0.0	0.0
Serbia	1.0	0.0	0.0	0.0	0.0
% Serbia	0.3	0.0	0.0	0.0	0.0
Singapore	28.0	20.0	5.0	0.0	15.0
% Singapore	9.6	10.7	6.9	0.0	15.6
South Africa	3.0	0.0	0.0	0.0	0.0
% South Africa	1.0	0.0	0.0	0.0	0.0
South Korea	0.0	0.0	0.0	1.0	0.0

Response	Very confident	I find it fairly easy	Not confident	Other	No response
% South Korea	0.0	0.0	0.0	33.3	0.0
Spain	7.0	5.0	0.0	0.0	6.0
% Spain	2.4	2.7	0.0	0.0	6.3
Sri Lanka	9.0	4.0	0.0	0.0	0.0
% Sri Lanka	3.1	2.1	0.0	0.0	0.0
St Vincent and the Grenadines	0.0	2.0	0.0	0.0	0.0
% St Vincent and the Grenadines	0.0	1.1	0.0	0.0	0.0
Sudan	2.0	1.0	1.0	0.0	0.0
% Sudan	0.7	0.5	1.4	0.0	0.0
Sweden	2.0	0.0	0.0	0.0	0.0
% Sweden	0.7	0.0	0.0	0.0	0.0
Switzerland	3.0	5.0	4.0	0.0	1.0
% Switzerland	1.0	2.7	5.6	0.0	1.0
Thailand	2.0	2.0	2.0	0.0	3.0
% Thailand	0.7	1.1	2.8	0.0	3.1
The Netherlands	1.0	0.0	0.0	0.0	0.0
% The Netherlands	0.3	0.0	0.0	0.0	0.0
Trinidad and Tobago	25.0	13.0	3.0	0.0	10.0
% Trinidad and Tobago	8.6	7.0	4.2	0.0	10.4
Uganda	1.0	0.0	0.0	0.0	0.0
% Uganda	0.3	0.0	0.0	0.0	0.0
United Arab Emirates	2.0	0.0	0.0	0.0	0.0
% United Arab Emirates	0.7	0.0	0.0	0.0	0.0
United Kingdom	28.0	13.0	4.0	0.0	5.0
% United Kingdom	9.6	7.0	5.6	0.0	5.2
United States	6.0	4.0	5.0	1.0	2.0
% United States	2.1	2.1	6.9	33.3	2.1
Uruguay	2.0	3.0	1.0	0.0	0.0
% Uruguay	0.7	1.6	1.4	0.0	0.0
Vietnam	2.0	1.0	1.0	0.0	1.0
% Vietnam	0.7	0.5	1.4	0.0	1.0

There is some indication that the more developed countries, particularly European countries, are better represented among those who are very confident about using electronic resources. A chi-square test has not been conducted because of the number of cells with zeros or no responses.

5.26 Desire for Training

Table 5.26: Respondents' Desire for Training

Desire for Training	Frequency	Percentage of total participants
Yes	288	44.4
No	258	39.8
No response	103	15.9
Total	649	

Respondents were asked to indicate whether they would like to receive training in using Online Library resources or not. As shown in Table 26 above, the majority of respondents (44.4%; 15.9% of overall respondents did not answer this question) said that they would like to receive training, while a smaller but significant number of students (39.8%) said that that did not want to receive any training.. Although one would have expected more students to ask for training, these findings seem to be in line with earlier findings regarding students' satisfaction levels with the Online Library service (see table 18, in which just over a third of students said that they 'always or regularly accessed the information they needed, and Table 21 in which the Online Library met the information needs of only 45.6% of all respondents). These findings are significant and indicate that a large number of students require training in using Online Library resources. The other point to bear in mind is that many students often overestimate their own abilities, and others may feel that asking for training given the distance is unrealistic; many others may have scheduling problems (as was the case in the pilot study) and others may think that asking for training would show them up.

Table 5.26.1: Respondents' Desire for Training by Gender

Desire for Training	Frequency	Percentage of total respondents	Female	% Female	Male	% Male	NR	% No response
Yes	288	44.4	157.0	54.5	131.0	45.5	0.0	0.0
No	258	39.8	122.0	47.3	135.0	52.3	1.0	0.4
No response	103	15.9	62.0	60.2	41.0	39.8	0.0	0.0
Total	649							

When these figures are compared with the overall figures for male and female respondents, (52.5% women and 47.3% men), 54.5% of those who requested Online Library training are women, rather than the overall 52.5%, while 45.5% rather than 47.3% are men. These differences are below the threshold for significance. However, the results can be compared with earlier findings (in Table 18.1) that men are more successful at the higher end of the scale and always or regularly found the information they needed. It is important to note that, in terms of confidence in using electronic resources (Table 25), the findings might suggest that women are not disadvantaged by lack of confidence in the use of electronic resources. The chi-square test returned a p-value of 0.100, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between respondents' desire for training and gender.

Table 5.26.2: Respondents' Desire for Training by Age Range

Regarding Receiving Training	Yes	No	No response
Frequency	288	258	103
Percentage of Total Respondents	44.4	39.8	15.9
Under 25	98	79	36
% Under 25	34	30.6	35
26-35	104	104	38
% 26-35	36.1	40.3	36.9
36-45	57	45	23
% 36-45	19.8	17.4	22.3
46-55	20	16	6
% 46-55	6.9	6.2	5.8
56+	8	13	0
% 56+	2.8	5	0
No Response	1	1	0
% No Response	0.3	0.4	0

Overall in the survey, 32.8% of respondents were under 25, 37.9% were 26-35, 19.3% were 36-45, 6.5% were 46-55, and 3.2% were 56 and over. Of those who requested training in using Online Library resources, 34% are under 25, 36.1% are 26-35, 19.8% are 36-45, 6.9% are 46-55 years old and only 2.8% are 56 and over. These results are very close to the overall age distribution. However, it is important to note that a large proportion of students who requested Online Library training (65.6%) were over the age of 25, while only 34% were under 25. These figures support the view that more training is required by mature and postgraduate students. The chi-square test returned a p-value of 0.086, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between respondents' desire for training and age.

Table 5.26.3: Respondents' Desire for Training by Level of Programme

Regarding Receiving Training	Yes	No	No response
Frequency	288	258	103
% of Total Respondents	44.4	39.8	15.9
PG	58	80	13
% PG	20.1	31	12.6
UG	211	166	87
% UG	73.3	64.3	84.5
Dip	5	7	0
% Dip	1.7	2.7	0

Regarding Receiving Training	Yes	No	No response
Cert	3	2	1
% Cert	1	0.8	1
Access	8	2	2
% Access	2.8	0.8	1.9
No Response	3	1	0
% No Response	1	0.4	0

Out of all those who said that they did not need training, 31% were postgraduates, 64.3% were undergraduates, 2.7% were taking Diplomas, 0.8% Certificates, and 0.8% were on Access programmes. Overall, 38.4% of postgraduates asked for training in comparison to 53% who did not. These findings are interesting because earlier results suggest that postgraduates were less satisfied with Online Library provision, and yet a significant majority do not want any training. This reinforces the points made earlier about many students' inability to objectively evaluate their own information literacy skills and the general lack of time available to undertake the training. Whatever the reason for students declining to ask for training, these findings reinforce the need to fully integrate information literacy skills training into the curriculum so that it is not seen as an add-on. The chi-square test returned a p-value of 0.021, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' desire for training and level of programme.

Table 5.26.4: Respondents' Desire for Training by English Language Proficiency

Desire for Training	Frequency	Percentage of Total respondents	Yes	% Yes	No	% No	NR	No Response
Yes	288	44.4	151.0	52.4	129.0	44.8	8.0	2.8
No	258	39.8	127.0	49.2	114.0	44.2	17.0	6.6
No Response	103	15.9	53.0	51.5	50.0	48.5	0.0	0.0
Total	649							

Out of 288 students who asked to be trained in using the Online Library, 52% had English as their first language, while 44.8% had English as a second language. These findings suggest that more students with English as a second language may require Online Library training. However, the chi-square test returned a p-value of 0.78, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between respondents' desire for training and English language proficiency.

Table 5.26.5: Respondents' Desire for Training by Programme

Desire for Training	Yes	No	No response
Frequency	288	258	103
Percentage of total respondents	44.4	39.8	15.9
CEDEP	6	9	1
% CEDEP	2.1	3.5	1
CEFIMS	8	6	4
% CEFIMS	2.8	2.3	3.9
EMFSS	102	139	14
% EMFSS	35.4	53.9	13.6
Int.Mgt	13	7	1
% Int.Mgt	4.5	2.7	1
Laws	136	78	80
% Laws	47.2	30.2	77.7
LLM	17	15	3
% LLM	5.9	5.8	2.9
MRES	4	4	0
% MRES	1.4	1.6	0
Other	2	0	0
% Other	0.7	0	0
No response	0	0	0
% No response	0	0	0

Out of 282 students who expressed a desire for training, the largest group was undergraduate law students with 47.2%, followed by EMFSS with 35.4%, LLM with 5.9%, International Management with 4.5%, CEFIMS with 2.8%, CEDEP with 2.1%, and MRES with 1.4%. On the other hand, out of the 258 students who said that they did not need any training, the largest group was EMFSS with 53.9%, followed by Undergraduate law students with 30.2%, LLM with 5.8%, CEDEP 3.5%, International Management 2.7%, CEFIMs 2.3, and MRES 1.6%. Although these figures are close to the general programme distribution, the chi-square test returned a p-value of 0.001, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' desire for library training and programme of study.

Table 5.26.6: Respondents' Desire for Training by Mode of Study

Desire for Training	Yes	No	No response
Frequency	288	258	103
Percentage of total respondents	44.4	39.8	15.9
At Inst+Tuition	81	73	47
% At Inst & Tuition	28.1	28.3	45.6

Desire for Training	Yes	No	No response
At ins No Tuition	28	43	6
% At Inst No Tuition	9.7	16.7	5.8
Independent No Tuition	145	122	41
% Independent No Tuition	50.3	47.3	39.8
Ind+Tuition	33	19	8
% Indep & Tuition	11.5	7.4	7.8
No response	1	1	1
% No response	0.3	0.4	1

The figures show that the largest group of students to express a desire for Online Library training were those studying independently without private tuition, accounting for 50.3%.These figures corroborate earlier findings about students' success in accessing the Online Library resources in question 18.6, which showed that those studying independently were less successful in accessing Online Library resources than those registered with an institution; this reinforces the need for more Online Library training for this group of students, who have limited access to peers, tutors and supporting institutions' libraries. However, overall the chi-square test for independence returned a p-value of 0.053, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between respondents' desire for library training and mode of study.

Table 5.26.7: Respondents' Desire for Training by Country

Regarding receiving training	Yes	NO	No response
Frequency	288.0	258.0	103.0
Percentage of total participants	44.4	39.8	15.9
3 Diff countries	1.0	0.0	0.0
%	0.3	0.0	0.0
Albania	1.0	0.0	0.0
%	0.3	0.0	0.0
Armenia	0.0	0.0	1.0
%	0.0	0.0	1.0
Australia	3.0	4.0	1.0
%	1.0	1.6	1.0
Austria	0.0	4.0	0.0
%	0.0	1.6	0.0
Bahamas	1.0	0.0	0.0
%	0.3	0.0	0.0
Bahrain	1.0	5.0	1.0
%	0.3	-2.0	1.0
Bangladesh	4.0	4.0	2.0
%	1.4	1.6	1.9
Barbados	2.0	0.0	0.0
%	0.7	0.0	0.0
Belgium	3.0	0.0	3.0
%	1.0	0.0	2.9

Regarding receiving training	Yes	NO	No response
Brazil	3.0	0.0	0.0
%	1.0	0.0	0.0
Bulgaria	0.0	1.0	0.0
%	0.0	0.4	0.0
Cambodia	0.0	1.0	2.0
%	0.0	0.4	1.9
Cameroon	0.0	1.0	0.0
%	0.0	0.4	0.0
Canada	9.0	11.0	6.0
%	3.1	4.3	5.8
Cayman Islands	0.0	1.0	0.0
%	0.0	0.4	0.0
Colombia	1.0	0.0	1.0
%	0.3	0.0	1.0
Croatia	2.0	0.0	0.0
%	0.7	0.0	0.0
Cyprus	1.0	2.0	0.0
%	0.3	0.8	0.0
Czech Republic	0.0	2.0	0.0
%	0.0	0.8	0.0
Denmark	1.0	1.0	0.0
%	0.3	0.4	0.0
Dominica	2.0	1.0	0.0
%	0.7	0.4	0.0
Egypt	2.0	1.0	0.0
%	0.7	0.4	0.0
France	1.0	1.0	0.0
%	0.3	0.4	0.0
Germany	2.0	4.0	1.0
%	0.7	1.6	1.0
Ghana	3.0	1.0	0.0
%	1.0	0.4	0.0
Greece	3.0	0.0	0.0
%	1.0	0.0	0.0
Guatemala	1.0	0.0	0.0
%	0.3	0.0	0.0
Guyana	0.0	1.0	0.0
%	0.0	0.4	0.0
Hong Kong	17.0	9.0	4.0
%	5.9	3.5	3.9
India	2.0	5.0	2.0
%	0.7	1.9	1.9
Indonesia	1.0	1.0	0.0
%	0.3	0.4	0.0
Indonesia and Czech republic	0.0	0.0	1.0
%	0.0	0.0	1.0
Iran	1.0	0.0	0.0
%	0.3	0.0	0.0

Regarding receiving training	Yes	NO	No response
Israel	1.0	0.0	0.0
%	0.3	0.0	0.0
Italy	1.0	3.0	2.0
%	0.3	1.2	1.9
Jamaica	10.0	5.0	0.0
%	3.5	1.9	0.0
Japan	3.0	1.0	3.0
%	1.0	0.4	2.9
Kenya	3.0	1.0	1.0
%	1.0	0.4	1.0
Kuwait	0.0	1.0	0.0
%	0.0	0.4	0.0
Lithuania	1.0	0.0	0.0
%	0.3	0.0	0.0
Macedonia	0.0	1.0	0.0
%	0.0	0.4	0.0
Madagascar	0.0	1.0	0.0
%	0.0	0.4	0.0
Malawi	2.0	0.0	0.0
%	0.7	0.0	0.0
Malaysia	10.0	13.0	4.0
%	3.5	5.0	3.9
Malta	4.0	8.0	0.0
%	1.4	3.1	0.0
Martinique	1.0	0.0	0.0
%	0.3	0.0	0.0
Mauritius	11.0	10.0	4.0
%	3.8	3.9	3.9
Myanmar	0.0	1.0	0.0
%	0.0	0.4	0.0
Namibia	1.0	0.0	0.0
%	0.3	0.0	0.0
New Zealand	3.0	1.0	1.0
%	1.0	0.4	1.0
Nigeria	13.0	4.0	4.0
%	4.5	1.6	3.8
No response	7.0	15.0	4.0
%	2.4	5.8	3.9
Other	3.0	0.0	1.0
%	1.0	0.0	1.0
Pakistan	14.0	5.0	3.0
%	4.9	1.9	2.9
Peru	0.0	1.0	0.0
%	0.0	0.4	0.0
Poland	3.0	1.0	2.0
%	1.0	0.4	1.9
Portugal	0.0	2.0	1.0
%	0.0	0.8	1.0

Regarding receiving training	Yes	NO	No response
Russia	7.0	18.0	1.0
%	2.4	7.0	1.0
Rwanda	1.0	0.0	0.0
%	0.3	0.0	0.0
Saint Lucia	0.0	1.0	0.0
%	0.0	0.4	0.0
Saudi Arabia	3.0	2.0	0.0
%	1.0	0.8	0.0
Serbia	0.0	1.0	0.0
%	0.0	0.4	0.0
Singapore	19.0	33.0	16.0
%	6.6	12.8	15.5
South Africa	1.0	2.0	0.0
%	0.3	0.8	0.0
South Korea	1.0	0.0	0.0
%	0.3	0.0	0.0
Spain	13.0	1.0	4.0
%	4.5	0.4	3.9
Sri Lanka	8.0	4.0	1.0
%	2.8	1.6	1.0
St Vincent and the Grenadines	2.0	0.0	0.0
%	0.7	0.0	0.0
Sudan	3.0	1.0	0.0
%	1.0	0.4	0.0
Sweden	1.0	1.0	0.0
%	0.3	0.4	0.0
Switzerland	3.0	9.0	1.0
%	1.0	3.5	1.0
Thailand	6.0	1.0	2.0
%	2.1	0.4	1.9
The Netherlands	0.0	1.0	0.0
%	0.0	0.4	0.0
Trinidad and Tobago	19.0	19.0	13.0
%	6.6	7.4	12.6
Uganda	1.0	0.0	0.0
%	0.3	0.0	0.0
United Arab Emirates	1.0	1.0	0.0
%	0.3	0.4	0.0
United Kingdom	26.0	20.0	4.0
%	9.0	7.8	3.9
United States	10.0	6.0	2.0
%	3.5	2.3	1.9
Uruguay	2.0	2.0	2.0
%	0.7	0.8	1.9
Vietnam	2.0	1.0	2.0
%	0.7	0.4	1.9

Overall, of the 288 respondents who said that they would like training, the largest number were from

Canada (69.2), followed by Hong Kong (63.6), Jamaica (62.5), Malaysia (61.9), Mauritius (56.7), United Kingdom (52%), Nigeria (52%), Pakistan (44%), Russia (37%), Singapore (34.6%) and Spain (27.7%).The figures in Table 26.6 do not provide a conclusive reason for the variation; therefore, further investigation is needed. A chi-square test has not been conducted because of the number of cells with zeros or no responses.

Table 5.26.8: Respondents' Desire for Training by Confidence in Using Electronic Resources

Regarding receiving training	Yes	NO	No response
Frequency	288.0	258.0	103.0
Very confident	120.0	149.0	22.0
%Very confident	41.7	57.8	21.4
I find it fairly easy	97.0	72.0	18.0
% I find it fairly easy	33.7	27.9	17.5
Not confident	43.0	22.0	7.0
% Not confident	14.9	8.5	6.8
Other	2.0	1.0	0.0
% Other	0.7	0.4	0.0
No response	26.0	14.0	56.0
% No response	9.0	5.4	54.4

A higher proportion of those who were very confident did not want training 149 (57.8%); however, this still left 120 (41.7%) who, despite high levels of confidence, still wanted training. A greater proportion of those finding it fairly easy wanted training (33.7% rather than 27.8%). Among the 65 respondents who were not confident (compared to 269 who were very confident) almost twice as many wanted training than did not want training (14.9% compared to 8.5%). The chi-square test for independence returned a p-value of 0.001 which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' desire for library training and Success at Accessing Electronic Resources.

Table 5.26.9: Respondents' Desire for Training by Success in Using Online Library Resources

Regarding receiving training	Yes	NO	No response
Frequency	288.0	258.0	103.0
I always access the information I need	20.0	36.0	8.0
% I always access the information I need	6.9	14.0	7.8
I regularly access the information I need	69.0	101.0	20.0
% I regularly access the information I need	24.0	39.1	19.4
I sometimes access the information I need	168.0	101.0	68.0

Regarding receiving training	Yes	NO	No response
% I sometimes access the information I need	58.3	39.1	66.0
I never access the information I need	25.0	13.0	3.0
% I never access the information I need	8.7	5.0	2.9
No response	6.0	7.0	4.0
% No response	2.1	2.7	3.9

The data confirm other findings and are consistent in demonstrating that those who find the information they need less often are more likely to desire training. Among those who want training, 67% only sometimes or never find the information they need whereas among those who do not want training, 44.2% only sometimes or never find the information they need. Among those who want training 30.9% always or regularly find the information they want compared with 53.1% who do not want training. However, even among those who always or regularly find the information, a fairly large number (89 or 30.9%) want training. However, there are still 114 respondents, who only sometimes or never access information they need, who do not want training and 103 who did not respond, the majority of whom (66%) only sometimes access the information they need. The chi-square test for independence returned a p-value of 1.87365E-06 which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' desire for library training and Success at Accessing in using Online Library Resources.

5.27 Method of Contact

Table 5.27: Preferred Method of Contact

Preferred Method of Contact	Frequency	Percentage of Respondents
Email	288	44.4
No Response	361	55.6
Total	649	

Table 5.27: Preferred Method of Contact
This question was aimed at obtaining the contact details of all students so that training could be arranged. It was hoped that some students who may not have felt uncomfortable at answering the 'desire for training' question directly would be able provide their contact details so that training could be arranged. All those who responded to the question chose to be contacted by email, demonstrating that email is the most common form of communication used by the majority of distance learners or that this group of students has easy access to email and technology. It is worth noting that a significant number of students (55.6%) did not respond to the question.

Table 5.27.1: Preferred Method of Contact by Gender

Preferred Contact Method	Frequency	%	Female	% Female	Male	% Male	NR	% No response
Email	288	44.4	157.0	54.5	131.0	45.5	0.0	0.0
No Response	361	55.6	184.0	51.0	176.0	48.8	1.0	0.3
Total	649							

The results indicate that there was no significant variation between male and female respondents. This suggests that all students irrespective of gender use email as a major form of communication.

5.28 Use of Summon

Table 5.28: Use of Summon

Use of Summon	Frequency	Percentage of total participants
No	476	73.3
Yes	129	19.9
No response	44	6.8
Total	649	

Table 5.28: Use of Summon
In this question students were asked to state whether they had used the new library search engine Summon (found at http://external.shl.london.ac.uk/summon/index.php) (see Appendix 11 for screenshots of the main interface before and after the implementation of Summon.

The majority of students who responded to the survey (73.3%) said that they had not used Summon. This is not surprising, given that Summon was launched in April 2010, effectively two months before this survey was undertaken, in June 2010. Summon was implemented as a result of a finding from the pilot study phase of this research in which students expressed a need for an easier search tool like "Google". Almost 20% of the students who answered the question had used Summon. This is a small but significant number.

Table 5.28.1: Use of Summon by Gender

Use of Summon	Frequency	Percentage of total participants	Female	% Female	Male	% Male
Yes	129	19.9	72.0	55.8	57.0	44.2
No	476	73.3	248.0	52.1	227.0	47.7
No response	44	6.8	21.0	47.7	23.0	52.3
Total	649					

As shown in Table 5.28.1, 55.8% of all students who responded to this question were women while 44.2% were men. These results suggest that women may need better and easier Online Library search tools. The results also corroborate earlier findings (see 5.26.1- desire for training, where more women than men expressed the desire for training in using the Online Library, and 5.18.1- success in using the Online Library, where men were more successful at using the Online Library and always or regularly found the information they needed). Although there are differences in the sample drawn, the chi-square test returned a p-value of 0.467, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between distance learners' use of Summon and gender.

Table 5.28.2: Use of Summon by Age Range

Use of Summon	Yes	No	No response
Frequency	129	476	44
% of Total Respondents	19.9	73.3	6.8
under 25	50	153	10
% Under 25	38.8	32.1	22.7
26-35	41	189	16
% 26-35	31.8	39.7	36.4
36-45	26	86	13
%36-45	20.2	18.1	29.5
46-55	9	28	5
%46-55	7	5.9	11.4
56+	3	18	
% 56+	2.3	3.8	0
No response		2	
% No response	0	0.4	0

The figures show that the highest number of Summon users (38.8%) were under the age of 25; they were followed by the 26-35 age range, with the numbers tailing off after that. The higher usage by the under-25s may suggest the high acceptability of information technology among the younger students. Meanwhile, the lower response figures in the older age ranges suggest that more mature students, many of whom are postgraduates, possibly prefer using specialist databases in their research. It may also

suggest that this group of students are less likely to experiment with new technologies and prefer using sources with which they are more familiar. Although there are differences in the sample drawn, the chi-square test returned a p-value of 0.399, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' use of Summon and age.

Table 5.28.3: Use of Summon by Level of Programme

Use of Summon	Yes	No	No response
Frequency	129	476	44
Percentage of total participants	19.9	73.3	6.8
Postgraduate	18	329	11
%	14	69.1	25
Undergraduate	106	122	29
%	82.2	25.6	65.9
Diploma	3	8	1
%	2.3	1.7	2.3
Certificate	1	5	
%	0.8	1.1	0
Use of Summon	Yes	No	No response
Access	1	8	3
%	0.8	1.7	6.8
No response	0	4	0
%	0	0.8	0

The figures show that more undergraduates (82.2%) use Summon than postgraduates do (18%). These figures support earlier findings on the overall figures for postgraduate and undergraduate Summon use. The chi-square test returned a p-value of 2.64985E-29 (means move 29 decimal places to the left), which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' use of Summon and level of programme.

Table 5.28.4: Use of Summon by English Language Proficiency

Use of Summon	Frequency	Percentage of Total Respondents	Yes	% Yes	No	% No	No response	% No Response
Yes	129	19.9	66	51.2	61	47.3	2	1.6
No	476	73.3	238	50.0	215	45.2	23	4.8
No Response	44	6.8	27	61.4	17	38.6		0.0
Total	649							

These figures are in line with the general distribution for English language proficiency and show no significant variation between those students who have English as their first language and those who do not. The chi-square test returned a p-value of 0.909, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between respondents' use of Summon and English language proficiency.

Table 5.28.5: Use of Summon by Programme of Study

Use of Summon	Yes	No
Frequency	129	476
Percentage of total participants	19.9	73.3
CEDEP	1	13
% CEDEP	0.8	2.7
CEFIMS	4	12
% CEFIMS	3.1	2.5
EMFSS	37	202
% EMFSS	28.7	42.4
Int. Mgt	6	13
% Int. Mgt	4.7	2.7
Law	76	198
% Law	58.9	41.6
LLM	2	31
% LLM	1.6	6.5
MRES	3	5
% MRES	2.3	1.1
Other		2
% Other	0	0.4
NR	0	
% No Response	0	0

There figures show that the programme with the largest numbers of students using Summon is Law with 58.9%; this is followed by EMFSS with 28.7%, and then International Management with 4.7%, CEFIMS with 3.1, MRES with 3% and CEDEP with 0.8%. These figures do not show any correlation between programme of study and Summon use other than that which relates to the proportionately higher overall participation numbers from Law and EMFSS. The chi-square test returned a p-value of 0.002, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' use of Summon and programme of study.

Table 5.28.6: Use of Summon by Mode of Study

Use of Summon	Yes	No	No response
Frequency	129	476	44
Percentage of total participants	19.9	73.3	6.8
At Inst+Tuition	52	139	10
% at inst & tuition	40.3	29.2	22.7
At ins NO Tuition	15	56	6
% at Inst No Tuition	11.6	11.8	13.6
Ind No Tuition	55	229	24
% indep No Tuition	42.6	48.1	54.5
Institution	7	49	4
% Indep & Tuition	5.4	10.3	9.1
No response		3	
% No response	0	6.1	0

The figures show that the largest body of users of Summon are those students who are studying independently with no tuition (42.6%), followed by students studying at an institution but also receiving tuition, then those studying at an institution with no tuition (11.6%) and, lastly, those studying independently and receiving private tuition. However, the overall figures show that the largest body of users of Summon were in fact students registered with an institution and also receiving private tuition (25.9%), followed by students who were registered with an institution but receiving no private tuition. These findings are not surprising given that there may be better networks and communication channels (peers, tutors) for those students who are registered with an institution and those in receipt of private tuition. These findings therefore demonstrate that there is a correlation between mode of study and use of Summon. Despite these differences in the sample drawn, the chi-square test for independence returned a p-value of 0.066, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' use of Summon and mode of study.

Table 5.28.7: Use of Summon by Country

Response	Yes	No	No response
Number of respondents	129	476	44
Percentage %	19.9	73.3	6.8
3 diff countries	1	0	0
% 3 diff countries	0.8	0.0	0.0
Albania	0	1	0
% Albania	0.0	0.2	0.0
Armenia	0	1	0
% Armenia	0.0	0.2	0.0
Australia	0	4	1
% Australia	0.0	0.8	2.3
Austria	0	7	0
% Austria	0.0	1.5	0.0
Bahamas	0	1	0
% Bahamas	0.0	0.2	0.0
Bahrain	1	5	0
% Bahrain	0.8	1	0.0
Bangladesh	1	9	0
% Bangladesh	0.8	1.9	0.0
Barbados	0	2	0
% Barbados	0.0	0.4	0.0
Belgium	2	4	0
% Belgium	1.6	0.8	0.0
Brazil	0	3	0
% Brazil	0.0	0.6	0.0
Bulgaria	0	1	0
% Bulgaria	0.0	0.2	0.0
Cambodia	0	3	0
% Cambodia	0.0	0.6	0.0
Cameroon	1	0	0
% Cameroon	0.8	0.0	0.0
Canada	7	17	2
% Canada	5.4	3.6	4.5
Cayman Islands	0	1	0
% Cayman Islands	0.0	0.2	0.0
Colombia	0	2	0
% Colombia	0.0	0.4	0.0
Croatia	0	2	0
% Croatia	0.0	0.4	0.0
Cyprus	0	3	0
% Cyprus	0.0	0.6	0.0
Czech Republic	0	1	1
% Czech Republic	0.0	0.2	2.3

Response	Yes	No	No response
Denmark	1	1	0
% Denmark	0.8	0.2	0.0
Dominica	1	2	0
% Dominica	0.8	0.4	0.0
Egypt	2	1	0
% Egypt	1.6	0.2	0.0
France	0	1	1
% France	0.0	0.2	2.3
Germany	0	7	0
% Germany	0.0	1.5	0.0
Ghana	0	2	1
% Ghana	0.0	0.4	2.3
Greece	0	2	2
% Greece	0.0	0.4	4.5
Guatemala	0	1	0
% Guatemala	0.0	0.2	0.0
Guyana	0	1	0
% Guyana	0.0	0.2	0.0
Hong Kong	5	23	2
% Hong Kong	3.9	4.8	4.5
India	3	6	0
% India	2.3	1.3	0.0
Indonesia	10	2	0
% Indonesia	0.8	0.4	0.0
Iran	0	1	0
% Iran	0.0	0.2	0.0
Israel	0	1	0
% Israel	0.0	0.2	0.0
Italy	1	5	0
% Italy	0.8	1.1	0.0
Jamaica	5	9	1
% Jamaica	3.9	1.9	2.3
Japan	2	4	1
% Japan	1.6	0.8	2.3
Kenya	0	4	1
% Kenya	0.0	0.8	2.3
Kuwait	0	1	0
% Kuwait	0.0	0.2	0.0
Lithuania	0	1	0
% Lithuania	0.0	0.2	0.0
Macedonia	0	1	0
% Macedonia	0.0	0.2	0.0
Madagascar	0	1	0
% Madagascar	0.0	0.2	0.0

Response	Yes	No	No response
Malawi	0	2	0
% Malawi	0.0	0.4	0.0
Malaysia	9	18	0
% Malaysia	7.0	3.8	0.0
Malta	3	7	2
% Malta	2.3	1.5	4.5
Martinique	0	1	0
% Martinique	0.0	0.2	0.0
Mauritius	4	19	2
% Mauritius	3.1	4.0	4.5
Myanmar	1	0	0
% Myanmar	0.8	0.0	0.0
Namibia	1	0	0
% Namibia	0.8	0.0	0.0
New Zealand	1	3	1
% New Zealand	0.8	0.6	2.3
Nigeria	2	15	4
% Nigeria	1.6	3.2	9
No response	1	24	1
% No response	0.8	5.0	2.3
Other	0	3	1
% Other	0.0	0.6	2.3
Pakistan	3	18	1
% Pakistan	2.3	3.8	2.3
Peru	0	1	0
% Peru	0.0	0.2	0.0
Poland	0	5	1
% Poland	0.0	1.1	2.3
Portugal	0	2	1
% Portugal	0.0	0.4	2.3
Russia	5	21	0
% Russia	3.9	4.4	0.0
Rwanda	0	1	0
% Rwanda	0.0	0.2	0.0
Saint Lucia	0	1	0
% Saint Lucia	0.0	0.2	0.0
Saudi Arabia	0	5	0
% Saudi Arabia	0.0	1.1	0.0
Serbia	0	1	0
% Serbia	0.0	0.2	0.0
Singapore	14	47	7
% Singapore	10.9	9.9	15.9
South Africa	1	2	0
% South Africa	0.8	0.4	0.0

Response	Yes	No	No response
South Korea	1	0	0
% South Korea	0.8	0.0	0.0
Spain	7	9	2
% Spain	5.4	1.9	4.5
Sri Lanka	3	10	0
% Sri Lanka	2.3	2.1	0.0
St Vincent and the Grenadines	0	2	0
% St Vincent and the Grenadines	0.0	0.4	0.0
Sudan	0	4	0
% Sudan	0.0	0.8	0.0
Sweden	0	2	0
% Sweden	0.0	0.4	0.0
Switzerland	6	6	1
% Switzerland	4.7	1.3	2.3
Thailand	2	6	1
% Thailand	1.6	1.3	2.3
The Netherlands	0	1	0
% The Netherlands	0.0	0.2	0.0
Trinidad and Tobago	10	38	3
% Trinidad and Tobago	7.8	8.0	6.8
Uganda	0	1	0
% Uganda	0.0	0.2	0.0
United Arab Emirates	1	1	0
% United Arab Emirates	0.8	0.2	0.0
United Kingdom	13	35	2
% United Kingdom	10.1	7.4	4.5
United States	3	14	1
% United States	2.3	2.9	2.3
Uruguay	4	2	0
% Uruguay	3.1	0.4	0.0
Vietnam	0	5	0
% Vietnam	0.0	1.1	0.0

The results of Table 28.7 show that the largest body of users of Summon are from Singapore (10.9%), the UK (10.1), Malaysia (7.1%) and Trinidad and Tobago (7.8%), a finding that appears to relate to the large number of students in these countries. A chi-square test has not been conducted because of the number of cells with zeros or no responses.

5.29 Views on Summon

Table 5.29: Students' Views on Summon (the Online Library resource discovery tool).

Students' views on Summon	Number of Occurrences
Not aware of it	41
Better results/more functionality	19
Great improvement	17
Simple and easy to use	16
Easier to use	15
Experienced difficulties	14
Need training in using it	14
Haven't heard of it	11
Useful	4
One-stop shop and saves time	4
More user-friendly	3
I like it	1
Other miscellaneous comments include:	6
More information	
N/A	
Not user-friendly,	
Nothing to comment	
Prefer searching databases directly	
Prefer other traditional search engines	

All students who answered yes to question 28 (Use of Summon) were asked to give feedback on the use of the library search engine Summon. 157 students or 24.2% of the total sample answered this open-ended question. As shown above, although those students who had used Summon found it simple and easy to use, time-saving, user-friendly, provided a one-stop shop, and generally a "great improvement", a large number of students were not aware of it while others had experienced problems and wanted training in using it.

5.30 Methods of Search of Online Library

Table 5.30: How Respondents Search the Online Library (Methods of Search)

How they search the library	Overall	Percentage of Total Respondents	Female	Male
I browse the databases	431	66.4	234	196

How they search the library	Overall	Percentage of Total Respondents	Female	Male
I use the journal finder	345	53.2	174	171
I browse resources available on my course gateway.	240	37.0	128	112
I use the site search	153	23.6	73	80
I use Summon	66	10.2	40	26
I use the A-Z	57	8.8	31	26
Other (specify)	8	1.2	3	2
Total	649			

Question 30: How do you search the Online Library for information? (Can select more than one)? As shown in Table 5.30 above, the most commonly-used search methods are database browsing (66%), followed by the Journal Finder (53%), browsing the gateway (37%) and site search (24%), with the A-Z being the least-used method.

5.31 Desired Improvements to the Online Library

Table 5.31: Respondents' Desired Improvements to the Online Library

Desired Improvements to the Online Library	Frequency	Percentage of Total participants	Female	Male
I would like more e-books	346	53.3	180	166
I would like to be able access resources easily	306	47.1	172	134
I would like to be able to communicate with the Online Library team at any time.	296	45.6	134	162
I would like more online help and training guides	277	42.7	146	131
More useful website suggestions	198	30.5	114	84
I would like more journals	102	15.7	47	55

Desired Improvements to the Online Library	Frequency	Percentage of Total participants	Female	Male
Other	85	13.1	58	27
I would like more databases	55	8.5	23	32
Total	649			

In this question, respondents were asked to suggest improvements they would like to see in the Online Library (more than one option could be chosen). As Table 5.31 above shows, the majority of students (53%) said that they would like more e-books added to the Online Library. The need for easy access (47%), communicating with the Online Library team at any time (45%), and more online help and training guides (42%) were significant findings. The findings seem to suggest that there are some differences between male and female priorities for improvement. For instance, female respondents value having 'more online help and training guides' over 'communicating with the Online Library team at any time', while the reverse was true for the male respondents. This directly relates to the differences in learning styles and suggests that female students prefer to work independently more than their male counterparts. The chi-square test returned a p-value of 0.033, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' desired Online Library improvements and gender.

5.32 Desired Additional Online Services

Table 5.32: Desired Additional Online Services

Desired Additional Online Services	Overall	Percentage	Female	Male
EBooks	374	57.6	193	180
Discussion forum	274	42.2	149	124
Interactive tutorials	247	38.1	131	115
Facebook	223	34.4	124	99
Inter-library loan service	196	30.2	109	86
Podcasts	190	29.3	91	90
Longer enquiry service hours	73	11.2	39	34
Twitter	57	8.8	29	28
Blog	30	4.6	15	15
Instant ask-a-librarian enquiry service Interactive	24	3.7	14	10
Other (please specify)	7	1.1	2	5
Total	649			

In this question, students were asked to indicate which additional online services they would like to see. As shown by Table 5.35, the majority of respondents (57%) said that they would find more e-

books useful; this is followed by discussion forums (42%), interactive tutorials (38%), Facebook (34%), podcasts (29%) and longer enquiry hours (11%). The instant 'ask a librarian' service was the least desirable one.

Table 5.32.1: Desired Additional Online Services (Social Networking Tools) and Library Meeting Needs

Online services that would be useful	Frequency	Yes	% Yes	No	% No	No response	% No response
Facebook	223.0	120.0	53.8	89.0	39.9	14.0	6.3
Twitter	57.0	33.0	57.9	21.0	36.8	3.0	5.3
Blog	30.0	15.0	50.0	13.0	43.3	2.0	6.7
Instant ask a librarian enquiry service Interactive	24.0	7.0	29.2	17.0	70.8	0.0	0.0
Discussion forum	274.0	141.0	51.5	117.0	42.7	16.0	5.8

This tabulation shows the relationship between those whose needs are met by the Online Library and those who would find social media useful. The general distribution, apart from preferences for particular social media, shows a preference for social media among those who are successful at using the Online Library (over 50% rather than 36-43%). This may indicate a better facility for using online services, whatever they are. However, there is a major discrepancy in the responses for the librarian enquiry service, where over two thirds of those who would like such a service (70.8%), although a small number of respondents, are not successful in using the Online Library, indicating that they need assistance using the Online Library. The chi-square test for independence returned a p-value of 0.099 which is greater than 0.05 and therefore supports the hypothesis that there is no significant relationship between distance learners' Desire For Social Networking Tools and Library Meeting Needs.

5.33 Comments on the Online Library

Table 5.33: Further Comments about the Online Library

In this question, respondents were asked to make any further comments on the Online Library service. Below is a summary of the responses. 63 students out of a total of 649 answered this question, giving a small but significant response rate of 9.7%. The finding can be divided into five broad categories: Satisfied with the service (12 students), Access to a broader range of resources (13), More guidance and support (10), Access to e-books (3) and Easier and improved access to Online Library resources and improved search facilities (10 respondents). These findings have immediate practical implications and would enable the Online Library to prioritise those areas of the service that are important to the students.

No further comments thank you	**14**
Access to a broader range of resources	**13**
I would like some more videos from the UOL lecturers so it can give us an indication as to the level of knowledge expected.	
It would be great to have access to more statistics databases or at least links to where necessary data can be found.	
Without a comprehensive physical library at my disposal, I depend greatly on the Internet and the resources UOL make available to us. I hope that the Online Library is expanded ... access to journals and some texts.	
Could magazines such as Geographical and National Geographic be available through the Online Library? I have subscribed to the former, but searching online via the library could help a bit more.	
I did suggest an organisation (AWWARF) that provides access to their research if a university has an agreement with them for access. I am not sure if it was done. Access to other databases would be useful.	
As it stands at present, it is not very adequate for someone who needs to do research from home in as broad a field as Biodiversity.	
Please have the recommended readings easily accessible, without a fee, to students.	
More magazines and articles, for example, Geography and National Geographic magazines	
Geographic Journal	
I find it frustrating when journal articles are available only in abstract and not in full text, especially when they are recommended course reading.	
Maybe have lecturers develop videos that we can download for certain units or topics that we can just listen to while going to work so that when one is reading issues can sink in much better	
Allow external students to have access to the library	
Happy with the Online Library Service	**12**
I'm glad you exist and strive to improve.	
Online Library has been working well for me	
In general you are doing a very nice job, keep it up!	
The Online Library is fantastic.....however, an improvement in the e-books access and journal-finding capability would further enhance the overall Online Library experience	
The Online Library has always been my hub for information needed...keep up the good work and I really hope E-books in further essential reading lists become readily available to students.	
In general, my studies depend a lot on the library's high quality services	
Thank you for trying to find out what students need to be able to succeed.	
I'll repeat: the new search using Summon is a HUGE improvement! Takes care of many of the issues I had with the Online Library	
Thanks for the already good service provided to us, this survey is much appreciated.	
Your work is appreciated. Pity access to the 'real' library is so expensive.	

So far my few e-mails have been answered speedily and efficiently –thank you!	
Don't be too hard on yourselves. I think what you provide at the moment is good. It's nice to see that you want to continually improve. It's nice to be asked for an opinion too. I hope you get a high response rate.	
More Guidance and support in using the Online Library	**10**
Would be helpful to get a small guide that helps/explains how to get around and how to find the information needed very fast.	
I would like some more videos from the UOL lecturers	
I believe we could use more the Online Library with some easy steps...some online courses in the VLE	
Pleased to have a training.	
Who is the person to contact if we have questions concerning the library online?	
Is it possible that we write an email for a resource we cannot find and the help desk sends us link for the same if possible	
I have basically not been able to access materials on the Online Library - it would be good to provide us with some general guidelines.	
Please provide more information on what it's all about and the types of resources that can be accessed.	
Is it possible that we write an email for a resource we cannot find and the help desk	
Send us a link for the same, if possible.	
Easier and improved access to Online Library resources and improved search facilities	**10**
I've always found the OL rather obtuse and difficult to use, navigate and obtain the information I'm after. On Google scholar I was able to find what I needed a lot easier and faster.	
The Online Library is fantastic.....however, an improvement in the e-books access and journal-finding capability would further enhance the overall Online Library experience	
I believe we could use more the Online Library with some easy steps...some online courses in the VLE	
The website could be better designed to assist the user.	
I have found it very difficult to find anything - search criteria are quite narrow.	
It would be good if Summon gives more relevant results.	
Is it possible that we write an email for a resource we cannot find and the help desk sends us link for the same if possible	
Always found OL rather obtuse and difficult to use, navigate...More often.... Google Scholar was able to find what I needed a lot easier and faster.....it is extremely frustrating to spend a few hours in the OL only to source a handful of articles when, as a technically savvy person	

More relevant results	
Want to have access to the Online Library	
Access to E-Books	**3**
Should make a deal with some e-book reader device producer and provide external students with discounted textbooks	
The Online Library is fantastic.....however, an improvement in the e-books access and journal-finding capability would further enhance the overall Online Library experience	
The Online Library has always been my hub for information needed...keep up the good work and I really hope E-books in further essential reading lists become readily available to students.	
Miscellaneous	**1**
Is the University planning to use Google Docs Spreadsheets in the future for similar surveys? I am confident it would increase the number of respondents.	
Total	**63**

Chapter 6: Discussion of the Main Study Findings

6.1 Introduction

Chapter Six is a comprehensive discussion and evaluation of the data established by the large-scale main study and how the findings arising from those data answer the research questions introduced under 'Aims and Objectives' in Chapter One and repeated in outline below.

The discussion below is arranged under the main themes identified in the research questions. At each point the discussion refers back to the detailed main study data which are presented in Chapter Five in tabulated form. The analysis of the data for each survey question in Chapter Five includes cross-tabulation against other significant survey data which directly relate to the respondents' personal context. It is these data which inform the evaluation of the initial hypotheses in Chapter One. The data include gender, age, level of programme, English language proficiency, programme of study, mode of study and geographical location/country of residence. Cross-tabulation was used to establish the relationships between the data elements or variables. Chi-square tests were employed to establish in a consistent and objective way significant relationships between variables as described in Chapter Three (section 3.14), with an example in Appendix 7.

6.2 Analysis of the Research Questions

The research questions are enumerated in Chapter Three (section 3.14) followed by a commentary on the survey questions and their relevance to the research questions.

6.2.1 Research Question 1: What are the information needs of distance learners of the University of London?

Purpose of Information-Seeking Activity

The results of the data analysis indicate that distance learners' information needs and activities are very strongly task-oriented.

In order to establish the information needs of the distance learners of the University of London, the questionnaire asked respondents to state the purpose of their information-seeking activities (survey question 9) and offered them options from which to choose.

The majority of students (73.8 per cent) sought information in order to prepare for exams and (65.2 per cent) to complete their course work and assignments. Almost 50 per cent sought information in order to supplement course reading, which could be taken to indicate wider reading but could also mean finding recommended reading that was not provided in full text by the programme. In contrast, 'general reading and current awareness' was selected by 29.6 per cent of the respondents, and 'dissertations and research', which requires broad and deep collections, was selected by only 12.8 per cent. As mentioned in Chapter Five, these findings have implications for the nature of the materials provided by the Online Library and, more broadly, for the nature of the course and its requirements.

The study also sought to establish whether gender has any relationship with the information-seeking

activities of distance learners by cross-tabulating information activities with gender. These results show that more female respondents engage in 'general reading activities' (55 per cent), 'supplementing their course readings' (54 per cent) and more in-depth research (53.6 per cent) than their male counterparts. A chi-square test for independence was performed on the cross-tabulations using the procedure noted above. A p-value (probability value) of 0.000 was returned. This value is less than the standard accepted significance value (α) of 0.05 and indicates that there is enough evidence to support the hypothesis that gender influences distance learners' information-seeking activities.

There is evidence that there is no significant relationship between 'purpose of information-seeking activity' and age. However, there is a significant correlation between the 'purpose of information activity' and level of programme, which itself is partly determined by age range. 'Purpose of information-seeking activity' was cross-tabulated with age, and a chi-square test was performed; this yielded a p-value of 0.217, which is greater than 0.05, thus indicating no significant relationship. However, of those nominating the purpose of 'dissertation and research', just over 55 per cent were postgraduate students, while 'course work and assignments' and 'preparation for examinations and tests' drew the largest number of respondent choices from among undergraduates, each with over 70 per cent. The results of the cross-tabulation and chi-square test on 'purpose of information activity' with level of programme show that there is a significant relationship, and the chi-square test resulted in a p-value of 0.001,which is less than 0.05, thus supporting the conclusion that level of programme significantly influences the 'purpose of information activity'.

A cross-tabulation and chi-square test between 'purpose of information activity' and English language proficiency produced no significant association. The chi-square test resulted in a p-value of 0.940, which is greater than 0.05, thus providing further evidence that the data distribution occurred by chance. A cross-tabulation between 'purpose of information activity' and mode of study showed that there is a significant relationship. Overall, respondents who study independently perform more general and current awareness activities (48.4 per cent against 47.5 per cent) and more research and dissertation activities (51.8 per cent) than those registered at institutions. This indicates the need for a broad range of materials and broad and deep collections that are less focused on specific recommended items. On the other hand, respondents who are registered at an institution performed more 'coursework and assignment-related' activities (34.8 per cent against 31 per cent) as well as exam and test-related activities (33.6 per cent). This relationship could in part be influenced by 'level of the programme'. As already established, the majority of students who are studying independently are postgraduates while those registered with an institution are undergraduates. The chi-square test retuned a p-value of 0.001, which is less than 0.05 and supports the hypothesis that there is a significant relationship between purpose of information activity and mode of study.

A cross-tabulation between 'purpose of information activity' and country of residence or location showed no significant variation. No chi-square test was conducted because of the large number of cells with zero.

6.2.2 Research Question 2: What kind of information sources and information channels are used by distance learners and why they are used?

This question is addressed by survey questions 10, 11, 12, 13, 17, 19, 20, 23, 24 and relevant cross-tabulations.

Information Sources / Channels Used Most Frequently (survey question 10)
The findings indicate that the most used information source was 'course textbooks', used by 80 per cent of the students. The second most frequently used information source was 'free sources on the Internet', cited by 79 per cent of the respondents. The Online Library was cited by just over 56 per cent of respondents while the course VLE, which one would also have thought was essential, was cited by only 53 per cent. The extent of use of free sources on the Internet has important implications for the provision of materials and raises important issues of information literacy support and development for distance learning students.

In addition to the wide-scale reliance on course textbooks, just under a third of the students said that they supplemented these course textbooks with other book purchases and e-books, which were used by nearly 11 per cent of the students.

In order to establish the type of information sources and channels preferred or used most frequently, respondents were provided with options (Information Source, Course Textbooks, Free Sources on the Internet, Course VLE, Online Library, E-books, Purchased Books, Newspapers, Thesis and Dissertation). However, respondents could also specify other sources. An interesting finding is the frequent use of 'family and friends' as an information source / channel, which was specified by 62 (almost 10 per cent) of respondents even though it was not given in the options available to choose from. It raises the issue of information literacy support, particularly at a postgraduate level where students are required to correctly cite all works used in their coursework and dissertations. However, of the 62 students who frequently used 'family and friends' as an information source, 55 or 88.7 per cent were undergraduates. The study attempted to establish whether gender influenced distance learners' choice of information sources and frequency of use. A cross-tabulation between 'Information Sources Used Most Frequently' and gender found that that the proportion of women was similar to the overall proportions in the survey. There was a slightly higher proportion of men purchasing books and using e-books, which may indicate high purchasing power. The higher use of theses and dissertations may well coincide with the higher number of men undertaking postgraduate degrees. However, although there were differences in the sample drawn, the differences were not significant enough and the chi-square test returned a p-value of 0.092, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between resource preference and gender.

In terms of age, the figures suggest that there were some differences in resource preferences between the various age groups. For instance, 26-35 year-olds were more likely to use the Online Library and purchase books more frequently. Older age ranges were more likely to use print journals and conference proceedings, which may possibly indicate some aversion to electronic resources; alternatively, they may be pursuing higher-degree studies and are more likely to need information contained only in these sources. Despite the differences in the responses, the chi-square text returned a p-value of 0.105, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between 'Information Sources Used Most Frequently' and age.

The Level of Programme, i.e. whether a distance learner was enrolled on an undergraduate, postgraduate, diploma, certificate or access course, significantly influenced the choice of resources and channels used most frequently. A cross-tabulation between 'Information Sources Used Most Frequently' and Level of Programme showed that there were differences in the proportions of

undergraduate and postgraduate use of information resources / channels. Although this difference was affected by the large number of undergraduates in the overall sample, 15.1 per cent of students who were postgraduates made up a greater proportion of users of several types of information sources: course textbooks (21.3 per cent), free sources on the Internet (21.1 per cent), Online Library (28.2 per cent), E-books (34.3 per cent), purchased books (20 per cent), newspapers (26.4 per cent), theses and dissertations (35.7 per cent), and print journals (23.8 per cent). This suggests wider reading at postgraduate level. A chi-square test returned a p-value of 3.775E-04 (means move 4 decimal places to the left), which is less than 0.05 and supports the hypothesis that there is indeed a significant relationship between 'most frequently used information sources' and level of programme.

The study also established that English language proficiency (taken to mean having English as a first language) had no significant influence on distance learners' resource preferences and frequency of use. A cross-tabulation between 'Most Used Information Sources and English Language Proficiency (Table 10.4) showed that the level of proficiency was below the average for the sample among the users of newspapers (although they may be printed in the local first language) and theses and dissertations. By comparison, it was higher among the users of e-books and print journals. These results indicate that there were some differences between the most frequently used Information Sources of those for whom English was a first language and those who had English as a second language. However, the chi-square test returned a p-value of 0.463, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between distance learners' most frequently used information sources and English language proficiency.

It was established that there is a significant relationship between distance learners' 'Most Frequently Used Information Sources' and Programme of Study. The results of the cross-tabulation (Table 10.5) showed differences in distribution of respondents on the various programmes in their use of types of resources. For example, EMFSS students were far more likely to use e-books than any other students, which could indicate the reasonable availability of major texts in this format. They were also much more likely to use newspapers, dissertations and print journals, and this may also reflect both availability and the likelihood of coverage of relevant material. A very large number of law students cited 'family and friends' as a frequently used information source compared to students on other programmes. This may indicate several factors such as the collaborative nature of law studies and the likelihood that family and friends are involved in the legal profession. The chi-square test returned a p-value of 0.00, which is less than 0.05 and supports the hypothesis that there is a significant relationship between 'Information Sources Used Most Frequently' and Programme of Study.

It was established that distance learners' choice of information sources and channels were influenced by Mode of Study. 'Information Sources Used Most Frequently' was cross-tabulated with Mode of Study (Table 10.6). The results showed that there was a marked difference between respondents' resource preferences in the use of family and friends, e-books, and print journals. These differences are also influenced by the nature and level of the programme. A chi-square test returned a p-value of 7.74272E-16 (means to move 16 decimal places to the left), which is much smaller than 0.05 and supports the hypothesis that there is a significant relationship between distance learners' Most Frequently Used Information Sources and Mode of Study.

It appeared that country of residence influenced distance learners' resources preferences. Information Sources Used Most Frequently was cross-tabulated with geographical location / country of residence

(Table 10.7). The results showed that the users of course textbooks, free internet sources, course VLE and the Online Library are distributed across a large number of countries whereas the purchase of books and use of e-books, print journals, theses and dissertations are more focused on a smaller number of countries. A chi-square test was not performed on the country data because of the large number of 'no responses' and low returns for each country, which would lead to ambiguous results.

It was established in Table 10.9 that there is a significant relationship between distance learners' most frequently used sources and success at accessing information. There was a low overall rate of success with almost all sources. Those using the Online Library were proportionately more successful than those using most other major sources and there was greater general success with the Online Library than the course VLE. These findings should be compared to the findings in Table 5.18: this suggests that the difference between all respondents using the Online Library and those who choose to use it most often is determined by the rate of success they achieve; the rate of success is considerably higher for those who choose to use the Online Library more. There was a large use of free resources on the Internet that are unreliable and not selected, and they produced a low overall rate of success. There was a very low success rate with course textbooks, which were selected by experts for the course and are reliable sources. There was a rather better success rate using purchased books, which may well be books designed to be simpler than the standard textbooks. It might be useful in further research to examine what books are bought and to discover whether they are primers, which is possible given the relative success rates between course textbooks and purchased books. Print journals and theses displayed a relatively high rate of success but for a low number of respondents, and these sources are more used by postgraduates and experienced students (see Table 10.3).

Reasons for Choice of Information Resources (survey question 11)
In addition to establishing what information sources distance learners used most frequently, it was also important to understand the reasons for their resource preference. Survey question 11 (What are your reasons for your preferences?) offered a number of options from which respondents could choose; they were given the opportunity to choose more than one option. The findings of this survey question endorse the Principle of Least Effort. The study found that the most important resource selection criterion was 'easy to access', which was selected by 74.1 per cent; this was followed by 'easy to use' which was selected by 58 per cent of the respondents, and 'readily available' selected by 54.4 per cent. It is interesting to note that, for this group of students, quality was not a major consideration and was only selected by only 17 per cent, and neither was reliability which was selected by 22.2 per cent. Relevance was chosen by 34.2 per cent, which is less than half the number of respondents who chose 'easy to access (74.1 per cent).

A cross-tabulation between 'resource preference' and 'gender' showed no significant differences between male and female respondents' resource preferences. Although there were variations for 'reliability', which was chosen by more men than women, while 'previous experience' was chosen by more women than men, the chi square test returned a p-value of 0.768, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between distance learners' resource preference and gender.

A cross-tabulation between resource preference and age (Table 11.2) showed a remarkably similar age distribution for all the various reasons and generally followed the overall age distribution fairly closely. The only variation was that under-25-year-olds chose 'easy to use' in greater numbers than 26-35-year-

olds, who chose 'reliability'. However, although there are some differences in the sample drawn, the chi-square test returned a p-value of 0.99, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between distance learners' Reasons for Use of Information Sources and age.

The study established that Level of Programme influences distance learners' resource preferences (Table 11.3). Despite the preponderance of undergraduate students in the sample, there were some deviations from the expected proportions. Postgraduates chose 'easy to use' and 'easy to access' but also 'relevance' at rates of almost 20 per cent despite comprising just 15.1 per cent of the respondents overall. Moreover, postgraduate students chose 'reliability' at much higher rates (29.9%) than would be expected from their overall proportion in the sample at 15.1 per cent, while undergraduate students comprised only 61.1 per cent of those who chose that reason despite forming well over 80 per cent of the sample. The chi-square test returned a p-value of 0.003, which is less than 0.05, thus supporting the hypothesis that there is a significant relationship between 'Reasons for the Use of Information Sources' and Level of Programme.

The reasons for the use of information sources were also cross-tabulated with English language proficiency (Table 11.4) and little correlation was found. The results showed that the only figure with a deviation from the overall percentage of almost 5 per cent was 'affordable' where 50 per cent of respondents (rather than the overall 45.1 per cent) had another language as a first language. This suggested that finance may be a greater consideration for those without English as a first language but the chi-square test produced a p-value of 0.782, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between the 'Reasons for use of Information Sources' and English language proficiency.

Once again, programme of study was found to be an important factor. The reasons for use of information sources were cross-tabulated with programme of study (Table 11.5). The results indicated that law students had previous experience of the information sources they use in much greater proportions than students on other programmes. However, EMFSS students were much more concerned with reliability and relevance while law students chose those reasons less often than might be expected. The chi-square test returned a p-value of 33.6458E-107 (means to move 107 decimal places to the left), which is much less than 0.05 and supports the hypothesis that there is a significant relationship between Reason for Use of Information Sources and programme of study.

Mode of study was also found to be an important factor affecting why distance learners used the resources they used most frequently. Cross-tabulating 'Reasons for Use of Information Sources' and Mode of Study (Table 11.6), those studying at an institution with tuition cited 'previous experience' much more often than those who were studying independently with no tuition. The chi-square test produced a p-value of 0.014, which is less than 0.05 and supports the hypothesis that there is a significant relationship between 'Reasons Use of Information Sources and Mode of Study.

There was no discernable overall relationship between 'Reasons for Use of Information Sources' and country of residence or geographical location (Table 11.7). The results mainly mirrored the overall distribution of respondents. One interesting finding was that the higher proportion of people citing 'affordable' seemed mostly to be drawn from 'wealthier' countries rather than 'poorer' countries. A chi-square test was not been conducted because of the number of cells with zeros or no responses.

Use of the Online Library (survey question 12)
In order further to understand what information sources are used by distance learners during the course of their studies or in order to meet their information needs, respondents were asked to state whether they used the University of London's Online Library, which is the main form of library provision made available to these students by the University.

The study found that the majority of students (77 per cent) used the Online Library, but a significant minority (20 per cent) did not. These findings indicate that the significant minority of students who do not use the Online Library were not accessing the materials needed to complete their degree programmes.

Cross-tabulations between 'Use of the Online Library' and gender (Table 12.1) and age (Table 12.2) established that there were no significant differences in the patterns of use of the Online Library based on gender or age. The chi-square test produced a p-value of 0.610, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between use of the Online Library and gender. The cross-tabulation between use of the Online Library and age found that a proportion of respondents of each age range using and not using the Online Library almost exactly mirrored overall proportions. The chi-square test returned a p-value of 0.095 and supports the null hypothesis that there is no significant relationship use of the Online Library and age range.

Postgraduates were far more likely than undergraduates to use the Online Library according to the cross-tabulation between 'Use of the Online Library' and level of programme (Table 12.3). This can be linked with the earlier findings that postgraduate students are more likely to choose reliable and high-quality resources. 25.7 per cent of those who used the Online Library were postgraduates, far higher than the 15.1 per cent of postgraduates in the overall sample. On the other hand, only 69.7 per cent instead of 84.6 per cent overall were undergraduates. The chi-square test returned a p-value of 0.003, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between Use of the Online Library and Level of Programme.

The use of the Online Library by distance learners was not influenced by whether a student was a native English language speaker. Use of the Online Library was cross-tabulated with English language proficiency (Table 12.4). The study found that 52.3 per cent of those respondents who used the Online Library had English as a first language, which is close to the overall percentage of 51 per cent who declared English as their first language. These findings do not show any significant variation in Online Library use between those students who had English as their first language and those who did not. The chi-square test produced a p-value of 0.114, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between Online Library use and English language proficiency.

Once again, programme of study proved to be an important factor. The cross-tabulation established that programme of study or discipline of distance learners influenced their Online Library use (Table 12.5). The results showed that more respondents from the EMFSS programme used the Online Library in comparison to undergraduate law students. In fact, over a quarter of the law students did not use the Online Library. On the other hand, proportionately more LLM students used the Online Library than their overall percentage. The chi-square test produced a p-value of 0.001, which is less than 0.05 and

supports the hypothesis that there is a significant relationship between distance learners' use of the Online Library and programme of study.

It was established that distance learners' use of the Online Library was influenced by mode of study. Use of the Online Library was cross-tabulated with mode of study (Table 12.6). There is a significant difference in Online Library use between those students who study at an institution, who used it more, and those who study independently. The chi-square test produced a p-value of 0.031, which is less than 0.05 and supports the hypothesis that there is a significant relationship between use of the Online Library and mode of study.

No correlation was found between the use of the Online Library and country of residence (Table 12.7). Although there was a higher proportion of students in some countries, such as Malaysia and the United States, the overall proportion of about three quarters of students who do use the Online Library is repeated for most countries. A chi-square test was not conducted because of the number of cells with zeros or no responses.

Awareness of the Online Library (survey question 13)
The questionnaire asked respondents how they learnt about the Online Library in order to further ascertain how distance learners met their information needs. Respondents could choose more than one answer. The findings showed that almost all students had learnt about the Online Library from direct communications by the University of London, either through the course pack, which is the primary means of communicating, or by reference from the VLE. A very small number of students (3 in total or 0.5 per cent) had never heard of the Online Library. This is a very important finding because it demonstrates that other findings regarding non-use of the Online Library or other sources are not simply caused by ignorance of the Online Library's existence.

The study also established that gender influenced how distance learners' learnt about the Online Library. The results of the cross-tabulation showed that there were differences between how male and female respondents learnt about the Online Library. For instance, a significant number (73.3 per cent) of those who learnt about the Online Library from lectures were women. This is linked to earlier findings (Table 7.1) which established that a significantly higher percentage of women than men attended an institution and therefore attended lectures. A chi-square test returned a p-value of 6.8236E-193 (means to move 193 decimal places to the left), which is less than 0.05 and supports the hypothesis that there is a significant relationship between where respondents heard about the library and gender.

Age did not seem to be a significant factor affecting how respondents learnt about the Online Library (Table 13.2). The cross-tabulation found that there were some differences between how students from the various age ranges heard about the Online Library; for example, 66.7 per cent of those who had heard of the Online Library at lectures were under 25, and the under-25s were more likely to have learnt about the Online Library from online sources, while the 26-35 age range mainly heard about it from handbooks. However, there was little variation from the overall age distribution of respondents, especially for the most popular answers. The chi-square test produced a p-value of 0.418, which is more than 0.05 and supports the null hypothesis that there is no significant relationship between how distance learners heard about the Online Library and age.

The findings of the survey established that there is a relationship between how distance learners learnt

about the Online Library or indeed other information sources and level of programme (Table 13.3). The results of the cross-tabulation showed that a high proportion of undergraduates heard about the Online Library mainly from course packs, the VLE and Lectures. This is not surprising given that undergraduates were more likely to be attending an institution and therefore had to attend lectures. The majority of postgraduates, who were more likely to be studying independently, had heard about it from Course Packs (supplied by the University of London directly) and Fellow Students; no postgraduate chose 'Lectures' as a source of information about the Online Library. The chi-square test produced a value of 0.008, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between how distance learners heard about the Online Library and level of programme.

There was a relationship between how distance learners learned about the Online Library and English language proficiency (whether English was their first language). A cross-tabulation between 'Where Respondents Heard of the Online Library' and English language proficiency (Table 13.4) showed that there was a variation, suggesting that those without English as a first language were relying on more support from tutors and lecturers to guide them, or took more time to learn about the availability of the Online Library from other sources such as the University of London's website and the VLE. Notably, those with English as a first language were much more likely to have learnt about the Online Library from Fellow Students, perhaps because there were more students and more students in institutions in countries where the first language of students is English. The chi-square test returned a p-value of 0.019, which is less than 0.05, thus supporting the hypothesis that there is a significant relationship between how distance learners' heard about the Online Library and English language proficiency.

A significant relationship was established between programme of study or discipline and how distance learners learnt about the Online Library. The cross-tabulation found that undergraduate law students represented all those who learnt about the Online Library from lectures, from the UoL website, and from handbooks, while a large number of EMFSS students (more than their overall distribution of 39.3 per cent) learnt about the Online Library from Fellow Students or Handbooks. Unlike the law students, none of these students had learnt about the Online Library from lectures or the University of London website. Interesting responses were received from the postgraduate students. The majority of LLM students (12.2 per cent, which is more than their overall distribution of 5.4 per cent) chose 'Fellow Student' and their responses showed that they were unlikely to be at institutions because none of them chose 'Tutor' or 'Lectures'. The chi-square test returned a p-value of 3.54775E-09 (means to move 9 decimal places to the left), which is less than 0.05 and supports the hypothesis that there is a significant relationship between how distance learners heard about the Online Library and Programme of Study.

Mode of study influenced how distance learners heard about the Online Library (Table 13.6.) The cross-tabulation found that all students, whether studying at an institution or independently, heard about the Online Library mainly from Course Packs and VLE. However, the majority of students who heard about it from tutors and lectures were studying at institutions. A chi-square test returned a p-value of 2.89655E-05 (means to move 5 decimal places to the left), which is less than 0.05 and supports hypothesis that there is a significant relationship between where respondents heard of the Online Library and mode of study.

No relationship was found between where respondents heard about the Online Library and geographical location other than that which relates to the fact that greater proportions of respondents in certain countries, notably those countries identified in other tables, were more likely to be in

institutions and therefore more likely to choose 'Tutor' and 'Lectures'. A chi-square test was not conducted because of the number of cells with zeros or no responses.

Use of Online Library Resources (survey question 17)
The questionnaire asked respondents to state which of the individual library resources provided by the Online Library they used; the intention was to further establish how distance learners satisfy their information needs. The results showed that the most used resources were the legal databases Westlaw and Lexis Library, both of which are comprehensive law databases. The popularity or high usage of these databases is perhaps not surprising given the need by law students to consult case reports and legislation as well as descriptive and analytical literature. Another general law database, Justis, was also among the more heavily used databases at 25.6 per cent. The HeinOnline database, which contains mostly secondary literature, was less heavily used at 14.5 per cent. JSTOR is the general database with a broad coverage and is the most heavily used apart from the law databases. Interestingly, specialist databases and those with a scientific rather than social science focus (e.g. Kluwer Arbitration, Casetrack, Science Direct, Web of Knowledge) had very little use. In addition, IBSS was cited by very few respondents despite its social science focus, which may emphasise the need for full-text rather than bibliography.

There was a difference between male and female student use of the Online Library resources. 'Which Online Library information resources are used by respondents' was cross-tabulated with 'gender' (Table 17.1). The results showed that the higher-use databases that are key to the programmes conformed reasonably well to the overall gender balance. However, there was more variation among the lesser-used databases. For example, women used Business Source, Casetrack, IBSS and HeinOnline more than men; men used Science Direct more. The greater use of HeinOnline by women was rather surprising given the preponderance of men on the postgraduate LLM; this may suggest that women are exploring further and using more descriptive literature in law. It is important to note that three are significant gender variations between programmes of study (Table 5.1), and it is programme of study that determines which information resources are relevant. The chi-square test returned a p-value of 0.382, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship overall between use of Online Library resources and gender.

Age influenced which Online Library information resources were used by respondents. The results of the cross-tabulation of 'Which Online Library information resources are used' with age (Table 17.2) showed that, although the general distribution by age for the various sources seems to conform to the overall distribution, there were variations in the use of particular sources; for example, IBSS was used by 57.9 per cent of the 35-36-year-olds, and Kluwer Arbitration was used by 20 per cent of 56+ year olds. Generally, the study findings indicate that older respondents were more selective in their use of sources while the younger respondents used more of the general resources, although this may have been determined more by the nature of the course they were following, which is also related to level of programme. The general databases, including the standard legal databases, were mostly used by those respondents who were on undergraduate programmes and were therefore younger. The chi-square test returned a p-value of 0.012, which is less than 0.05 and supports the hypothesis that there is a significant relationship between 'which Online Library information resources are used' and age.

Level of programme, as suggested by the results above, was a significant factor affecting which Online Library information resources were used by respondents (Table 17.3). As noted in relation to age

range, which itself is related to level of programme, the general databases including the standard legal databases were used more by those respondents on undergraduate programmes. The specialist databases were used more by postgraduates, and generally postgraduates used the databases more than undergraduates. There also seemed to be greater use of reference and bibliographic sources as opposed to full-text sources by postgraduates. The chi-square test returned a p-value of 5.85353E-13 (means move 13 decimal places to the left) and supports the hypothesis that there is a significant relationship between which Online Library information resources are used by distance learners and level of programme.

A cross-tabulation between 'Online Library information resources used by respondents' and English language proficiency (Table 17.4) showed that, although a greater proportion of LLB students do not have English as a first language, the majority of respondents citing use of the major law databases (Lexis Library and Westlaw) nevertheless have English as a first language. Furthermore, most resources are used by more respondents with English language as a first language, e.g. Business Source Premier, Educational Indexes, Sage Journals, and Wiley Interscience. The databases used more by those with another language as a first language are Casetrack, Kluwer Arbitration, Science Direct and Web of Knowledge. Despite these differences in the patterns of use, the chi-square-test returned a p-value of 0.058, which is greater than 0.05 and supports the null hypothesis that there is overall no significant relationship between distance learners' use of Online Library resources and English language proficiency.

A cross-tabulation of 'which Online Library information resources are used' with programme of study (Table 17.5) demonstrates that programme of study is a key factor in the choice of information resources. Given that, overall, law students, both LLB and LLM, constitute over 50 per cent of respondents, it is not surprising to see them well represented, and they are extremely focused on the legal databases, with only a small amount of use of other databases with the exception of JSTOR. This emphasises the specialist nature of legal programmes. Respondents on other programmes tend not to use legal databases to any large extent although there is some use by EMFSS respondents, whose subject does have important legal elements. Likewise, there is highly focused use by MRES respondents of the Educational Indexes. There is an anomaly in the use of Justis, a legal database which is simpler to use than Lexis and Westlaw; 66 per cent of the use is by International Management respondents rather than law respondents and this must be explained by some particular content. EMFSS students comprise the other large undergraduate programme; respondents on this programme dominate the use of several general articles databases and their usage is spread over a greater variety of sources. A chi-square test returned a p-value of 9.4797E-264 (means to move 264 decimal places to the left), which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' use of Online Library resources and programme of study.

Cross-tabulation of 'which Online Library information resources are used by respondents' with mode of study (Table 17.6) shows that there is more Online Library resources usage by those who study independently. The figures reinforce the earlier findings that a large proportion of law respondents study independently (see Table 7.5) and generally make more use of legal databases. The chi-square test returned a p-value of 3.185E-135 (means move 135 decimal places to the left), which is less than 0.05 and supports the hypothesis that there is a significant relationship between use of Online Library resources and Mode of Study.

The cross-tabulation of the use of Online Library information resources by country (Table 17.7) can be compared with the findings of survey question 5.4, Programme of Study by Country of Residence, which gives an indication of the likely use of databases by subject of study. As might be expected, there is a close correlation between the use of, for example, law databases in certain countries and the number of law students in those countries, and this finding hold true for other subjects where there is a large enough sample to give significant results. A chi-square test was not conducted because of the number of cells with zeros or no responses.

The cross-tabulation of the use of Online Library information resources with success in accessing needed information (Table 17.8) demonstrated that there is a significant relationship. There is generally a claimed success rate of 50-60 per cent for always or regularly accessing information but there is a consistently lower rate for using the law databases. There is a higher success rate for using specialist databases, which are used more by postgraduate students in specialist subjects. There are particularly low rates of success for JSTOR and IBSS (only a bibliography, not full-text at the time of the survey), which bears further examination. This question does not address whether the information is not found because the content is not present or because the users are not adept at using the database. However, it is known that the necessary primary law content for an undergraduate law course is present on both Lexis and Westlaw. Few respondents admitted to never finding information, and this may reflect one of the weaknesses of the nature of responses to surveys.

Use of Alternative Information Sources (survey question 19)
Respondents were asked about which other information resources they used during the course of their studies that were not provided by the University's Online Library. Five options were offered in the questionnaire for the respondents to choose from: tutor notes, friends and family, recommended textbooks, "I don't use any other information source", and other (please specify). The study found that the majority of respondents used the recommended textbooks, followed by tutor notes and friends and family. The extensive use of 'tutor notes' and 'friends and family' and the very low response rate for 'I don't use any other information source' suggests that tutors and family or students' social acquaintances very important to the respondents and distance learners in general.

The study established that gender did not influence distance learners' use of alternative sources of information by cross-tabulating 'use of resources not in the Online Library' and gender (Table 19.1). These results showed that there was only a small deviation from the general distribution by gender; for example, a slightly greater proportion of women used tutor notes and slightly fewer used recommended textbooks. The chi-square test returned a p-value of 0.159, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between distance learners' use of alternative information sources (i.e. resources not provided by the University's Online Library) and gender. These findings are comparable to those of the study by Oladokun (2010b), which found no association between gender and distance learners' choice of information source.

The survey established that age influenced distance learners' use of alternative information sources following cross-tabulation of 'use of alternative information' and age (Table 19.2). The study found that friends and family, as well as recommended textbooks, remained more or less equally important to all age ranges. However, under-25-year-olds were by far the most likely to use tutor notes, followed by 26-35-year-olds; these were also the age ranges most likely to be following undergraduate degree

programmes and attending teaching institutions. By contrast, the answer 'I do not use any other information source' was chosen in proportion more by older age ranges and much less often by under-25s. The chi-square test returned a p-value of 0.044, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' use of alternative information sources, such as lecture notes or friends and family, and age.

It was established that there was a relationship between the use of alternative sources of information and level of programme. 'Use of resources not in the Online Library' was cross-tabulated with level of programme (Table 19.3).The study found that undergraduates used alternative sources of information not provided by the University's Online Library far more than postgraduates and that although both use recommended textbooks extensively, postgraduates used them much more than undergraduates, while undergraduates use 'tutor notes' far more extensively than postgraduates. The chi-square test returned a p-value of 4.85981E-10 (means move 10 decimal places to the left), which is less than 0.05 and therefore supports the hypothesis that there is a slight but significant relationship between distance learners' use of alternative information sources and level of programme.

It was found that programme of study influenced distance learners' use of alternative information sources including informal information sources such as friends and family. 'Use of Resources Not in the Online Library' was cross-tabulated with programme of study (Table19.4). The study found significant deviations based on programme of study. Law respondents were far more reliant than any other group on friends and family and were more likely to rely on tutor notes. EMFSS respondents also often resorted to alternative sources of information, almost in proportion to their overall response rate. It was notable that International Management respondents (3.2 per cent overall) formed 21.7 per cent of those who selected 'I don't use any other information source'. Thus, for both main constituencies of respondents, alternative sources of information (both formal and informal) were very important, as found above, but friends and family and tutor notes are much more important for law students. The chi-square test returned a p-value of 1.8948E-13 (means to move 13 decimal places to the left), which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' use of resources not in the Online Library and programme of study or discipline.

It was established that distance learners' mode of study influenced their use of alternative sources of information that were not provided by the University's Online Library including informal sources such as friends and family. Cross-tabulation between 'Use of Resources Not in the Online Library' and 'Mode of Study' (Table 19.5) revealed that tutor notes were overwhelmingly used more by those at an institution, whether in receipt of additional tuition or not. Clearly, the notes were understood by respondents to mean notes from lecturers rather than just notes from private tutors. Friends and family and the use of recommended textbooks were equally important to all students regardless of whether they were studying at an institution or independently. Mode of study likewise did not seem to affect the response 'I don't use any other information source'. The other major deviation from the overall distribution pattern was that those studying independently with no supplementary tuition (47.9 per cent of all respondents) comprised 66.7 per cent of those who chose 'Other', suggesting that those with no recognised form of academic support resorted to other sources of information most often. The chi-square test returned a p-value of 4.02355E-16 (means move 16 decimal places to the left), which is less than 0.05. Therefore the hypothesis that there is a significant relationship between learners' use of resources not in the Online Library and mode of study is supported.

The cross-tabulation figures for the use of resources not in the Online Library analysed by English language proficiency (Table 19.6) show that English language proficiency did not affect the use of tutor notes, friends and family or recommended textbooks more than marginally. However, those with English as a first language were much less likely to choose the 'I don't use any other information source' response (only 30.4 per cent rather than the overall 51 per cent). Those with English proficiency were more likely to use alternative information sources while those without English as a first language were more reliant on the Online Library and information sources selected for them. The chi-square test returned a p-value of 0.191, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' use of resources unavailable in the Online Library and English language proficiency.

Country of residence does affect the use of resources unavailable in the Online Library (Table 19.7). Tutor notes and friends and family are resources used generally in many countries. A large number of respondents among fewer countries used recommended textbooks, a phenomenon that may well be affected by costs and availability in some countries. However, more significantly, those selecting 'I don't use any other sources of information' are grouped in fewer countries, many of them but not all in Europe, as well as Canada and the USA. This correlates with the figures in Table 19.6 showing that almost 70 per cent of those selecting this answer (don't use other sources) did not have English as a first language. Those with less English proficiency are more likely to be concentrated in certain countries, for example other European countries or countries that were heavily influenced not by the UK but by other European countries but not excluding immigrant populations in Canada, the UK and the USA. These respondents are more likely to focus on a smaller number of information sources and rely more heavily on the Online Library. A chi-square test was not conducted because of the number of cells with zeros or no responses.

Reasons for the Use of Alternative Information Sources (survey question 20)
Despite the reasonable score for reliability, respondents followed the line of least resistance and chose resources on the basis of ease both of access and of use. This coordinates with the relatively high use of free internet resources established earlier (question 10). The largest number of students who responded to this question said that they used sources that were 'easy to access' at a lower level, 'reliable', 'easy to use' and 'readily available'. Relevance and, particularly, 'high quality' were not important reasons for respondents, and only one student overall mentioned 'up to date'. A very small number of respondents indicated that affordability influenced the choice of information sources. These findings corroborate earlier findings from question 11.

Gender did not seem to influence the reasons for the choice of resources unavailable in the Online Library according to the cross-tabulation in Table 20.1. Women were more likely to select easy-to-use and high-quality resources and much more likely to act on advice and select recommended resources. Men, however, were more likely to select convenient, familiar and readily available resources, and not to select recommended resources. Despite the differences in male and female respondents' resources selection criteria, the chi-square test returned a p-value of 0.09, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between the distance learners' preferences for non-Online Library resources and gender.

There was a significant relationship between the reasons for the choices of information resource not in the Online Library and age according to the cross-tabulation in Table 20.2. Under-25-year-olds

disproportionately chose 'easy to use', 'familiar', 'free' and 'relevant', suggesting that the Principle of Least Effort was at work at the expense of quality. 26-35-year-olds were much more likely to choose 'high-quality', 'comprehensive', 'recommended', and 'reliable'. In the older age ranges there is some indication that the 36-45-year-olds revert to the choices of 'convenience', 'familiarity', and 'readily available', and none in this age range or older chose 'high-quality'. The chi-square test returned a p-value of 0.007, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' reasons for preference for resources not in the Online Library and age range.

It was established that level of programme did significantly influence the reasons for preference of resources not in the Online Library. The factors were cross-tabulated in Table 20.3. Undergraduates were more likely to choose 'affordable', 'free', 'convenient', 'familiar', 'readily available', 'relevant' and 'reliable' rather than 'high-quality' and 'recommended', and the answers 'easy to access' and 'easy to use' attracted a very low percentage of replies from undergraduates. Postgraduates were much less likely to choose 'free', 'familiar' or 'convenient' but were extremely likely to choose 'easy to access' and 'easy to use' even though they also chose 'high-quality', 'recommended', 'relevant' and 'reliable' at higher rates. Postgraduates were also much more likely to select 'no choice', and this may have conditioned their replies to the other questions. The chi-square test returned a value of 6.3004E-26 (means to move 26 decimal places to the left), which is less than 0.05 and supports the hypothesis that there is a slight but significant relationship between distance learners' preferences for information sources not in the Online Library and level of programme.

English language proficiency did not seem to influence the reasons for use of resources not in the Online Library, which were cross-tabulated with English language proficiency in Table 20.4. Those with English as a first language were much more likely to choose 'comprehensive', 'high-quality' and 'recommended' but also 'no choice' (i.e. no alternatives available). Those without English as a first language were more likely to choose 'convenient' (51.3 per cent) and free (62.5 per cent). This indicates a difference in reasons for preferring other resources, with those with less English proficiency possibly using less reliable and lower-quality resources but also relying more on the Online Library and not using alternative resources. The chi-square test returned a p-value of 0.090, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant overall relationship between distance learners' reasons for preference of resources not in the Online Library and English language.

The programme followed by respondents significantly influences the reasons for use of resources not in the Online Library. Law students chose 'comprehensive', 'convenient', 'easy to access', 'easy to use' and 'reliable' at rates higher than their overall proportion among respondents, and this corresponds to use of the major comprehensive law databases. However, law students chose 'familiar', 'free', 'high-quality' and 'relevant' at very low levels. EMFSS students chose 'familiar', 'free', 'high-quality', and 'relevant' at much higher rates. These results are a little contradictory, suggesting that EMFSS respondents are more concerned about quality but also more likely to use free resources. It is interesting that the outstanding reason for EMFSS respondents' choice of alternative information resources is the fact that they are 'free', and they also chose 'no choice' (i.e. no alternative available) at a high rate. The chi-square test returned a p-value of 4.000E-04 (means move four decimal places to the left), which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between learners' reason for preference of resources not in the Online Library and programme of study.

It was established that mode of study did not influence reasons for using non-Online Library resources. Respondents studying independently were more likely to use 'familiar' resources but also to use 'recommended' resources (cross-tabulation of reasons for use of resources not in the Online Library with Mode of Study, Table 20.6). They are also generally more likely to use 'convenient', 'easy to access' and 'free resources' and be more concerned about 'affordability'. The chi-square test returned a p-value of 0.164, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant overall relationship between learners' preference for non-Online Library resources and mode of study.

The reasons given for preferences among the resources not in the Online Library cross-tabulated by country (Table 20.7) tend to suggest that cost is as much a factor in countries with a higher standard of living in general as in generally poorer countries. The highest number choosing 'affordability' was in the UK. A chi-square test was not conducted because of the number of cells with zeros or no responses.

Access to Another Library and its Location (survey questions 23 and 24)
Another alternative source of information would be a public library or the nearest university library (Table 23). A very large proportion of students did not have access to a local library (54.1 per cent) and there was a significant number of 'no responses', suggesting an even larger number.

Students were asked to name the libraries used, other than the Online Library, and the libraries were categorised (Table 24). The aim of this question was to understand what other useful information sources including local libraries were used by students in addition to the Online Library. It was also hoped to make it possible to compile a list of useful libraries in each region which could be recommended to other students who were not aware of them. Out of 649 respondents, only 193 students responded to this question. The results indicate that, among those students who do have access to a library, a significant number use libraries that are close to where they live. The most frequently used type of library is 'Other University Libraries', followed by 'Public Libraries', 'Special Libraries' (20.2 per cent), 'Supporting Institutions' Libraries' (14.8 per cent) and 'Other Libraries', a category that includes workplace libraries and private collections, which were very rarely mentioned (6.3 per cent).

Women are only slightly more likely than men to have access to another library (Table 23.1). The chi-square test returned a p-value of 0.149, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' access to other libraries and gender.

Age is a factor in access to other libraries. The cross-tabulation in Table 23.2 shows that a greater proportion of students aged 46-55 and 56+ have access to libraries, although these are low numbers of respondents, and these older respondents may have access to libraries at their place of work (see Table 24). The age ranges under-25, 25-35 and 36-45 are less likely to have access to local libraries even though the under-25s are more likely to attend a teaching institution. The chi-square test returned a p-value of 0.012, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' access to other libraries and age.

There seems to be no significant difference in Access to Other Libraries by Level of Programme according to the cross-tabulation (Table 23.3) although slightly fewer students on Diploma, Certificate and Access courses had access to a library. The chi-square test returned a p-value of 0.059, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' access to other libraries and level of programme.

Results of the cross-tabulation of access to other libraries and English language proficiency (Table 23.4) suggest that language is not a factor because the variations by English language proficiency are very small. Those with English as a first language were only slightly more likely to have access to a local library. The chi-square test returned a p-value of 0.401, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' access to other libraries and English language proficiency.

It was established that there is a significant relationship between access to other libraries and programme of study (cross-tabulation in Table 23.5). EMFSS students were more likely to have access than law students, be they LLB or LLM. Cefims students also answered yes in relatively large proportions. This suggests that those pursuing financial and economic studies, who generally study independently rather more than at an institution, may have better access to a library, perhaps at their place of work (see also survey question 24). The chi-square test returned a p-value of 0.002, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' access to other local libraries and programme of study.

Mode of study is a significant factor in access to other libraries. The cross-tabulation of access to other libraries by mode of study (Table 23.6) confirms that those at an institution are more likely to have access to a local library than those studying independently, although the smaller number of independent students who also have private tuition are slightly more likely to have access to a local library. This suggests that the teaching institutions attended do provide library facilities but it does not show how satisfactory those facilities are. It also suggests that respondents may be including the private or personal libraries of their tutors in their responses. The chi-square test returned a p-value of 0.002, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' access to other libraries and programme of study.

Country does not appear significant in whether respondents had access to other libraries (Table 23.7), which contradicts any assumption about the availability of libraries in more developed countries. A chi-square test was not conducted because of the number of cells with zeros or no responses.

6.2.3 Research Question 3: What barriers do distance learners encounter when accessing and using Online Library resources?

This question is addressed by survey questions 14, 15, 16, 18, 25, and relevant cross-tabulations.

Where Do You Access the Online Library From? (Survey question 14)
It was important to establish the place from where respondents access the Online Library because this helped to establish the ease and convenience of access and the existence of barriers to access. As shown by Table 14, a large majority of participants access the Online Library from home. This is related to the fact that easy access to a computer and an internet connection is an essential requirement

for registering on the University of London's programmes.

Generally, there is no significant variation by gender (Table 14.1) in where the Online Library is accessed from. There is in no sense a preponderance of women accessing the OLL from home and men from work. However, a small minority of respondents access the OLL from internet cafés, and two thirds of these are women. The chi-square test returned a p-value of 0.687, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between where respondents access the Online Library from and gender.

The study established that there is a significant relationship between age and where the Online Library is accessed from. The cross-tabulation appears in Table 14.2. Age is not a significant factor in home use but there is a large variation by age in access from work and from internet cafés. Under-25-year-olds are far more likely to access from an educational institution but older age ranges are far more likely to access from work. Few respondents resort to access via internet cafés, demonstrating that, overall, internet access is not a major problem for this group of students even if the work environment is not be conducive to concentrated study. Of those who do use internet cafés, well over half are in the 26-35 age range, and we learnt from Table 14.1 that two thirds of this age range are women. The chi-square test returned a p-value of 0.002, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between where the Online Library is accessed from and age.

Level of programme did not seem to affect place of access. Cross-tabulation of place of access of the Online Library with level of programme (Table 14.3), given that, overall, 84.6 per cent of respondents were undergraduates, reveals an expected preponderance throughout of undergraduates, proportionately rather fewer at work and rather more at an institution. Postgraduates are rather more likely to access the Online Library from home and from work, showing a greater level of engagement and need. The chi-square test returned a p-value of 0.568, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between place of access of the Online Library and level of programme.

Place of access and English language proficiency do not seem to be linked. Cross-tabulating where respondents access the Online Library from by English language proficiency (Table14.4) reveals that the proportion of respondents with English as a first language who access the Online Library from home or from internet cafés is very close to the overall proportion of students with English as their first language. A slightly greater proportion with English as a first language are among those who access it from work. A considerably lower proportion who access it from an institution have English as a first language but Table 4.5 indicates that a greater proportion of those without English as a first language attend institutions. The chi-square test returned a p-value of 0.062, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between place of access and English language proficiency.

Programme of study appears to affect the place of access to the Online Library. Cross-tabulating where respondents access the Online Library with programme of study (Table 14.5) shows that over 81 per cent of those accessing the Online Library from an institution are law students, who do make up the majority of those at an institution; the 'at home' and 'at work' proportions are about the same as the overall proportions for law students. EMFSS students are rather less likely to access the Online Library from work and from an institution. The figures also show that those on the main postgraduate courses,

International Management and the LLM, mainly access the Online Library from work. It is likely that these degrees are connected with and an extension of existing careers. The chi-square test returned a p-value of 2.88921E-63 (means move 63 decimal places to the left) and therefore supports the hypothesis that there is a small but significant relationship between place of Online Library access and programme of study.

There is clearly a significant relationship between mode of study and place of access of the Online Library. The results of the cross-tabulation of where respondents access the Online Library with mode of study (Table 14.6) confirm the overall findings in Table 14. More respondents studying independently access the Online Library from work, and one might expect those studying independently to be in employment. Unsurprisingly, those accessing the Online Library from an institution correspond to the numbers registered at an institution, which offers reassurance about the integrity of the data. The chi-square test returned a p-value of 1.51308E-10 (means move 10 decimal places to the left), which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between place of library access and Mode of Study.

In investigating where Respondents Access the Online Library from by Country (Table 14.7), there is evidence that the small number of respondents who access the Online Library from internet cafés are not only from countries that are generally less well developed. In Europe the balance is firmly towards access from home, with little or no access from work. However, in other countries, particularly where there are large numbers of respondents, such as Singapore, significant numbers of respondents access the Online Library from work. Those few accessing the Online Library from an institution are spread over several countries. These findings tend to support the view that respondents are not necessarily disadvantaged by their geographical location in accessing the Online Library. The nature of respondents' employment is significant in allowing them facilities for access and possibly time, and it is also significant in terms of their choice of programme, which is career- and job-related. It may also suggest that these distance learning programmes in developing countries are mainly adopted by those who are reasonably advantaged already. A chi-square test was not conducted because of the number of cells with zeros or no responses.

What Route Do You Use to Access the Online Library? (Survey question 15)
A large majority of respondents chose three routes (Table 15): 56.1 per cent of respondents access the Online Library via the VLE as one might expect, as students are referred to material from the VLE; 33.7 per cent use MyAthens, which authorises access to all the materials and shows a certain sophistication in use of the Online Library; 22.2 per cent access it from the University website and only a small minority simply Google it.

The cross-tabulation in Table 15.1 relating to the route by which respondents access the Online Library also shows no significant variation by gender. There is a slight indication that men resort to Google or to their bookmarks more than women do and that women go directly more often than men either to the University website or to the Online Library website but the chi-square test returned a p-value of 0.514, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between how distance learners' access the library and gender.

Age seems to be a factor in the choice of the route by which respondents access the Online Library (cross-tabulation in Table 15.2). The majority used the VLE route without variation by age but slightly

greater proportions from the older age ranges used bookmarks or Google. The chi-square test returned a p-value of 1.1905E-10 (means to move 10 decimal places to the left), which is less than 0.05 and supports the hypothesis that there is a small but significant relationship between how distance learners' access the Online Library and age.

Overall, the access route used shows a significant relationship with level of programme. The figures for how respondents access the Online Library by level of programme (cross-tabulation in Table 15.3) show that proportionately fewer undergraduates accessed the Online Library from the VLE or used their bookmarks or MyAthens, and that postgraduates were more likely to access via the VLE, their bookmarks or MyAthens. The 'I Google it' answer is closer to the general distribution. The chi-square test returned a p-value of 0.017, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between how distance learners access the Online Library and level of programme.

It was established that English language proficiency did not affect access routes significantly. Looking at how respondents access the Online Library by English language Proficiency (cross-tabulation in Table 15.4), there seems to be some variation from the baseline figure of respondents who declared English as their first language. Those with English as a first language showed some preference for access from their bookmarks, Google or directly on the Online Library website. Those without English as a first language preferred the VLE route, the University website or MyAthens, and were less well represented among the other answers. Despite these differences, the chi-square test for independence returned a p-value of 0.267, which is greater than 0.05 and supports the null hypothesis that there is no significant overall relationship between how learners access the Online Library and English language proficiency.

Programme of study was again a significant factor, here affecting the routes by which respondents access the Online Library (Table 15.5). There are different patterns of use between the two main programmes, the undergraduate law programme and the undergraduate EMFSS programme. More law respondents access the Online Library from the VLE or from the University website and even more directly on the Online Library website. The EMFSS students tended to use Google and MyAthens relatively more and bookmarks much more. The chi-square test for independence returned a p-value of 7.94873E-09 (means move 9 decimal places to the left), which is less than 0.05 and supports the hypothesis that there is a significant relationship between how distance learners access the Online Library and programme of study.

It was established by cross-tabulation that there is no significant relationship between routes of access to the Online Library and mode of study (Table 15.6). However, there were some variations in the sample. For instance, those respondents who were at an institution preferred access from the University website and directly on the Online Library website. Those respondents studying independently were relatively better represented among the Bookmarks and MyAthens answers. Those at an institution were generally a little more likely to answer 'I Google it' but those at an institution but without supplementary tuition were much less likely to choose this answer. This suggests that tuition may not have an effect on information-seeking behaviour by advising more effective ways of accessing the Online Library. However, despite these variations, the chi-square test for independence returned a p-value of 0.088, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between how distance learners access the Online Library and mode of study.

Looking at the route by which respondents access the Online Library by country (Table 15.7), there is a wide range of countries represented by the choice of 'from the VLE' but the figures for the answer 'I Google it' seem to indicate countries where one might expect a fairly high level of information literacy. A chi-square test was not conducted because of the number of cells with zeros or no responses.

What Login Method Do You Use? (Survey question 16A)
As shown in Table 16A regarding login method, the majority of respondents prefer using the Portal or Shibboleth authentication to access Online Library resources. This suggests that the integration of curriculum resources with library resources as well as a single point of entry to all learning resources is important to this sample of students.

In terms of the preferred login method (Table 16A.1), there seems to be no significant correlation between login method and gender. However, among the high level of non-responses most were from women, and this may indicate a higher level of unfamiliarity with the terminology or the actual login process. The chi-square test returned a p-value of 0.918, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' preferred login method and gender.

In terms of the preferred login method (Table 16A.2), there were a large number of non-responses from older respondents, especially 36-45-year-olds and to a lesser extent 46-55-year-olds. The responses suggest that the younger respondents are more likely to adopt the Portal as a single method of access to all information and services or at least be more flexible in their access routes. The chi-square test for independence returned a p-value of 0.021, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between learners' preferred login method and age.

The figures for preferred login method by level of programme (Table 16A.3) show that rather more undergraduates prefer the Portal password or both the Portal and Athens, whereas postgraduates prefer Athens, and this generally endorses the finding above for age ranges where older respondents preferred Athens. There were only three 'Other' responses; therefore, the 100 per cent undergraduate response is not significant. There was a considerably higher 'No response' rate among postgraduates (39.5 per cent rather than the 15.1 per cent overall proportion of postgraduates) and proportionally rather fewer among undergraduates (53.5 per cent rather than the overall 84.6 per cent). The chi-square test returned a p-value of 0.187, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between learners' preferred login method and level of programme.

The preferred login method for respondents with English as a first language (Table 16A.4) was marginally Athens over the Portal but the use of both methods was the preferred response. Those with another first language would use either Athens or the Portal rather than both, with a marginal preference for the Portal. Proportionally more respondents with English as a first language gave no response (58.1 per cent rather than the overall 51 per cent). The chi-square test returned a p-value of 0.610, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between learners' preferred login method and English language proficiency.

In terms of preferred login method by programme of study (Table 16A.5), among the law respondents there is a marginal preference for Athens but a more marked preference for using both routes. The

EMFSS students, in contrast, marginally prefer the Portal password. Among the postgraduate programmes the Athens route is generally preferred although the LLM students marginally prefer the Portal, unlike their undergraduate law colleagues. Despite these differences in the sample, the chi-square test for independence returned a p-value of 0.462, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant overall relationship between learners' preferred login method and programme of study.

Mode of study did not seem to influence preferences for login method substantially (Table 16A.6). Those at an institution with no additional tuition chose the Portal slightly more often than Athens; those studying independently with no tuition chose Athens in marginally greater numbers. The chi-square test returned a p-value of 0.450, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' preferred login method and mode of study. The preferred method by which respondents log in (Table 16A.7) showed no significant variation relating to country of residence. A chi-square test was not conducted because of the number of cells with zeros or no responses.

There is a significant relationship between distance learners' preferred login method and the reasons for choosing login method (Table 5.16A.8). Ease of use is the most important factor in choosing a method of access, thus supporting the Principle of Least Effort. It is important to offer both methods because almost a third of respondents used both methods and value an alternative while the other respondents are almost equally divided between the two methods. Athens is somewhat easier to use but less convenient than the portal password, suggesting that attention needs to be paid to how the option is presented and an investigation is required into why availability is an important factor for those who choose both methods, suggesting that one method is not available at certain times or locations. The responses suggest that Athens may be familiar to respondents from other experience or merely that the respondents have used that method consistently and do so out of familiarity even though it is not especially convenient. They also suggest more strongly that the portal password is more convenient than Athens.

Survey Question 16B: What Are the Reasons for Using that Login Method?
Question 16B is related to the one above (16A) in which the students are asked to specify their preferred login method. It is important to note that there was a significant level of non-response to this question (13.3 per cent), which may suggest quite a high level of unfamiliarity with the terminology or with the actual login method.

As shown in Table 16B, the top four reasons given by students for their login method preference were 'easy to use', 'quick', 'convenient', and 'one password'. These findings are related to earlier findings (see table 16A) in which the largest number of students expressed a preference for Shibboleth presumably for these reasons. These results suggest that distance learners value ease of use, fast and convenient methods of resource access, and a method that provides a one-stop shop.

The reasons for the preferred login method (Table 16B.1) given by women were 'quick', 'availability', 'easy to use', and 'convenient'. The top four reasons given by male respondents were 'reliable', 'gives an alternative', 'familiarity', and 'one password'. All the reasons offered attracted a substantial response rate, and although women tended to choose more reasons related to speed and ease of use, this

relates to login method rather than quality of information accessed. The chi-square test for independence returned a p-value of 0.436, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' reasons for the preferred login method and gender.

The responses to question 16A.2 suggested that the younger respondents are more likely to adopt the Portal as a single method of access to all information and services or at least be more flexible in their access routes. This is confirmed in Table 16B.2, which sought the reasons for preferred login method. All respondents opted for the method that was easy to use or convenient but under-25-year-olds chose 'one password' while older respondents opted for 'familiarity'. This is a further suggestion that under-25-year-olds are more efficient and flexible with electronic access. The chi-square test returned a p-value of 7.04664E-05 (means move 5 decimal places to the left), which is far smaller than 0.05 and supports the hypothesis that there is a significant relationship between distance learners' reasons for the preferred login and age.

The reasons for the preferred login method by level of programme (Table 16B.3) show that 'quick access' was by far the most highly rated resource characteristic for undergraduates, while 'convenience' was most important characteristic for the postgraduates. This corroborates the findings of question 16B.2 and indicates the factors that should be borne in mind when developing library resources and training materials. The chi-square test returned a p-vale of 2.9049E-244 (means move 244 decimal places to the left), which is less than 0.05 and therefore supports the hypothesis that there is a slight but significant relationship between distance learners' reasons for the preferred login method and level of programme.

The reasons given for preferred login method by English language proficiency (Table 16B.4) show that all students, regardless of whether English was their first or second language, valued all the resources' characteristics, with 'one password' attracting the same number of respondents (49 per cent) for both categories of students. The chi-square test for independence returned a p-value of 0.201, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between learners' reasons for the preferred login method and English language proficiency.

The reasons for preferred login method by programme (Table 16B.5) show that, while all these reasons (availability, convenient, easy to use, familiarity, gives an alternative, one password, quick, reliable) were important to all the programmes of study, there were particularly high numbers from the law programme. The chi-square test returned a p-value of 2.4281E-244 (means move 244 decimal places to the left), which is much smaller than 0.05 and therefore supports the hypothesis that there is slight but significant relationship between distance learners' reasons for the preferred login method and programme of study.

The reasons given for these preferences also seem to be affected by mode of study (Table 16B.6), although there was a large number of no-responses. The respondents who were studying independently put 'reliable' and 'one password' above everything else while those who attend institutions put 'quick' and 'gives an alternative' before everything else. The chi-square test returned a p-value of 0.005, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' reasons for preferred login method and mode of study. The reasons given for login preferences (Table 16B.7) do not seem to be affected by country of residence. A chi-square test was not

conducted because of the number of cells with zeros or no responses.

Survey Question 18: How Successful are Respondents at Accessing Online Library Resources?
The distribution of levels of success gives low levels of 'always successful' (9.9 per cent) and 'never successful' (6.3 per cent), as might be expected. However, those respondents who chose 'regularly access the information I need' accounted for only 29.3 per cent whereas those respondents who only 'sometimes access the information I need' comprised 51.9 per cent, a very high level. Therefore, overall those who always or regularly access the information they need account for just over a third of respondents.

There are significant variations by gender in how successful respondents are at accessing Online Library resources (Table 18.1). The proportions of men and women who are regularly successful in finding the information they need are almost balanced. Only marginally fewer women than men regularly access the information they need but rather more women only sometimes access the information they need. However, there are major variations at both ends of the scale of success. Men are more likely than women always to access the information they need but also more likely never to find the information they need. This gives a varied picture: the balance of gender at 'regularly' is only marginally in favour of men. Women are generally moderately successful but men are either more successful or much less successful. The chi-square test for independence returned a p-value of 0.007, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' 'success at accessing Online Library resources' and gender.

In the question about how successful respondents are at accessing Online Library resources by age range (Table 18.2), the findings show that under-25-year-olds are moderately successful, while the age groups with the highest failure rate in finding information are the 26-35 and 36-45-year-olds, and the most successful are those over 45 years old. However, the overall finding is that, in almost all age ranges, there are more people who only sometimes find the information they need than those who regularly find the information they need. The figures also suggest that there is a greater problem among those over 25 years old, especially in the middle age ranges, but that among those over 45 and especially over 56 there is less of a problem, which implies that skills can be self-taught. The chi-square test returned a p-value of 0.022, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' success at accessing the Online Library resources and Age.

In Table 18.3, How Successful Respondents are at Accessing Online Library Resources by Level of Programme, of those who always access the information, 42.2 per cent (rather than the overall figure for the sample of 15.1 per cent) are postgraduates; of those who regularly access it, 30 per cent are postgraduates. Undergraduates are very much less likely 'always to access', much less likely 'regularly to access', and even slightly less likely 'sometimes to access'. It should be noted that 6 of the 12 Access students, the least experienced students, never find the information they need and a further three only sometimes find the information they need (another one was a no-response). The chi-square test returned a p- value of 1.16463E-11 (means move 11 decimal places to the left), which is less than 0.05 and therefore supports the hypothesis that there is a small but significant relationship between distance learners' success at accessing the Online Library and level of programme.

Analysing how successful respondents are at accessing Online Library resources by English language proficiency (Table 18.4), there is only a marginal variation from the overall distribution. Those with English as a first language are slightly more likely to access the information they need and slightly less likely to access it 'sometimes' or 'never'. This suggests that language is a factor but its effect is not as pronounced as one might have thought. The chi-square test returned a p-value of 0.395, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' success at accessing the Online library and English language proficiency.

Looking at how successful respondents are at accessing Online Library resources by programme of study (Table 18.5), EMFSS students are relatively more likely 'always to access' or 'regularly to access' the information they need (overall there is a smaller proportion of EMFSS students than law students but they form a higher proportion of those successful in accessing information). Law students are twice as likely to access the information they need 'sometimes'. Interestingly, EMFSS students were also represented among those who never accessed the information they need at more than double the rate of law students (63.4 per cent EMFSS versus 24.4 per cent law). Those on postgraduate programmes (as noted above) were generally more successful in accessing information. The chi-square test returned a p-value of 9.9129E-06 (means to move 6 decimal places to the left), which is much less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' success at accessing Online Library resources and programme of study.

Figures in Table 18.6 for how successful respondents are at accessing Online Library resources by mode of study (see Table 7 for overall mode of study figures) show that those at an institution are generally better represented in the 'regularly' and 'sometimes' categories. Those studying independently are extremely well represented in the 'always access' category because these are small numbers of respondents and many of the postgraduate students study independently. Below that level, the proportion of those studying independently grows larger from 'regularly' to 'sometimes', to 'never'. These figures suggest that those studying independently are generally less successful than those at an institution in accessing the information they need. The chi-square test returned a p-value of 0.007, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' success at accessing Online Library resources and mode of study. Country did not seem to affect how successful respondents are at accessing Online Library resources (Table 18.7). A chi-square test was not conducted because of the number of cells with zeros or no responses.

The cross-tabulation in Table 18.8 shows that there is a significant relationship between distance learners' success at accessing Online Library resources and confidence in using electronic resources. The results also indicate the subjective nature of the questions about confidence. Those with confidence have higher rates of success. However, there is a large proportion of respondents with high confidence who have low rates of success. There may be other reasons why respondents do not access the information they need, including technological problems and the coverage of information in the databases they use. However, from this cross-tabulation of success rates, it appears that at least some of the respondents overestimate their abilities. The findings can be compared with those in Table 5.26: 288 respondents wanted training but in this Table only 72 admitted to not being confident and 291 were very confident.

Survey Question 25: Level of Confidence in Using Electronic Resources?

There was significant level of non-response to this question (14.8 per cent) either because respondents could not gauge their level of confidence or because they felt hesitant about admitting it. Nearly 45 per cent felt very confident and nearly 30 per cent found the use of electronic resources fairly easy. This seems to indicate that nearly three quarters of respondents had no significant problems using electronic resources. Other findings (see Table 18) suggested that a large proportion of users only sometimes (51.9 per cent) or never (6.3 per cent) found the information for which they searched.

An important indicator of variations in information literacy by gender is the level of confidence in using electronic resources. Table 25.1 shows the level of confidence in using electronic resources by gender. A large proportion of those who did not respond or gave an 'Other' reply were women, suggesting there may be a hidden problem. Among those who were not confident, a lower proportion were women and a higher proportion of women than men found it fairly easy. Men were in the majority among those who declared they were very confident. Overall it seems that women are not disadvantaged by lack of confidence in the use of electronic resources although there may be some overestimation of their skills by both men and women. The chi-square test for independence returned a p-value of 0.054, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' level of confidence in using electronic resources and gender.

A mixed picture emerges from the enquiry into level of confidence in using electronic resources by age range (Table 25.2). Most respondents chose 'very confident' or 'fairly easy', which is much higher than their assessment of their success rates (Table 18.2). The under-25-year-olds and those over 45 are generally confident in their use of electronic resources and there was also a high level of confidence among the 26-35 age range. However, those who are not confident occur more frequently in the 26-35 and the 36-45 age ranges, which have been noted as the age ranges where there is a higher failure rate in information retrieval and a lack of engagement, for example, in requesting training. The 'Other' reply complicates the picture and may indicate a more extensive problem for the 36-45 range, which produces a third of the 'Other' replies. Although there are differences in the sample drawn, as noted above, the chi-square test returned a p-value of 0.348, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant overall relationship between distance learners' level of confidence in using electronic resources and age.

Assessing the level of confidence in using electronic resources by level of programme (Table 25.3), it is clear that postgraduates are overwhelmingly more confident. Undergraduates are less confident and constitute nearly 80 per cent of the 'not confident' responses and most of the non-responses. The chi-square test returned a p-value of 2.17282E-20 (means move 20 decimal places to the left), which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' confidence in using electronic resources and programme of study.

There is little evidence that English language is a factor affecting Level of Confidence in Using Electronic Resources (Table 25.4) in this self-assessment. The chi-square test returned a p-value of 0.621, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' confidence in using electronic resources and English language proficiency.

However, the level of confidence in using electronic resources (Table 25.5) does vary by programme of

study. Among the law students, tackling rather different electronic resources concerned with case reports and legislation, there are fewer who are very confident or find it fairly easy and more who are not confident, and these respondents are responsible for a very large proportion of the non-responses. This indicates a significant problem with the use of databases by law students and a potentially larger problem if non-response represents those with less rather than more confidence, as is likely. In contrast, EMFSS students are overrepresented among those who are very confident and (marginally) among those who find it fairly easy. Among the other programmes, there is an expected distribution of answers, with the postgraduate programmes showing more confidence. In spite of these noticeable differences in the sample drawn, the chi-square test returned a p-value of 0.414, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' level of confidence in using electronic resources and programme of study.

The pattern of responses in Table 25.6 for level of confidence in using electronic resources is consistent across the modes of study following the overall distribution although, interestingly, there is a slightly lower level of response among the very confident and fairly easy categories from those at institutions and a higher level of confidence from those studying independently with no supplementary tuition. This possibly suggests higher levels of skills but might conversely suggest that those studying independently do not have peers with whom to compare their skills. The chi-square test returned a p-value of 0.151, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' level of confidence in using electronic resources and mode of study.

There is some indication that more developed countries, particularly European countries, are better represented among those who are very confident about using electronic resources (Table 25.7). A chi-square test was not conducted because of the number of cells with zeros or no responses.

6.2.4 Research Question 4: To what extent does the Online Library meet distance learners' information needs?

This question is addressed by survey questions 21, 22, 30, 31, 32, 33 and relevant cross-tabulations.

Survey Question 21: Does the Online Library Meet All Your Information Needs?
Table 21 reveals that the Online Library, while it may meet some needs for more of the respondents, only meets all the needs of half of those who offered an opinion.

Gender seems to be of little significance in whether the Online Library meets all library and information needs (Table 21.1). The chi-square test returned a p-value of 0.5, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between whether the Online Library meets all library and information needs of distance learners and gender. Likewise, age seems to have little effect on whether the Online Library meets all library and information needs (Table 21.2) except among the 35-46 and over-55-year-olds where there are fewer who believe all their information needs are met by the Online Library. This may be explained by the fact that the older students may have greater information needs or greater expectations, and they are more likely to be postgraduate students, who have wider information needs. However, the chi-square test returned a p-value of 0.614, which is greater than 0.05 and supports the null hypothesis that there is no significant overall relationship between whether the Online Library meets all library and information needs of

distance learners and age.

Table 21.3 examines whether the Online Library meets all library and information needs by level of programme. As expected and implied by Table 21.2, undergraduates are more likely to believe that the Online Library meets all their information needs. However, postgraduates are much more likely to believe that the Online Library does not meet all their information needs. Postgraduates are more likely to have much wider and less well-defined information needs. The chi-square test returned a p-value of 0.021, which is less than 0.05 and supports the hypothesis that there is a significant relationship between whether the Online Library meets all library and information needs of distance learners and level of programme.

Cross-tabulating English language proficiency with whether the Online Library meets all library and information needs (Table 21.4), although the findings indicate that there are differences in the sample drawn (more of those who declared English as a first language believe that the Online Library does not meet all their information needs), the chi-square test returned a p-value of 0.25, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between whether the Online Library meets all library and information needs of distance learners and English Language proficiency.

There is an interesting deviation in the results on whether the Online Library meets all library and information needs when analysed by programme of study (Table 21.5). Undergraduate law students are much more likely than EMFSS students to believe that the Online Library meets all their information needs. As established in earlier tables, the postgraduate programmes return results indicating that postgraduate students are less likely to believe that the Online Library meets all their information needs. The chi-square test returned a p-value of 0.0004, which is less than 0.05 and supports the hypothesis that there is a significant relationship between whether the Online Library meets all library and information needs of distance learners and programme of study.

Analysing whether the Online Library meets all library and information needs by mode of study (Table 21.6), these results show a large variation. Those at an institution are much more likely to feel that the Online Library meets all their information needs compared to those studying independently. The chi-square test returned a p-value of 9.72105E-05 (means to move 5 decimal places to the left), which is less than 0.05 and supports the hypothesis that there is a significant relationship between whether the Online Library meets all library and information needs of distance learners and mode of study. There seems to be little pattern emerging from analysis of the responses by country of residence to the question on whether the Online Library meets all the library and information needs of the respondents (Table 21.7), and the responses are more conditioned by other factors.

Survey Question 22: Suggestions for Improvements to the Library and Information Service
Table 22 reveals that the number of service improvements desired by respondents can be divided into these eight broad categories: Access to a broader range of resources, more guidance and support in using the Online library, more support to prepare for exams, easier and improved access to Online library resources, improved search facilities, more individual support for students who live outside the UK, more opportunities to communicate with tutors and fellow students, and increased awareness. As might be expected, there is significant support for making more resources available in the Online Library. Given that respondents are 'taught course' students, the provision of all essential

recommended reading is a high priority and that of all further reading is desirable. The support for the provision of e-books may indicate a problem in obtaining or affording textbooks. There are various requests for additional resources which in some cases exhibit minority interests (for example, Canadian law does not appear as a topic in the programmes of study but may be a comparative interest or even a non-study need - see the later individual response on Canadian issues), but others indicate inadequacies in the databases; for example, many of them have only a limited coverage of older volumes of journals. There seems to be little support for a 'real' library of print materials and those few choosing that response are likely to be the same few who agree that a physical library encourages study and socialisation with peers. There is considerable support for the provision of model or sample answers to examination questions, which is always popular among students whose future is determined by written examinations and who have less experience of examinations and require examination skills. This is notably the case with LLB students, who face 'legal problem questions' that require different skills from those needed for essay questions. There is also support for more guidance or training in the use of the Online Library, almost equalled by the number of respondents asking for the Online Library to be made more user-friendly.

Survey Question 30: How Respondents Search the Online Library (Methods of Search)
The most commonly used search methods are database browsing (66 per cent), followed by the Journal Finder (53 per cent), browsing the gateway (37 per cent) and site search (24 per cent), with the A-Z being the least used method. These findings are strikingly similar to those obtained from the pilot study (which comprised participants in only one programme - law), and they indicate that a significant number of respondents frequently use database browsing techniques that are inefficient and that the search functions are either not understood, not trusted, or are too complex for the task. The very low use of the Online Library's state-of-the-art resources discovery tool 'Summon', which cross-searches the entire library collections seamlessly, suggests a lack of awareness of such an efficient and time-saving search facility.

Survey Question 31: Desired Improvements to the Online Library
In this question respondents were asked to suggest improvements they would like to see in the Online Library. (More than one option could be chosen). The majority of students (53 per cent) said that they would like more e-books added to the Online Library. The need for easy access (47 per cent), communicating with the Online Library team at any time (45 per cent), and more online help and training guides were significant findings. A cross-tabulation of desired improvements to the Online Library and gender revealed some differences between male and female priorities for improvement. For instance, female respondents value having 'more online help and training guides' rather than 'communicating with the Online Library team at any time', while the reverse was true for the male respondents. The chi-square test returned a p-value of 0.033, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' desired Online Library improvements and gender.

Survey Question 32: Desired Additional Online Services
In this question students were asked to indicate which additional online services they would like to see. The majority of respondents (57 per cent) said that they would find more e-books useful, followed by discussion forums (42 per cent), interactive tutorials (38 per cent), Facebook (34 per cent), podcasts (29 per cent), and longer enquiry hours (11 per cent); the instant 'ask a librarian' was the least desirable service.

Survey Question 33: Further Comments about the Online Library
63 students out of a total of 649 answered this question, giving a small but significant response rate of 9.7 per cent. The findings can be divided into five broad categories: Satisfied with the service (12 students), Access to a broader range of resources (13), More guidance and support (10), Access to e-books (3) and Easier and improved access to Online Library resources and improved search facilities (10 respondents).

6.2.5 Research Question 5: What practical solutions can be employed to help learners overcome the barriers they face when seeking and using information sources to complete set tasks?

This question is addressed by survey questions 26, 27, 28, 29 and relevant cross-tabulations.

Survey Question 26: Desire for Training in the use of the Online Library Resources
This question measured the desire for training in the use of Online Library resources (Table 26) and, by implication, students' awareness of their need for training (this can be compared with their own assessment of their success in using the Online Library, although lack of success could be attributed by students to inadequacies in the Online Library itself). There were at least as many non-responses as respondents asking for training; this might be attributed to doubt over how the training might realistically be administered but may also indicate disengagement or nervousness about admitting to a lack of expertise.

A greater proportion of women than men expressed a desire for training (Table 26.1), and this might suggest that more women than men need or recognise the need for training in using Online Library resources. However, despite these differences in the sample drawn, the chi-square test returned a p-value of 0.100, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant overall relationship between distance learners' desire for training and gender.

Analysing the desire for training by age (Table 26.2), the results are very close to the overall age distribution, showing a desire for training across all age ranges. The question did not elicit a proportionately greater desire for training among the middle age groups, who seem from other questions to display a greater need for training (see Table 18.2). Only the under-25s showed a proportionately greater desire for training, and this suggests engagement with electronic access among that group. The chi-square test returned a p-value of 0.086, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between distance learners' desire for training and age.

Table 26.3 indicates the desire for training by level of programme. Of all those who said that they did not need training, there were proportionally more postgraduates than undergraduates. Overall, 38.4 per cent of postgraduates asked for training in comparison to 53 per cent who did not. Although this may relate to the points made about many students' inability to objectively evaluate their own information literacy skills and also to the general lack of time to undertake the training, earlier results did show a higher success rate by postgraduates in finding information. The chi-square test returned a p-value of 0.021, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' desire for training and level of programme.

English Language Proficiency (Table 26.4) does not seem to be a significant factor in the desire for training. In proportion to the overall response rate, slightly more students with English as their first language (52 per cent) asked for training. Despite these differences, the chi-square test returned a p-value of 0.78, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' desire for training and English language proficiency.

Table 26.5 indicates the desire for training by programme of study. Of all those who expressed a desire for training, the largest group was undergraduate law students with 47.2 per cent, followed by EMFSS with 35.4 per cent, and then LLM with 5.9%. On the other hand, of all those who said that they did not need any training, the largest group was EMFSS with 53.9 per cent, followed by undergraduate law students with 30.2 per cent. These results support earlier findings (Table 18.5) that EMFSS students are relatively more successful at accessing Online Library resources than law students. The chi-square test returned a p-value of 0.001, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' desire for library training and programme of study.

The results for Respondents' Desire for Training cross-tabulated with Mode of Study (Table 26.6) show that the largest group of students who expressed a desire for Online Library training were those studying independently without private tuition, accounting for 50.3 per cent. These figures could be compared with earlier findings about students' success in accessing the Online Library resources in question 18.6, which showed that those studying independently were less successful in accessing Online Library resources than those registered with a local supporting institution. However, despite these differences, the chi-square test for independence returned a p-value of 0.053, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' desire for library training and mode of study.

Table 26.7 does not demonstrate any conclusive variation by country in the desire for training. A chi-square test was not conducted because of the number of cells with zeros or no responses.

The cross-tabulation in Table 5.26.8 shows a significant relationship between distance learners' desire for library training and confidence in using electronic resources. Those with more confidence evinced less desire for training, and more of those with less confidence wanted training, as might be expected. However, there were still significant proportions who wanted training among those who were confident or found it fairly easy. Confidence was not affected by low success rates in finding information (see Table 5.18.8) but confidence did not wholly preclude the desire for training.

The cross-tabulation in Table 5.26.9 shows that there is a significant relationship between distance learners' desire for library training and success at accessing Online Library resources. The data confirm other findings and are consistent in demonstrating that those who find the information they need less often are more likely to desire training. However, there are still a large number of respondents who consider themselves successful in finding information but still want training. There are also a large number of respondents who are not successful but do not want training and a large proportion of non-respondents to the question on training who have low rates of success.

Survey Question 27: Preferred Method of Contact

This question was aimed at obtaining the contact details of all students so that training could be arranged. It was hoped that some students who may not have felt uncomfortable about answering the 'desire for training' question directly would be able to provide their contact details in order that

training could be arranged. All those who responded to the question chose to be contacted by email, thus demonstrating that email is the most common form of communication used by the majority of distance learners or that this group of students has easy access to email and technology. It is worth noting that a significant number of students (55.6 per cent) did not respond to the question.

The results in Table 27.1 indicate that there was no significant variation between male and female respondents in the preferred method of communication. This suggests that all students irrespective of gender use email as a major form of communication.

Survey Question 28: Use of the Summon Search Engine
In this question students were asked to state whether they had used the new library search engine Summon, found at (http://external.shl.london.ac.uk/summon/index.php). The majority of students who responded to the survey (73.3 per cent) said that they had not used Summon. This is not surprising, given that Summon was launched effectively two months before this survey was undertaken. Almost 20 per cent of the students who answered the question had used Summon. This is a small but significant number.

A greater proportion of women than men use the Summon search engine (Table 28.1). These results suggest that women opt for and possibly need better and easier online library search tools. This corresponds to earlier findings that more women feel they need training, that more men are very confident in using electronic resources, and that more men feel that they always find the information they need. Although there are differences in the sample drawn, the chi-square test returned a p-value of 0.467, which is greater than 0.05 and supports the null hypothesis that there is no significant relationship between distance learners' use of Summon and gender.

The largest body of users of the Summon search engine (Table 28.2) were those under the age of 25; this was followed by the 26-35 age range, with the numbers tailing off after that. The higher usage by the under 25s may again suggest higher acceptability of information technology among the younger students; this may also suggest that the older age ranges are less likely to experiment and prefer using sources with which they are more familiar. Although there are differences in the sample drawn, the chi-square test returned a p-value of 0.399, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' use of Summon and age.

The figures for use of Summon by level of programme (Table 28.3) show that more undergraduates (82.2 per cent) than postgraduates (18 per cent) use Summon. These figures support earlier findings on the overall figures for postgraduate and undergraduate Summon use. The chi-square test returned a p-value of 2.64985E-29 (means move 29 decimal places to the left), which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' use of summon and level of programme.

Analysing the use of Summon by English language proficiency (28.4), the figures are in line with the general distribution for English language proficiency and show no significant variation between those students who have English as their first language and those who do not. The chi-square test returned a p-value of 0.909, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' use of Summon and English language proficiency.

The figures for the use of Summon by programme of study (Table 28.5) show that the programme with the largest numbers of students using Summon is the largest programme, Law, with 58.9 per cent; this is followed at some distance by EMFSS with 28.7 per cent, then International Management, CEFIMS, MRES and CEDEP. The chi-square test returned a p-value of 0.002, which is less than 0.05 and therefore supports the hypothesis that there is a significant relationship between distance learners' use of Summon and programme of study.

The figures for the Use of Summon by Mode of Study (Table 28.6) show that the largest body of users of Summon were students registered with an institution and also receiving private tuition, followed by students who were registered with an institution but receiving no private tuition, and there may be better networks and communication channels (peers, tutors) for those students who are registered with an institution. Despite these differences, the chi-square test for independence returned a p-value of 0.066, which is greater than 0.05 and therefore supports the null hypothesis that there is no significant relationship between distance learners' use of Summon and mode of study.

The use of the Summon search engine does not appear to be conditioned by country, with the largest number of users being from the countries with the largest number of students (Table 28.7). A chi-square test was not conducted because of the number of cells with zeros or no responses.

Survey Question 29: Student Views on the Summon Search Engine
All students who answered yes to survey question 28 (Use of Summon) were asked to give feedback on the use of the library search engine Summon. 157 students or 24.2 per cent of the total sample answered this open-ended question. The rather low response rate is not surprising given that Summon was only launched in April 2010 (two months before this survey was administered). However, the comments made were very positive, indicating that Summon had improved the library experience of those who had used it. Comments include: I like it, it's simple to use, useful, one-stop shop saves time, need training using it, gives better results/more functionality, it is a great improvement. There were also 14 occurrences of 'experiencing difficulties'. Overall, these findings are very useful and provide an insight into the things that distance learners value.

6.3 Conclusion: Answering the Research Questions

The survey response data analysed in detail above are arranged under each of the research questions, enumerated at the start of this chapter, for which they provide relevant evidence. The conclusions set out below are in the form of answers to the original research questions and demonstrate particular information needs and information-seeking behaviour of distance learners.

6.3.1 Research Question 1: What are the information needs of distance learners of the University of London?

The information needs of distance learners are highly determined by the purpose of the information activity, and this is overwhelmingly direct tasks primarily geared to examinations but also to coursework. This is critically the case for undergraduate students, who conduct general reading and current awareness activities to a much smaller extent. Distance learners are likely to have less time to devote to such information activities and to be highly motivated to attain qualifications. This finding is in line with a study by Oladokun (2010a), who found distance learners' information needs and

information activities were determined by their course of study; more specifically, they acquired information to write assignments and to prepare for tests and exams. Similarly, Boardi et al. (2004) found that distance learners at the National University of Lesotho preferred information that was relevant to their programmes of study.

Level of programme has an important effect on information needs, with the information needs of postgraduate students being more determined by dissertation and research. This finding is in line with the study by Al-Muemen (2009), who found that the stage of study was a significant factor influencing some patterns of the information-seeking behaviour of graduate students and that, as students progressed though their programmes, they were more likely to gain experience in conducting searches.

Mode of study was also significant, with those studying independently performing more general and current awareness activities and more research and dissertation activities than those registered at institutions. However, this may be because the majority of students who are studying independently are postgraduates while those registered with an institution are undergraduates. Gender does influence information needs, with more women than men conducting general reading activities and in-depth research, and supplementing their course readings.

6.3.2 Research Question 2: What kind of information sources and information channels are used by distance learners and why are they used?

Information Sources

The survey established that the most used information source was 'course textbooks', with a smaller but significant number supplementing them with other book purchases. This corresponds to the answers to research question 1; students rely to a large extent on the directed reading and core textbooks. Importantly, almost the same high proportion of students use 'free sources on the Internet'. The Online Library and the course VLE, which one would also have thought were essential, are used by only just over half of the students. This finding is slightly different from that of Byrne and Bates (2009), who found that 84.3 per cent of distance learners at University College Dublin regularly used the Virtual Learning Environment (VLE). This difference may be related to the differences in programme of study or discipline, which has been found by this research to have a significant influence on resource use. All students in Byrne and Bates' study were undertaking a Bachelor's Degree in Business Studies while the students in this study are undertaking different Degree Programmes. As established by Al-Muomen (2009, 244), "Business Administration students rely heavily on the Internet and on faculty members".

The extent of the use of free sources on the Internet has important implications for the provision of materials by the Online Library and for other methods of provision by the teaching institutions. These findings raise issues of information literacy support and development for distance learning students. There is an over-reliance on textbooks as a single source, albeit an authoritative source. However, going beyond that source, many students turn to free resources on the Internet and, although there are many reliable free resources on the Internet, there are also many unreliable, unverified, outdated, and interpreted resources. There is a real imperative for the institution to promote the use of the selected high-quality materials that it provides and the skills necessary to use them. The high use of free internet sources are consistent with the findings of Byrne and Bates (2009), who found "a general preference for electronic resources" by distance learners, and those of Griffiths & Brophy (2005) and Haglund &

Olsson (2008), who found that the majority of students used Google as their first choice when searching for information.

The heavy reliance on directed reading indicated the very important and central role of the faculty in the information-seeking behaviour of distance learners, particularly with regard to their information and resource use. The study also found that a significant number of undergraduates attending an institution relied on tutor notes. These findings are in line with the findings of Byrne and Bates (2009), who concluded that lecturers, learning support officers and personal tutors played a vital role in assessing the validity of distance learners' resources. Moreover, a study of students by George et al. (2006) found that academic staff played a central role and formed the basis of the information world of the students, while Al-Muomen (2009) found that faculty members play a very important role in encouraging students to use the library resources by giving assignments that require students to use them. The vital role of the faculty indicated the need for a closer working relationship between faculty and academic library staff in order to implement information literacy programmes that encourage distance learners to rely on scholarly sources as opposed to free internet sources and family and friends.

There was very frequent use of 'family and friends' specified by respondents as an information source / channel, particularly by undergraduates, even though it was not given in the options available in the survey. This emphasises the importance of social networks to distance learners and relates to earlier findings from the observation part of the pilot study (see appendix 9) in which a student said " "It's easy to get information from friends than from the library". The importance of the learners' social networks in the learning process of on-campus students has already been established by studies by George et al. (2006), Foster (2005), Jamali (2008), Haglund and Olsonn (2008), Al-Muomen (2009). Byrne and Bates (2009) also found that students' peers, academic staff and library personnel all influence distance learners' information-seeking behaviour. Therefore, in the absence of these crucial support networks, distance learners will turn to any readily available information source (including family and friends) whatever the quality, in order to meet their information needs.
This also emphasises that studying for a degree by distance learning is often a family rather than an individual undertaking and it is quite likely that the family will have some connection to or direct interest in the subject being studied. The very frequent use of 'family and friends' as an information source / channel, particularly by law students, is an important finding and has implications for the development of information literacy programmes that help students to understand the importance of using authoritative sources, carefully evaluating all resources, and the pitfalls of using informal information sources such as family and friends.

The factors affecting information sources / channels used were programme / course of study, purpose of information seeking activity, and level of programme. There were differences in the use of types of resources between students on the various programmes. Generally, as exemplified by the findings for EMFSS students above, the sources used are determined by programme of study because the availability of relevant material in different sources varies by subject. A very large number of law students cited 'family and friends' as a frequently used information source compared to students on other programmes. This might indicate several factors such as the collaborative nature of law studies and the likelihood that family and friends are involved in the legal profession, as legal practice traditionally spans generations of a family. It was also established in the observation study that law students often study in groups both because the subject is so technically difficult and because this

enables them to share the use of the expensive textbooks. These findings are in line with Liu and Zheng's (2004) study of distance-learning students, in which the authors also found a significant relationship between the selection of information resources and their subject discipline.

As regards purpose of study, there was a significant relationship between purposes of the respondents' information-seeking activities and the information sources or channels they use most frequently (Table 5.9.7). Course textbooks and free resources on the Internet were widely used even for dissertations and research, and the VLE was also used for general reading and current awareness. This reinforces the findings that ease of access, ease of use and familiarity tend to influence the choice of information sources / channels because sources are used even if they are less adapted to the purpose of the information-seeking activity. However, on a relatively small scale (the large majority of information-seeking behaviour activities were for course work and examination preparation) the sources / channels more appropriate for dissertations and research and for general reading because of their wide coverage are used more frequently for those purposes, i.e. the Online Library, newspapers, theses and print journals. The small number of respondents using e-books mainly used them for dissertations and research and to supplement course materials rather than for more directly course-related work, indicating that electronic versions of course books are not widely used. The results for purchased books tend to support findings that suggest that they are primers because they are used more for exam preparation and to supplement course materials and not for general reading or research.

As regards level of programme, the survey confirmed that postgraduates do read much more widely using a variety of sources and are more likely than undergraduates to use authoritative sources. Mode of study is significant in the use of information sources, with a markedly greater use of family and friends, e-books, and use of print journals by those attending an institution. Some additional resources may be made available by the institution but students at an institution are more likely to have a group of peers with whom to work than, by definition, those studying independently. These differences are also influenced by the nature and level of the programme, which in part determines the mode of study.

There did seem to be some significance in the country of residence as regards supplementary sources that had a financial cost, such as purchase of books and use of e-books; importantly, however, the use of the main sources, course textbooks (provided by the University of London), free internet resources, the Online Library and the VLE, was not differentiated by country. These findings are in contrast with those of Thórsteinsdóttir (2005), who found that, contrary to popular belief, geographic considerations have no importance in an online information environment (as long as one is connected to the Internet), as the distance learners in her study were not directly affected by their place of residence when accessing library databases. Students living in non-university areas did not necessarily have more problems when connecting to library databases; however, when problems did arise, they had more serious consequences because the students had to travel greater distances to seek alternative internet access. Furthermore, Oladokun (2010a) found a significant relationship between distance learners' use of internet sources and geographical location. However, he found no difference between students in rural and urban areas regarding access to the other sources of information such as modules, colleagues, experts, subject librarians, radio/television, and co-ordinators. This difference may be related to the fact that easy access to a computer and an internet connection is an essential requirement for registering on the University of London's programmes; thus, the group is already self-selected.

The findings support the hypothesis that there is a significant relationship between distance learners' most frequently used sources and the reasons for preference of sources (Table 5.10.8). The findings regarding the reasons for the choice of information sources endorse the Principle of Least Effort (PLE) because respondents overwhelmingly cited 'easy to access', 'easy to use' and 'readily available' above quality and reliability. This particularly applied to course textbooks and free resources on the Internet. However, although they are the most popular, far fewer respondents felt that they were reliable and even fewer considered them high-quality even though they preferred to use them. This indicates that decision factors are driven by ease of access, ease of use and ready availability, and they are preferred over acknowledged low quality and reliability. However, it is notable that the perceived quality and reliability of selected resources on the course VLE and Online Library are considered barely higher in quality and reliability than free resources on the Internet. This suggests that the information literacy levels among respondents may be low as they cannot differentiate resources. Respondents considered affordability only a little more important in their preference for Internet resources than the Online Library and purchase of books, which suggests that there are considerable hidden costs to accessing the Internet which affect the otherwise free online services. These are important findings for understanding the information-seeking behaviour of distance learning students and the implications for the design of any information resources offered to them. The findings correspond to and help to explain the findings of survey question 10 where the free internet sources were cited by a large number of respondents. The lure of easy-to-access information at the expense of quality or reliability or even relevance is strong and supports the well-known principle of least effort (PLE), which stipulates that each individual tends to adopt a course of action that will involve the expenditure of least effort (Case 2012, 175-178) even if this means accepting a lower quality or quantity of information.

Although similar behaviour has been established among on-campus students by Valentine (1993), Dalgleish and Hall (2000), Becker (2003) and Drabenstott (2003), it has a more fundamental impact on distance learners because of the absence of the essential academic networks (peers, lecturers, libraries and librarians) to which on-campus students have access. And, as established earlier, distance learners often turn to family and friends and free internet sources. The return rate for 'previous experience' at almost 50 per cent in this study indicates that training may influence behaviour.

Programme of study was again found to be an important factor. Surprisingly, law students had more previous experience of the information sources they use. This finding is consistent with the findings of Thórsteinsdóttir (2005, 223), who noted that distance learners "chose information paths and sources that they had previously used with good results". She also found a significant relationship between previous knowledge of a topic and the selection of sources. In addition, Urquhart and Rowley (2007, 1192) found that "first-year undergraduates indicated that the route they chose to finding information was governed by time factors, convenience of format, and an unwillingness to try the unfamiliar unless this was an explicit expectation". However, EMFSS students were much more concerned with reliability and relevance. The study established that Level of Programme influences distance learners' resource preferences: although postgraduates were also concerned with 'easy-to-use' and 'easy-to-access' sources, they were more concerned than undergraduates with 'relevance' and 'reliability'. Mode of study was also found to be an important factor; those studying at an institution with tuition cited 'previous experience' much more often than those who were studying independently with no tuition. Although there was no overall significant relationship between 'Reasons for Use of Information Sources' and country of residence, one interesting finding was that the higher proportion of people citing 'affordable' seemed mostly to be drawn from 'wealthier' countries rather than 'poorer' countries,

demonstrating that generalisations can be misleading and populations are not homogenous. This is one of several instances where the data tend to overturn simplistic expectations. Distance learning students may have limited financial means even though they are located in countries generally considered wealthy.

These finding are consistent with those of Thórsteinsdóttir (2005, 188), who noted that Swedish distance learning students who lived in non-university areas "found it expensive to drive to the nearest library for the necessary access to databases". Oladokun (2010a) also asserts that distance learners in his study did not consider electronic access; this was true even for those with the necessary skills, because of costs and other reasons. As Buckland (1991) states, the price of information must be acceptable to the user; otherwise it becomes a barrier to information access.

The University's Online Library

When asked about the use of the Online Library as one particular information source, about three quarters of the respondents claimed to use it. A significant minority of students do not use it and were therefore not accessing materials needed to complete their degree programmes. Level of programme had an effect: postgraduates were far more likely than undergraduates to use the Online Library, and this can be linked with the earlier findings that postgraduate students are more likely to choose reliable and high-quality resources. These findings are in line with those of Urquhart and Rowley (2007), who found that undergraduates who had progressed beyond the first year were more likely to mention some other quality criteria such as currency of information. Al-Muomen (2009) found that, as graduate students progressed through their programmes, they gained experience in conducting searches, and that third-year graduate students were more likely to use electronic journals to find information than second- and first-year students. However, it must be emphasised that, in the case of distance learners, the quality criteria appear to be applied at a much later stage, i.e. at postgraduate level.

Once again, programme of study proved to be an important factor: more respondents from the EMFSS programme used the Online Library in comparison to undergraduate law students, and in fact over a quarter of undergraduate law students did not use the Online Library. It was established that use of the Online Library was influenced by mode of study, with those attending an institution more likely to use it, suggesting a more formalised approach to study and possibly advice and encouragement by the institution.

Awareness of the Online Library

Almost every respondent had heard about the Online Library. This is a very important finding for the Online Library's development strategy because it demonstrates that other findings regarding non-use of the Online Library or other sources are not caused simply by ignorance of the Online Library's existence. Attention should therefore be focused on why there is significant, albeit minority, non-use of the Online Library, as documented in the section above. How respondents did learn about the Online Library is important for the University's communications strategy. The findings showed that almost all students had learnt about the Online Library from direct communications by the University of London, either through the course pack or by reference from the VLE. In the absence of the various induction sessions from which on-campus students benefit, the role of the course pack is critical.

Gender is indirectly a factor in how distance learners learnt about the Online Library: a significant number of those who learnt about the Online Library from lectures were women. This is linked to the

finding that a significantly higher percentage of women than men attended a local institution and therefore attended lectures. There is a relationship between how distance learners learnt about the Online Library or indeed other information sources and level of programme. All students cited the course pack mentioned above but undergraduates also heard about the Online Library from the VLE and lectures. Although English language proficiency was generally not as significant a factor as one might expect throughout the survey findings, it was a factor in how students learnt about the Online Library (in addition to the main route via the course pack). Those without English as a first language relied more on tutors and lecturers and less on other sources such as the University of London's website and the VLE. Those with English as a first language were much more likely to learn about the Online Library from fellow students, perhaps because there were more students in institutions - and more students overall - in countries where the first language is English.

A significant relationship was established between programme of study and how distance learners learnt about the Online Library. Undergraduate law students represented all those who learnt about the Online Library from lectures, the UoL website and handbooks, while a large proportion of EMFSS students learnt about the Online Library from fellow students or handbooks, and none had learnt about the Online Library from lectures or the University of London website. Level of programme had an effect mainly because it is interlinked with another significant factor: mode of study. The majority of postgraduate LLM students chose 'Fellow Student' and their responses showed the likelihood that they were not at an institution because none of them chose 'Tutor' or 'Lecturers'. All students, whether studying at an institution or independently, heard about the Online Library mainly from Course Packs and the VLE but the majority of students who heard about it from tutors and lecturers were studying at an institution, which shows that they had extra information channels and help at their disposal compared to those studying independently.

Use of Online Library Resources

The survey was able to gather more detailed information about what kind of information resources are used by distance learners, which can inform not only an overall model of information-seeking behaviour but also practical steps in collection development by the University of London. At this level of detail there is more differentiation in use. The most used resources were the large full-text law databases containing primary legal materials, and this use is driven by the need of the very large constituency of law students to consult case reports and legislation. The general databases of secondary descriptive and analytical literature and even the law databases in this category were less heavily used. This corresponds with the findings above regarding the concentration on course textbooks and free internet resources and the general task-orientated approach rather than wider reading.

Age influenced the use of Online Library information resources. Generally, older respondents were more selective in their use of sources while younger respondents used more of the general resources; however, this may well have been determined more by the nature of the course they were following, which is also related to level of programme. Level of programme was a significant factor affecting which Online Library resources were used by respondents. General databases and the standard legal databases were used more by undergraduates. The specialist databases were used more by postgraduates, who generally used databases more than undergraduates did. There also seemed to be greater use of reference and bibliographic sources as opposed to full-text sources by postgraduates, as one might expect. Programme of study is a key factor in the choice of information resources. Some programmes, such as Law and MRES, display extremely focused use of subject databases, with only a

small amount of use of other databases. Other programmes dominate the use of general databases and usage is spread over a greater variety of sources. Mode of study was also a factor: there is more online library resources usage by those who study independently (a large proportion of law respondents study independently and generally make more use of legal databases).

Alternative Information Sources

Students used information resources that were not provided by the Online Library during the course of their studies: these included recommended textbooks, followed by tutor notes, and friends and family, with very few students using nothing but the Online Library. This is comparable to the findings of the research undertaken by Byrne and Bates (2009), who found that information from other people played a significant role in the overall information-seeking and retrieval process of distance learners; meanwhile, Oladokun (2010b) found that a significant number of students depended on their lecturers and colleagues, and Boardi et al. (2004) found that distance learners often turned to colleagues and family. Age and level of programme influenced use of alternative information sources although not in terms of friends and family or recommended textbooks. Younger students were more likely to use alternative sources of information and far more likely to use tutor notes; these students were the most likely to be following undergraduate degree programmes and attending teaching institutions. Older students were more likely to be postgraduates and to use recommended textbooks much more extensively; in small numbers, they were more likely to use no other information source than the Online Library.

There were significant deviations, based on programme of study, of alternative information sources. Law respondents were far more reliant on friends and family than any other group and were more likely to rely on tutor notes. As noted above, this suggests that law students may have family and friends in the legal environment and it could also mean that respondents find it challenging to work independently on legal concepts and information and need other people to help them. This was established in the observation study where four out of five students who were observed from Diploma to third year had difficulty in finding a case. They also said that they study in groups in order 'to exchange ideas with other students', 'because law books were too complicated' and 'to share the cost of textbooks'. International Management respondents were much more likely to use no other information source than the Online Library. Thus, for the main constituencies of respondents, alternative sources of information (both formal and informal) were very important. Mode of study influenced the use of alternative sources of information: unsurprisingly, tutor notes were overwhelmingly used by those at institutions (clearly, the notes were understood by respondents to mean notes from lecturers rather than just notes from private tutors). Moreover, those studying independently with no recognised form of academic support were more likely to resort to other sources of information most often. Those who don't use any other sources of information are grouped in fewer countries, many of them but not all in Europe, as well as Canada or the USA. This correlates with those who did not have English as a first language. Those with lower English proficiency are more likely to be concentrated in certain countries, other European countries, countries that were heavily influenced by European countries other than the UK, and immigrant populations in Canada, the UK and the USA. These respondents are more likely to focus on a smaller number of information sources and rely more heavily on the Online Library.

Reasons for Use of Alternative Information Sources

The overall message from these findings, despite the reasonable score for reliability, is that respondents

followed the line of least resistance or the Principle of Least Effort and chose resources of the basis of ease both of access and of use. This coordinates with the relatively high use of free internet resources established earlier. Relevance, 'high-quality' and currency were not important reasons for most respondents. A very small number of respondents indicated that affordability influenced the choice of information sources. There was a significant relationship between the reasons for the choices of information resource and age: evidence suggested that the principle of least effort was at work at the expense of quality among under-25-year-olds; 26-35-year-olds were much more likely to choose 'high-quality', 'comprehensive', 'recommended', and 'reliable'. There are indications that older age ranges revert to the choices of 'convenience', 'familiarity', and 'readily available', and none chose 'high-quality'. The overall findings suggest that age is significant and that profiles of the younger and the middle-aged users are emerging.

Level of programme influenced the reasons for preference of alternative resources. Undergraduates were more likely to choose affordable or free resources that were convenient, familiar and readily available but also relevant and reliable, while very few chose 'easy to access' and 'easy to use'. By contrast, postgraduates are much more likely to prefer resources that are easy to access and easy to use, perhaps because of more pressing time constraints even though they also chose high-quality, recommended, relevant and reliable at higher rates than undergraduates. This is a strong finding and perhaps contrary to expectations. This may also be a piece of evidence to suggest that the postgraduates, mostly in the older age ranges, may be less comfortable with electronic resources. The programme followed by respondents influenced the reasons for use of alternative resources: EMFSS students chose 'familiar', 'free', 'high-quality', and 'relevant' at much higher rates than law students. These results are a little contradictory, suggesting EMFSS respondents are more concerned about quality but also more likely to use free resources. The outstanding reason why EMFSS respondents choose alternative information resources is the fact that they are 'free', and they also choose 'no choice' (i.e. no alternative available) at a high rate, suggesting that cost is a factor. The reasons given for preferences among the resources not in the Online Library cross-tabulated by country (Table 20.7) tend to suggest that cost is as much a factor in countries with a higher standard of living in general as in generally poorer countries, and this in turn suggests rather different socio-economic statuses of students in developed and developing countries. The highest number choosing 'affordability' was in the UK.

Access to Other Libraries

This is one of the major differences between distance learning and on-campus learning: in distance learning there is no local library and place of study designed to support the programme of study. A majority of respondents did not have access to a local library and a significant number of 'no responses' suggested an even larger number. This finding emphasises the reliance on the Online Library and the need for it to cover more of the essential and further reading, as expressed below about desired improvements to the Online Library.

Of those who did have access to a library, a significant number used a library close to where they live, most frequently a university library or a public library. Workplace libraries and private collections were very rarely mentioned. Supporting institutions' libraries were only infrequently cited; this is somewhat surprising and could mean that these libraries, in spite of the UoL's accreditation requirements for teaching institutions, may not have suitable resources.

Students were asked to name the libraries used, other than the Online Library, and the libraries were

categorised (Table 24). This made it possible to compile a list of useful libraries in each region which could be recommended to other students who were not aware of them. Although the list of libraries gives an idea of the type of library, it does not indicate the respondents' satisfaction with these local libraries. Previous studies (Unwin et al. 1998; Oladokun 2010b) found that, although distance learners significantly used public libraries near them, the libraries were lacking in terms of meeting their information needs. In the observation study that formed part of the pilot study, students said that public libraries were only used as a place to study. These findings are comparable to the findings of other studies (Unwin et al. 1998; Boardi et al. 2004; Oladokun 2010b; Sharifabadi 1992) which found that distance learners frequently used local public libraries more than their university library although they often found such collections lacking.

Age is a factor in access to other libraries: more students over 45 have access to libraries, possibly at their place of work. Younger students are less likely to have access to local libraries even though they are more likely to attend a teaching institution. There is a difference in access to libraries by programme of study: law students are less likely to have access to a local library, possibly because of the specialised nature of the material that concentrates on English law. EMFSS and Cefims students were more likely to have access to another library. This suggests that those pursuing financial and economic studies, who generally study independently rather more than at an institution, may have better access to a library perhaps at their place of work, and that the subject materials, because they are more transferable internationally, may be more available. Mode of study is also a significant factor: although in low numbers, those at institutions are more likely to have access to a local library than those studying independently. This suggests that the teaching institutions attended may provide some library facilities but it does not show how satisfactory those facilities are.

Countries do not appear significant in whether respondents had access to other libraries, which contradicts any assumption about the availability of libraries in more developed countries.

Overall, with regard to the kind of information sources and channels used by distance learners and why they used them, the study found that students relied on a number of information sources in various formats in order to complete their degree programmes and prepare for exams. The study found that, despite the hype about electronic sources and e-books replacing the printed textbooks in academia, printed textbooks remain the most popular format for this group of students However, almost the same high proportion use free internet sources. The Online Library and the course VLE, which one would also have thought were essential, are used by only just over half of the students. The over-reliance on textbooks as a single source, albeit an authoritative one, and free internet sources (many of which may be unreliable, unverified and interpreted) shows that there is a real imperative for the Institution to promote the use of the selected high-quality materials that it provides and the skills necessary to use them. There was also very frequent use of 'family and friends', particularly by law students, who were also undergraduates. A majority of respondents did not have access to a local library and a significant number of 'no responses' suggested an even larger number. This finding emphasises the reliance on the Online Library and the need for it to cover more of the essential and further reading. This need was expressed in the desired improvements to the Online Library. Of those who did have access to a library, a significant number used a library close to where they live, most frequently a university library or a public library. Workplace libraries and private collections were very rarely mentioned. Supporting institution libraries were only infrequently cited; this is somewhat surprising and could mean that these libraries, in spite of the UoL's accreditation requirements for teaching institutions, may not have

suitable resources. These findings are in line with Byrne and Bates (2009, 134), who found that distance learners relied on a number of resources, both print and electronic. However, Byrne and Bates also found that distance learners generally preferred electronic sources. Oladokun (2010a and 2010b) found that distance learners relied on both print and electronic sources, with a strong preference for print in his first study, and a preference for electronic sources in his second study. Despite the marginal differences in distance learners' preference between print and electronic sources, the message from this research is that distance learners rely on both print and electronic formats. These findings about preference contrast with the findings of the studies by Griffiths & Brophy (2005) and Haglund & Olsson (2008), who found that the majority of students in their populations used Google as their first choice when searching for information.

These findings indicate that 'electronic only' library services provision is not adequate, and that a hybrid approach is needed in order to better meet the information needs of distance learners. These findings have fundamental implications for distance learning providers, library policy-makers, quality assurance agencies such as the Quality Assurance Agency (QAA) and Joint Academic Standards Board (JASB), the Law Society and SCONUL.

Regarding the reasons why distance learners use the sources and information channels they use most frequently, the study endorses the principle of least effort (PLE). Students overwhelmingly cited 'easy to use', 'easy to access' and 'readily available' above quality and reliability. These findings have implications for the design of any information sources offered.

6.3.3 Research Question 3: What barriers do distance learners encounter when accessing and using Online Library resources?

Location of Access Point to the Online Library

A large majority of participants access the Online Library from home while only relatively small numbers access it from other locations. Easy access to a computer and an internet connection is an essential requirement for registering on the University of London's programmes; thus, the group is already self-selected. This suggests that there may be a significant disincentive to registering for a course by those who do not have a computer and internet connection at home. Although having easy access to a computer and network connection does not necessarily translate into 'effective library access or use', it removes the first barrier or hurdle to access. Furthermore, familiarity can help to overcome uncertainty and build confidence.

Thórsteinsdóttir's (2005) study established that, contrary to popular belief, geographic considerations have no importance in an online information environment (as long as one is connected to the Internet), and students are not affected by their place of residence when accessing library databases. Students living in non-university areas did not necessarily have more problems when connecting to library databases; however, when problems did arise, they had more serious consequences because the students had to travel greater distances to seek alternative internet access. She concluded that distance students who are dependent on information technology pay a particularly high price in the event of technological problems. In addition, Oladokun (2010a) found that electronic resources were not even considered by those students who had the information literacy skills needed to use them, possibly because of background, cost, environment, poverty or location.

Age is not a significant factor in home use but younger students, who are more likely to be attending an institution, access the Online Library much more often from an educational institution, while older students, who are more likely to be in employment, access it much more often from work. Few respondents resort to access via internet cafés, demonstrating that, overall, internet access is not a major problem for this group of students even if the work environment may not be conducive to concentrated study.

Programme of study and mode of study appear to affect the place of access to the Online Library, with law students more likely to attend an educational institution and to access the Online Library from there. The figures also show that those on the main postgraduate courses access it from work. More respondents studying independently access the Online Library from work and one might expect those studying independently to be in employment. Unsurprisingly, those accessing the Online Library from institutions correspond to the numbers registered at institutions, which offers reassurance about the integrity of the data.

There is evidence that the small number of respondents who access the Online Library from internet cafés are not only from countries that are generally less well developed. These findings generally tend to support the view that respondents are not necessarily disadvantaged by their geographical location in accessing the Online Library. However, Thórsteinsdóttir's (2005) study found that distance learners were directly affected by their place of residence when accessing library databases. She found that students living in non-university areas did not necessarily have more problems when connecting to library databases; however, when problems did arise, they had more serious consequences because the students had to travel greater distances to seek alternative internet access. The nature of respondents' employment is significant in allowing them facilities for access and possibly time and is also significant in terms of their choice of programme, which is career- and job-related. It may also suggest that these distance learning programmes in developing countries are mainly adopted by those who are reasonably advantaged already.

Route Used to Access the Online Library?
More than half the respondents access the Online Library via the VLE, which refers students to material in the Online Library; a third of respondents use MyAthens, which authorises access to all the materials and shows sophistication in the use of the Online Library; nearly a quarter of respondents access the Online Library from the University website. This seems to suggest a relatively organised approach to accessing the Online Library, with only a small minority using Google. However, the multiple entry routes used could add to the complexity of accessing the Online Library and have implications for the presentation of information and for the provision of assistance.

Age seems to be a factor in the choice of the access route by which respondents access the Online Library, with the few respondents in the higher age ranges more likely to use bookmarks or Google. This is in line with some other findings that the significantly older respondents do exhibit a less advanced level of sophistication in the use of electronic resources. However, in general, postgraduates are more likely than undergraduates to use the route via the VLE or MyAthens. Programme of study was again a significant factor: more law respondents access the Online Library from the VLE or from the University website and even more directly at the Online Library website; EMFSS students tend to use Google and MyAthens relatively more and bookmarks much more. The use of Google is more pronounced in countries where one might expect a fairly high level of information literacy. This

suggests that presumptions about information literacy derived from overall assessments of a country are likely to be inaccurate.

Login Methods and Reasons for their Use
The majority of respondents prefer the Portal or Shibboleth authentication to access Online Library resources. This suggests that the integration of curriculum resources with library resources as well a single point of entry to all learning resources is important to this sample of students, and the reasons given by respondents endorse this interpretation. Students value efficiency; they don't have to look in multiple places, thereby saving time. The results suggest that distance learners value ease of use, fast and convenient methods of resource access and a method that provides a one-stop shop. These findings have important implications for the design and delivery of Online Library services for distance learners.

There were a large number of non-responses, which may suggest quite a high level of unfamiliarity with the terminology or with the actual method of login. The non-responses came particularly from older respondents and this may be another indication of a less advanced level of engagement with electronic resources. Those older respondents who did reply preferred Athens; younger respondents are more likely to adopt the Portal as a single method of access to all information and services. This is confirmed by the reasons for preferred login method: under-25-year-olds chose 'one password' while older respondents opted for 'familiarity'. Similarly, 'quick access' was by far the most highly rated resource characteristic for undergraduates, who dominate the younger age groups. This is a further suggestion that under-25-year-olds are more efficient and flexible with electronic access. This indicates the factors that need to be borne in mind when developing library resources and training materials.

All the reasons were important to all the programmes of study but there were particularly high numbers from the law programme, who chose 'ease of use' and 'quick'. These results for law students are related to those they gave for question 10 (strong preference for textbooks and free internet sources, and law students' frequent use of family and friends) and question 12.5, in which over a quarter of law students declared that they did not use the Online Library, presumably because it was not as easy to use as the free internet sources (or Google).

The reasons given for preferences of login method are affected by mode of study: respondents who were studying independently were more concerned with reliability and a single password, while those who attend institutions wanted speed and 'gives an alternative'. The differences may be related to the fact that those who attend institutions have alternative ways of accessing the information sources they need while those who study independently do not and, as such, 'reliability' and 'one-stop shop' are crucial.

Success in Accessing Online Library Resources
This is a crucial self-assessment question about how successful respondents are at accessing Online Library resources; generally, the results show a low level of success. As might be expected, the distribution of levels of success gives low levels of 'always successful' and 'never successful'. However, over half the respondents accessed the information they needed only 'sometimes'. Therefore, overall those who always or regularly access the information they need account for just over a third of respondents. This suggests that there is a major problem in using electronic resources and accessing information, although this may not be characteristic only of distance learning students, and that there is

a major need for training. The purpose of any model would be to understand the factors which lead to these results, and the purpose of any application of changes to affect those factors would be to improve these results. The series of analyses below are therefore particularly important.

There are significant variations by gender. Men are only marginally more likely to access the information they need regularly. Women are generally more likely to be successful sometimes but men are much better represented among the few at the top end of the scale (always successful) and the bottom end of the scale (never successful). Therefore, women are generally moderately successful but men are either more successful or much less successful.

Almost all students experience some difficulty in finding the information they need. The figures suggest that there is a greater problem among those over 25 years old, especially in the middle age ranges, but that among those over 45 and especially over 56 there is less of a problem. This runs counter to some of the other findings that electronic resources pose challenges for the older age ranges. The finding is, however, corroborated by the fact that postgraduates are much more successful than undergraduates at finding the information they need, and Access students, who are the least experienced, are extremely unsuccessful in finding the information they need. The figures emphasise that more experienced respondents are much more successful at accessing the information they need.

The programme of study affects the success rate in finding information. There was a much larger range of success rates for EMFSS students; they are relatively more likely 'always to access' or 'regularly to access' but also 'never to access' the information they need. However, law students are twice as likely to access the information they need 'sometimes'. This may reflect the fact that there are more different forms of information that law students need to access and verify. Those studying independently are generally less successful than those at an institution in accessing the information they need although small numbers are among the most successful and these are likely to be postgraduate students studying independently.

Level of Confidence in Using Electronic Resources

There was a significant level of non-response to this question either because respondents could not gauge their level of confidence or because they felt hesitant about admitting it. Nearly three quarters of respondents declared that they did not have significant problems using electronic resources; in fact, nearly half were 'very confident'. It should be borne in mind that a user's confidence does not necessarily indicate their level of expertise. The findings above suggested that over 60 per cent of users only sometimes or never found the information for which they searched. Of course, the failure rate may not depend only on search skills; for example, the information sought may simply not be available in the Online Library. Level of confidence is an indicator of information literacy although one must take into account the subjective nature of the assessment in these findings.

An important indicator of variations in information literacy by gender is the level of confidence in using electronic resources. A large proportion of those who did not respond or gave an 'Other' reply were women, suggesting there may be a hidden problem. Overall, the findings show that women are not disadvantaged by lack of confidence in the use of electronic resources although there may be some overestimation of their skills by both men and women. One would expect the findings of this question to correspond with the findings above relating to success at accessing Online Library resources; however, they do not, as in this case no significant differences have been found between the male and

female students' level of confidence in using electronic resources. As stated above, the level of confidence in using electronic resources and level of confidence or success in using library resources are indicators of information literacy. Therefore, these findings indicate that, while both male and female distance learners can confidently use generic electronic sources such as free internet resources (which, as established in question 10, are the second most frequently used source), when it comes to using Online Library resources (databases), which require more systematic and logical search strategies (more advanced information literacy skills), male students fare better than their female counterparts. These findings are comparable to those of the study by Al-Muomen (2009), who found that male graduate students were more comfortable and more confident in conducting online searches and using online information sources than their female counterparts, and that by Ford, Miller & Moss (2005), who found that male students had higher levels of Boolean experience than their female counterparts.

The analysis of confidence by age does indicate some correlation between success rates and confidence, which reinforces the theory that level of confidence is a good predictor of information literacy. Under-25-year-olds and those above 45 are generally confident in their use of electronic resources, and there was also a high level of confidence among the 26-35 age range. However, those who are not confident occur more frequently in the 26-35 and the 36-45 age ranges, which have been noted as the age ranges where there is a higher failure rate in information retrieval and a lack of engagement, for example in requesting training. Assessing the level of confidence in using electronic resources by level of programme, it is clear that postgraduates, who are generally older, are overwhelmingly more confident. There is some indication that more developed countries, particularly European countries, are better represented among those who are very confident about using electronic resources.

Regarding the kind of barriers that distance learners face when accessing and, to some extent, using the information sources they need to complete their degree programme task, including the University's library, the study found that place of access was not a significant barrier and that almost all students could access the Online Library from home; only a relatively small number accessed it from other locations. There was also evidence that the small number of respondents who accessed the Online Library from internet cafés were not only from countries that are generally less well developed, which supports the view that respondents are not necessarily disadvantaged by their geographical location in accessing the Online Library.

Age is not a significant factor in home use but younger students, who are more likely to be in attending an institution, access the Online Library much more often from an educational institution, and older students, who are more likely to be in employment, access it much more often from work. Programme of study and mode of study appear to affect the place of access to the Online Library, with law students more likely to access the Online Library from an institution and postgraduates more likely to access it from work.

The nature of respondents' employment is significant in allowing learners facilities for access and time, and it may influence the choice of programme.

The majority of students access the Online Library via the VLE, MyAthens or University website. Although this suggest a relatively organised approach to accessing the Online Library, the multiple entry routes add to the complexity of accessing the Online Library and have implications for the

presentation of information and for the provision of assistance. The login method used and preferred by most students was the Portal or Shibboleth authentication which provides a single sign-on to all to library and curriculum resources. Distance learners valued ease of use, fast and convenient methods and a method that provides a one-stop shop. These findings have implications for the design and delivery of Online Library services for distance learners. Overall, just over a third of students always or regularly access the information they need from the online library - a very low success rate. However, when it came to accessing generic electronic sources (including free internet sources), nearly three quarters of the students declared that they did not have significant problems using 'electronic resources; in fact, nearly half were 'very confident'. Although level of confidence in using electronic resources is usually one of the measures of information literacy, more research is needed to help understand the factors that lead to these results and what can be done to improve the results. Although no difference was found between male and female students' confidence in using electronic resources, when it comes to using Online Library resources, male students fare better than their female counterparts.

Therefore, the barriers faced by distance learners when accessing and, to some extent, using the online library are as follows:

1) Place of access for those who accessed the Online Library from an internet café, albeit a very small number, and the influence of age, programme of study and mode of study.
2) Multiple access and login methods which added to the complexity of accessing the Online Library. Students prefer 'easy to use', 'quick', 'convenient' methods that provide a one-stop shop to everything.
3) Students' confidence in using electronic resources as well as the University's Online Library.
4) The lack of skills needed to effectively use the Online Library resources.
5) Inefficient search methods such as database browsing which was found to be very popular.
6) Disciplinary differences as they relate to the curriculum and information resources. For instance, law students appear to struggle more with understanding the legal content, resorting to family and friends as well as effectively using the Online Library resources. As mentioned earlier, any model that treats 'information' as an undifferentiated source is unlikely to be able to explain these different findings.

6.3.4 Research Question 4: To what extent does the Online Library meet distance learners' information needs?

Does the Online Library Meet All Your Information Needs?

The Online Library, while it may meet some needs for more of the respondents, only meets all the needs of half of those who offered an opinion, although 'all needs' is a very high aim. This can be compared with the 44.4 per cent of respondents who acknowledged that they needed training in the use of electronic resources and with the suggestions for improvements to the library and information service. Neither gender, nor age, nor English language proficiency seem to affect the general findings. Undergraduates are more likely to believe that the Online Library meets all their information needs. However, postgraduates are much more likely to believe that the Online Library does not meet all their information needs; postgraduates are more likely to have much wider and less well-defined information needs. Undergraduate law students are much more likely than EMFSS students to believe that the Online Library meets all their information needs, and this may be because the law databases are more comprehensive and the respondents' information needs more well defined. However, law students were found to frequently consult family and friends; they use a highly focused range of sources and over a

quarter do not use the Online Library. According to Limberg (1999), students who use a more limited number of sources and fewer information paths are more likely to limit their understanding of the phenomenon under study. On the other hand, students who accepted new information paths and sources gained a deeper understanding of the task, which positively influences the learning outcome. Students would benefit from a wider range of resources in the Online Library and from information literacy skills.

Those students at institutions are much more likely to feel that the Online Library meets all their information needs compared to those studying independently. This is perhaps explained by the fact that those at institutions are more focused and follow the syllabus and recommended reading more closely; there are also more postgraduates studying independently and, as seen above, they are less likely to have all their information needs satisfied by the Online Library.

Suggestions for Improvements to the Library and Information Service
The findings emphasise the overall view that distance learning students are extremely task-orientated; for example, the provision of all essential recommended reading is a high priority, all further reading is desirable and, generally, more resources are needed. This is not just a general wish for comprehensiveness; the inadequacies of the databases, such as the fact that many of them have only a limited coverage of older volumes of journals, are highlighted. There is considerable support for the provision of model or sample answers to examination questions, which are always popular among students whose future is determined by written examinations and who have less experience of examinations and require examination skills. This is notably the case with LLB students, who face 'legal problem questions' that require different skills from those needed for essay questions. Distance learners' lack of academic and peer support is made patently obvious by the request for more opportunities to communicate with tutors and fellow students. The support for the provision of e-books may indicate a problem in obtaining or affording textbooks. Most respondents are likely to feel that the provision of a physical print library is unrealistic in their situation and they have little experience of good physical libraries, although a few respondents do recognise that a physical library encourages study and socialisation with peers. There is support for more guidance or training in the use of the Online Library, almost equalled by the number of respondents asking for the Online Library to be made more user-friendly, exhibiting the recognition that improvements by both supplier and consumer are required.

Methods of Search
The findings are strikingly similar to those obtained from the pilot study and indicate that a significant number of respondents frequently use database browsing techniques that are inefficient, and they tend to indicate that the search functions are either not understood, not trusted, or are too complex for the task. The very low use of use of the online library's state-of-the art resources discovery tool 'Summon', which cross-searches the entire library collections seamlessly, suggests a lack of awareness of such an efficient and time-saving search facility and the need for better integration of all Online Library tools and resources into the curriculum. This suggests needs for training, promotion and marketing, as well as measures to simplify access to research tools.

Desired Improvements to the Online Library
A majority of students would like more e-books, which is related to the affordability of textbooks noted earlier and perhaps to availability for purchase. Easy access to and communication with the Online

Library team at any time were almost equally requested, together with significant numbers wanting more online help and training guides. This again suggests a real recognition of the need by students to improve their own performance and also suggests that the answers about performance and confidence in using electronic resources are likely to be quite accurate. There are some differences between male and female priorities for improvement. Female respondents value 'more online help and training guides', which corresponds to findings that women feel they need more training and opt for better and easier Online Library search tools). Men, who are generally more confident in using electronic resources, prefer the immediate solution to an immediate problem by 'communicating with the Online Library team at any time'.

Desired Additional Online Services
Consistent with the findings about desired improvements, the majority of respondents would find more e-books useful. Students chose other additional services that related very much to the situation of distance learners and were services that in some way alleviated the isolation and lack of interaction of their learning situation; they included discussion forums, interactive tutorials, Facebook, and podcasts. Accessing the correct information is no substitute for a full learning experience. In fact, despite the very proper focus on learning in higher education, what distance learners seem to miss is teaching.

Comments about the Online Library
The comments mirror other findings and suggest, firstly, a desire for a broader range of resources, with e-books mentioned specifically and, secondly, more guidance and support with easier access to resources. These findings have immediate practical application and would enable the Online Library to prioritise those areas of the service that are important to the students.

In determining the extent to which the information needs of distance learners were met by the University's Online Library provision, the study found that current provision only meets the needs of half of those who offered an opinion, although 'all needs' is a very high aim. Findings suggest that students desire a broader range of resources (with e-books mentioned specifically) and more guidance and support, with easier access to resources.

The least satisfied students were postgraduate students, who were studying independently, while undergraduate law students and those students at institutions were much more likely to believe that the Online Library meets all their information needs. Students' suggestions for improvements indicate the gaps in Online Library provision. The provision of all essential recommended and further reading was found to be a high priority for the majority of students. This is not just a general wish for comprehensiveness; the inadequacies of the databases, such as the fact that many of them have only a limited coverage of older volumes of journals, are highlighted. More guidance and training in the use of the Online Library resources was requested, including the provision of model answers to exam questions, more online help and training guides, better and easier Online Library search tools, and the ability to communicate with the Online Library team at any time.

Desired additional online services included services that in some way alleviated the isolation and lack of interaction of the students' learning situation, such as discussion forums, interactive tutorials, Facebook, and podcasts.

6.3.5 Research Question 5: What practical solutions can be employed to help learners overcome the barriers they face when seeking and using information sources to complete set tasks?

Desire for Training in the Use of the Online Library Resources

Other findings showed that a majority of respondents realised that they only sometimes found the information they needed, although lack of success could be attributed by students to inadequacies in the Online Library itself. This is mirrored by the large proportion of respondents who desired training and were aware of their need for training. There were a large number of non-responses; this might be attributed to doubt over how the training might realistically be administered or the lack of time to invest in training, but it may also indicate disengagement or reluctance to admit a lack of expertise. The findings reinforce the need to fully integrate information literacy skills training into the curriculum and the Online Library and not treat them as an optional extra. These findings and those on success in finding information emphasise that inadequate information literacy is a basic barrier that students face when seeking and using information sources to complete set tasks. 288 students requested Online Library training, and this is a direct, expressed need.

A greater proportion of women than men expressed a desire for training. This finding is consistent with the findings by Steinerova & Susol (2007), who found that women were more likely than men to utilise the help offered by librarians. However, the chi-square test revealed that the differences were not statistically significant.

Age did not seem to be a significant factor despite indications in some other findings that older age ranges were less comfortable with electronic resources. The question did not elicit a proportionately greater desire for training among the middle age groups, who seem, from their lack of success in finding information, to display a greater need for training. Only the under-25-year-olds showed a proportionately greater desire for training, and this suggests engagement with electronic access among that group but disengagement among the middle age groups or a lack of awareness of gaps in their information literacy. Proportionally more undergraduates than postgraduates expressed a need for training. These findings correspond with the declared success rates by postgraduates, which are higher than the success rates of undergraduates.

Programme of study was once again a significant factor. Undergraduate law students expressed the most need for training and EMFSS the least need. This again corresponded inversely to the findings on success rates, and the two sets of findings tend to validate each other. As above, the likely explanation is that the structure and complexity of both forms and content of information in one subject differs from another. Any model that treats 'information' as an undifferentiated source is unlikely to be able to explain these conflicting findings.

Method of Contact

The contact details of students were obtained in order that training could be arranged and, despite a 55 per cent non-response rate, this did facilitate the delivery of a direct and helpful benefit. Email is by far the most common form of communication used by distance learners, and most students have easy access to email and technology.

Use of the Summon Search Engine

A large majority of students had not used Summon. This is not surprising, given that Summon was launched effectively two months before this survey was undertaken, and a follow-up question at a later

date is required. Summon was implemented as a direct result of a finding at the pilot study phase of this research in which students expressed a need for an easier search tool 'like Google'. There were only slight indications that younger students and women preferred Summon but it was clear that more undergraduates than postgraduates use Summon. The largest use of Summon is by law students, which is somewhat surprising because the major primary law databases are not amenable to searching by Summon; however, it reinforces programme of study as a significant factor.

Views on the Summon Search Engine
Comments from those who had used Summon, a Google-like meta-search engine for the Online Library, were very positive, indicating that Summon had improved their library experience; nevertheless, there was still a desire for training despite its simplicity.

Other findings showed that the majority of respondents realised that they only sometimes found the information they needed, and they therefore expressed a desire to receive library training. However, problems in accessing the Online Library could in part be related to inadequacies in the Online Library itself. There were also a large number of non-responses, which might be attributed to doubt over how the training might realistically be administered or the lack of time to invest in training but may also indicate disengagement or reluctance to admit a lack of expertise.

A large majority of students had not used Summon. This is not surprising, given that Summon was only launched two months before the survey was undertaken
Proportionally more undergraduates than postgraduates expressed a need for training, which corresponds with their declared success rates (postgraduates' success rates are higher than those of undergraduates). Programme of study was once again a significant factor, with undergraduate law students expressing a greater training need than EMFSS students, which again corresponded inversely to the findings on success rates, and the two sets of findings tend to validate each other. As above, the likely explanation is that the structure and complexity of both forms and content of information in one subject differ from those in another. All those who requested training preferred to be contacted by email. This makes sense in the context of the University of London because of the different time zones in which the students reside.

6.4 The Significance of the Findings

This is the first set of detailed findings from a large cohort of distance learners in a global learning programme. It establishes distance learning as a separate field for the study of information-seeking behaviour. It does this by providing an important insight into the distance learning environment and the information-seeking behaviour exhibited in that environment. Furthermore, it provides evidence of the various factors motivating distance learners, their approach to identifying and obtaining the information they need and the various factors affecting their information-seeking behaviour in terms of obstacles or hindrances to their success. It does this at a more detailed level than has been done before, with a focus on actual use of information for different programmes. It also critiques the existing provision for distance learners and identifies methods of improving provision based on the evidence gathered from the distance learners themselves.

The evidence about students' use of the various information sources, their preferences and the reasons for such preferences provides valuable insight into the information needs and information-seeking behaviour of distance learners and the factors that relate to information sources that need to be borne in mind when designing library and information services that better meet the needs of distance learners and the necessary training programmes and support materials needed to enable the learners to use the services.

Based on the findings, library policy-makers need to invest in both print and electronic sources. They should endeavour to provide all the essential readings given learners' heavy reliance on directed reading and core textbooks, the non-use of other sources, possibly because of cost implications, and the use of low-quality free internet sources and family and friends.

They should work collaboratively with the faculty to produce rigorous selection criteria for the 'essential reading lists', i.e. how many essential readings would be sufficient to give students a balanced view and coverage of the area of study. If distance learners rely heavily on these course texts and do not read more widely, such texts clearly need to be the most authoritative on the subject (not necessarily the ones written by the course tutor) and need to provide different views on the subject to enable students to acquire an informed view. The point here is that listing too may books as essential is not very useful, but listing just one may be insufficient especially, as established, if the student is going to depend on that one book and therefore possibly adopt that one point of view or perhaps consult unverified, interpreted internet sources or family and friends.

There is a need to provide literacy training across the curriculum and to work collaboratively with the faculty in order to better understand the disciplinary differences that need to be taken into consideration when designing these resources (such as the need to support collaborative learning and resource use when designing law programme support materials).

6.5 A New Model of Information-Seeking Behaviour

The analysis above, which addresses the particular environment of distance learning, provides the opportunity to draw up a new model of information-seeking behaviour designed to address the unique experience of distance learners. No existing model has been conceived for the distance learning environment or been based on a large-scale study of the information-seeking behaviour of distance learners. Chapter Seven will further analyse the elements that contribute to a model, comparing the findings to existing published research on more general information-seeking behaviour of students. It will contend that the findings of this research demonstrate that the application of existing models of information-seeking behaviour do not sufficiently take account of the different environment of distance learning and the different behaviour of distance learners. It will finally propose a new model of distance learning information-seeking behaviour.

Chapter 7: Conclusions and Recommendations

7.1 Introduction

This chapter synthesises the findings of the literature review of existing published research, the established models of information-seeking behaviour, and the findings of the present research described and analysed in the earlier chapters. The value of the evidence that has been collected is assessed. The implications of the answers to the research questions in Chapter Six are presented, emphasising the importance of the individual circumstances, characteristics, and other contextual factors that drive the information-seeking behaviour of distance learners and form obstacles to its success. This makes clear the similarities common to student information-seeking behaviour in general and the distinct differences for distance learners. This in turn makes possible a critique of existing models of information-seeking behaviour insofar as they do not apply to distance learning. Recommendations are made for the improvement of support for distance learners, particularly for library and information managers. There are suggestions for further research to build on this new model. This finally leads to the construction and proposition of a new model of information-seeking behaviour relating directly to distance learners.

The overall aims of the study were to explore the information-seeking behaviour of distance learners (by undertaking a case-study of the University of London's International Programmes) and to identify the barriers or challenges they face during the course of seeking and, to some extent, using information sources required to complete their Degree programmes.

In order to identify such factors, the following research objectives were identified:
(1) To identify the information needs of distance learners; (2) To establish how the information needs of distance learners are met; (3) To establish the challenges or barriers distance learners face when seeking and, to some extent, when using information sources and channels during the course of their study; (4) To establish the extent to which the information needs of the distance learners were met by the University of London's current Online Library provision; (5) To explore what possible solutions might be employed to help the learners overcome these barriers or improve their learning experience; (6) To make recommendations for supporting the information-seeking behaviour of distance learning students. In order to meet the aims and objectives of the study, a combination of qualitative and quantitative methods was employed. Statistical testing using the chi-square test helped to establish the significance or the independence of the identified variables.

7.2 The Evidence

The evidence for the conclusions below is contained in the analysis of existing published research in Chapter Two and the findings of the extensive survey of distance learners analysed in Chapter Six together with, to a limited extent, the findings of the preliminary Pilot Study in Chapter Four. The analysis of the data using cross-tabulation found a number of factors or variables that influence the information-seeking behaviour patterns of distance learners, some more so than others. The

interrelatedness of these variables indicates the complexity of this field of study. Therefore, for the purposes of this research, the chi-square test has been used to test the degrees of independence between the variables stated in the hypothesis, i.e. the extent to which each identified factor or variable influences the distance learners' information-seeking behaviour patterns. Statistically significant factors in this research are those with a probability value (p-value) that is greater than the benchmark of 0.05 (see Chapters Five and Six for details). This means that, for each of these factors, the study found enough evidence of impact to enable an inference to be made about the target population (i.e. distance learners), which goes beyond the sample population.

7.3 Key Distance Learning Variables as They Relate to the Research Hypothesis

This section summarises the key variables (i.e. those which were found to be statistically significant by the chi-square test) and shows how they relate to the research hypotheses. All the variables that were found to influence distance learners' information-seeking behaviour patterns, including those that were not statistically significant, are discussed in Chapter Six. As already mentioned, 'statistically significant' in this study means having a p-value > 0.05.

7.3.1 Demographics

Hypothesis statement (H1): There is a significant relationship between distance learners' patterns of information-seeking behaviour and demographic variables such as (a) gender, (b) age and (c) English language proficiency.

Gender

The analysis of the data captured by a questionnaire and using the chi-square test for independence revealed that gender is a significant factor influencing some information-seeking behaviour patterns of distance learning students. Although the activities of all students were very task-oriented, there were significant differences between some of the information-seeking activities that women and men performed. For example, women read more widely, sought alternative resources to supplement their course readings, and generally engaged in more research activities. Women were more likely to be undergraduates, attend an institution and learn about the Online Library from lectures. Women were also generally found to be less successful in accessing all the information they needed from the University's Online Library, although when it came to using generic electronic resources, they were found to be as confident as their male counterparts. Women preferred 'more online help and training guides' while men preferred 'communicating with the Online Library team at any time'. This suggests that women are more prepared to invest time in training while men are more results-oriented.

Age

The analysis and chi-square test revealed that age significantly influences the information-seeking behaviour patterns of distance learners and is related to the nature and level of the programme, which are major factors in their own right. Older students were more likely to be postgraduates, to be studying independently and to be more selective in their use of sources. Younger students were more likely to attend teaching institutions and use alternative information sources such as lecture notes and free internet resources, but older students were more likely to rely on the Online Library. Younger students

tended to follow the Principle of Least Effort at the expense of quality, while more experienced students were much more likely to choose high-quality, reliable and recommended resources, although the oldest students reverted to the choices of convenience and familiarity rather than high quality. The same pattern was exhibited for access to libraries and success in finding information. The youngest students had access to a library and were also the age group most likely to attend a teaching institution, from which, apart from home, they also mainly accessed the Online Library, and they were moderately successful at finding the information they needed (in the context of the overall poor level of success). The oldest students had access to other libraries and were more likely to be in employment, from where, apart from home, they mainly accessed the Online Library, were less concerned with affordability issues and claimed to be the most successful at finding the information they need. However, the middle age groups had least access to other libraries, had the fewest places other than home from which to access the Online Library, and had the most problems in accessing the information they need. There was evidence that older students were less comfortable with electronic resources and less flexible and efficient in accessing and using them. There were a large number of non-responses from older students and it is possible that older students were fulfilling a larger amount of their information needs from print resources, which were more available to them.

Conclusion:
The research hypothesis (H1) is supported with regard to gender and age, but not English language proficiency.

7.3.2 Role-Related / Interpersonal

Hypothesis statement(H2): There is a significant relationship between distance learners' patterns of information-seeking behaviour and role-related or interpersonal variables such as (a) Programme of Study/Discipline, (b) Level of Programme (e.g. undergraduate, postgraduate) and (c) Mode of Study (whether completely independent or in receipt of tutorial support).

Level of Programme
Level of programme was found to significantly influence the information-seeking activities of distance learners. Postgraduate students were the most successful in finding the information they need, were overwhelmingly more confident than undergraduates and were less likely to want or feel that they needed training. Undergraduates were more likely to be attending a teaching institution while postgraduates studied mainly independently. A majority of undergraduates sought information to complete coursework and assignments and to prepare for examinations; the majority of postgraduate information-seeking activity was for research and dissertation writing.

Postgraduates used a wider range of materials and types of materials than undergraduates but also used the Online Library more than undergraduates. Undergraduates were more likely than postgraduates to believe that the Online Library meets all their information needs, while postgraduates were more likely to have much wider and less well-defined information needs. Nevertheless, undergraduates used alternative sources of information not provided by the Online Library, such as free internet resources and lecture notes, far more than postgraduates. Although both used recommended textbooks extensively, postgraduates used them much more than undergraduates, and this may relate to the greater concern with affordability among undergraduates. Within the Online Library, undergraduates used the general and comprehensive databases while postgraduates used the specialist databases more.

This all confirms the direct finding that postgraduates are more likely than undergraduates to be concerned with reliability and high quality. However, postgraduate respondents are also very much more likely to prefer resources that are 'easy to access' and 'easy to use', perhaps because of more pressing time constraints but perhaps also because postgraduates, mostly in the older age ranges, are less comfortable with electronic resources. More undergraduates than postgraduates had used Summon, the new search tool, and this may also be linked to a higher acceptability of information technology among undergraduates.

Programme of Study

The study established that programme of study was one of the most important factors affecting a wide range of information-seeking activities of distance learners. It significantly influenced what resources distance learners used most frequently: there was more focused use by students following certain programmes, such as the Law and MRES students, while EMFSS students' use was spread over a greater variety of more general sources. There was a variation between programmes in the reasons given for use of resources: law students were more concerned with ease of access and use and comprehensiveness than with quality and even relevance. Over a quarter of law students did not use the Online Library, presumably because it is not as easy to use as the free internet sources, even though law students were more likely than students on other programmes to believe that the Online Library met all their needs. The largest numbers of students using the Summon search tool were law students, presumably hoping for an easier route to search the Online Library. Success in the use of the Online Library was affected by programme of study; for example, EMFSS students were more likely always or regularly to access the information they need while law students were twice as likely to only sometimes access the information they need. Programme of study also affected the desire for training, with law students more likely to request training; this is linked to their relative lack of success and possibly the complexity of the information and structure of the resources that they need to access.

Alternative sources of information (both formal and informal) were very important but friends and family and tutor notes are much more important for law students, and this may indicate the collaborative nature of law studies, the need to discuss complex concepts, the likelihood that family and friends are involved in the legal profession, and the sharing of the costs of expensive textbooks. A significant relationship was established between programme of study or discipline and how distance learners learnt about the Online Library. Unlike the law students, none of the EMFSS students had learnt about the Online Library from lectures or the University of London website. The majority of LLM students, who are unlikely to attend teaching institutions, chose 'Fellow Student', and this suggests that postgraduate law students may network with other students via the VLE discussion boards and the University's Facebook pages. Programme of study also seemed to influence access to other libraries: those pursuing financial and economic studies had better access to alternative libraries. Programme of study was also found to have a significant influence on place of access to the Online Library; for example, EMFSS students were less likely to access the Online Library from work and from an institution, while those on the main postgraduate courses, International Management and the LLM, mainly access the Online Library from work. It is likely that these programmes of study are connected with and an extension of existing careers.

Mode of Study
The study established that mode of study significantly influences the purpose of information-seeking activities of distance learners, primarily because the independent mode of study was more likely to be adopted by postgraduates while undergraduates were more likely to attend institutions. Respondents who studied independently performed more general and current awareness and research activities while those registered at institutions were more focused on recommended items for coursework and examinations. Mode of study was related to success in finding information: those studying independently were generally less successful than those at institutions, and those at institutions were much more likely to feel that the Online Library meets all their information needs. Those at institutions are more focused and follow the syllabus and recommended reading more closely while postgraduates studying independently are less likely to have all their information needs satisfied by the Online Library. The study found a relationship between mode of study and desire for library training: by far the largest group of students to express a desire for Online Library training were those studying independently, and this reinforces the need for more library training for this group, which has limited access to peers, tutors and supporting institutions' libraries.

The Online Library was used more by those who studied independently, and tutor notes were overwhelmingly used more by those at institutions. There was a marked difference between respondents' resource preferences in the use of family and friends, e-books, and print journals. These differences are highly influenced by the nature and level of the programme. Regarding the reasons for the use of the resources, those studying at institutions cited 'previous experience' much more often than those who were studying independently.

Mode of study was also found to influence how distance learners learnt about the Online Library: the majority of students who learnt about the Online Library from tutors and lecturers were studying at institutions, thus showing they had extra information channels and help at their disposal. More respondents studying independently accessed the Online Library from work, and one might expect those studying independently to be in employment. Unsurprisingly, those accessing the Online Library from institutions correspond to the proportion registered at institutions. A relationship was found between mode of study and reasons why students used some resources more frequently than others: those who attend institutions have alternative means of accessing information while those who study independently do not; therefore, 'reliability' and 'one-stop shop' are crucial. Mode of study affected access to other libraries: students who were at institutions were more likely to have access to a local library than those studying independently. This suggests that teaching institutions provide library facilities but it does not show how satisfactory those facilities are.

Conclusion:
The research hypothesis H2 is wholly supported with regard to all the three variables, namely programme of study/discipline, level of programme, and mode of study.

7.3.3 Information Sources / Channels and their Characteristics

Hypothesis statement (H3): There is a significant relationship between distance learners' patterns of information-seeking behaviour and Resource Characteristics such as (a) Ease of Use, (b) Ease of Access, (c) Availability, (d) Reliability, (e) Previous experience, (f) Relevance (g) Affordability and (h) Students' awareness of them.

The findings support the hypothesis that there is a significant relationship between distance learners' most frequently used sources and the reasons for preference of sources (Section 6.3.2 referring to Table 5.10.8). The findings regarding the reasons for the choice of information sources endorse the Principle of Least Effort (PLE) because respondents overwhelmingly cited 'easy to access', 'easy to use' and 'readily available' above quality and reliability. The study also found that the most important resource selection criteria were 'easy to access', 'easy to use' and 'readily available' and that quality and reliability were not major considerations even where the resources were not designed for the information-seeking purpose and where the success rates in accessing the needed information were low. Although the choice of information sources was determined to an extent by higher rates of success, more respondents more often chose to use sources with which they were proportionately less successful (section 6.2.2 referring to Table 5.10.9). There was, for example, a large use of free resources on the Internet, which are unreliable and not selected and produced a low overall rate of success. The choice of individual information resources in the Online Library is determined mainly by relevance, even though the success rate of using law databases, for example, is lower than the use of other databases (section 6.2.2 referring to Table 5.17.8). The lure of easy-to-access information at the expense of quality or reliability or even relevance is strong and supports the well-known *Principle of Least Effort* (PLE), which stipulates that each individual tends to adopt a course of action that will involve the expenditure of least effort (Case 2012, 175-178) even if this means accepting lower quality or quantity of information. These findings are consistent with those of Thórsteinsdóttir (2005) and Van de Vord (2010, 171), who found that distance learners preferred to access information in the quickest, easiest, and most convenient way, attaching less importance to the quality of information.

Awareness of the Libraries

The study established that a significant number of students knew about the University's Online Library provision; therefore, the relatively low use of the Online Library was not attributable to the possibility that students had not heard about it. However, in terms of how students learnt about it, there was a huge variation between those students who attended institutions and were in receipt of tuition and those who studied independently. Those who were studying at institutions heard about the library from tutors and lecturers, while those studying independently heard about the Online Library mainly from Course Packs and the VLE.

The study also found that undergraduate law students represented all those who learned about the Online Library from lectures, from the UoL website, and from handbooks, while EMFSS students learnt about the Online Library mainly from fellow students or handbooks. The fact that students on the same degree programme learnt about the University's library provision through different information channels is a matter of concern and indicated that distance learners are disadvantaged in comparison to those on campus, where library awareness sessions or induction are given to the whole class or programme so that all students on the programme receive the same information.

Cost of Information Sources

A very small number of respondents indicated that affordability influenced their choice of information sources, and this seems to relate mainly to the purchase of recommended textbooks, which were identified as a vital resource. Respondents considered affordability only a little more important, in their preference for Internet resources, than the Online Library and purchase of books, which suggests that there are considerable hidden costs to accessing the Internet which affect the otherwise free online services (Section 6.2.2 referring to Table 5.10.8). As noted above, the concerns about affordability

were not confined to less well developed countries and in fact were more likely to be voiced by respondents in wealthier countries; thus, preconceptions about the composition of the student community in each country and their ability to afford supporting or even essential materials should be discarded. The issue of affordability was also raised by a student in the observation part of the pilot study who said "basically what I normally do is work in a group. I work in a group of 4. We are doing four subjects so each person in the group will actually purchase a set of text for that subject.....that way we share costs".

Conclusion: *The research hypothesis (H3) is supported. There is indeed a significant relationship between distance learners' patterns of information-seeking behaviour and source characteristics.*

7.3.4 Psychological Variables

Hypothesis statement (H4): There is a significant relationship between distance learners' patterns of information-seeking behaviour and Psychological variables such as (a) Motivation for doing the course and (b) Risks/Rewards (perceived benefit).

The study found that distance learners generally seemed to have less time to devote to a wide range of information-seeking activities and were highly motivated to pass examinations and attain qualifications (see Table 5.9) and were considerably less motivated to engage in general reading, current awareness and research. This indicates that learners' perceived benefit of general reading and current awareness is low and that perceived benefit are being distorted because sources are preferred despite low rates of success emphasising the importance of the PLE principle (section 6.2.2 referring to Table 5.10.9). There are insufficient data to determine whether this differs significantly from on-campus students. The extent of use of readily available sources such as free internet sources, family and friends, and the poor rates of success both generally and in accessing the quality sources provided by the University's Online Library all indicate that there is an urgent need to support and train students about the importance of an all-round education and that the acquisition of key information skills is needed in order to survive in the information world, for lifelong learning and for career purposes.

Conclusion: The research hypothesis (H4) is supported. There is a significant relationship between distance learners' patterns of information-seeking behaviour and psychological variables.

7.3.5 Environmental and Logistical Variables

Hypothesis statement (H5): There is a significant relationship between distance learners' patterns of information-seeking behaviour and Environmental/Logistical variables such as (a) Country of Residence or Geographical Location and (b) Place of access to the required information sources.

Access Method

There is a significant relationship between distance learners' preferred login method and the reasons for choosing the login method; ease of use was the most important factor but familiarity was also important. It was important to a large number of respondents that there were alternative methods of login and this is likely to be related to alternative places of access.

Country of Residence

The study found that geographical location only seemed to influence the purchase of books and the use of e-books, print journals, theses and dissertations; these activities were focused on a relatively small number of countries. There was no impact on the use of course textbooks, free internet sources, course VLE and the Online Library sources. A significant relationship was found between geographical location and the use of certain Online Library resources, and this is linked to a concentration in some countries of students on certain programmes, such as law students and the use of law databases. Although no discernable overall relationship was found between 'Reasons for Use of Information Sources' and country, the study found that respondents citing 'affordable' seemed mostly to be drawn from 'wealthier' countries rather than 'poorer' countries, thus demonstrating that generalisations can be misleading and populations are not homogenous. Distance learning students may have limited financial means even though located in countries which are generally considered wealthy.

Place of Access

The study found that place of access influenced distance learners' information-seeking behaviour because it was related to the ease and convenience of access to the essential programme sources such as the VLE and Online Library. The majority of University of London students had easy access to a computer and network connection because this is a prerequisite for registering on the University of London's Programmes. However, a number of students, particularly among the postgraduates and in the older age ranges, accessed the Online Library from work, which is not conducive to concentrated study. A small minority also accessed it from internet cafés, which may be inconvenient and costly. As established by Thórsteinsdóttir (2005), although distance students may not necessarily have more problems with accessing or connecting to library databases than on-campus students, when problems arose they had more serious consequences because they had to travel greater distances to seek alternative access. Moreover, Oladokun (2010b) found that many distance learners did not make use of the widely available electronic sources because of poor access to computers and internet connections.

Conclusion: The research hypothesis (H5) is supported with regard to 'Place of Access'. 'Country of Residence' was not statistically tested because the numbers from the majority of countries were too small. However, the findings are very interesting for practice.

Technology Infrastructure

It did not appear that any lack of adequate technology infrastructure caused difficulties for the majority of students, and the high level of access to the Online Library and other sources of online information from home tended to support this. There was a widespread adoption and preference for single password access to the Online Library, and apparently an even greater preference for no passwords at all, given the high use of free internet resources. However, the multiple routes and methods of accessing the Online Library are likely both to be a barrier to its use and to make support more complex.

Local Libraries

The availability of libraries close to the students significantly influenced distance learners' information-seeking behaviour. It seems likely that distance learners value access to a physical library for a variety of reasons, not just for access to particular materials. The library is valued as a place of study even when relevant materials are not available, and it may provide an academic environment and a meeting place. There remains a question regarding the quality of library facilities provided by the teaching institutions that many of the students attend.

7.3.6 Learners' Social Networks

Hypothesis statement (H6): There is a significant relationship between distance learners' patterns of information-seeking behaviour and their Social Networks such as (a) Tutors and Lecturers (b) Librarians, (c) Other students, and (d) Family and friends.

Student Networks: Faculty and Librarians

The study found that distance learners relied heavily on directed reading and recommended reading, which indicates the very important and central role played by academic staff. Cookson (1990) found that two thirds of all distance learning students who dropped out of the Open University cited the lack of adequate academic support. The present study also found that a significant number of undergraduates attending institutions relied on tutors' notes. These findings are in line with those of Byrne and Bates (2009), who noted that lecturers, learning support officers and personal tutors played a vital role in assessing the validity of distance learners' resources

Social Networks: Family and Friends

'Family and friends' was cited as an information source / channel by 62 students (almost 10 per cent of respondents) even though it was not given in the options available. The very frequent use of 'family and friends' as an information source / channel by law students is an important finding (see section 6.3.2 under 'Alternative Information Sources'). It might also indicate several factors such as the collaborative nature of law studies and the likelihood that family and friends are involved in the legal profession. More generally, it might indicate that studying for a degree by distance learning is often a family rather than an individual undertaking and that it is likely that the family has some connection or direct interest in the subject being studied. These findings have implications for the development of information literacy programmes that help students to understand the importance of using authoritative sources, of carefully evaluating all resources, and of being aware of the potential pitfalls of using informal information sources such as family and friends. Perhaps more importantly, in the absence of those crucial support networks such as peers, lecturers, tutors, libraries and librarians, distance learners will turn to anyone for support, particularly those nearest to them even though the success rates in obtaining the information they need are low (see Section 5.10.9). Those attending institutions made use of friends and family more than those studying independently, demonstrating the importance of peer groups (section 5.10.6). The facility to communicate with the Online Library team at any time was one of the desired Additional Online Services requested by students, indicating the importance of distance learners' networks.

Conclusion: The research hypothesis (H6) is supported. There is a significant relationship between distance learners' patterns of information-seeking behaviour and their social networks.

7.3.7 Information Processing and Use (Information Literacy Skills)

Hypothesis statement (H7): There is a significant relationship between distance learners' patterns of information-seeking behaviour and Information Literacy (Information Processing and Use) such as (a) Confidence in Accessing the University Online Library, (b) Confidence in Using Electronic Sources and (c) Confidence in evaluating their Training Needs.

Information Literacy Skills
The study found that a large number of students could not successfully access the information they needed from the University's Online Library. Overall, those who always or regularly accessed the information they needed only added up to just over a third of respondents. This implies that there is a major problem in using electronic resources and accessing information and a major need for training. This is supported by Tang & Tseng (2013), whose findings emphasise the importance of information literacy skills for distance learners. There was also large-scale use of free internet sources and other informal information sources such as family and friends. All these factors indicate that distance learners need to be equipped with the skills required to access the quality sources they need speedily without resorting to free, poor-quality, unverified internet sources or family and friends, which may be unreliable and interpreted, cannot be cited, and have low rates of success. Proper citation or referencing is an essential part of academic writing. There is an over-reliance on textbooks as a single source, albeit an authoritative source.

As regards the perceived need for training by respondents, under half the respondents acknowledged that they needed training in the use of electronic resources (44% in Table 5.26). Those with more confidence expressed less desire for training (Section 6.2.5 referring to Table 5.26.8). However, there were also a significant number of respondents who wanted training among those who were confident or found it fairly easy to access information.

The cross-tabulation in Table 5.26.9 (referred to in Section 6.2.5) shows that there is a significant relationship between distance learners' desire for library training and success at accessing Online Library resources. The data confirm other findings and are consistent in demonstrating that those who find the information they need less often are more likely to desire training. However, a large number of respondents consider themselves successful in finding information but still want training. There are also a large number of respondents who are not successful but do not want training and a large proportion of non-respondents to the question on training who have low rates of success.

The cross-tabulation in Table 5.18.8 shows that confidence was not affected by low success rates in finding information. Those with confidence do have higher rates of success but there are a large number of respondents with high confidence who have low rates of success.

These results indicate the subjective nature of the questions about confidence; it appears that at least some of the respondents overestimate their abilities when directly questioned despite low rates of success, but they also acknowledge that they require training (compare Table 5.26 where 44% or 288 respondents wanted training and Table 5.25 where only 72 admitted to not being confident and over 75% were very confident or found it fairly easy).

Conclusion: The research hypothesis (H7) is supported. There is a significant relationship between distance learners' patters of information-seeking behaviour and information literacy.

7.3.8 Nature of Task

Hypothesis statement (H8): There is a significant relationship between distance learners' patterns of information-seeking behaviour and the Nature of the Task such as
(a) Completing Coursework, (b) Passing Exams, and (c) Writing a Dissertation.

The findings of the study indicate that distance learners are extremely task-oriented and their efforts are all geared towards completing coursework and exams to obtain qualifications. Although this variable was not statistically tested, there was evidence from the analysis of both the quantitative and qualitative data. This means that, in order to support distance learners, faculty and distance learning course development teams need to work closely with librarians to design courses or programmes that require the use of the library. The University of London has recently trialled this approach in one of its programmes, the MA in Global Diplomacy, and it has proved to be very successful.

Conclusion: The research hypothesis (H8) is supported.

7.3.9 Role as 'Student' and Distance Learner.

Hypothesis statement (H9): There is a significant relationship between distance learners' patterns of information-seeking behaviour and their role as student and distance learner.

The findings indicate that the information-seeking behaviour of the distance learner is largely determined by their role of being a 'student' or a 'distance student' and significant relationships were found between 'purpose of information activity' and programme of study, and purpose of information activity and mode of study. As the results in table 5.9 show, distance learners' main information seeking activities revolve around completing study assignments, preparing for exams or supplementing course readings. In response to question 9 about the purpose of their information activities, although students could choose more than one option, only one student out of the whole sample selected 'other' the very task-oriented nature this group of students' information seeking behaviour activities. In addition, course text books were the single most used information source (used by 80.1%) and newspapers which are considered to be for leisure reading and current awareness were hardly used.
Although this may seem obvious and is explored in more detail above in terms of the information tasks they perform, many models of information-seeking behaviour seek to explain it at a level of abstraction that is disconnected from the role of the actor.

Conclusion: The research hypothesis (H9) is supported. There is a significant relationship between distance learners' patterns of information-seeking behaviour and their role as student and distance learner.

7.3.10 Time Constraints and the Principle of Least Effort (PLE).

Hypothesis statement (H10): There is a significant relationship between distance learners' patterns of information-seeking behaviour and Time Constraints.
The Principle of Least Effort (PLE) greatly influences their Choice of Information Sources.

Time Constraints
The study established that the majority of distance learners, who were considerably older than the traditional UK higher education undergraduates, often have to juggle studying and associated information-seeking activities with work and other social commitments. Over twenty per cent of the respondents who were mainly postgraduates accessed the Online Library from work. Moreover, the main reasons given by students for their choice of information sources further indicates the importance

of the time factor. The frequent use of sources that were easy to access, easy to use and readily available, and an access method that provides a one-stop shop for all learning resources further exemplify this. Furthermore, students frequently used freely available internet sources and family and friends despite their shortcomings because they were 'readily available'. Time constraints was also mentioned in response to the open -ended question 22 (regarding required library improvements). One student said "The online library is good but it is difficult to read online having limited time available", and another said "have no time to use other sources". This further illustrates that distance learners often have constraints on time.

Time constraints have been cited by other researchers as the single most important challenge that distance learners face (Brooke et al. 2013; Unwin et al. 1998; Thórsteinsdóttir 2005). In addition, Tenopir (2003) found that both faculty members and students most readily adopt and like to use electronic resources because they are perceived as time-saving. These findings have implications for the design of library services for distance learning students in general, and more specifically for University of London students whose main form of library provision is online.

The fact that postgraduates are much more likely to prefer resources that are easy to access and easy to use, perhaps because of more pressing time constraints, raises general issues about the quality of research from this group of students. Students chose login methods that were time-saving and provided a one-stop shop for the materials they needed. Other researchers such as Unwin (1998) and Thórsteinsdóttir (2005) also found that time significantly influenced distance learners' information-seeking patterns. Related to time are the availability of academic support and the ability of students to undertake training given their work, family and other social commitments, as well as the effect of different time zones.

Conclusion: The research hypothesis (H10) is supported. Time constraints significantly influence distance learners' information-seeking behaviour.

7.3.11 Insufficient Evidence for Conclusions

As part of the analysis of the data to establish significant relationships between the various factors influencing information-seeking behaviour that were investigated, a test for significance was applied (see Appendix 7). The results of the tests were noted under each tabulation of the data in Chapter 5. The analysis of the data and conclusions draw on the significant relationships identified. However, there were also instances where no significant relationships could be established and where there were insufficient data to draw conclusions. These instances were noted under each relevant Table in Chapter Five and in the analysis of responses in Chapter Six and are summarised below.

English Language Proficiency

English language proficiency was found to have no significant correlation to a range of distance learners' information-seeking behaviour activities as detailed below. It is worth noting in this context that proficiency in English was defined as not having English as a first language, and even as a second language there may be a high level of fluency among respondents.

The figures do not show a significant correlation between proficiency in English and distance learners' choice of programme of study, highest educational qualification, , purpose of the information activity undertaken, respondents' most frequently used information sources, reasons for preference of the

information sources, use of the Online Library, place from which the Online Library is accessed, what route respondents access the Online Library, preferred login method and reason for preference, which Online Library resources are used, respondents' success at accessing the Online Library, use of resources not in the Online Library or reasons for that use, whether the Online Library meets all the library and information needs of respondents, access to other local libraries, level of confidence in using electronic resources, desire for training, and use of the Summon discovery system.

Gender
Gender was found to have a significant relationship with a number of distance learner's information seeking behaviour activities (7.3.1). However, it was not possible to establish a significant relationship between gender and programme of study, level of programme, respondents' most frequently used information sources or the reasons for their use, use of the Online Library, place from which the Online Library is accessed, by what route respondents access the Online Library, preferred login method and reason for preference, which Online Library resources are used, use of resources not in the Online Library or reasons for that use, whether the Online Library meets all the library and information needs of respondents, access to other local libraries, level of confidence in using electronic resources, desire for training, preferred method of contact, and use of the Summon discovery system.

Age
Age was also found to have a significant relationship with a number of distance learners' information seeking behaviours activities (7.3.1) . However, it was not possible to establish a relationship between age and purpose of respondents' information seeking activities, information sources used most frequently and reasons for their use, use of the Online Library, how respondents heard about the Online Library, whether the Online Library meets all the library and information needs of respondents, level of confidence in using electronic resources, desire for training, and use of the Summon discovery system.

Mode of study (whether respondents also attended a local teaching institution or had private coaching)
Mode of study was found to a significantly relationship with a number of distance learners' information seeking behaviour activities (7.3.2). However, no significant relationship was established between mode of study and how respondents access the Online Library, preferred login method, reasons for preferences among non-Online Library resources, respondents' level of confidence in using electronic resources, desire for training, or use of Summon.

Although level of programme was found to significantly impact a range of distance learners' information-seeking behaviour activities (7.3.1), there was no significant relationship established with place of access of the Online Library, preferred login method, or access to other local libraries. There was also no significant relationship between programme of study and respondents' preferred login method or respondents' level of confidence in using electronic resources; or use of the Online Library. In addition, no significant relationship was established between respondents' desire for social networking tools and whether the Online Library met all their information needs.

In terms of country of residence or location, there was insufficient data to draw any conclusions about possible relationships between **country of residence** and any other factors because of the many countries with zero or a very low number of responses. In these cases, a chi-square test was not conducted.

7.4 Recommendations

A series of recommendations arise from the findings of this research. Some of these recommendations are addressed not only to those designing and implementing library support systems, such as Online Libraries, and broader student academic support systems but also to policy-makers, and advisory and regulatory bodies. The latter will include those bodies that issue advice and disseminate best practice such as SCONUL, those that regulate and monitor quality such as the Quality Assurance Agency, and the bodies concerned particularly with law, such as the Society of Legal Scholars, and the relationship between academic study and professional qualifications, such as the Joint Studies Board.

All these recommendations are based on the fundamental findings that distance learning students are in a very different position from on-campus students and that each distance learning student is in a unique situation subject to a greater or lesser extent to a large number of factors. Although a cliché, this reinforces the saying 'no one size fits all' and the danger is that, in seeking to streamline online systems to provide the maximum advantage to the provider at the input stage, there will be a lack of appropriate design and responses by the system to the diversity of its users.

7.4.1 Role of Electronic Provision

Electronic provision of materials has various advantages both for the student and for the provider, and there is undoubtedly a continuous movement towards more comprehensive use of electronic delivery, which makes sense for geographically dispersed students. However, providers should be aware that, at the present time, there is still a considerable albeit diminishing demand for print materials, and there are indications that there is greater demand among older students. Access to print materials should be maintained, and the move to electronic-only delivery is not yet advisable. There is a great reliance on course reading lists and, in particular, on specific recommended textbooks. There are real difficulties in the availability and provision of e-books and it is not realistic to rely on electronic-only provision of textbooks. The electronic provision of materials is not the complete panacea.

7.4.2 Network of Libraries

Linked to the need for print materials to support students in their studies, there is a clearly expressed need for access to physical libraries. In part, students may require this in order to gain access to study materials not otherwise available or not in print. To a considerable extent, however, this facility would provide an academic environment suitable for concentrated study away from distractions and a place to meet or work alongside fellow students. At present, students do seek out libraries and make their own arrangements for access. Providers should seek to make explicit agreements for access both to HEI libraries and local libraries and should assess the quality of those libraries for the information of students. Providers should more explicitly take responsibility for local provision of information resources including supervision of provision at approved-partner teaching institutions.

7.4.3 Technical Support

The provider needs to ensure that technical issues do not limit access to the information provided for

the course. In distance learning this should go beyond the requirement for the student to have a computer and an internet connection. Technical support has only relatively recently become adequate on campus and then mainly through the standardisation of equipment and software; however, this option is not available in distance learning, where students are geographically very dispersed, unless equipment is supplied as part of the programme. 24/7 technical assistance of the sort now available on some campuses or from software support companies should be made available in coordination with the other support options. 24/7 operation is necessary given the variety of time zones in which the programmes are studied. If technology is the medium by which education is delivered, then the provider needs to take responsibility for continuity of delivery.

7.4.4 Ease of Use

Ease of access and ease of use need to be built into any information resource provision, as the influence of the Principle of Least Effort was reinforced in the findings. There is evidence that Google searches and free internet resources are being used in preference to the selected high-quality resources because they are easier to use. In part this can be addressed by training students. However, providers also need to address it at the supply end of the chain of communication by investment in the best available technology and the most sophisticated web discovery tools to enable quick efficient access. Even this, at present, will not solve the difficulties encountered by some students. Some content is not accessible by web discovery tools because the databases of some publishers, particularly law publishers, are not amenable to such search tools.

7.4.5 Student Support

On-campus students have access to academic staff, librarians, and their peers. They will normally have access to various induction processes, awareness events, term paper assistance, walk-in clinics and personal advice, which means that different needs and levels of need can be addressed. Students value local support very highly. Distance learners often have very limited or no access to support, particularly personal access to face-to-face advice. This leads distance learners towards alternative sources of information and social support which they feel are important for moral support, helping them to test ideas and understand the subject. These patterns are often differentiated by subject of study. However, these informal sources, such as free internet resources and social networks such as friends and family, which are very heavily used according to the research, are unreliable and unverified, and cannot be cited.

Distance learning students who attend teaching institutions do have some local support but there was little evidence that they were using their library facilities extensively. Providers should put in place a network of approved supporting institutions and take responsibility for selecting them carefully and ensuring that they meet quality assurance standards. It should be universally agreed that the degree-issuing institution is responsible for the level of provision, including library provision, in local teaching institutions.

It is difficult to disentangle the support needed purely for information-seeking from the wider academic and social support needs of students; in fact, these support needs should not be disentangled but addressed holistically. Providers need to fill the gap in support that occurs when there is limited or no access to expert in-person advice by providing 24/7 access via social media to people who really know

the subject, the curriculum, and the information sources.

The research further shows that support may need to be differentiated to take account of different levels of existing experience among students, different levels of study and possibly the different approaches by gender. Support for postgraduate students with their wider information needs, especially at dissertation stage, is more demanding and they may have unique needs. For this reason, the provider should supplement the materials available online with an electronic document delivery service. Generally, support needs to be personalised to a much higher degree than at present where support, as far as it exists, is hardly responsive to the circumstances of the individual.

7.4.6 Cost

Distance learners are a self-selected group who need to be able to afford the fees and the equipment and also, in many cases, to attend local teaching institutions. For this reason, affordability of information resources was not found to be a very significant issue but it was a factor in relation to the purchase of expensive textbooks to the extent that some study groups were set up for the purpose, among others, of sharing these textbooks. This was as much the case in wealthier countries as in less-developed countries. There were indications that students in less-developed countries were drawn from the more affluent parts of society while students from wealthier countries were drawn from poorer backgrounds. Providers should not make decisions about costs and levels of support based on the overall prosperity of the country. Providers should, wherever possible, make full provision of information resources required for the course rather than expecting the student to purchase the resources. In the case of postgraduates, this should include an on-demand electronic document delivery service, as mentioned above.

7.4.7 Information Literacy Skills

A great deal of the information-seeking behaviour of distance learning students is determined by poor information literacy skills, leading to inefficient use of time, poor success rates in finding information and ineffective use of the Online Library, thus pushing students towards resources that are apparently easier to use but of lower quality. This is exemplified by students' use of unreliable alternative sources of information such as the very widespread use of free internet resources and reliance on friends and family as sources of information. It is also a determinant of students' levels of confidence in information-seeking.

The poor information literacy skills are reinforced by time constraints because of work, family and social commitments. Time constraints themselves are a driver for students to undertake distance learning because of its innate flexibility. However the limited time for study leads distance learners to opt for easy-to-use information resources at the expense of quality. In the usual catch-22 scenario, these students also have less time to invest in equipping themselves with the information literacy skills that might save them time overall. The skills might allow them to find relevant information in the most efficient way, manage information overload, select quality resources quickly, use current awareness features which would push information to them, use bibliographic software, and learn time-saving skills. Information literacy skills might also better enable students to evaluate their own knowledge and skills,

Providers need to deliver training in basic information literacy skills to distance learning students. This need is no different from that of most students. However, the delivery of such training is a challenge and must take account of the very different levels of previous experience and qualifications of students from access level to undergraduate students who already have a local first degree. It should also take account of the geographical dispersal of students and their different modes of study, from independent study to attendance at a teaching institution. As in the overall programme design below, faculty and librarians need to collaborate closely at the earliest stage to ensure that the course requires use of quality information resources, and this should be fully integrated into the course: it should not be an add-on that can be ignored. As distance learning students are very task-orientated, tasks should be designed with reference to information literacy skills and information resources. There should be mandatory graded elements of information literacy activities in the course, which students must pass to progress.

7.4.8 Programme and Information Design

The role of faculty staff in programme design and development is crucial in determining information-seeking behaviour and it needs to be fully integrated with the role of librarians in the design of delivery systems. Distance learning students, to a much greater degree than on-campus students, rely on reading lists and focus to an even larger extent on a small number of recommended readings and essential textbooks. Any delivery of a programme including delivery of information resources needs to be supported by a close working relationship between faculty and library staff from the earliest design phase. Although academic standards cannot be compromised, there should be a realistic appraisal of the scale and scope of the recommended reading given the likely intense focus of distance learners on a small number of texts.

The design of a distance learning programme with its integral information resource delivery should be developed from the ground up specifically for distance learning and should not be merely a translation of an on-campus course.

7.4.9 Communications Strategy

The lack of use of the Online Library by a significant number of students did not derive from a lack of awareness of its existence. However, this awareness may not extend to the sources of support and advice that do exist or to the routes of communication to tutors. There is a multiplicity of sources of information, and those studying independently may receive quite different information from those attending a teaching institution. In short, providers need to develop a communications strategy to ensure that communication with the diverse student community is effective.

7.4.10 Motivation and Purpose

In addition to information literacy skills, students need to be equipped with what one might call education literacy skills in order to have a better understanding and appreciation of the purpose of their studies. This may mean managing expectations at the outset of their studies or even before. Distance learners, as shown by the research, are highly focused on the achievement of the qualification and the particular tasks, especially examinations, required to achieve that goal. This tends to exclude time needed to learn key skills that will enhance lifelong learning and be valuable in their careers.

7.5 The Basis of a New Model of Information-Seeking Behaviour for Distance Learners.

A discussed in some detail in Chapter Two, a thorough evaluation of existing information-seeking models in order to assess their suitability for modelling the distance learning context revealed that none of them accurately and comprehensively represent the rich context of distance learning. However, Wilson's 1996 model was identified as a suitable conceptual framework to guide this research because of its inclusion of several concepts of particular importance to distance learning, such as the user in context, the concept of intervening variables or barriers, and information sources and their characteristics. Wilson's generic variables were broken down into smaller hypothesis components that could be tested, as illustrated below. The following proposed model is based on the empirical results of this research, and can be tested in further studies of information-seeking. The extended components of Wilson's model were as follows: Context of Information need (the unique information environment of distance learners which is governed by time, distance and pedagogy); Person-in -context (the learner's personal and other role-related characteristics such as age, gender, student); Activating mechanisms (what motivates a learner to seek information such as the need to complete course work, prepare for exams); and Intervening variables or factors which hinder or enhance the information-seeking process such as a learner's motivation, age, programme of study and mode of study, geographical location, resources availability and their characteristics (accessibility and reliability).

A detailed list of key variables which influence the information seeking patterns of distance learners is given below. It's important to note that some variable were found to influence the information seeking process more significantly than others (see chi-square test results in chapters five and six). Their graphic representation or model of distance learners' information seeking behaviour (in Figure 7.7 below) shows that the distance learner, their individual unique context, and the variables that stem from that context interact in very complex ways and cannot be easily separated. It also shows that the variables influence the information-seeking process at every stage. As a result, the proposed model depicting these variables is presented in a non-sequential way.

7.6 Key Distance Learners' Information-Seeking Behaviour Variables

Activating Mechanisms

- Complete coursework
- Prepare for exams
- Dissertation and research

Intervening Variables

- Demographic
- Age
- Gender
- Role-related/ interpersonal
- Programme of Study/Discipline
- Mode of Study (independent, with tutor support)

Psychological Variables

- Motivation

- Risks/Rewards (perceived benefits).
- Lifelong Learning versus Obtaining a Qualification

Environmental and Logistical

- Country of residence/ -Geographical Location
- Place of Access to Library resources.
- Economic and Technology infrastructure (availability of public libraries, university libraries and tutoring institutions, and wide access to the Internet.

Sources and their Characteristics

- Awareness of sources
- Ease of use
- Ease of access
- Availability
- Reliability
- Previous experience

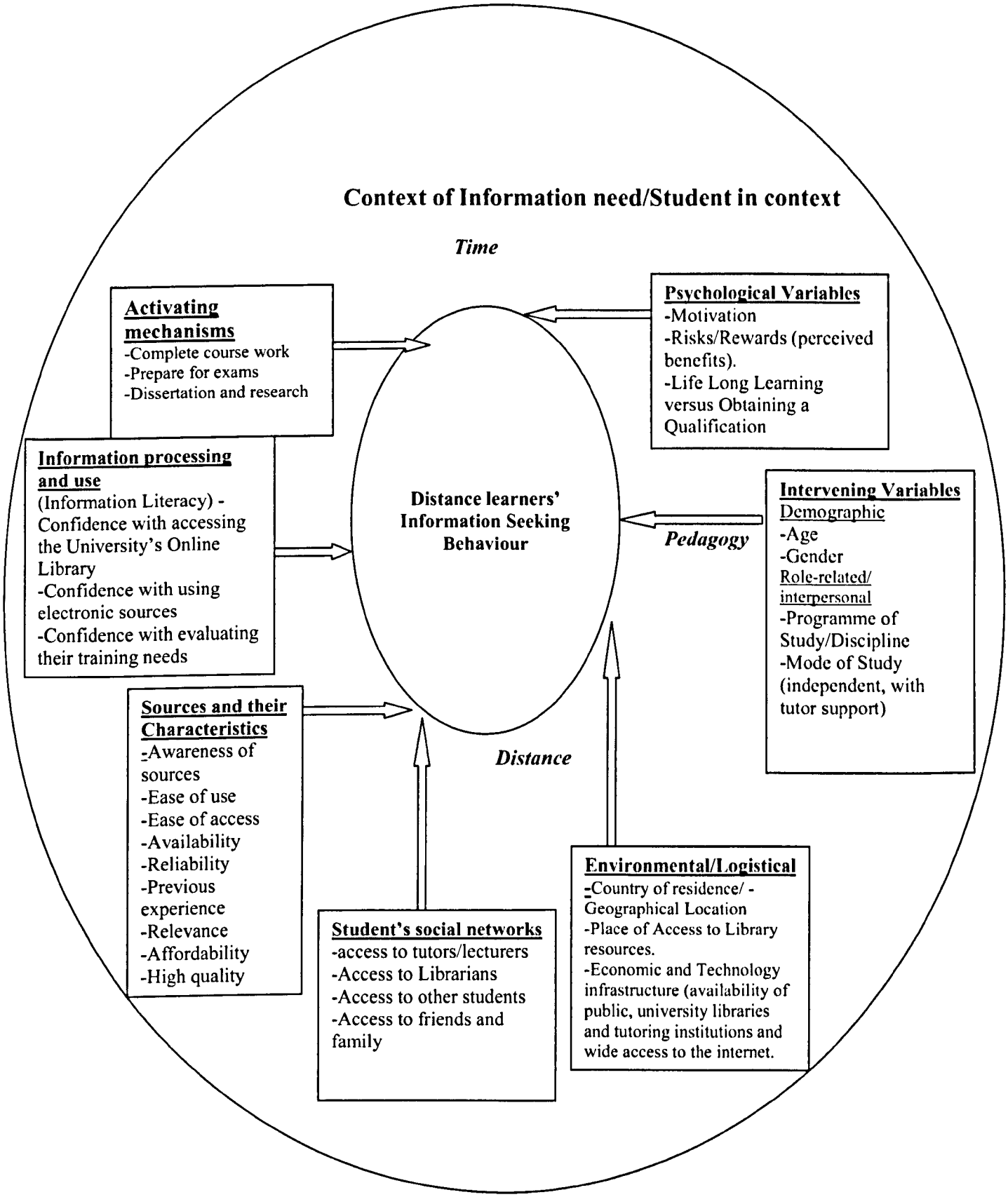
Student's Social Networks

- Access to tutors/lecturers
- Access to Librarians
- Access to other students
- Access to friends and family

Information Processing and Use

Confidence in accessing the University's Online Library (Information Literacy).
Confidence in using electronic sources
Confidence in evaluating their training needs

Figure 7.7: The New Model of the Factors influencing the Information-Seeking Behaviours of Distance Learners



The model depicted above is a further extension of Wilson's 1996 model described above in section 2.10.6. Wilson's model has proved its flexibility by accommodating various extensions, as described in section 2.10.7, being adaptable to specific contexts. This model is a means of understanding the process but it is also in itself a practical tool for reminding both institutional information and programme providers of the wide range of specific concerns of distance learners and their interconnectedness.

7.8 Contributions of the Study

The thorough review of the relevant literature in this area in Chapter Two provided evidence that no study to date has looked at the information-seeking behaviour of a large constituency of distance learners distributed across continents who predominantly depend on an Online Library. There have been smaller-scale studies which are discussed in Chapter Two. The rapid growth of distance learning in recent years and the particular nature of library and information provision to distance learners in such a situation warrant such a study. The gap in existing research appears to have arisen because information provision for distance learning has been considered an adjunct to the dominant provision by libraries to student communities primarily based on campus. My research contributes to the fields of information-seeking behaviour and distance learning library provision by providing empirical evidence about the factors that influence the information-seeking of distance learners, an understanding of the kind of information activities they engage in, why they engage in those activities, the kind of information sources they use and prefer and the reasons for their preferences, as well as the barriers they face and how they surmount those barriers in order to complete their studies. Factors that are unique to the context of distance learning as well as those that are generic to the role of the student are identified, and a model based on Wilson's 1996 conceptual framework that specifically supports the information-seeking behaviour of distance learning is proposed.

7.9 Further Work

Based on the findings of this study, further research is required in order to explore a number of related areas. These are presented below.

- This study was limited to distance learners registered with the University of London's International Programmes who were mainly undertaking social sciences and humanities programmes. Future research should consider students from a wider range of institutions and disciplines. Investigating distance learning students from other distance learning-providing institutions either in the UK and worldwide would help determine the differences between the disciplines and the impact of institutional structures and policies.

- Since having easy access to a computer is a prerequisite for enrolling on the University of London's Programmes, investigating students in other institutions where this was not the case would help to determine the impact of such policies on the information acquisition and library use.

- Although geographical location was found to influence the information-seeking behaviour of

distance learners, such as the purchase of books and the use of e-books and print journals, and was found to have no impact on the use of course textbooks, free internet sources, course VLE and the Online Library sources, no statistical test was conducted on the findings. Future research should consider performing a statistical test on the variables to help determine the significance of the relationships established.

- This study was limited to the information-seeking behaviour of distance learners who predominantly depend on an 'Online Library'. Future studies should consider wide-scale studies involving students who have both forms of provision (physical provision and an electronic library). Investigating this would reveal the extent to which distance learners at undergraduate and postgraduate levels relied on their university provision in comparison to other local libraries.

- This study has provided only a cross-sectional view of the information-seeking behaviour of distance learners. Further research should consider longitudinal studies in order to investigate changes in information-seeking patterns over time. This would help library and other policy-makers plan the services and training required at every step of the distance learning life cycle.

- Further work is needed to investigate the use of social media among distance learners, particularly those widely distributed geographically, as social media are likely to be increasingly used to form virtual communities, study groups, and to seek advice and resource recommendations.

7.10 Concluding Remarks

This study has identified the factors that influence the information-seeking behaviour of distance learners. This understanding is fundamental and will enable library managers to develop library and information services that better meet the specific learning and information needs of distance learners. An understanding of their unique information context and the barriers that stem from the context will help policy-makers and policy bodies to realise that one size does not fit all.

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Appendices

Appendix 1: Pilot Study Questionnaire
(See Chapter Three, section 3.13)

University of London External Programme: Students' Information Needs Survey 2007.

1a). What is your name AND your 9-digit University of London student registration number?

Name .....
Student Registration Number .....

2). Are you male or female?

Male Female

3). What age are you?

under 25
26-35
36-45
46-55
56 +

4). Are you married?

Yes No

5). Do you have children?

Yes No

6). What is your occupation?

.....

7). Which country do you live in?

.....

8). Is English your first language?

Yes No

9). What is your highest educational qualification? .....

10). What are you studying?

Diploma in Law
LLB Scheme A
LLB Scheme B
LLB Graduate entry Route A
LLB Graduate Entry Route B

11). What is your mode of study?

At an institution (studying for the Diploma)
At an institution (studying for the LLB)
At an institution (Diploma) supplemented by private tuition
At an institution (LLB) supplemented by private tuition
Private tuition
Independent study

The Online library
http://www.external.shl.lon.ac.uk/

12). Where did you hear about the Online library?

Tutor
Course pack
ONLINE LIBRARY
Fellow student
Elsewhere, please state .....

13). Where do you access the Online library?

At home
At work
At an internet café
Other, please state .....

14). How regularly do you use the Online library to search for information?
Never
Once a month
Once a week
Every day

Law Gateway

15). Which of the following law information databases provided on the Online library have you used? (Please tick all that apply)

Academic Search Premier	Business Source Premier	Casetrack
JSTOR	Justis	ABI/Inform
Hein Online	IBSS	Kluwer Arbitration
LexisNexis	Westlaw	

16). How successful do you believe you are at accessing (finding) information provided by the databases listed above?
I always access the information I need
I regularly access the information I need
I sometimes access the information I need
I never access the information I need

17). How easy do you find the following databases to use? (Please circle a number. 1 means that you find the resource easy to use, 5 that you find the resource hard to use).

Database Title	**Easy**				**Hard**
Academic Search Premier	1	2	3	4	5
Business Source Premier	1	2	3	4	5
ABI/Inform	1	2	3	4	5
Case track	1	2	3	4	5
HeinOnline	1	2	3	4	5
IBSS	1	2	3	4	5
JSTOR	1	2	3	4	5
Justis	1	2	3	4	5
LexisNexisProfessional	1	2	3	4	5
Kluwer Arbitration	1	2	3	4	5
Westlaw	1	2	3	4	5

18). How do you search the Online Library for information?

I browse the databases
I use the journal finder
I browse resources available on my course gateway
I use the site search

19). What problems do you encounter when trying to use the Online library? (Please list as many as you can think of).
.....
.....
.....

20). Why do you use the resources you consult regularly on the Online library?
.....
.....
.....

Online Library Help

21). Have you used any of these help facilities on the Online library?

Law Quiz
Online library Tour
Information Skills section
Database guides
E-mailed/telephoned the Online library Helpdesk

If yes, how helpful did you find it/them?
.....
.....
.....

Other Information Resources

22). Which of the following information resources not available on the Online library do you also use?

Tutor notes
Friends and family
Recommended Textbooks
I don't use any other information source all the information I need is in the handbooks we receive from the University.

23). Do you use any of the following to find information? (Please tick all that apply).

Senate House Library
University / College Library
A local library
Websites suggested to you by the Online library
Websites suggested to you by your tutor
Tutor notes
Free journals online
Pay for articles online
Personal journal subscription
Employers' intranet / information resources
Friends and family
Recommended Textbooks
I don't use any other information sources. All the information I need is in the handbooks we receive from the University.

Your Needs

24). What resources that you don't have would help you in your studies?
.....
.....
.....

25). What improvements in the service we provide would you like to see made to the Online library?

I would like more journals. Please state .....
I would like more databases. Please state .....
More useful website suggestions
I would like to be able to create my own Athens account
I would like to be able to communicate with the Online Library team at any time
I would like more online help in using resources
Other, Please state .....

Appendix 2: Pre-Study Questionnaire

(Administered before the Observational Study as part of the Pilot Study. See Chapter Three, section 3.13.)

Thank you for taking part in this survey. It should take about 20 minutes to complete. Feedback is vital to the University in maintaining and improving the quality of library services provided to its external students. Any information provided will be processed, stored and treated confidentially. All responses will be anonymous, unless you give us your permission to contact you to follow up on comments made. The Online Library complies with UK Data Protection Act 1998.

1. Your Name / ID

2. Your Gender Male Female(Circle one)

3. Age

4. Your country of residence

5. Is English your first language?
Yes
No

6. What are you studying for? (Circle one)

Diploma in Law
LLB Scheme A
LLB Scheme B
LLB Graduate entry Route A
LLB Graduate Entry Route B

7. Your mode of study

At an institution (studying for the Diploma)
At an institution (studying for the LLB)
At an institution (Diploma) supplemented by private tuition
At an institution (LLB) supplemented by private tuition
Private tuition
Other (please specify)

8. What other qualification(s) do you hold?

9. What is your reason/motivation for doing this course?

10. Do you own a PC?

Yes
No

11. Where do you access a computer from? (You can select more than one response).

Home
College
Work
Other(please specify)

12. Rate your experience of using the following information sources

Digital libraries	Novice 1 2 3 4 5 Expert
E-journal databases	Novice 1 2 3 4 5 Expert
The web	Novice 1 2 3 4 5 Expert
Virtual learning environments	Novice 1 2 3 4 5 Expert
Company intranets	Novice 1 2 3 4 5 Expert

13. Do you have an Athens account to enable you to access the law databases on the Laws gateway?

Yes
No

14. If you have an Athens account are you always able to log on successfully?

Always
Usually
Sometimes
Rarely
Never

15. Have you used the Online Library? If yes how did you learn of it?

16. How often do you use the Laws gateway?

Once per day or more
Twice per week or more
Once per week
Once every two weeks
Rarely
Never

17. What other source(s) other than the Online Library do you find useful for your studies?

Senate house library
Tutor notes
Friends and family
The internet (which websites?)
Local public library (which one?)
Company intranet / information centre
College library / intranet (which one)
Textbooks (I have bought all the recommended ones)
I don't use any other information source all the information I need is in the handbooks we receive from the University.

18. What would encourage you to use the Laws Gateway more frequently?

19. Are there any general comments you would like to make about the Website? OR Is there anything which is not already on the Online Library and which has not been covered by this survey which you would like to see on the Laws gateway?

Appendix 3: Post-Study Questionnaire
(Questionnaire administered after Observational Study as part of the Pilot Study. See Chapter Three, section 3.13)

1. Overall, I found the Online Library website

Terrible	1 2 3 4 5 Wonderful
Difficult	1 2 3 4 5 Easy
Frustrating	1 2 3 4 5 Satisfying
Dull	1 2 3 4 5 Stimulating
Slow	1 2 3 4 5 Fast

2. Navigating the Online website and its components was:

Difficult 1 2 3 4 5 Easy

3. Tasks could be performed in a straight-forward manner:

Never 1 2 3 4 5 Always

4. My location within the Laws Gateway at any given moment was:

Never apparent 1 2 3 4 5 Always apparent

6. Organization of information on the laws Gateway is:

Confusing 1 2 3 4 5 Clear

7. Which of the following law information resources provided on the Laws gateways have you used during the course of your study?

Please indicate frequency of use of these sources e.g. (every time, sometimes, rarely, never)

Academic Search Premier
Business Source Premier
ABI/Inform
Case track

IBSS
Hein Online
JSTOR
Justis
Justis Alerting Service
Kluwer Arbitration
LexisNexis Professional
Westlaw
Web Search Engines (which ones)
Other?

8. Do you find the guides to using these resources clear and easy to use?

Yes
No

9. Do you have any ideas about how they could be improved?

10. How useful would you rate the following features of gateway?
(e.g. useful, very useful, not very useful, no use at all, don't know, haven't used them).

Journal finder
Quick start guides
Online self registration
Frequently asked questions (FAQs)
Web enquiry forms

11. Additional Comments (use back of page if you need more space):

Appendix 4: Pilot Study Introduction Script
(See Chapter Three, section 3.13)

"Hi, my name is Sandra Tury, and I'm going to be walking you through this session.
You probably already know, but let me explain why we've asked you to come here today: We're trying to understand how you as a 'distance learner' go about completing your degree programme tasks. We also trying to understand the challenges you face when using the Online Library gateway and its resources.

I want to make it clear right away that we are not testing you, therefore you can't do anything wrong here. In fact, this is probably the one place today where you don't have to worry about making mistakes.

We want to hear exactly what you think, so please don't worry that you're going to hurt our feelings. We want to improve the Online Library so that it supports you better, therefore we need to know honestly what you think.

As we go along, I'm going to ask you to think out loud, to tell me what's going through your mind. This will help us to understand your thought process and why you are making the decisions you are making.

If you have questions, just ask. I may not be able to answer them right away, since we're interested in understanding how you and other students work when they don't have someone sitting next to them. However I will try to answer any questions you still have when we're done.

You may have noticed the camera. With your permission, I am going to videotape the computer screen and what you have to say. The video and all voice recordings will be used to help jog my memory and provide some guidance regarding the areas of the library website that need improving. It also means that because I don't have to take as many notes.

They won't be seen by anyone except myself and anybody else who maybe working on the project. If you would, I'm going to ask you to sign something for us. It simply says that we have your permission to tape and video record. Again this will all be treated confidentially.

Do you have any questions before we begin?"

Appendix 5: Observation Study Tasks

1. **Use the Online Library to find the *Law Quarterly Review*. What did you use to find it? Which database(s) is it on?**

2. **Use the Online Library to find the case of R v Smith (Morgan James) [2001] 1 AC 146**

   a) What court heard the appeal ?

   b) On what date was the judgment delivered ?

   c) Read the headnote. Was the appeal allowed ? Were there any dissenting judgments ?

   d) How might you find subsequent cases in which Smith was cited ?

Appendix 6: Online Library Survey June 2010 (with sample responses)
(Administered for the Main Study. See Chapter Three, section 3.14.)

Profile of respondents

1. Are you male or female?

Male Female

2. What age are you?

Under 25 26-35 36-45 46-55 56 +

3. Which country do you live in?

MAURITIUS ISLAND

4. Is English your first language?

Yes No

5. What programme are you studying on?

CeFIMS EMFSS International management (RHUL)
MRES Laws (Laws Consortium) Other

6. What level is your course programme?

Undergraduate Post Graduate Diploma Certificate Access

7. What is your mode of study?

At an institution (supplemented by private tuition)
At an institution (with no private tuition)
Independent study (with private tuition)
Independent study (with NO private tuition)
Other (please specify)

8. What is your current highest educational qualification?

Undergraduate Degree Post Graduate Degree Diploma Certificate

Access/Foundation A-Level Other (please specify)

Purpose of your information gathering exercise

9. What is the purpose of your information gathering exercise?

Course work and assignments Preparation for exams and tests

General Reading/Current awareness To supplement course materials

Dissertation and Research Other (Please specify)

10. When gathering information, what sources do use most frequently?
(you can select more than one)

Course text books Free sources on the internet Course VLE

Online LibraryE-books Purchase Books Newspapers

Thesis and Dissertation Print journals conference proceedings

Other

11. What are your reasons for your preferences (can select more than one)

They are easy to use They are easy to access Readily available

They are reliable I have previous experience They are relevant

They are affordable they are high quality Other

12. Do you use the Online Library at (http://external.shl.london.ac.uk/)?

Yes No

13. Where did you hear about the Online Library?

Tutor
Course pack
VLE
Fellow student
Other (please state)
Never heard of it

14. Where do you access the Online Library from?

At home At work At internet café Other (Please specify)

15. How do you access the Online Library?

From the VLE From the University website From my bookmarks

I Google it My Athens Directly at website Other (please specify)

16. What is your preferred login method and why?

Athens Portal password Both Other (specify)

17. Which of the following information resources provided on the Online Library have you used during the course of your study?

ABI/Inform
Academic search premier
Business Source Premier
Case track
Educational Indexes (ERIC, BEI, AEI)
IBSS
Hein Online
JSTOR
Justis
Kluwer Arbitration
Lexis Library
Sage journals
Science Direct
Web of Knowledge
Westlaw
Wiley Interscience

18. How successful do you believe you are at accessing information resources provided by the databases listed above?

I always access the information I need
I regularly access the information I need
I sometimes access the information I need
I never access the information I need

19. Which of the following resources not available on the online library do you also use?

Tutor notes
Friends and family
Recommended Textbooks
I don't use any other information source
Other (please specify)

20. Why do you prefer the resources you use most frequently?

.....

21. In your opinion does the Online Library meet all your library and information needs?

Yes No

22. If your answer to the above is 'NO' please tell us what changes in the information service you would you like to see? Your feedback is really important to us, and will enable us to develop a service that meets your individual needs.

Simple notes. Details example so as to understand problem. More precise and focus notes.

---

23. Do you use have access to any other library near where you live?

Yes No

24. If you said 'yes' to the above, can you please tell us the name of the library and country or other details (this will enable us to compile a list of useful local libraries).

---

25. How confident are you in using electronic resources?

I am very confident I find it fairly easy I am not confident Other (specify)

26. Would you like to receive some training in using the Online Library?

Yes No

27. If yes, please tell us the best way to contact you to arrange the training (e.g. email or telephone including country code)

---

28. Have you used the new library search engine Summon found at (http://external.shl.london.ac.uk/summon/index.php ?

Yes No

29. Please tell us what you think?

---

30. How do you search the Online Library for information? (can select more than one)

I browse the databases
I use the journal finder
I browse resources available on my course gateway.
I use the site search
I use Summon
I use the A-Z
Other (specify)

31. What improvements in the service we provide would you like to see made to the Online Library?

I would like more journals (please specify).....

I would like more e-books (please specify).....
I would like more databases (please specify).....
More useful website suggestions
I would like to be able access resources easily
I would like to be able to communicate with the online library team at any time.
I would like more online help and training guides

32. Which of these online services would you find helpful?

Ebooks Podcasts Facebook Twitter Blog inter library loan service Instant ask a librarian enquiry service Longer enquiry service hours Interactive Tutorials Discussion forum. Other (please specify)

33. Are there any further comments you would like to make about the Online Library.

Thank you for your time. You honest feedback is really important to us and will enable us to develop the service that meets your individual needs.

Appendix 7: Sample Calculation of a Chi-Square Test for Significance

As described in Chapter Three (section 3.14), chi-square tests were employed to establish in a consistent and objective way whether the relationships identified in the cross-tabulation were significant and therefore whether the results could be generalised and used to make an inference about the target population rather than merely for the sample. A standard *significance level* (α) of 0.05 (Fisher 1925; Walliman 2006) is used in this research as a benchmark by which to reject or accept the null hypothesis. The *probability value* (*p-value)* represents the probability of obtaining a chi-square test statistic that is more extreme than the observed value given that the null hypothesis is true. Therefore, if the chi-square test has a *p-value* of less than 0.05, the hypothesis is supported, and if it is greater than 0.05 the hypothesis is rejected. Rejecting a hypothesis means that there is insufficient evidence to suggest a significant relationship between the variables and the data distribution occurring by chance.

'No responses' (NR) and all other non-specified categories such as 'other' have been excluded from the chi-square tests in order to provide clear, unambiguous results and because some of the research questions do not include a 'no response' component.

The chi-square test formula is:

$$X^2 = \sum \frac{(\text{Observed frequency} - \text{Expected frequency})^2}{\text{Expected frequency}}$$

In this research, the chi-square test (X^2) was conducted using Excel software, which automatically calculates the difference between the observed set of data and the expected set of data, taking into account both the size of the population and the number of variables (*degrees of freedom*), and returns a *probability value* or *p-value.*

Excel uses this formula: '= chitest (observed_range, expected_range)', where the *significance value* (α) is 0.05, and the *degrees of freedom* (df) are automatically computed in Excel. Here is an example showing how Excel was used to establish the significance of the relationships between the variables for all the data sets in this chapter.

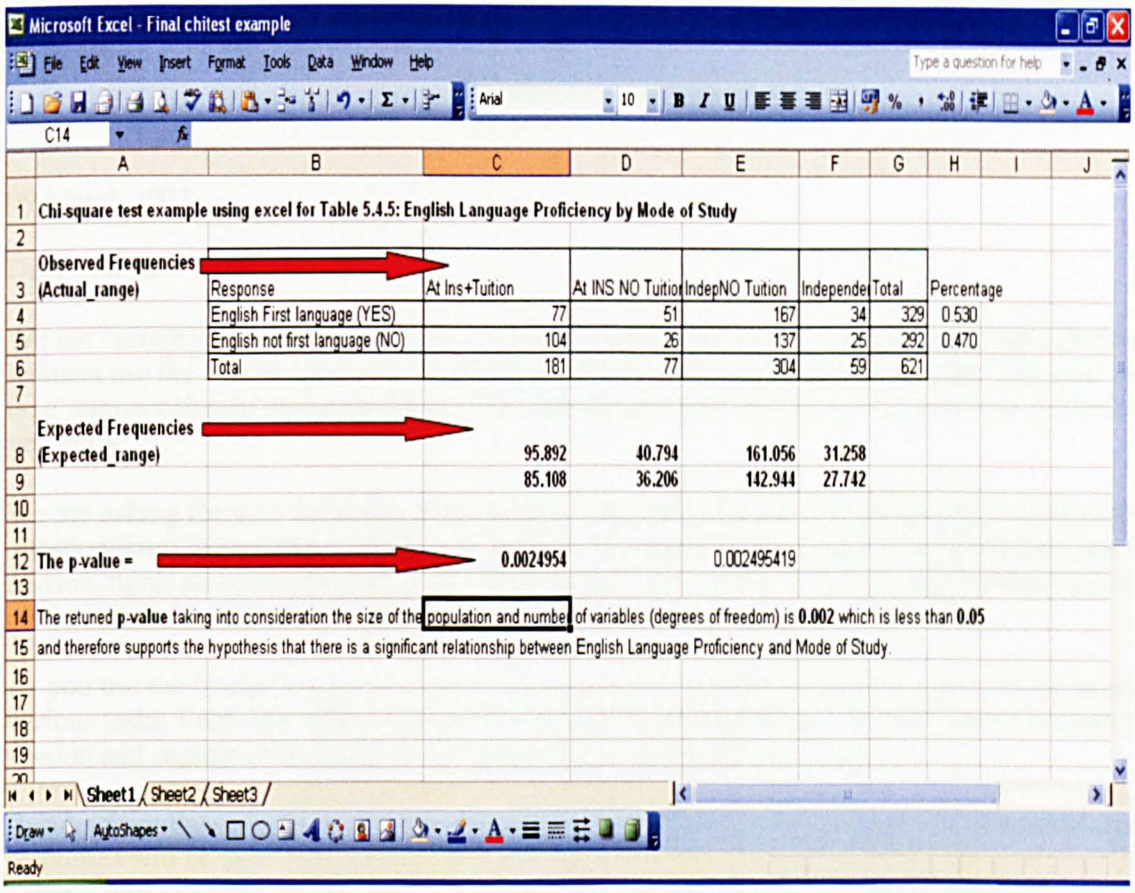


Figure Appx 7.1: A chi-square test example showing how Excel was used to compute the p-values for all the data tables

Appendix 8: Participant Consent Form

Participant Consent Form

09 March 2007

Dear Students:

We are currently conducting a research project designed to study how Law programme distance learners use the Online Library to find information to complete their course work. The goal of the study is to improve library service provision for students on the external Laws programme and more generally.

We are asking for your voluntary participation. The study consists of a preliminary survey (pre-questionnaire), completed to show your background and skills in using online resources; one 30-minute session, think-aloud exercise where you will be given a real task to solve using the laws gateway resources, and a post-study questionnaire.

As you use the Online library to answer the questions you will talk aloud the steps taken to perform the various tasks. Each task will be recorded on an audio cassette player. We will also videotape the task session and capture everything that is happening on the computer screen.

Results from the sessions and interviews will be reported as group results only. Individual taped responses will be used as examples of information seeking behaviours and you will not be identified by name. I will retain the videotapes until all data have been transcribed and with then destroy them. To preserve confidentiality, no names or only first names will be used to identify participants.

At the conclusion of the study, a summary of group results will be available. If you have any questions please contact me at stury@shl.lon.ac.uk

In appreciation for your participation, we will reimburse all your travel costs, give you a participation fee of £20, a thorough library induction, and a snack during the task session.

Thank you in advance for your cooperation and support.

USE OF HUMAN SUBJECTS CONSENT FORM

NAME OF SUBJECT: _____

I permit __Sandra Tury_____to perform or supervise information seeking task and interview sessions of this research project.

I have heard a clear explanation and understand the tasks that are required of me. I understand that I may withdraw from the study at any time. With my understanding of this, having received this information and satisfactory answers to the questions I have asked, I voluntarily consent to participate in this study.

_____
Date

Signed: _____

Participant

Appendix 9: Example of the Analysis of Observation Study Data and Responses to Open-Ended Questions in the Pilot Study.

Data from the online questionnaire were captured by an SQL database and were then imported into an Excel spreadsheet where they could be easily read and re-read. The text responses were reviewed and analysed for key ideas. Abbreviations (codes) were used to tag key themes / ideas /concepts: R for information resources, T for technical issues, IL for information literacy training, O for other. The related themes and categories were combined and a distinct, consistent and meaningful description for all similar ideas, concepts, words and phrases was allocated so that it could be easily understood and replicated.

Working with Excel software enabled the use the 'find' 'filter' and 'sort' facilities to group and organise pieces of text, search for and code phrases, words and concepts and attach unique identifiers next to each concept. The software also facilitated searching and counting the frequencies with which a topic occurred and how often one concept occurred with another, and to record how many respondents touched on the concepts. Such counts were illuminating and indicated relative importance of s specific issues but they were treated with caution as with all other responses.

Once the data had been sorted into categories, an analysis was made of how the categories related to each other, their relative importance, identifying anomalies and anything that challenged initial assumptions.

Open Coding Examples

Example of analyzing observation study transcribed data

Question: Tell me about the resources you use for your course?
Response: "I use books" basically what I normally do is work in a group. I work in a group of 4. We are doing four subjects so each person in the group will actually purchase a set of text for that subject.....that way we share costs"

Follow up question: Do these textbooks contain all the information you need for your course?
Response: No not everything...for instance they do not cover some of the old cases...
.....It's easy to get information from friends than from the library.

Step 2: Themes deduced from the data

- I use books (Reliance on Textbooks)
- I work in a group (Group working)
- We share costs" (Costs sharing)
- Textbooks do not contain everything
- Old cases missing

- Easier to get information from friends than from the library.

Initial conclusion: *The students mainly relies on course textbooks, prefers to work in a group for purposes of sharing costs, therefore 'cost' is an important consideration when choosing an information source. However, books do not contain everything the student needs such as old cases, so they consult an alternative such as friends because they are easier to "get information from" than the library.*

Note:
How typical is this group working among distance learners?
Why does this student find the library difficult to use?
Why do they really mean 'old cases' which are missing from textbooks?-This is because usually textbooks have old cases in them!

Question 19: What problems do you encounter when trying to use the Online Library?

Question 19: Open ended responses

- Impossible to find recommended texts / cases because required issue – often for very old or very recent cases – or required journal or required exam paper is not available; someone suggested BAILII as a better alternative law database (a simple free-to-Internet service with a single search box similar to Google) **(R)**
- Inaccurate citations for cases to be searched **(R)**
- Incorrect or inconsistent spellings or abbreviations **(IL)**
- Very difficult to access non-UK cases (e.g. Australian and US) **(R)**
- Insufficiently user-friendly interfaces and navigation: e.g. cumbersome confirmations, modified access, complicated usage of keys (parenthesis, +, / etc.); difficult to browse journal articles issue by issue; Journal Finder difficult to use; too many links; difficult to find cases with long titles; **(T)**
- Slow connection **(T)**
- Case decisions too detailed **(IL)**
- Sessions time out too quickly **(T)**
- Password problems **(T)**
- Impossible to edit download pages on some sites **(T)**
- PDF files causing computer to crash **(T)**
- Cannot get copies of cases with the original pagination maintained **(T)**
- Difficult to copy articles **(T)**
- Insufficient information about the exact location (i.e. database) of the article/text/case, so difficult to decide which resource to use **(R)**
- Difficult or impossible to find recommended texts / cases (no reason given) **(R)**

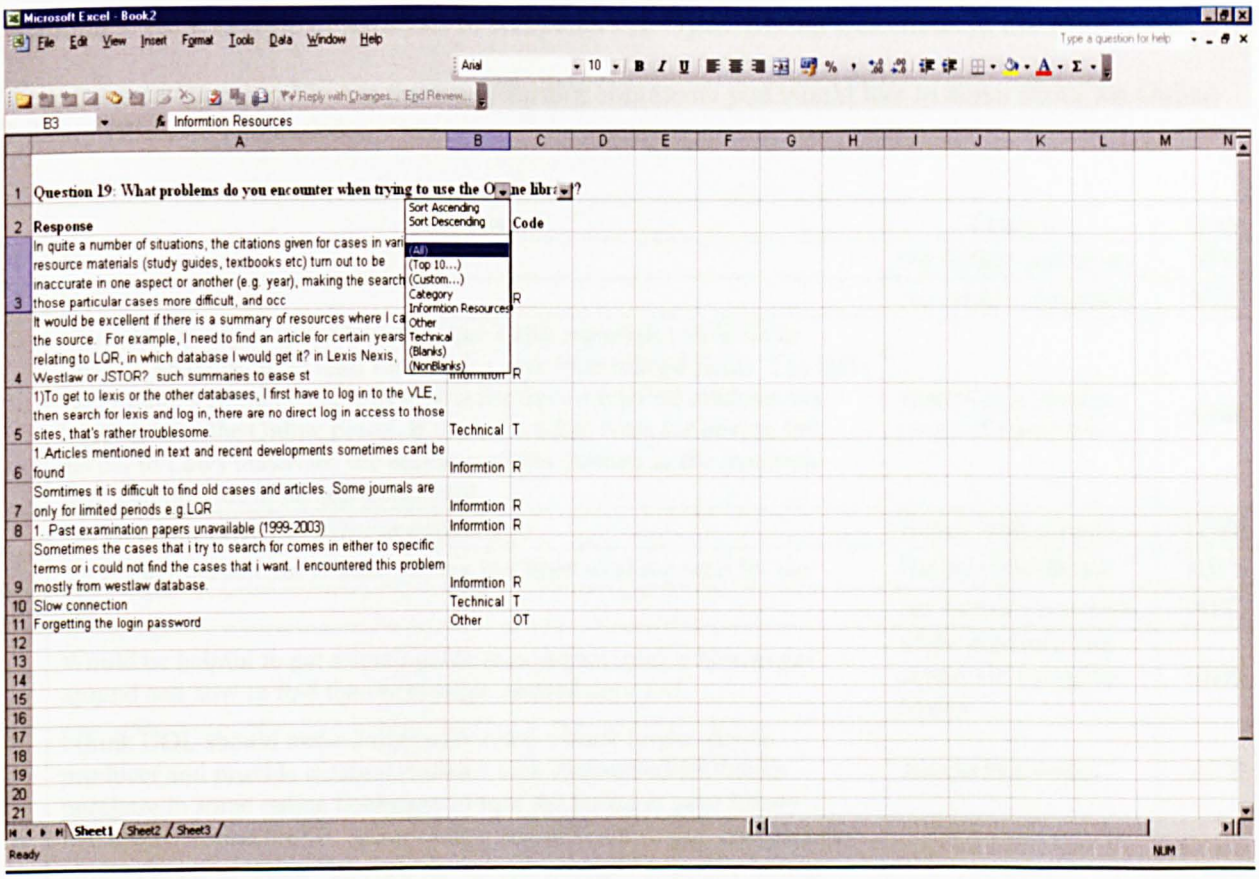


Figure Appx 9.1: Screenshot of Spreadsheet of Analysis of Responses to Open-Ended Questions

Appendix 10: Example of Analysis of Responses to Open-Ended Questions in the Main Study

Responses to Question 33: Are there any further comments you would like to make about the Online Library tabulated and coded.

	Response	Category	Code
1	No	No further comments	NFC
2	No	No further comments	NFC
2	It would be very easy for UoL to make Laws materials available to EMFSS students, or at least for Politics and other related fields. The full study guides could be made available for free to EMFSS students via logging in to the Online portal. If there are other costs for having full access to Laws materials, the access could be limited to the materials UoL can provide at no additional cost.	Access to a broader range of resources	ABR
3	I'm glad you exist and strive to improve.	Happy with service	HWS
4	No further comments. Online Library has been working well for me.	Happy with service	HWS
5	No.	No further comments	NFC
6	Would be helpful to get a small guide that helps/explains how to get around and how to find the information needed very fast.	More guidance and support in using the library	MGS
7	I think UOL should make a deal with some e-book reader device producer and provide external students with discounted textbooks purchase in some online bookstore or rent the books in your library.	Access to e-books	ATE
8	I've always found the OL rather obtuse and difficult to use, navigate and obtain the information I'm often on Google scholar I was able to find what I needed a lot easier and faster. If the article was indeed available in pdf/download form. What I did appreciate was that some of my courses had already sourced the journals I require and posted them on the forum for my course, along with all the other details. That made it so much easier and saved me huge amounts of time some money. As a student I do expect to be able to access any of the non-textbook readings for free, perhaps this expectation is unreasonable, I don't know. But it is extremely frustrating to spend a few hours in the OL only to source a handful of article when as a technically savvy person, I'd expect to cull the majority of what I needed.	Easier and improved access to the library, improved search facilities	EA, ISF
9	In general you are doing a very nice job keep it up!	Happy with service	HWS
10	I would like some more videos from the UOL lecturers so it can give us an indication as to the level of knowledge expected.	More guidance and support	MGS
11	It would be great to have access to more statistic databases or at least links to where necessary data can be found.	Access to a broader range of resources	ABR
12	The online library is a fantastic way that UOL has shown its commitment to its overseas and external students, and I am glad such support has been extended to the students, please keep up the good work. However an improvement in the e-books access and journal finding capability would further enhance the overall online library experience and help both external and internal students to have better support and greater confidence in the tools that the library has to offer. Perhaps a study of how Google books and Google scholar works would be helpful as I am	Access to e-books, improved search facilities, happy with enquiry service	ATE, ISF, HWS-enquiry

	always sure I can find something I want from Google searches. Thus far I am very happy with the services the library has to offer and the promptness displayed by the library staff in answering my queries. Keep up the good work!		
13	I understand that open access is not yet a reality and there is a lot of red tape in getting publishers to allow free access to their works, so I can appreciate the resources in the library as it is now. However, without a comprehensive physical library at my disposal, I depend greatly on the internet and the resources UOL make available to us. I hope that the Online Library is expanded with external students in mind who may have no access to journals and some texts without the OLL.	Access to a broader range of resources	ABR
14	I believe we could use more the Online Library with some easy steps. Some Online courses should be given in the VLE. I could make the access easier. Many thanks!	Easier and improved access to the library, improved search facilities	EA, ISF
15	Could magazines such as Geographical and National Geographic be available through the online library? I have subscribed to the former, but searching online via the library could help a bit more.	Access to a broader range of resources	ABR
16	The online Library has always been my hub for information needed. I have learnt to use the journal articles, search for e-books and having access to online tutorials especially in Statistics. Keep up the good work and I really hope e-books in further essential reading lists become readily available to students.	Happy with service, access to a broader range of resources	HWS, ABR
17	The website could be better designed to assist the user.	Easier and improved access to the library	EA
18	I've found it very difficult to find anything-search criteria are quite narrow.	Easier and improved access to the library, improved search facilities	EA
19	I did suggest an organisation (AWWARF) that provides access to their research if a university has an agreement with them for access. I am not sure if it was done. Access to other databases would be useful.	Access to a broader range of resources	ABR
20	Pleased to have a training.	More guidance and support in using the library	MGS

Appendix 11: Screenshots of Main Interface before and after Summon Implementation

