An ethnographic study of user behaviour in Open³ at the Pilkington Library, Loughborough University

by

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Abstract

Library and information science (LIS) research has a tendency to focus on quantitative research methods. This over-reliance on numerical data often means that valuable 'soft data' is missed or undocumented. This study uses ethnography, an observation-based methodology, to investigate the use of Open^3, an open-plan learning environment in the Pilkington Library at Loughborough University. Over 40 hours of fieldwork was undertaken with observations recorded in a field diary. A thematic analysis of the field diary was subsequently undertaken, and key themes identified. These findings were triangulated with data from other sources, including a major survey of library users undertaken in 2006. The project demonstrated the value, flexibility and efficacy of ethnography as a LIS research methodology.

The study concluded that the open-plan learning space was highly popular, especially with undergraduate students who were observed conducting academic work and social activities simultaneously. The provision of PC access and Wi-Fi internet connectivity was seen to be valued, with users competing for access to resources at peak times. The study demonstrated that the open-plan learning environment was fulfilling its purpose in providing a venue for members of the university community to undertake collaborative learning in an informal environment. However it was noted that the space was not widely used by academic staff or mature students. It was advised that the space be expanded to allow more users to make use of the area, although the importance of continuing to provide a diverse range of learning spaces was also emphasised. Finally, it was concluded that further investment in the furnishings of the area could result in a more efficient use of space.

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CETL	Centre of Excellence in Teaching and Learning.
CILIP	Chartered Institute of Library and Information Professionals (formerly the Library Association).
FTE	Full Time Equivalent.
HE	Higher Education.
HEI	Higher Education Institution.
HESA	Higher Education Statistics Agency.
LIS	Library and Information Science.
LISU	Library and Information Statistics Unit.
ON	Observation Note.
PC	Personal Computer.
SCONUL	Society of College, National and University Libraries (formerly the Standing Conference of National and University Libraries).
VLE	Virtual Learning Environment.

Chapter 1

Introduction

1.1   About the Pilkington Library

This study explores student use of the open-plan study area known as Open[3] in the Pilkington Library at Loughborough University. Loughborough is a large campus-based university in the East Midlands of the UK. The student population stood at 16,580 in the 2006-7 academic year[1]. The university dates from the early twentieth century, and was awarded its royal charter in 1966 (Loughborough University 2006). The university has a bias towards technical and applied sciences such as engineering, chemistry, and sports science; although the humanities and social sciences also have a strong presence on campus. The university's library services are situated in the Pilkington Library at the centre of the campus. The library, which covers 7,777m[2] over three floors (known as levels 1, 2 and 3), and has 591 study places, was opened in 1980 (Loughborough University 2007a). It provides access to over 400,000 books; 4000 printed journals, and around 6000 electronic journals (Loughborough University 2007a). Wireless internet access is also available, as is access to 125 personal computers (PCs) which are connected to the university network and the internet (Walton 2006a, p. 135). A variety of different learning/study environments are provided for users within the library (see fig. 1.1 overleaf, and table 1.1 on p. 3).

In 2005 the library redeveloped level 3. This is the main level where all patrons enter the library. During the summer vacation fixed shelving and reference material was relocated to create an entirely new space for library users. The existing café was extended, and opened out into the library. This new open-plan space was named Open[3], and was designed to provide library users with somewhere they could study individually or in groups. It is the only area of the library where users are permitted to chat, and eat and drink. The other two levels of the library are designated as silent study areas.

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[1] Tom Orrill (Loughborough University Academic Registry) e-mail to Joanna Bryant, 14 June 2007.

Figure 1.1 – Photomontage of the Pilkington Library showing the building and the learning spaces provided within.
Top row: Exterior views. The main entrance to the library on level 3.
Second row: casual seating (level 2), study tables (level 2), café (level 3).
Third row: 'office style' study carrels (level 2), individual study carrel (level 1).
Fourth row: café (level 3), group study room (level 1), study table (level 2).
Bottom row: The open learning space known as Open3 (level 3).
Source: Loughborough University Media Services)

Area	Description	Number of Study Spaces	Number of Study Spaces with PC
Open[3]	Large open study space. Refreshments permitted. Limited noise restrictions. PC access.	72	75
Rest of Level 3	Area around current serials section.	42	-
Levels 1 & 2	Quiet floors. No eating or drinking permitted.	291	43
Group Study Rooms (6 in total)	Bookable rooms on all three levels.	40	7
Individual Study Carrels	Bookable rooms on all three levels.	21	-
Total		466	125

Table 1.1 – Study spaces provided in the Pilkington Library (after Walton 2006a, p. 135).

The library undertakes regular quantitative studies of library usage, including seat-occupancy counts, PC use, circulation statistics and article downloads. However there has been no qualitative study exploring use of Open[3]. This research project is designed to complement the quantitative studies undertaken by library staff, and provide new information and insight into how Open[3] is used. The project was suggested by Dr Graham Walton, the Service Development Manager at the Pilkington Library, as an approach to studying the library which he felt would be particularly interesting and valuable. The ethnographic methodology was selected as an unusual (for library and information science) but appropriate means of studying user activity, and synthesising it into a meaningful and useful document which can then be used to inform senior management.

1.2   Structure of the dissertation

This chapter explores the aims and objectives of the present study, and introduces the ethnographic methodology. Chapter 2 comprises a three-stranded

literature review which explores ethnography within a library and information context; current trends in learning cultures and styles within Higher Education (HE); and current trends in library building layout and design. Chapter 3 provides details and justification for the methodology implemented in this study. Chapter 4 presents and discusses the findings of the ethnographic study. Finally, chapter 5 considers what can be learned from this investigation, and how suitable the ethnographic methodology is as a tool for library and information professionals.

1.3   Aims and objectives

The primary aim of this study is to find out what users are doing in Open[3], and how the space contributes to learning within the university.   The following objectives underpin the study:

1.   **Undertake a review of the literature covering: the theory and application of ethnographic methods in library and information science (LIS) research; learning cultures permeating Higher Education (HE) in the UK in 2007; and the implications this has for provision of learning spaces within academic libraries.**

2.   **Apply the ethnographic methodology to observe and discover how Open[3] is used.**

3.   **Produce a synthesis of findings which describes the kind of activities taking place in Open[3].**

4.   **Analyse and interpret the findings and produce a report to inform library staff about the usage of the space.**

1.4   The approach

Ethnographic studies of libraries are relatively unusual. There is a general tendency amongst librarians and information scientists to focus on measurable, quantifiable data. There are surprisingly few studies of what users actually do in the library, why they go, and how they use the building and its resources. This leaves a large gap in the collective knowledge and understanding of libraries and learning centres as institutions. Whilst observation-based studies have been undertaken, most notably in the 1970s and 1980s, this methodological approach was never widely adopted, and is often overlooked by LIS practitioners and researchers. This study uses ethnography to gain a deeper understanding of the

use and activity taking place within a specific learning space in Loughborough University's Pilkington Library.

1.5   The ethnographic voice

Ethnographies inevitably reflect the personal context of their writer(s) and researcher(s). The historical roots of this methodology are thought to lie in travel writing, where travellers compiled diaries of their observations and experiences (Holman Jones 2007). These documents were written in the first-person singular, with no attempt to separate the author from their text. As ethnography became a methodology of anthropologists and the social sciences, writing changed and the personal, first-person voice was used less often in articles and reports. Recent academics and researchers however, argue that trying to distinguish between 'personal' and 'objective' ethnographic experiences is misleading, and that all ethnography is by its very nature autobiographical (Holman Jones 2007, Rier 2000). Sandstrom & Sandstrom (1995, p. 190) quote the anthropologist Gerald Berreman, who explained that the dilemma at the core of ethnography is the challenge of "how to be scientific and at the same time retain the humanistic insights – the human relevance without which no account of human beings makes sense". Ethnography is a complex methodology, yet to reduce observations to distanced, third-person narrative, is to disguise and devalue the individual experience of the researcher. This limits the scope and efficacy of the product of the research. For the purposes of clarity, and in order to fit in with the style of writing used within the LIS profession, this paper is written in the third-person. However, parts of Chapter 4 discuss the personal observations and experiences of the researcher. These sections are written in the first-person, in order to distinguish between the broader observations, and those observations which pertain directly to the researcher's own experiences as a participant-observer working in the field.

Chapter 2

Literature Review

2.1   Introduction

This literature review is split into three main sections. The first explores the ethnographic methodology, and its application within LIS research. The second considers current trends in learning styles, and the implications these may have for learning spaces. Finally, the third section investigates library design, and how far architects and librarians are incorporating space for group learning and alternative learning styles into their buildings.

2.2   Ethnography and libraries

The ethnographic methodology is a qualitative approach which involves the researcher undertaking observation-based fieldwork in the environment being studied. Various definitions exist, but one useful one describes it as:

> The art and science of describing a group or culture... much like the one taken on by an investigative reporter... [yet] about the routine, daily lives of people. The more predictable patterns of human thought and behaviour are the focus of inquiry.
>
> Fetterman (1998, p. 1)

The term 'ethnography' has a dual meaning, applying both to the method of research, and the end product (an ethnography). Traditionally, the methodology was the preserve of the anthropologist, used as a way of studying an alien culture. This kind of research generally demanded that the researcher live with a group of people for a protracted period of year or more (Hammersley 2007). A full ethnography takes advantage of observations, interviews, and documents, in order to fashion a narrative or 'story' (Genzuk 2003, p. 1). However, in recent years the methodology has become popular across the social sciences, being adapted and modified by each discipline (Agar 1996, p. 2). Even anthropologists, limited by the scope of budgets or timeframes, have found themselves adapting the approach, undertaking shorter phases of observation (Agar, pp. 21-13) or creating 'ethnographically informed reports' (Fetterman, p. 126). This shorter, condensed approach to ethnography has been described as *microethnography*, focusing "on particular *incisions* at particular points in the larger setting, group, or institution."

(Berg, p. 174). This micro approach, also known as *quick ethnography* (Handwerker 2001) is useful to the LIS researcher seeking to learn more about the behaviour and actions of library users, and it is this approach which is focused on in the present study.

Researchers seeking to build new knowledge about a subject have a range of methodologies and tools available to them. These are generally divided into quantitative and qualitative approaches. Quantitative studies have an enduring popularity with librarians, since they can make good use of the wide range of readily available data such as library gate-counts, book issue figures etc. Such studies follow a relatively linear progression, from research design, to data collection, to data analysis. At the end, the researcher may produce a set of statistics, or graphs to convey their findings. According to Berg, much research has a bias towards quantitative methodologies which are given "more respect. This may reflect the tendency of the general public to regard science as relating to numbers and implying precision…" (Berg 2007, p. 2). In his influential text, *Ethnography: a way of seeing* (1999), Harry Wolcott argues fervently that the dominance of quantitative methods should not be allowed to overshadow the merits of qualitative approaches:

> Neophyte researchers indoctrinated so rigorously in rigor that they no longer appreciate or trust what each of us accomplishes through personal experience may need to be reminded of the human capacity for observation and to recognize that ultimately everything we know comes to us that way.
>
> (Wolcott 1999, p. 46)

Wolcott's argument, that observation is the *sine qua non* of knowledge, is an interesting one. It is certainly true that we can learn much from simple observation, yet this is an approach to learning which is often overlooked simply because of its perceived simplicity.

It should be immediately obvious that not all research questions can be answered using quantitative approaches. For example, data collected from a library's e-journal database can show how many articles were downloaded within a certain period of time, but cannot tell the researcher *why* they were downloaded, or whether they were subsequently *used*. Qualitative research attempts to fill this knowledge gap, attempting to "describe life-worlds 'from the inside out', from the point of view of the people who participate." (Flick, von Kardorff & Steinke 2004,

p. 3). Yet whilst "the virtue of qualitative research is seldom questioned in the abstract, its practice is sometimes criticized for being nonscientific, and thus invalid" (Berg, p. 3). Ethnography's roots lie in the work of anthropologists who devised the approach as "a means of compiling scientific information on the world's cultures" and firmly based it in the positivist science tradition of naturalists (Sandstrom & Sandstrom, p. 167). The very use of the term 'fieldwork' indicates the history of ethnography as a form of scientific inquiry, and the approach itself shares the goals of scientific research: namely to isolate and understand the causes of the phenomena under investigation (Sandstrom & Sandstrom, pp. 167-191). Observation based techniques, in particular, have received criticism for their perceived subjectivity, yet contemporary ethnography acknowledges both the emic and etic qualities of the research process, and counters that researchers are never truly objective in the first place. The choice of subject material and methods of inquiry inevitably follow some kind of tradition, and reflect a degree of personal interest, choice, or opinion (Pickard 2007, p. 112). As Hannabuss explains, "whatever else is happening when research takes place, the researcher is actually there: "being there" is an inseparable part of research" (Hannabuss 2000, p. 100). Thus many modern ethnographers include personal observations, and comments about their own experience in the field, since they are essentially both participant and observer. Ethnographers do not seek to distance or disguise their relationship with the scenario being studied.

A number of writers have called for more use of qualitative methods in LIS research. Afzal argues that a better understanding of "information phenomena" is required, and that qualitative research can "play an important role in furthering that understanding" and developing broad theories of information behaviour. (Afzal 2006, p. 22). He claims that "LIS literature is full of studies in the areas of information needs and user studies, but there are no generally acceptable theoretical guidelines to make sense of this huge collection of data". He suggests that there is a real need to focus research on users themselves, in order to develop a clearer understanding of the context of information use (Afzal, p. 23). Qualitative studies, making use of a range of research tools, including interviews, case studies, and observation, can offer this level of contextual insight. Such investigations follow a less linear path than quantitative studies. Although careful

planning and organisation are required, the researcher must also be reflective and responsive to the research environment, adapting and developing their methods as the research design emerges (Lincoln & Guba 1985, p. 203). It is a much more iterative process than quantitative research. Many modern researchers choose to use methodologies which borrow from both methodological traditions, combining approaches to enjoy the benefits of both. This is particularly the case with ethnography, which requires the researcher to use observation, but also draw upon any other kinds of data available which provide an insight into the culture under investigation (Handwerker p. 11).

Lynda Baker's paper, *Observation: a complex research method* (2006) explores the challenges and merits of ethnography and observation and synthesises current literature on ethnographic approaches and methods. Baker and considers the difference between observation, and participant-observation (where the researcher is also taking part in the event, group, or society that is being observed). There is a particular emphasis on longitudinal studies, where extensive periods of field research are undertaken (spanning six months, or longer). Baker concludes that observation-based research is a "complex, challenging and creative" research method (Baker, p. 186). Yet few examples of practical ethnography are given, and there is no consideration of shorter projects, or ethnographically informed reports. The latter is likely to be of particular interest to LIS researchers, since time and funding limitations often prohibit ethnography in its broadest sense.

Despite the wide-ranging benefits offered by the methodology, it has not been widely used by LIS researchers in the UK. It enjoyed a brief spell of popularity in the 1970s and 1980s when used successfully by researchers such as Wilson and Streatfield who explored information use and exchange in social services departments in the UK (Wilson & Streatfield 1980). However the literature review uncovered no recent studies of British libraries which used the methodology. A search of the archives of LIS-Link, (the principal e-mail list for librarians and LIS researchers in the UK) also failed to retrieve any relevant recent results pertaining to the use of ethnography as a research method. This suggests that British LIS researchers have yet to realise the potential offered by

the methodology. Some recent publications suggest that ethnography is more popular amongst the broader LIS community, which will hopefully stimulate British interest in the approach.

Ethnography seems more popular amongst Canadian LIS researchers, with several using the methodology to explore aspects of information service provision in recent years. One study, by Given and Leckie (2003) comprised an ethnographically informed investigation of the Toronto Reference Library, and the Vancouver Public Library (central branch). The researchers collected a range of data from interviews with patrons, written surveys and in-depth interviews with library staff. This was then triangulated with observations noted by the research team who made unobtrusive 'seating sweeps' of the library, making note of who was present, and where in the library they were at different times of day (Given & Leckie 2003, p. 373). This study, using ethnographic methods of interviewing and observing, then created statistical data to 'map' how library patrons used the spaces within the physical library building. This study revealed the popularity of individual study carrels, and also that people congregated in the food court areas. The authors recommended that "other libraries consider providing more spaces like these [cafés or food courts] for library patrons" (Given & Leckie, p. 379), especially to support library users who stayed in the building for many hours.

The study revealed that between 51% and 64% of library patrons were engaged in some kind of reading activity (Given & Leckie, p. 381). This may not be that surprising, given that libraries provide material to read, but as the authors note:

> ...research on this activity has not received much attention in recent years, and general collections budgets are increasingly coming under fire... [yet] reading was the most prominent activity across all age groups and at all times of day.
>
> (Given & Leckie, p. 381)

The second most observed activity was patrons talking to one another, which was followed by using computers. However, the research team also recorded a wide range of other activities ranging from searching for materials, to eating and drinking, and defacing library property. This study revealed a far wider range of activity occurring within the library building than was anticipated (Given & Leckie, p. 383). By simply using one of the research tools (surveys, interviews, or seating sweeps), the research team would not have obtained such rich data and

would have been unable to provide such penetrating insight into how their libraries were used. Given & Leckie conclude that librarians must "remember to consider users' real, necessary activities, creating policies and areas within libraries that fit their needs and expectations of libraries as places that are socially constructed by the myriad of activities and interactions taking place within them" (p. 384).

Another Canadian scholar with an active interest in ethnography is Lynne (E.F.) McKechnie of the Faculty of Information & Media Studies at the University of Western Ontario. McKechnie has undertaken a range of studies of different LIS sectors including public libraries and school libraries. She recently used participant-observation to collect data about preschool children and library use (McKechnie 2000); and user behaviour in bookstores in comparison to public libraries (McKechnie *et al.* 2004). Another study explored how far public library users complied with posted rules of conduct (McKechnie *et al*. 2006). McKechnie's work, and her ongoing commitment to using participant observation as a research tool demonstrate how effective the approach can be for LIS research. Ethnography can make a valuable and meaningful contribution to our understanding, particularly with reference to user behaviour in different environments:

> While many of the routine activities encountered at both places [book superstore and public library] were the same, library users were more apt to treat the library as their own space, moving furniture to suit their needs and settling in for extended periods of time. Frequent socialization among strangers, the wide diversity evident in the user group, frequent bending of the rules of conduct, the higher levels of use evident in borrowing versus buying rates, and the free consumption of food and drink of all sorts in the library point to the users' construction of the library as a truly public place, a place where they are free to both participate in and shape the services offered.
>
> (McKechnie *et al.* 2004, p. 50)

The rich description contained within both studies gives the reader a far clearer understanding of how the locations under investigation *actually functioned* than any quantitative study could hope to. It is, therefore, somewhat surprising that the methodology, so successfully used here, has not been more widely adopted in recent times.

A core virtue of ethnography is the way it can be applied to many different settings. *The web habit* (Carey 2004) is an ethnographic study of how 44 American citizens use the internet in their everyday lives. As the author

acknowledges, this qualitative study cannot be used to make broad conclusions about the general population; however, the scope of the study permitted a large quantitative survey which examined many similar issues (Carey, p. 3). These findings were then triangulated with the ethnography in order to provide a fuller, more detailed picture of how people incorporate the internet into their daily routine. Photographs were included in the study, providing a visual complement to the textual ethnography (Carey, pp. 8-11). A simpler approach to observation of computer use was utilised by staff at Arizona State University who floor-walked the PC section of their department libraries noting how students were using terminals (Konomos & Herrington 2000). This helped confirm staff's suspicions that library computers were being used for social/recreational purposes in addition to accessing library resources (Konomos & Herrington, p. 405).

Carey's study of web use focused on the behaviour of a group of participants who were specifically recruited for the study. He was concerned with participants' behaviour within their own environment, as they accessed their own personal computers. However, ethnography is more commonly applied to public spaces. Lisa Klopfer's 2004 paper, *Commercial libraries in an Indian city: an ethnographic sketch*, explored so-called 'commercial libraries' within the Indian city of Pune. These libraries have more in common with second-hand booksellers than public libraries, yet that is their function. Klopfer's is a particularly interesting example of how observation-based research can be used by LIS researchers to create a new and useful contribution to existing literature. Her extensive periods of observation were supported by interviews with librarians and library patrons in order to gain a clear view of how these street-corner libraries actually functioned. The methodology was selected because it allowed the exploration of the basic questions: "what, in actual practice, do people use libraries for? Who uses them (by age, gender, social class, and caste)? What values are attached to libraries and library use...?" (Klopfer, p. 106). These are central issues which are of interest to any library manager, yet are seldom addressed by research studies. Like Carey, Klopfer is careful to acknowledge that her study cannot "answer these questions once and for all", but that they are able to "generate a representation that can be further tested, explored and compared to

other places and times" (Klopfer, p. 106). The result is a lively and engaging piece of writing which describes a network of libraries which, to an outsider, appear like book seller's stalls (Klopfer, p. 104).

The ethnographic methodology allowed Klopfer to explore this alien library environment, and convey it to an audience who would also be unfamiliar with such places. The resulting study has much in common with the ethnographic studies of anthropologists and sociologists. Klopfer argues strongly for the wider use of ethnography within LIS, commenting that "library studies would benefit from broader ethnographic research that places libraries in communities and societies" (2004, p. 106). As the work of McKechnie demonstrates there is no reason why this approach of focused observation cannot be used within a more familiar context such as the academic library.

2.3   Higher Education in the UK: teaching, learning and assessment styles

Historically universities taught students by means of lectures and tutorials, and knowledge was tested by end-of-degree examinations. The structure and composition of Higher Education (HE) has changed dramatically over the last fifty years, with growth in the number of institutions, and the number of students. Some key developments of the last fifteen years are summarised in fig. 2.1, overleaf:

1990s	Progressive increase of students participating in HE, reaching 41% by 1999 (Anseau 2007, p. 17).
1992	Polytechnics awarded university status. More universities and colleges of HE opened. Student numbers rise again.
1993	Publication of the 'Follett Report' by the Joint Funding Council's 'Library Review Group'. Argues for increased investment in university library services, & predicts the growth of virtual libraries (Joint Funding Council 1993).
1997	Publication of the 'Dearing Report' (National Committee of Inquiry into Higher Education 1997). Made a wide range of recommendations, including a new funding model for HE, requiring students to contribute at least partially to the costs associated with tuition.
1998	Tuition fees introduced for UK undergraduate students.
2005	168 HEIs in the UK. 2 million students, 1 million of whom are enrolled on undergraduate programmes (HEFCE 2005, p. 8). Participation rate reaches 42% (Anseau, p. 17).
2006	Top-up-fees introduced for UK undergraduate students.

Table 2.1 – Recent developments in UK Higher Education

The HE sector has not simply expanded, it has also diversified. Data from 2005 shows that 52% of first year undergraduates enrolling on degree programmes in the UK are over the age of 21 (HESA statistics quoted in Universities UK, 2007). Furthermore, according to HEFCE, 275,500 overseas students were registered on UK degree programmes in 2005 (HEFCE, p. 9). The student demographic has changed dramatically in the last twenty years.

The funding model for universities has also undergone rapid and significant change in recent years. The advent of tuition fees for UK students has had an important effect, leading many students to consider themselves the 'customers' of HE, rather than participants. The full impact of the introduction of tuition fees on student attitudes remains unclear as its full effects are still being played out. However, as Fox argues, it has resulted in the 'marketization' of HE, and a corresponding change in the way that teaching is conducted:

> In the past, students had to compete for places at universities... Today, the shift in government funding to encourage growth in numbers means that universities desperately compete to recruit new undergraduates... in order to fund expansion, students now pay their own fees, which also sharply underlines the customer/provider relationship... [This has] particularly affected approaches to pedagogy. It is worth noting that many student-centred models [of teaching] began as pragmatic responses to the difficulties of overcrowding

> and the underfunding, which accompanied the mass production of HE... self-directed learning and group-work are often practical responses to the very real problem of not enough staff to cope with students and other demands on academics' time.
>
> (Fox 2002, pp. 130-131)

It is clear that the growth in HE has not seen an equivalent growth in investment, and that to some extent the recent changes in teaching and learning within HE have developed as a consequence of that reduced funding (Francis & Rafferty 2005, p. 1). However, these developments also reflect a growing understanding of how people learn, and also the development of new technology such as the internet, and its associated communication methods.

Most degree programmes now entail a substantial element of coursework, which may take a variety of formats including individual essays, reports, dissertations, and also group projects, presentations, and practical tasks. Such coursework is designed to test the student, help them develop and improve transferable skills such as project management, communication, and teamwork. It is also designed to ensure that the student experience is a positive and engaging one. As a case in point, students enrolled on the BSc (Hons) programme in Information Management and Business Studies at Loughborough University can expect to encounter five different assessment styles as they undertake the core components of their three year degree (see table 2.2, below).

Year of Study	Assessment Type			
	Exam/Test	Presentation	Group Project/Report	Individual Essay/Report/Project
First	11	3	5	3
Second	9	2	3	4
Third	4	-	-	7
Total	**24**	**5**	**9**	**14**

Table 2.2 – Assessment methods: BSc (Hons) programme in Information Management & Business Studies at Loughborough University (Source: Loughborough University 2007b)

Students are expected to collaborate with one another and produce group projects, reports and presentations. This form of teaching and assessment is becoming commonplace across all HE disciplines (Livingston & Lynch 2000, p. 326) as

universities respond to broader, international changes in the way students and academics work. The prevailing educational culture encourages learning through activity, reflection, and conversation (AMA 2006, p. 4). These changes also reflect the requirements of commerce and industry, who are demanding graduates with communication, team-working and analytical skills (Leckey & McGuigan 1997, p. 366).

These changes in HE have impacted upon library services. Many predicted the decline of the academic library, as digital communication methods allowed access to information via the internet (for example: Bailin & Grafstein 2002). However, this has not proved to be the case. Instead, there is actually higher demand for library buildings, as places where members of the academic community can access information in a range of formats, and make use of a range of learning environments (Antell and Engel 2006, p. 553). As Long and Ehrmann point out:

> Many traditional facilities for situated learning – for example, laboratories and libraries – will also need to be reconfigured to better support collaborative work among people from different disciplines. Graduates who work skillfully [*sic*] in interdisciplinary teams will have been educated by learning, for a significant portion of their time, in interdisciplinary teams. Unless students have significant experience working in teams to draw from several disciplines in order to solve thorny problems, graduates will not magically master that skill set. So the facilities in which they learn and apply their learning need to be supportive of the work of (novice) team members.
>
> (Long & Ehrman 2005, p. 48)

Black and Roberts (2006, p. 85) argue that new technology has actually *re-energised* libraries. This certainly seems to be true of academic libraries in the UK, with many universities investing in refurbishment of existing facilities, and in some cases the development of new ones.

2.4   Trends in learning space design within academic libraries

The traditional academic library was dominated by printed collections and space for individuals to study silently. However, libraries have been required to respond to the changing nature of HE, and adapt their buildings to support the new styles of teaching and assessment. Morell Boone summarises recent developments neatly:

> In breaking away from the old model, where libraries were viewed as mere repositories of materials, architects and library planners developed a new paradigm of libraries as enhanced interactive and research environments. This "paradigm shift" implied a different kind of user than the traditional

> academic researcher: the new environment should accommodate customers –
> people who would partake of unique services (cafes, computer stores,
> learning labs, meeting facilities) sometimes connected, sometimes not, with
> the conventional services offered by the library. The emerging library is no
> longer simply a monastery full of books and journals for scholars but
> marketplaces competing for clients by offering different arrays of services
>
> (Boone 2003, p. 358)

This wider array of services include provision of PCs, group study spaces, presentation facilities, laptops, whiteboards, data projectors etc. Libraries are being redesigned to incorporate areas for group-study, and often provide space where users can eat, drink, and chat. These so-called 'hybrid learning spaces' are transforming academic libraries. Libraries also provide online services for remote users, be they working from home, or part-time/distance learners. As this dissertation is primarily concerned with design and use of library buildings, this section focuses on how libraries have developed their physical space on campus to provide better and more effective services to students.

Data from the Library and Information Statistics Unit (LISU) indicates that visits to UK academic libraries rose by over 15% between 1995 and 2005 (LISU 2006, p. 152). However the number of visits per FTE student has fallen by 10% over the last five years (LISU, p. 150). Yet LISU conclude that the overall picture for HE libraries is positive, with growing investment in services and resources (LISU, p. 3). A recent paper by American librarians Alan Bailin and Ann Grafstein argued that:

> ...the academic library of 2012 will be defined by its ability to collect and
> provide information, and to offer instruction in research techniques and
> information use, rather than by its physical presence as somewhere people go.
> In other words, it will be defined by function rather than place.
>
> (Bailin & Grafstein 2002, p. 2)

However, this seems to be far from the case. There is evidence that in both the UK and USA, academic libraries are attracting more investment to the fabric of their buildings. Libraries are being redeveloped, or in some cases re-built from scratch, as hybrid learning spaces, providing far more than mere access to information:

> The use of electronic databases, digitized formats, and interactive media has
> also fostered a major shift from the dominance of independent study to more
> collaborative and interactive learning. A student can go to this place called the
> 'library' and see it as a logical extension of the classroom. It is a place to access
> and explore with fellow students information in a variety of formats, analyze the

> information in group discussion, and produce a publication or presentation for the next day's seminar.

<div align="right">(Freeman, G., 2005. p. 4)</div>

A recent study of academic libraries in the USA surveyed those institutions which had undertaken substantial refurbishment of their premises, or constructed a new library (Shill and Tonner 2003; Shill and Tonner 2004). The survey investigated 177 institutions of varying size, function, and location. It found that libraries were responding to the changes in teaching and assessment styles by incorporating a range of new facilities into their libraries. It also found that providing access to technology, such as computers, and wired/wireless internet connectivity was a high priority. Key findings of the study are summarised in table 2.3:

	Type of Facility / Service						
	Conference Rooms	Computer Lab	Seminar Rooms	Café	Collaborative Study Space	Wired Internet	Wireless Internet
Percentage of Libraries Providing Such Facilities	82.9	70.6	53.5	31.8	92	80.8	53

Table 2.3 – Facilities included in new build/refurbishment projects at American college & university libraries between 1995 and 2002 (Source: Shill & Tonner, reported in Boone pp. 360-361)

The study concluded that the majority of libraries surveyed "experienced sustained increases in usage of the physical facility following project completion" (Shill and Tonner 2004, p. 149). Furthermore, they argue, improved facilities resulted in long-term growth in usage, even when the novelty of a new, or refurbished building had passed (Shill and Tonner 2004, p. 149). Houlihan (2005, p. 14) also argues that thoughtful refurbishment of library space can have a positive, long-term effect on user perceptions of the library, and make it a more popular venue on campus.

No longitudinal study of new and refurbished libraries has been undertaken in the UK, but it is clear from other sources of evidence that university architects are responding to the demands of the changing HE community. As users have become more accustomed to using digital technologies, such technologies have

become embedded within the university environment and caused a transition in the way space is used and viewed. Francis and Rafferty sum this transition up succinctly, when discussing the impact of virtual learning environments (VLEs):

> ...[VLEs] if properly integrated (blended) into the design of the curriculum, can extend and enhance existing facilities, by increasing opportunities for communication and collaboration, improving access to information and resources, and giving the learner greater choice and control over how, when, and where they study. The physical corollary of this is more active and varied student engagement in learning outside the conventional spatial and temporal confines of lecture theatre, seminar room, library, study–bedroom, etc. As the use of time and space becomes more fluid and dynamic, so the need to stay in touch, to be networked with people, information, and resources, increases.
>
> (Francis & Rafferty, p. 1)

Libraries are beginning to offer a more diverse range of learning environments, giving their users a wide range of study options. The SCONUL website maintains a database of library building projects completed, or underway in the UK. This shows that an impressive number of building, development and refurbishment projects have been undertaken in recent years (SCONUL 2007). As Brian Lang, former Director of the British Library, points out "libraries throughout history have been extraordinarily successful *social* spaces" (Lang 2001, p. 11). It is the growing emphasis on providing such spaces, which promote collaborative study, which is of particular interest to this study.

2.5   Case studies: Flexible learning spaces in UK universities

Recent examples of innovative collaborative workspaces in UK HE include:

- **The Learning Grid at Warwick University.**
- **The Saltire Centre at Glasgow Caledonian University.**
- **The City Campus Library at the University of Northumbria**

This section explores how these institutions have created flexible learning spaces, and incorporated modern technology.

2.5.1 The Learning Grid at Warwick University

- A refurbishment project, opened in September 2004.
- Open 24hrs a day, 364 days a year, by means of swipe-card access.
- Can accommodate approximately 300 students.
- A reference collection is provided. This comprises ca. 10,000 volumes, mostly textbooks and materials of interest to undergraduate users.
- The Grid is also home to the university's Careers Service, the Reinvention Centre (a Centre of Excellence for Teaching and Learning (CETL), which focuses on promoting the integration of research with undergraduate teaching).
- Total project cost was £1million, funded by a grant from the HEFCE capital fund.

(JISC 2007a)

Figure 2.1 – Key Facts: The Warwick Learning Grid

The Warwick Learning Grid is a supplement to the existing university library, and has been created within a building formerly used by administrative departments of the university. The space was conceived by the university library in response to the changing nature of learning and teaching at Warwick. Physical constraints prevented the actual library being refurbished in this way, but as a result, students find themselves with an additional choice of study venue (JISC 2007b). The Grid, and its satellite BioMed Grid, continue to be managed by the library, with two full-time members of staff on site, and fourteen student advisors working throughout the week. The Grid has proved highly popular with students, regularly attracting between 8,000 and 15,000 entrances per week (figures obtained from swipe-card data) (Educause 2006, p. 1). The space is technology-rich, providing access to a wide range of digital media, as detailed in fig. 2.2:

- Fixed PCs
- SMART Boards & CleverBOARDs
- OHPs
- Flip charts
- Magnetic screens
- Video and DVD players
- Plasma Screens
- Scanners
- Document visualisers
- Video cameras & video editing facilities
- Networked printers
- Wireless internet access
- Video conferencing

(JISC 2007c)

Figure 2.2 – Technology available within the Warwick Learning Grid

The space itself is divided into open-plan study areas, with a range of furnishings from traditional desk/chair arrangements, to soft sofas and lounge-style seating. Moveable partitions divide the space into smaller subsets. Bookable study rooms

and presentation rooms are also available. The Learning Grid has become synonymous with good practice in learning space design, and has won awards for its innovative use of space and furnishing (University of Warwick 2007). Fig. 2.3 (overleaf) shows images of the Learning Grid, illustrating how light, space, technology, and furnishings combine to make an appealing and flexible learning space.

Figure 2.3 – Photomontage of the Learning Grid at the University of Warwick, showing technology rich learning space, and a flexible furnishing arrangement which promotes informal and collaborative learning. (Source: JISC 2007d).

2.5.2 The Saltire Centre at Glasgow Caledonian University

> - A 'new build' project which opened in January 2006.
> - Open between 8am and 11pm during term time, with shorter opening hours at weekends and during university vacations.
> - 1800 seats.
> - Based on principle of 'single point of access' for the university community. Location of traditional library services, computer labs, learning café, and a variety of social study spaces.
> - Total cost of the project was £23million, funded by a grant from the Scottish Funding Council, and the university's own resources.
>
> **(JISC 2007e**)

Figure 2.4 - Key facts – Glasgow Caledonian University's Saltire Centre

The Saltire Centre at Glasgow Caledonian University is a pioneering new 'hub' at the heart of the university's campus. The building is designed to support, and add value to the student's experience of learning (JISC 2007e). It is deliberately located at the centre of the university, and physically linked to the main teaching buildings. The centre began as the 'Learning Café' in the old university library. This experimental area was an early foray into the design of a collaborative learning space. The lessons learned from the Learning Café project were used to inform the development of the Saltire Centre (Howden 2006, p. 127). Unlike Warwick's Learning Grid, the Saltire Centre is the base of the traditional library service, and a variety of digital technologies, but also a range of other services and study spaces:

> - Fixed PCs
> - Laptop loan service
> - Printing facilities
> - CAD plotter
> - Wired & Wireless internet access
> - Power outlets located in soft furnishings, to allow laptop use anywhere in the building.
>
> - Individual study 'pods'
> - Group study spaces
> - Quiet zones, which emit an audible 'shush' sound to advise users as they enter the space that they work quietly.
> - Easy chairs and beanbags.
> - Expanded learning café.
>
> **(Glasgow Caledonian University 2007)**

Figure 2.5 – Technology and learning spaces available within the Saltire Centre

£1.5million of the building's budget was spent on fixtures and fittings, including computers (JISC 2007e). One unusual use of funds was the creation of study 'pods' – inflatable barriers which wrap around desks to create a quieter, more private study space within a communal area. These pods can be deflated and

moved to other locations within the building whenever necessary. Fig. 2.6 illustrates the diverse range of learning spaces available within the Saltire Centre:

Figure 2.6 – Photomontage of the Saltire Centre at Glasgow Caledonian University, showing technology rich learning space and some of the diverse study spaces within the building, including (middle right) one of the inflatable 'pods'. (Source: JISC 2007f)

The heart of the building is the central atrium (fig. 9, top left) which is bright, airy, and contains eye-catching artwork (Howden 2007, p. 30). According to a recent survey, 95% of Glasgow Caledonian students use the centre (always/regularly/sometimes), with 79% finding it very satisfactory/satisfactory (Howden, p. 31). The building has been the venue for library events, exhibitions,

election hustings, and fashion shows (Howden, p. 31). Initial signs suggest that the centre is rapidly establishing itself as the intellectual heart of the campus, and that this has had a positive effect on library usage, and student awareness of library services. The utilisation of RFID technology, and the presence of self-issue machines by each exit, means that centre users can borrow library materials without having to go to a central circulation-desk location. The flexible design of the space has proved beneficial, especially when accommodating additional users during peak times such as the revision/examination period (JISC 2007e). As with Warwick's Learning Grid, the Saltire Centre is widely perceived as an exemplar of contemporary learning space design.

2.5.3 Northumbria University: City Campus Library

- **A refurbishment project of the existing city campus library building. Completed in December 2006.**
- **Open between 8am and midnight during the week, and 9am-midnight at weekends.**
- **1050 seats.**
- **Location of traditional library services, computing facilities, and a café.**
- **Shared venue with the Centre for Excellence in Teaching and Learning (CETL) in Higher Education.**
- **Total cost of the project was £6million, funded from the university's own resources.**

(JISC 2007g)

Figure 2.7 – Key facts – Northumbria University's City Campus Library

The City Campus Library at Northumbria University was redeveloped between 2003 and 2006 in response to student feedback, and staff awareness of the inadequacies of the existing library layout (JISC 2007g). All nine floors of the library were redeveloped, transforming the service. A learning café has been provided in the library basement, giving students somewhere informal to eat, drink, relax, and discuss work. A shop is also provided. The ground floor is the hub of library services, and the locus of flexible group study spaces. Floors 2-6 are dominated by the book and serial collections, and quiet study areas. The result is a building which offers a range of learning spaces suitable for all kinds of academic work, and also somewhere for users to relax and take a break. Like the Saltire Centre, Northumbria's book-stock is RFID tagged, and self issue machines are located at strategic points throughout the building for the

convenience of users. Fig. 2.8 shows a range of the flexible learning spaces provided within the building:
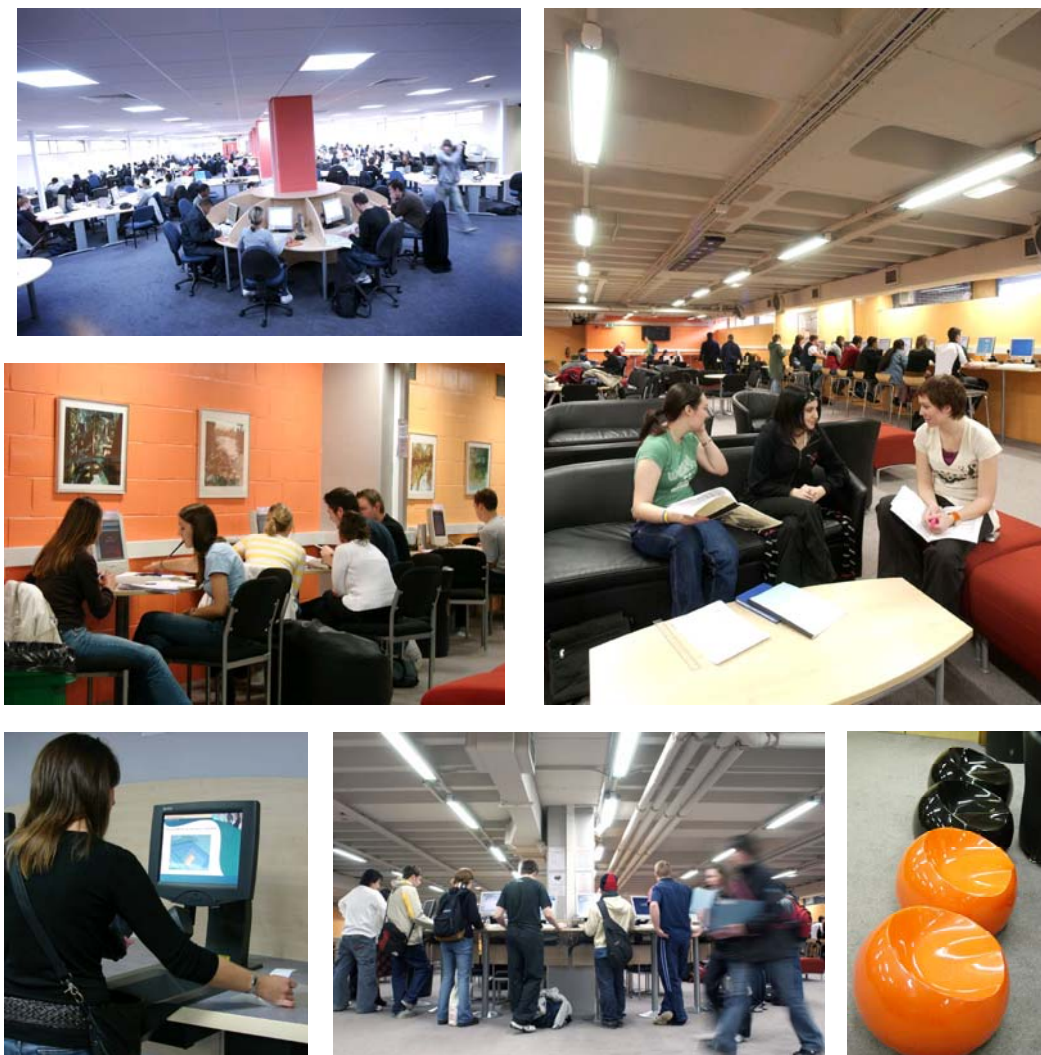
Figure 2.8 – Photomontage of the City Campus Library at Northumbria University, showing some of the flexible learning spaces contained within the building's 9 floors. (Source: JISC 2007h).

The library's range of learning spaces has proved popular with users, but the building's design is still evolving. Following the conclusion of the refurbishment, observation of user behaviour led to library staff creating a more flexible learning space on the ground floor of the library than was originally intended (JISC 2007g). This willingness to reflect, and respond to user need means that the building is likely to remain popular as a place for research, study, and collaborative work.

2.5   Overview

It is clear that HE is changing across the UK, and that this has a corresponding impact upon the function, remit and design scheme of academic libraries. Whilst library staff in many institutions have been successful in gauging user opinion by means of satisfaction surveys, and quantitative analyses, there is hardly any published literature which uses participant observation as the method of evaluating how library space is used. There are a number of high-profile examples of new library buildings, or refurbishment projects, which have attracted much press and support. However these are still in their very early stages following completion, so there is no literature which evaluates how they are used. Ethnography is a useful method of studying a group or culture and can provide valuable and insightful data on how activities are undertaken. Loughborough University's Pilkington Library opened its flexible learning space (Open[3]) in 2005. One year on, it is timely that a study investigates how the space is utilised. The ethnographic methodology provides an effective and efficient means of doing so.

Chapter 3

Methodology

3.1 Choice of approach

During the 2005-2006 academic year, the Pilkington Library undertook a user survey in order to investigate how learners use library space, and their preferences for learning environments (Walton 2006b). One of the study's recommendations was that it would be beneficial to "identify precisely how Open[3] is being used and capture the different types of learning that occurs there" (Walton 2006b, p. 145). The theme and approach of the present study was suggested by Dr Graham Walton (Service Development Manager at the Pilkington Library) in order to fulfil the recommendations of the earlier investigation. The ethnomethodological approach was suggested as an unusual yet appropriate means of studying the activities of library users without resorting to another survey. There was a general concern that undertaking such a study might lead to a limited response from library users (who had only recently participated in a survey). There was also an awareness that surveys and interviews might lead respondents to provide the answers they feel are expected of them (Creaser 2006, p. 14). By conducting an observation-based study, it was felt that the library would obtain as unbiased a view of what is going on in Open[3] as possible without disturbing users.

3.2 Methodology

Ethnography is, by its nature, a flexible and adaptable methodological approach. Before the study commenced, a review of the literature was undertaken, and due consideration was given to how the fieldwork should be conducted. This section outlines how the methodology for the present study was devised.

3.2.1 Timescale

The methodology was planned following a review of the literature. In March 2007, a timetable was drafted which outlined a three-week period of observation

studies at the end of the summer term. It was agreed that user behaviour in Open[3] would be monitored and a field diary used to keep track of observations. The fieldwork was to be undertaken during three distinct phases of the academic year:

1. **End of the summer term. Undergraduates still being taught, attending lectures, completing coursework etc.**

2. **The revision and examination period during which undergraduates, and some postgraduates are taking their exams.**

3. **The summer vacation, when most undergraduate students are away.**

The decision to conduct the study in phases was made in order to capture the widest possible range of data about the use of space in Open[3] (within the scope of a project such as this). However it was accepted that the timing of this project would mean that most of the data was collected in phase 2 of the study. It was also decided that the observation sessions should be undertaken at a range of different times, in order to gain a sense of how user behaviour might change during the course of a day and week.

3.2.2   Setting boundaries

As with any ethnographic project it was necessary to decide the boundaries of the research area before the study commenced. It was agreed that the observation sessions should be conducted in a variety of locations within Open[3] in order to ascertain whether there are differences in user activity and behaviour according to location within the area. After careful consideration, it was decided to limit the study to the main section of Open[3] as outlined in fig. 3.1, overleaf. Whilst there were other parts of level 3 which were of interest (such as the seating area near the current serials section, the short loan section, and the reference section), the scope of this project was deliberately limited in order to make it feasible within the timescale allowed. Further studies may choose to explore other areas of the library in order to gain a fuller understanding of how space is utilised.

Figure 3.1 – Floor-Plan of Open[3] with the area selected for study highlighted blue.

3.2.3 Observation methods

Consideration was also given to the kind of observation which would be undertaken. It was agreed that fundamental to the success and efficacy of the study was the need for covert observation of user behaviour. Overt observation, where the researcher is conspicuous, and wearing visible identification, can lead to a bias in results. Various writers have discussed the implications of the different types of observation on ethnographic findings. Lee argues that interviews and questionnaires (alternative forms of qualitative research) "create attitudes in part because respondents commonly try to manage impressions of themselves in order to maintain their standing in the eyes of an interviewer" (Lee 2000, p. 2). He discusses the risk of artefactual distortion of results which arises when a participant is aware that they are the subject of research, describing the Hawthorne studies of the 1930s (Lee, p. 5). He then describes that unobtrusive methods can complement qualitative studies, and interviews or surveys, and that such research can often be more adaptable than more structured/formalised studies (Lee, p. 7). The library already undertakes some overt data collection (in the form of user counts at various junctures during the day); it was felt that a covert study might result in new perspectives. The ethical implications of this decision are discussed in full in section 3.3, below.

It was also necessary to decide in advance whether the researcher would be a passive observer, or also a participant in the activities taking place in Open[3]. Since the objective of the study was to gain as full an understanding of how Open[3] is used and what it is like to use, it was agreed that participant-observation would be the most effective approach. This meant that as the researcher was conducting fieldwork, efforts were also being made to undertake her own independent study. As a consequence, in Chapter 4, there are some personal reflections on how it felt to work in Open[3].

3.2.4 Conducting fieldwork: methods and approaches

Once the scope and methods of the study had been decided, it was necessary to consider in detail how the fieldwork would be conducted. This section discusses a

variety of approaches to fieldwork, and how the method for the present study was selected. As participant-observation would form the main data collection method of the study the field diary would be the primary method of recording data. Prior to deciding how this diary should be compiled, a review of the literature was undertaken in order to establish how other projects had collated their data. This review revealed that there is no text which fully explains to the novice researcher "how to do ethnography". Historically, there was an almost deliberate attempt to avoid defining the ethnographic process, with practitioners arguing that "fieldwork was not something you could train people for. You just had to do it, and then exchange knowing glances with others who had been initiated. There was a mystique about fieldwork..." (Agar, p. 54). Sandstrom & Sandstrom (p. 179) describe this as a "flagrant violation of common sense". In the last twenty years a plethora of publications have been produced which discuss different approaches to fieldwork (for example: Agar 1996, Fetterman 1998, Hammersley & Atkinson 1983, Flick, von Kardorff & Steinke 2004, amongst others). However, ultimately the researcher must devise their own approach having obtained a clear understanding of the research landscape. As a warning, two LIS researchers point out that "neglecting to read others' work condemns the researcher to rediscover what is already known and to repeat mistakes that could have been avoided. While it may be impossible to teach someone to be a gifted field-worker, one can certainly learn to do better fieldwork" (Sandstrom & Sandstrom, p. 180).

Burgess (1982) discusses how ethnographers approach the fieldwork phase of their research. He identifies a range of note-taking methods, and argues strongly that the individual researcher should adopt their own unique approach. However, he argues that

> …field notes including journals and diaries are essential, as are maps, diagrams, plans and photographs. Nevertheless, no matter what records are kept by the researcher, it is essential for them to be maintained systematically, as the record of field experiences are the detail out of which theoretical, methodological and substantive discussions are constructed in the final research report.
>
> (Burgess 1982, p. 193)

The issue of keeping notes about the environment, and also personal reflections upon one's own experience is emphasised – and the difficulties associated with distinguishing between the two. Webb recommends the use of loose sheets of

paper rather than a bound notebook for fieldnotes. She argues that this allows the:

> …absolute necessity of being able to rearrange the notes in different order; in fact, to be able to shuffle and reshuffle them indefinitely, and to change the classification of the facts recorded on them, according to the various hypotheses with which you will need to compare the facts.
>
> (Webb 1982, p. 195).

Because the purpose of ethnography is not the writing of history, it is vital that the importance of 'event chronology' is not overstated. However, it is clearly essential that each sheet of notes should include the date, and location. These should be recorded in the same position on each page to facilitate organisation of notes. Fetterman (1998) argues that a PC or laptop can act as a useful alternative to pen and paper for the purpose of taking notes, particularly since data recorded in such a way is 'written up' immediately – and thus does not require deciphering at a later date.

Yet, ultimately these guides do little more than provide a framework. Because each ethnographer is different, and every landscape of inquiry is different, no book can prescribe how to undertake such a study. Instead, these texts seek to encourage the reader to understand and even question their own cultural and theoretical context. They emphasise the importance of 'open mindedness', arguing that it is not until the fieldwork actually begins, that the ethnography starts to shape itself (Fetterman, p. 1). Then the researcher will be presented with questions, problems and puzzles which could not have been foreseen before commencing the study. It is these observations and unexpected findings which tend to be particularly interesting or pertinent. The flexibility of the ethnographic approach, relying on simple yet focused observation, allows the researcher to 'see' in more detail than the casual observer. One of the core benefits of this kind of study is the ability to allow for, and to explore unexpected findings.

As the field diary would be the most important document, where all observations and ideas would be recorded, careful consideration was given to its format and design. The precise form the diary would take was left open in order to allow a pilot study which trialled data collection methods over three 2hr sessions of observation. This pilot took place during April 2007, and recording methods used are summarised overleaf:

- **Longhand, onto paper.**
- **Directly onto a PCs word processor.**
- **Directly onto a laptop's word processor, but supplemented with handwritten notes and drawings.**

The pilot study established that it was possible to note more observations if they were recorded directly onto a computer, as the researcher was able to touch-type, and thus continue to observe the surroundings whilst noting comments. This resulted in richer description of the activities observed. It was subsequently agreed that a PC should be used when the research was being conducted in the PC area of Open[3], and that a laptop should be used at other times. Paper was kept to hand in order to allow longhand notes and sketches to be made whenever appropriate.

3.2.5 Method of analysis

It was acknowledged that the process of data collection would be iterative, and that trends and patterns would become apparent to the researcher during the fieldwork phase. However, only on completion of this phase would focused analysis begin. This was to ensure that the researcher did not concentrate unduly upon particular activities observed in the field, and then become biased towards seeing these activities. Once the fieldwork phase was completed the diary was printed out and closely examined. Themes began to appear, which were then explored in depth. Observations were triangulated with data from other sources (for example, the library space survey of 2006). These observations and themes were synthesised into a readable format which now forms the basis of Chapter 4 of this dissertation. This is the written report which will be passed on to the management team at the Pilkington Library. A presentation of research findings was also made to key stakeholders at the end of August 2007. There are also plans to publish the findings of the study in a LIS journal.

3.3   Ethical considerations

Any research project which investigates human behaviour will be faced with ethical considerations. There were a range of issues and regulations which were important to consider when drafting the methodology and conducting the research:

Observation-based techniques must be conducted with great care to ensure that participants are not disadvantaged. As the investigation employed covert observation methods (as discussed above in section 3.2.3) particular care was required to ensure that the research was carried out ethically. The project was covered by the legal requirements of the Data Protection Act (1998), and the local requirements of the University Ethics Committee. Authorisation from the aforementioned committee was required before the research phase of the study could commence. An application was prepared following a review of the literature. At this stage several preliminary meetings took place with Dr Walton, and Prof Matthews (of the Department of Information Science) in order to draft the methodology. Ethical requirements were borne in mind throughout this process. Once a draft was written contact was made with a member of staff on the University Ethics Committee and the proposed methodology was discussed. This highlighted two key issues – how anonymity of participants would be preserved, and how data would be stored securely:

- **Participant anonymity was assured by ensuring that no individuals were identified in the study. The project would describe people, and their behaviour, but not collect any identifiable data.**
- **Data was stored in compliance with the University's ethical guidelines (both during and following completion of the study). Data was stored on the university network, and backed up on the researcher's own machine. Longhand notes were photocopied and the second copy stored on campus.**

It was agreed that announcements about the study would be placed on the Pilkington Library website, together with contact details should anyone wish to get in touch and discuss the project. It was also decided that the activities users were undertaking on PCs would not be recorded lest this result in inadvertent identification of individual participants. The completed methodology was then presented to the Ethics Committee for scrutiny at the beginning of March 2007. The intention was to begin the study in April, should ethical approval be received. This approval was subsequently granted on 22nd March 2007.

Further to the requirements of the University Ethics Committee, the researcher, as a member of CILIP (the Chartered Institute of Library and Information Professionals), was also required to adhere to their ethical principles and code of professional practice (CILIP 2007). These requirements were also adhered to throughout the course of the study.

Chapter 4

Analysis and Findings

4.1   Introduction

During the course of the data collection phase over 40 hours of unobtrusive observation was undertaken, with observations recorded in the field diary. A grounded theory approach of thematic analysis, as outlined by Strauss and Corbin (1990), was used to analyse the field diary. Eight broad themes were identified following analysis:

- Collaborative, group study
- Private, individual study
- Intrusions and interruptions
- Open[3] as a social space
- Public and private space
- Use of technology
- Diversity
- Library staff and Library materials

The remainder of this chapter comprises an in-depth examination of these themes. First, however, it is worth exploring some general points which 'set the scene' for the observation phase of the study and give an overview of the atmosphere and activities which were taking place in Open[3] when the fieldwork was undertaken.

4.2   General points

The data collection took place at the end of the academic year, when most undergraduates were preparing for and taking their exams. Most had already completed their coursework for the year. The 2006 user survey (Walton 2006b) identified a high demand for extended opening hours during the revision/examination periods (Walton 2006b, p. 45). As a consequence the library was trialling 24hr opening during June 2007. These factors are important to bear in mind as they have implications for the kind of activities taking place in the library. Had the study been conducted at a different point in the academic year, the findings might have been markedly different.

At the beginning of the observation phase, the library was extremely busy and the researcher found securing a place to work difficult. Although additional tables had been added by library staff in order to maximise the capacity of the

area, there were times when even this was insufficient. At peak times users borrowed chairs or stools from other parts of the library, or even resorted to sitting on the floor:

> **Observation Note (ON):** ...I found a space at a table, but getting a chair was slightly more difficult. There are so many people in here, and just not enough chairs! Eventually I found one in [group study] Room 3B, which wasn't being used by the group in there – so I have adopted it as my own. It is, however, slightly broken...
>
> (Field Notes, 06/06/2007, 10.45am).

Other users were observed working in other locations on the periphery of Open[3], such as by the OPAC terminals, or at the benches in the Quick Reference (Quick Ref) section. Users working in these areas tended to obstruct those who needed access to the OPAC or reference collection.

It was clear that the area was busiest during the afternoon and evening periods:

> **(ON):** The area is filing up... People are returning from lunch. It's like a slow relay dance between the café and the seating area. This is definitely the beginning of the afternoon shift.
>
> (Field Notes, 15/06/2007, 1pm).

This observation is noted repeatedly throughout the field diary and is corroborated by quantitative data collected by library staff as part of the twice daily count of users (see fig. 4.1, below).
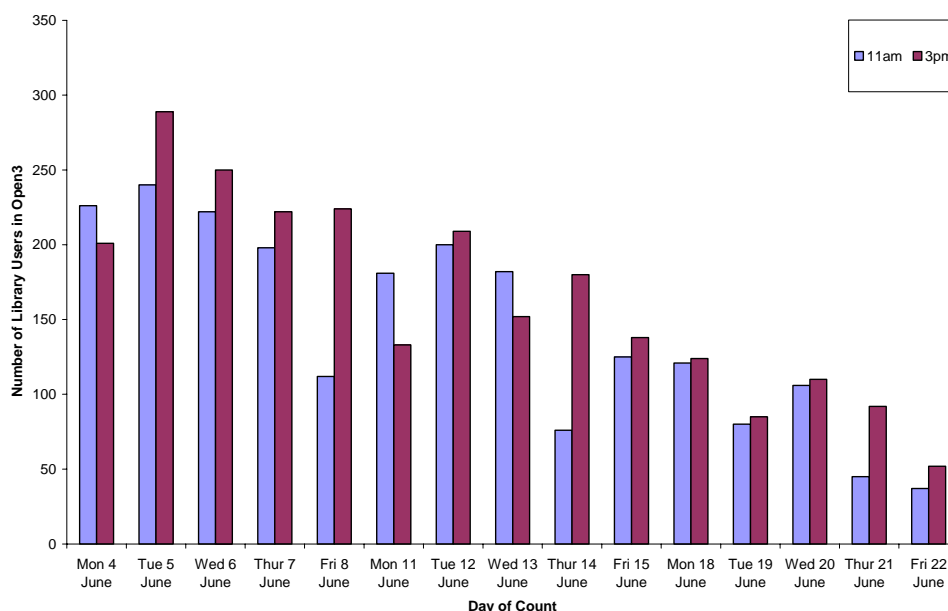

Figure 4.1 – Graph showing usage of Open[3] between 4th and 22nd June 2007.[2]

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[2] Data source: Graham Walton e-mail to Joanna Bryant, 16 June 2007.

As would be expected, noise levels generally rose and fell in line with the number of people in the area, with the afternoons and evenings being noisier than the morning period. As the examination period progressed, and more students completed their work for the year, the library became quieter and there was less competition for space.

4.3 Collaborative, group study

One of the Library's stated objectives is to "provide an appropriate and comfortable environment, accommodation and facilities for the use of Library resources, and for individual and group study" (Loughborough University 2007c). Open[3] was developed in order to provide a venue for group learning. This kind of learning now forms an important, and indeed fundamental part of the undergraduate curriculum, yet there are few places on the Loughborough campus which support it. Although communal spaces in the Students ' Union building and the Edward Herbert Building are popular, they do not have the same wireless internet connectivity, nor are they open as often or in such close proximity to IT and information resources. Furthermore, these spaces with their close links to leisure activities do not always promote an atmosphere which is conducive to learning. Computer labs are located across the campus, and are accessible on a 24hr basis by means of swipe-card entry. Yet whilst many of these labs offer comfortable, ergonomic desks and seating, they lack the library's information services, café, and toilet facilities. It is this combination of services which make the library such an attractive study venue to individuals and groups. This present study is the first to explore how successful Open[3] is in providing a venue for group study by undertaking systematic observation of student activity.

Group learning was observed throughout the fieldwork phase, with group sizes ranging from two people to around 10:

> **ON:** ...The guys across the table from me are testing each other on statistical tests, and going over previous exam papers. They are really working together as a team. I'd never thought of maths as a team subject – but they are clearly getting a lot out of working together.
>
> (Field Notes, 06/06/2007, 10.45-12.45).

> **ON:** ...The students using the desk to my left are working together – a lad is showing a girl how to work something out on her calculator.
>
> (Field Notes, 17/06/2007, 20.45-23.00).

Groups were seen approaching their work in a variety of ways; typical activities included:

> **Group learning activities in Open[3]**
>
> - **Prolonged, silent revision-type study in small groups (pairs or threes), with occasional breaks for discussion.**
> - **Brainstorming ideas and drawing mind-maps on the whiteboards, either in groups, or pairs.**
> - **Collaborative project work in larger groups with ongoing, lively discussion.**
> - **Collaborative work to produce a PowerPoint presentation.**

As expected, most students were busy studying for their exams, so the work they were engaged in tended to focus on revising material covered in lectures, although a few were clearly collaborating on coursework. The degree of interaction depended largely on the dynamics of each group and varied widely. Some groups worked silently, with one or two members occasionally asking a question of their peers.

> **ON:** ...There are a few groups working together – some pairs, but most groups are four or more. They are the ones making noise – and their voices do carry over the quiet, but it is not distracting.
>
> (Field Notes, 15/06/2007, 12.00-13.00).

Larger groups of up to 20 were also seen working in the group study rooms which are located around the periphery of Open[3].

> **ON:** ...A group of 11 students emerge from staircase B and walk over to [group study] room 3A. They obviously planned to meet here and work as a group.
>
> (Field Notes, 18/06/2007, 08.15-09.45).

Others, (particularly groups of students for whom English was a second language), would often work together and engage in lively discussions:

In general, the groups which made the most noise were also using the whiteboards provided in the area. These tended to be groups studying engineering, physics, or business/finance. These groups were observed writing problems on the board, and then engaging in debates (frequently heated) about solutions (see fig 4.2 overleaf).
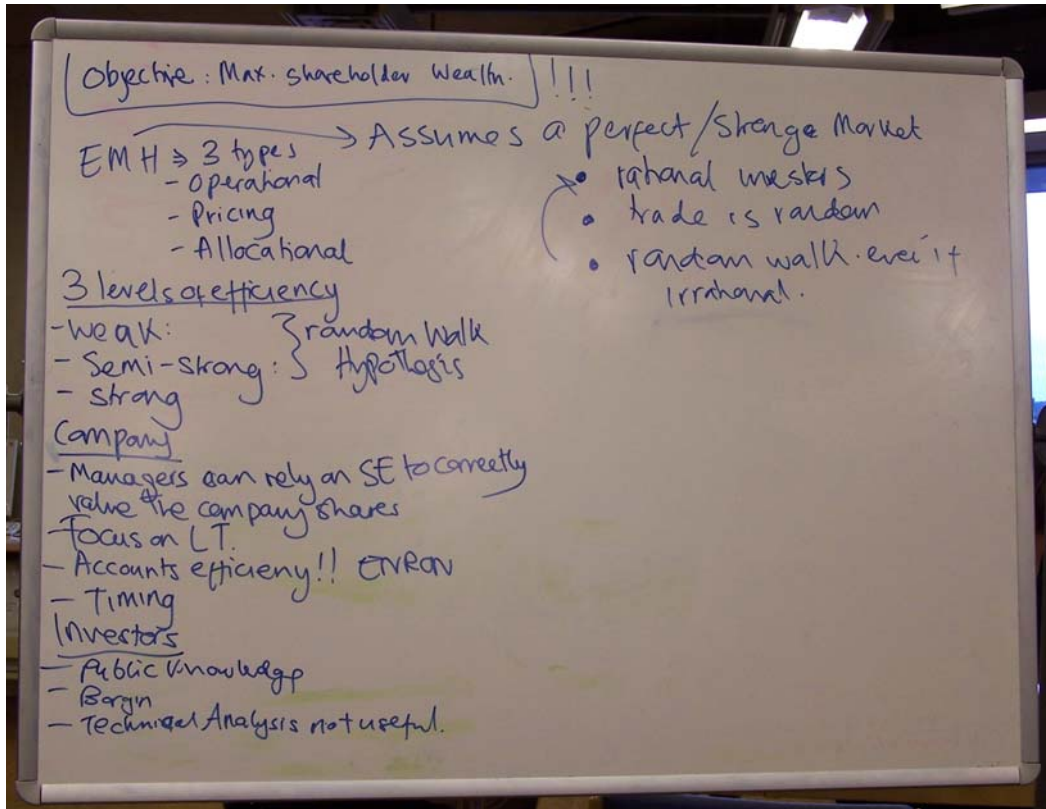
Figure 4.2 - Whiteboard. This was being used by a group of six business studies students who were revising together.

Although many students were observed socialising with friends whilst being based at a PC terminal, only one instance of actual group study was noted at a PC desk (see fig. 4.3). This may be due to the nature of the work that the students were undertaking, or possibly due to the furnishing of the area. The PCs are very close to one another and not designed to allow several people to work at the same machine.

Figure 4.3 – Collaborative work at a PC workstation.

However many students were seen clustered around laptops – suggesting that these are more readily used by those engaged in collaborative work. One respondent to the library's 2006 survey suggested that some dedicated 'group work' PC terminals be provided:

> Segregated computer areas for group work and individual work [should be provided]. I was doing group work on a computer on level 1 (no PCs available on level 3 at the time) and I got the distinct impression that we were disturbing our neighbouring workers who were working individually.
>
> (User feedback quoted in Walton 2006b, p. 42)

If the Library wishes to promote collaborative work on computers, it may wish to consider setting up some new clusters which use more 'group friendly' furniture, or at least where the terminals are more widely spaced. Alternatively, a laptop loan service may be appropriate.

4.4   Private, individual study

Individual learning activities in Open[3]

- **Silent study – revision, or writing.**
- **Work on a PC.**
- **Quick visits to check e-mail/LEARN (the University VLE).**

Despite a substantial number of people using Open[3] for group study, there tended to be a high proportion of users working individually. This is curious given the provision of individual study carrels on levels 1 and 2 of the Library. Yet somewhat unexpectedly many users chose to undertake solo study at the large group-study tables in Open[3]. At all stages of the data collection phase, individuals were observed working in the open-plan area, and also at the PC workstations:

> **ON:** ...Lots of people are working alone – doing solo revision. There are a few groups working... they are the ones making noise – and their voices do carry over the quiet, but it is not distracting.
>
> (Field Notes, 15/06/2007, 12.00-13.00).

> **ON:** ...The PC users are all working alone.
>
> (Field Notes, 19/06/2007, 13.30-16.30).

The choice of users to conduct individual study within Open[3] is curious. The area is usually busy, and often noisy – conditions seldom considered by librarians as conducive for private study. Indeed, 43% of respondents in the recent library space survey felt that Open[3] was too noisy (Walton 2006b, p. 15). However, despite this the area is highly popular, suggesting that most are quite happy with the noise level. Some users indicated that they found levels 1 and 2 too quiet, emphasising the importance of providing a range of different learning environments in order to cater for the differing needs and preferences of users.

Other feedback from the 2006 survey indicates that some prefer to work in Open[3] because the desks are larger than those found elsewhere in the library:

> "I like working on bigger tables such as on levels 1 and 3. Level 2 booths are too small."
>
> (User feedback quoted in Walton 2006b, p. 44)

Users also appreciate that they are permitted to eat and drink in Open[3]. This allows people to settle in the area for longer periods of time, a positive factor for those who live some distance from the library. Open[3] also attracts users who gravitate to the nearest available space to the library entrance. Its proximity to the entrance makes it a convenient first-port-of-call for library users.

4.5   Open[3] as a social space

In addition to these learning-related activities, users were also observed socialising with friends. This tended to be more common amongst those working in groups of 3 or more, who would (in some cases) frequently digress into social conversation, or deliberately take a break from studying. Smaller groups and individuals, tended to engage in fewer social activities when working in Open[3]. However these were just as likely to be interrupted by friends who came across them unexpectedly:

> **ON:** ...A girl leaps up from her PC and runs across to the area [by the café] and hugs a friend. Another walks in and immediately spots a friend (revising) and goes over to talk to her. The friend clearly does not want to be disturbed, whilst the interloper is clearly keen to socialise.
>
> (Field Notes, 13/06/2007, 17.30-19.30).

These unplanned meetings and social gatherings occurred regularly and were frequently remarked upon in the field diary. The open-plan nature of the area facilitates such accidental meetings. Unsurprisingly, both planned and unplanned social gatherings were particularly common at mealtimes when the café was busiest, or users were taking a break to eat at their desks. In the evenings it was not uncommon to see groups chatting and eating together at the study tables, in the group study rooms, or in the café area.

The freedom to enjoy food and drink within Open[3] is undoubtedly a key reason for its popularity. One respondent to the 2006 user survey described it as an:

> ...ideal area for group work where we can meet to complete projects with computers nearby for email etc. and we do not now have to leave the library for lunch.
>
> (User feedback quoted in Walton 2006b, p. 32)

For many, eating in Open[3] was a social activity. Groups were observed enjoying their lunch, and discussing both academic and personal matters. The café was very popular, and the vending machines seemed to be emptied regularly, suggesting that they should be re-filled more frequently. Some users were observed eating packed lunches they had brought from home. Despite the rule that hot food should only be consumed within the café area, students were regularly observed eating meals in the main Open[3] area. Sometimes this was food purchased in the café, but more often it would be food brought from outside. One night the observer watched a student eat a whole rotisserie chicken

using a knife and fork he had brought from home (Field notes, 13/06/2007, 17.30-19.30). Most users brought a soft drink with them to the library, with comparatively few drinking items purchased in the café. In the evenings it was common to see users arranging for food to be delivered (the researcher noted 25 empty pizza boxes littering the café one Monday morning, debris from the night before). One particularly enterprising student was observed walking around Open[3] taking orders for the local Chinese takeaway. One somewhat unexpected finding of this study is that the café would probably increase its income if it stayed open later during the revision period, and if it added pizza to its menu. The vending machines were frequently emptied of food during the late opening period, implying that these should be refilled more frequently. It was noted that most users would clear up their rubbish once they had finished eating. Only a small minority were observed leaving a mess when they had finished in the library.

The noise level tended to rise at mealtimes, as library users relaxed and socialised. However the area tended to quieten down again as time passed. The social gatherings noted during the observation phase imply that further to its purpose of supporting academic activities, the library and Open[3] in particular, has become an important place for social activity within the university community. Open[3] is somewhere to *see and be seen*. Its popularity suggests that it has become a desirable venue on campus, somewhere comfortable where people can work and socialise in an informal environment. This is a quality which has been identified by Meyer and Stuart (2007, p. 2) as being core to the success of a learning/productivity space. A recent report by JISC also argues that "well-designed social spaces are likely to increase students' motivation and may even have an impact on their ability to learn" (JISC 2006, p. 28).

4.6   Intrusions and interruptions

The stereotypical description of a library tends to dwell upon the strict rules of conduct which are in place to moderate user behaviour. In contrast to this traditional concept of library space, Open[3] deliberately makes no such statement of rules or regulations; instead relying upon users to 'self govern' the space. Other institutions have adopted similar approaches, arguing that this permissive

atmosphere "places confidence in the students, trusting them to identify what constitutes acceptable behaviour" (Scottish Funding Council 2006, p. 41). Since Open^3 is used as both a social and a study space, intrusions and interruptions do inevitably occur. The field diary contains rich descriptions of activities and occurrences which could be considered as intruding upon the work of others using the space. Such activities included making unnecessary/excessive noise.

> **ON:** ...A group of 5...students are at a table behind me...They are making a lot more noise than anyone else here – talking about a recent night out. There are raised voices and loud laughing. Other people working at the PCs glance across and glare at them. No one gets up and asks them to quieten down...[a few minutes later]...Other groups working in the area start to make more noise – it is as though the tacit acceptance of noise level rises.
>
> (Field Notes, 13/06/2007, 17.30-19.30).

> **ON:** ...Sunday night and the library is buzzing. As I walk in the door the first thing I notice is the noise – it really is very loud! I hear cheering and applause, so something is clearly going on. I never find out what it is... I would estimate that there are 120 people in tonight... there is something of a party atmosphere – lots of groups of people sat at desks, lots of chatter. The group who were cheering and clapping appear to be sat by the Engineering [staff] office. They are making quite a racket and I wonder if anyone here can concentrate at all...
>
> (Field Notes, 17/06/2007, 20.45-23.00).

In general it tended to be the larger groups (5 or more) which generated a level of noise/activity which could intrude upon the work of other users. More often than not, such behaviour would only last for a few minutes before the group quietened down again, or chose to leave the library for a break. Generally speaking, much of the noise in Open^3 was generated by those who were enjoying social conversation. Students who were engaged in learning activities tended to be quieter. However this was not universally true, with several very lively debates about quadratic equations, banking ethics, and psychology rising above the general buzz of the area.

Body language often indicated when one person or group's behaviour disturbed the concentration of other users. However library users were reluctant to ask groups to quieten down, although they were often observed talking amongst themselves about the inconsiderate behaviour of others. This finding is in contrast to the results of McKechnie *et al*. who report:

> We observed many instances in which a library user misbehaved and another user was able to successfully correct or reprimand them, resulting in "proper" conduct and behaviour…. "Shushing" is often stereotypically associated with librarians. However, we did not see a single incident wherein a library staff

> member "shushed" a patron. Instead it was the library users themselves who "shushed" others in response to unruly and loud behaviour…
>
> (McKechnie *et al.,* 2006, p. 7)

It seems likely that this difference is mainly a result of the Pilkington Library's deliberate policy not to display notices concerning rules of conduct. The libraries in McKechnie's study all had clearly displayed rules governing user behaviour. In contrast, users of Open[3] are expected to make judgements about what is and is not permissible within the area. This emphasis on 'self governance' may explain the reluctance of users to ask others to moderate their behaviour.

Noise was the main intrusion to be noted in the field diary, although other kinds of intrusions were also recorded. These were mainly associated with the use of technology such as mobile phones and MP3/CD players:

> **ON:** ...Two girls working at the PCs next to me. Both listening to music via the PC, using headphones brought from home. One tries to get the attention of the other, fails, so picks up a folder and bangs it on the table to get her attention. It is a very loud and startling noise. Perhaps because they both have headphones on, they don't realise how loud it was!
>
> (Field Notes, 06/06/2007, 10.45-12.45).

The whine of MP3 players, and the sound of mobile phones seemed to be an accepted part of the background noise of Open[3]. Other users seemed to 'tune out' such noises and ignore them. The most intrusive sounds recorded in the field diary actually related to the cleaning of Open[3] at the beginning of the day. The sound of vacuuming, and the walkie-talkies carried by the cleaning staff were very loud; however very few people were using Open[3] at this time, so this was unlikely to disturb many and does not represent a significant interruption.

Occasionally a very unusual sound or incident would disturb all the users working in Open[3]. On these occasions people were observed looking around seeking to identify the source of the sound. Once it was identified, they would then ignore it. This was the case when a baby was heard crying near the café (Field Notes 19/06/2007, 13.00-13.30). Once users had spotted the mother and child, they were unfazed by their presence. The mother proceeded to sit quietly on the periphery of Open[3] and breastfeed. Later on, another young mother was observed arriving to meet her friend. The relaxed, 'rule-free' nature of Open[3] means that users see it as a permissive space where social activity and its accompanying noise is tolerated. This tolerance and 'self governance' generally

results in the area being louder than a typical library, yet still allows it to function successfully as a location for learning.

4.7   Territorial behaviour: Public and private space in Open[3]

During the course of the data collection phase it was noted that students go to considerable lengths to create and demarcate their own personal space within this public area. It was clear that when the area was quiet, individual users would sit at empty tables rather than share space with others. Only when the space became busier would users resort to sharing desk-space. When sharing was necessary, it was not always welcomed. This extract from the field-diary describes the researcher's own experience of trying to secure a seat in Open[3] at one of the busiest times of the year. The researcher approached a desk which was being used by one male student who had his belongings strewn across it:

> **ON:** … I get my laptop and head to the desk area – it is quite difficult to get a seat. I spot one which appeals (it has a good line of sight around the area) – but when I ask if the seat (which is one from the café which has migrated here) is free, the guy looks very uncomfortable and says it is going to be used in twenty mins. I have been here 20mins now and it is still vacant – and he has just turned away two other girls who were looking for somewhere to sit....
>
> (Field notes – 04/06/2007, 09.30-12.30)

Over the course of three hours no was successful in securing 'permission' from this individual to use one of the vacant spaces at 'his' desk. Despite the obvious transparency of his argument, no one (including the researcher) challenged him. It seemed clear that this person was using his 'absent friends' as a means of creating his own space within a communal area. Others users were more accommodating, although in general students would scatter their belongings as widely as possible over a desk, as though this action somehow marked the space out as their own. Most would clear space for a new arrival, but only when asked.

The ritual of spreading one's belongings out to take up all available space was ubiquitous throughout Open[3]. Most students would do this as soon as they had selected a seat, getting out papers, drinks, stationery, folders and books, and laying them out in a pleasing fashion. Some would do this systematically, whilst others appeared more haphazard. This seemed particularly common at PC workstations, where users would attempt to delineate the division between two desks, thereby ensuring they secured as much room to either side of the terminal

as they were entitled to. This kind of 'claim staking' behaviour seems to be common to all library users, and was noted by McKechnie *et al.* in their 2004 study (p. 44). Users who were leaving their desk or PC for some time would leave their belongings unattended. At lunchtimes and in the late afternoon period it was common to see rows of PCs logged-on, but with their users absent, sometimes for periods of an hour or more (see fig. 4.4, below). Users perceive Open[3] to be a secure area where belongings can be left unattended without risk. Every entry in the field diary contains some reference to unattended belongings. Whilst it is pleasing to see that users feel safe in the library, this tendency to leave valuable items (laptops, MP3 players, handbags etc.) unattended for long periods is concerning and presents a security risk. Thefts have been reported in the past, so users should not be complacent with their belongings, especially those which cannot easily be replaced.

Figure 4.4 - A typical desk, with student papers taking up all available space. This desk was left unattended for over an hour.

In contrast those who were working in groups with friends tended to see their desk as a group space. Fig. 4.5 (overleaf), shows a group of students revising together, with no attempt to mark out individual space on the desk. Groups such

as this who stayed in Open[3] for a considerable length of time tended to spread their belongings over the entire work area. The group in fig. 4.5 had been revising together for over 5hrs. The evidence of their prolonged presence was strewn across their desk and reached out onto the floor-space around them.

Figure 4.5 – Collaborative work at a study table. This group of students had been revising together for over 5 hours.

Pairs or larger groups frequently strayed from learning-related conversation onto highly personal topics. It seemed that library users were either comfortable discussing such matters in front of others, or that they had effectively 'tuned out' the presence of others from their consciousness:

> **ON:** … A group has congregated at the PC next to me. They are chatting and socialising. One starts a discussion about sex in the library... there seems to be much mocking of a girl and a boy in the group for 'failing to make it' in the library...
>
> (Field notes – 30/05/2007, 15.30-19.00)
>
> **ON:** ...The girls across from me stop working, and begin a conversation about marriage and children...
>
> (Field Notes, 04/06/2007, 09.30-12.30).

Users were also observed and overheard engaging in mobile telephone conversations on topics of a highly personal nature. Puro argues that mobile

phone users privatise public spaces when they engage in telephone conversations:

> …it is almost ironic the extent to which people are willing to talk about their private matters in public. The consequence is that public space is doubly privatized because mobile phone users sequester themselves non-verbally and then fill the air with private matters.
>
> (Puro 2002, p. 23)

Persson goes further, describing mobile phones as a kind of 'social shield' which people use as a tool both to distance themselves from others, and on occasion, to attract attention to themselves:

> Through shielding from the others "behind" the mobile phone, the caller in a way gets invisible and inaccessible, and can therefore, for the most part unconsciously, invite others to his or her private sphere... the very fact that they are strangers - the mobile caller has nothing to lose by sharing his secrets with them...maintains the alienation and allows the mobile caller to perceive the others as a mass and not as hearing individuals.
>
> (Persson 2001)

Open[3] users did not always sequester themselves to receive calls, with many users comfortably engaging in long conversations when surrounded by others engaged in academic work. However, in most instances the user would make an effort to move to the periphery of the area, especially if they were the ones making (rather than receiving) a call.

The behaviour observed during the fieldwork phase implies that users are comfortable in Open[3] and that they perceive it as 'their own' space. The concept of the self and the idea of privacy within collaborative and open learning environments does not seem to have been explored much in LIS literature. These concepts are closely tied to feelings of ownership and a sense of security. It seems clear that an investigation into these issues could shed valuable light on the design and management of social learning environments. Perhaps as these spaces become more embedded within universities these issues will be studied in greater depth.

4.8   Use of technology

The Library provides access to a range of technology within the building. A total of 125 fixed terminals are available, 75 within Open[3] (Walton 2006a, p. 135). Further to this, the entire building has Wi-Fi connectivity, allowing users to connect to the university network via their laptops. Laptops seemed to be highly

popular, with users often bringing in their own extension cables in order to connect to the mains power supply. Although the objective of this study was not to monitor the kinds of websites library users accessed, it was clear that many were logged on to internet messaging services whilst conducting research, or using social networking sites and e-mail.

In addition to computers, users bring in other kinds of technology in the form of mobile telephones, PDAs, and MP3 players. Users were also observed plugging headphones into their PC or laptop in order to access online radio services. These activities were generally conducted *in parallel* to academic work. This kind of multi-tasking is frequently alien to older generations of library users (and staff) but seems to be more common amongst the so-called 'net generation' (Jorstad 2007).

4.9 Diversity

It was clear from the outset that a diverse range of people use Open[3]. The researcher recorded that people of all ages, genders and ethnicities were seen working in the area. This section explores some of the diversity-related issues which were noted in the field-diary.

4.9.1 Mature students, researchers and staff

Nearly all users observed working in the library appeared to be in the 18-25 age bracket, and working towards an undergraduate degree. The field diary only contains two references to mature students. University staff were observed having meetings in the café area, but were not noted working elsewhere in Open[3]. Any observation-based study is inevitably subjective when it comes to making judgements about the age of participants. However other indicators (such as conversations which were overheard, and lecture notes which were seen) mean it is possible to confidently state that nearly all users of Open[3] are undergraduates. It is likely that staff and researchers conduct their work within their departments, as most have access to offices or workrooms (unlike undergraduates). However in order to ensure that these user groups are satisfied with the learning spaces available to them, the library might wish to consider undertaking another investigation, possibly using a targeted survey methodology.

4.9.2 Gender balance

One pattern which emerged was the tendency towards a gender imbalance. On almost every occasion there were more male students working in Open[3] than females. In most instances the researcher's impression was that over two thirds of the users were male at any one time, and in during one observation session the researcher noted that there were only three females to over 70 males. This imbalance is partially explained by the composition of the student population which stands at 16,580. According to University statistics, 10,520 of those students are male, resulting in a gender ratio of 0.58 female students to each male[3].

4.9.3 Ethnic balance

The university's international community was reflected amongst the users of Open[3]. Many different languages were overheard by the researcher who also observed a wide range of different ethnic groups working in the area:

> **ON:** … A group of three people are working behind me, all lined up on one side of a desk. There are long debates and discussions about the work, and over language differences. Arabic and English are spoken, as is another I don't recognise. Farsi possibly? They are clearly discussing work and working out problems together.
>
> (Field notes – 14/06/2007, 12.30-13.45)
>
> **ON:** …a real mix of languages are audible. I notice Greek, some kind of Chinese dialect, and an Indian dialect too, plus English. Students appear to group together according to ethnicity – there is not a lot of mixing together in terms of work.
>
> (Field notes – 16/06/2007, 17.00-18.15)
>
> **ON:** …The library is buzzing. Loads of pre-sesh [*sic*] English language course students are here. Most are Taiwanese, which is the dominant language here at the moment.
>
> (Field notes – 14/08/2007, 15.30-16.30)

Groups of Chinese and Taiwanese students were most frequently observed studying together. The field diary makes several references to large groups of such students working together. Smaller groups tended to be more ethnically diverse. However, in accordance with the racial and ethnic balance of the university, most students working in Open[3] appeared to be white-British.

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[3] Tom Orrill (Loughborough University Academic Registry) e-mail to Joanna Bryant, 14 June 2007.

4.9.4 Summary of diversity issues

This ethnographic study is not the place to develop firm theories about the race/ethnicity, or age of library users. However it is clear from the observations noted in the field diary that the library can be satisfied that Open^3 is accommodating users from across the university community, regardless of race or ethnicity. The gender balance question is more complex. The balance of the student population does not completely explain why Open^3 is so popular with male students. It is possible that the degree programmes which tend to assign coursework tasks entailing collaborative work are male dominated. This is certainly the case for the Faculty of Engineering. The latter is located in close proximity to the Library, which may also be a contributing factor. In contrast, humanities and social science degrees, which attract more female students, tend to focus more on individual work. Incidentally the departments belonging to these faculties tend to be located further from the Library. It is also possible that male students prefer to work in the lively atmosphere of Open^3, whilst female students prefer the quieter floors. Further investigation of this, and other issues pertaining to diversity would be worthwhile in order to establish some more meaningful data.

4.10   Use and visibility of library staff and library materials

Users also have access to the traditional learning materials provided by the library – namely books, journals and reference works. Library patrons also benefit from the available expertise of library staff. However during the course of the fieldwork phase it was noted that few users were taking advantage of these resources. Some were seen using short-loan copies of set texts, but most were using their own learning materials – lecture notes, print-outs of PowerPoint slides, and personal copies of books. The poor utilisation of printed resources might be a concern to the library, had this study taken place during the teaching part of the academic year. However given that the data collection phase focused primarily on the revision/examination period of the academic year, this is less surprising. Students tend to rely upon lecture notes collected during the course of

the year for revision purposes, and seldom undertake original research at this point in the year.

Staff were frequently observed moving through the area on their way to offices, or to the staffroom. However it was very unusual to witness a member of library staff working in Open[3], or helping a user solve a problem. Most people in Open[3] are self-sufficient. The only times users looked confused was with reference to using the printers and print credit machines. It may be worthwhile posting an advice notice next to this equipment in order to help users.

4.11   The spatial organisation of Open[3]

During the course of the fieldwork and analysis phase it became apparent that library patrons use different areas of Open[3] in varying ways. Many buildings are designed and furnished in such a way that space (even open space) is divided into areas of differing status, function, and accessibility. These spatial divisions are conveyed to people by means of physical barriers (walls, screens), and furnishings. For example, in a church the most spiritually important location (the altar) is usually elevated above the surrounding floor-space of the quire, with furnishings and decoration emphasising the status and important function of the area (Graves 1989, p. 301). Open[3], a modern open-area without physical divisions, is the opposite of such a highly ritualised space. Whilst the layout of the tables, chairs, and PC clusters are suggestive of possible uses, the overall spatial structure of the area encourages each student to choose how they use it. There is no attempt, as at Northumbria, Glasgow Caledonian, or Warwick Universities to suggest how students might use the space by employing different types of furnishing, study pods, or zoned carpeting. However user behaviour implies that areas of Open[3] are used according to a loose typology which can be described thus:

1. **Transitional spaces. Areas which are used as thoroughfares through Open[3].**

2. **Quick Access PC Clusters. First choice for users who just want to quickly check e-mail or use the printers.**

3. **Long-Term PC Clusters. First choice for those who plans to stay a while.**

4. **Study Tables. Used by groups and individuals alike.**

5. **Long-Term Study Tables. First choice for users who don't want to be disturbed and/or have a laptop which needs connecting to a power outlet.**

This typology is superimposed on a floor-plan of Open[3] which is reproduced in fig. 4.6, overleaf.

Figure 4.6 – Floor-plan of Open[3] showing the five-phase typology of space as suggested by user behaviour.

As might be expected, the area nearest the entrance/exit is a transitional space (coloured pale blue in the diagram above), where users gather, chat, make phone calls etc. It is a place where planned and unexpected meetings take place. As a result, this space tends to be quite noisy. Although mobile phone usage is permitted throughout Open[3], many students who receive phone calls will migrate to this space in order to take them. There is no physical division between this

space and the rest of the area so the sound of conversation still carries. However users often feel it is more appropriate to make/receive calls here than elsewhere on level 3. Interestingly this space is adjacent to the Circulation Desk, where books are issued and returned (itself one of the noisier areas of the library). During the course of the observation phase it became apparent that users tended to use the PC cluster (coloured dark blue in the diagram above) near the thoroughfare for fairly short periods of time. Its proximity to this liminal and frequently noisy space may explain its relative unpopularity. It seemed clear that users seeking a PC to settle down at and use for an extensive period would select one further away from the thoroughfare, where they were less likely to be disturbed.

This observation reveals that the 'depth' of the space in Open^3 is significant to users. The deeper one travels into Open^3, the more likely students are to be settled in their work, and basing themselves there for longer periods of time. The tables at the back of the area (coloured dark green in fig. 4.6) are the furthest from the main thoroughfares, which means students here are less likely to be disturbed by other users. These desks are also adjacent to the windows, meaning that the workspace is somewhat lighter than elsewhere in the library (although never subject to the glare of direct sunlight). Finally, they have access to power outlets – a significant factor for those who wish to use their laptop computers. These spaces are certainly the most highly prized, and are considerably more popular than the tables and PCs near the thoroughfares (coloured mauve (PCs) or orange (desks) in fig. 4.2). During early-morning fieldwork sessions (08.15-09.15), when fewer than 10 users were in Open^3 and almost every desk was free, users tended to migrate towards those particular desks.

These observations coupled with observed behaviour (marking out of space, individual students gravitating to unoccupied tables first etc.) are suggestive that whilst the social nature of the Open^3 is considered one of its main qualities, there remains a tendency amongst users to try and moderate this. Whether consciously or not many library users, be they individuals or groups, seek to secure a quiet spot within this social study environment. When the area became busier these divisions became distorted as users sought any available space to work in. Thus

users seeking to focus on revision found themselves positioned by the main thoroughfare. This was clearly unsatisfactory, with the researcher overhearing conversations about the noise level, and the lack of space.

4.12   Personal reflections on studying in Open[3]

As explained in section 1.5, above, one important aspect of ethnographic observations is the recording of the researcher's own personal experiences in the field. This section explores how the researcher found working as a participant-observer in Open[3]. For the purposes of clarity, the first-person narrative voice is used in order to maintain the immediacy and autobiographical nature of the ethnographer's experience.

4.12.1 Background information

I have spent almost a year as a student at Loughborough University, studying in the Department of Information Science which is located on the top floor of the Pilkington Library (level 4). I have also worked part-time as a staff member at the Library, working on level 3, witnessing user activity first-hand from the vantage point of the circulation desk. This gave me a somewhat unusual perspective, as a user, a staff member, and a student (of librarianship). Despite this I have had little experience of conducting academic work within the library building. As a mature student (26yrs) my study habits are well established and it is my tendency to undertake my work at home, using my own PC and taking advantage of the library's lending collection and online resources. I find my home environment a quieter and more comfortable venue for study. Undertaking the fieldwork for this study was a new experience which required me to work in Open[3] for the first time.

4.12.2 Personal perspectives

As a user I found it quite difficult to concentrate on my studies whilst working in Open[3]. This was a consequence of several factors:

1. **The logistical difficulties associated with conducting observation-based fieldwork whilst simultaneously participating (i.e. studying) were difficult to reconcile.**
2. **I found myself easily distracted by noise and activity around me.**
3. **I was regularly interrupted by friends who would spot me in Open^3 and commence conversation.**

My own study habits are quite ingrained, after 5 years at university and a year working in a reference library (where silence was strictly enforced!) I find working in a noisy environment quite difficult. However when I did manage to focus on something, I would tune out all background noise and distraction. This meant I was either focused on collecting data for the present study, or concentrating on my research/writing. It was almost impossible to do both activities simultaneously. In the end I found myself concentrating almost exclusively on observing and recording the activities occurring around me. However I did find the social nature of the space beneficial, insofar as it allowed me to meet and interact with others. The conversations I had with friends, strangers, and academic staff meant that my time in Open^3 was a richer social and learning experience than I would have enjoyed at home. As the fieldwork phase went on I found myself more comfortable working there, although this did coincide with the gradual quietening of the area as undergraduates finished their exams and left for the summer.

Chapter 5

Conclusions and Recommendations

5.1   Introduction

This chapter considers how successful this project was in achieving the aims and objectives outlined in chapter 1. The study was designed to collect and interpret observation-based data of how Open^3 was used, and establish how far it was fulfilling its intended purpose of supporting collaborative study. The objectives were to use the ethnographic methodology to create a document (this dissertation) which would be of interest and value to the management team at the Pilkington Library. It was also hoped that the study would establish how useful the ethnographic methodology can be to the broader LIS community.

In order to assess how successful the project has been, the present chapter is divided into three main parts. Section 5.2 draws together some conclusions about Open^3 as a learning environment; whilst section 5.3 makes recommendations on how the space could be developed in the future. Finally, section 5.4 evaluates the methodology and explores what can be learned from using such an approach for a LIS research project.

5.2   Conclusions

Prior to this study there had been no qualitative investigation into how the university community was making use of Open^3. Knowledge of how the area was used was largely circumstantial and opinion-based, or drawn from responses to the library survey of 2006 (which had a different focus to the present study). This study demonstrates that Open^3 has established itself as an important and valued learning environment for the university community. The data collected has garnered some important information and knowledge about Open^3 as a learning environment. This section discusses the main conclusions of the study.

The following broad points can be made about who uses Open[3] and how they choose to do so:

- **The space is mainly popular with students (especially undergraduates) who use it for both group and individual study.**
- **Users see Open[3] as simultaneously a social space and a work environment. Today's students do not consider these two activities mutually exclusive. By permitting students to work and socialise in this area, the library is undoubtedly making it a more attractive venue for undergraduates to study.**
- **The proximity of Open[3] to the café, and the relaxed atmosphere of the area encourages users to settle down and stay for prolonged periods.**
- **The space remains popular outside of the main university terms, with students on pre-sessional courses making particular use of the facilities. However use is at its peak during term-time and the revision/examination period.**
- **The presence of technology (PCs, Wi-Fi internet access etc.) is valued and widely used. As is provision of whiteboards for group study. These facilities are less well used during the vacation period, although it was noted that once the pre-sessional English language courses (for overseas students) began, they became more popular again.**
- **A tacit code of etiquette governs behaviour in the area. Most users behave in accordance with this, keeping noise below a certain level, and often leaving the library to make mobile telephone calls. A minority of users are noisier and disturb others. However it is rare to see such behaviour challenged.**
- **Most people behave considerately towards others and use Open[3] with respect.**

5.3   Recommendations

This study and the other investigations undertaken by the library in recent years indicate that users are largely satisfied with the provision of resources and learning spaces within the Pilkington Library. However both the feedback from the 2006 user survey and the findings of this present study indicate that there is insufficient space to meet demand at the busiest times of year. The library would be advised to try and provide more study spaces on level 3, expanding Open[3] if possible. Users clearly appreciate the range of study environments available to them, with library statistics indicating that each area attracts a large number of visitors. It is clear that ongoing development of a range of different learning spaces is fundamental to the continued improvement of library services. However it is important to maintain the diversity of learning spaces provided. As a consequence, this study would not recommend extending the open-plan learning space paradigm to other floors of the library. Instead it should be

contained within level 3, and new furnishings used to make a more efficient use of space (see section 5.3.4, below).

5.3.1 Developing technology in Open[3]

There were a range of problems associated with users bringing in extension cables in order to plug laptops and other electronic equipment into the power supply. It is encouraging to see the library has provided more sockets around the area during the summer period by adding wall-mounted cable units. This measure will undoubtedly reduce the 'cable-clutter' which arose during the busy revision period. This was a hazard to all Open[3] users so the improvement is doubly welcome.

Despite the increasingly common use of laptops by users, the PC workstations provided by the library were also extremely popular. It is clear that not all users have access to a laptop, and of those that do, not all choose to bring it with them onto campus each day. Many people were observed logging on for brief periods in order to print work off, or check e-mail. The library may find it useful to set up some 'quick-access' PC terminals which are designed for this purpose. Students who only needed a computer for 5-10 minutes could use these, instead of using the areas designed for longer term use. Such workstations could use thin-client technology thereby reducing their size and energy requirements, and could be located in the threshold areas of Open[3] which are already under utilised.

The problem of users leaving PCs logged on, and then leaving them unattended for long periods could be overcome by setting the network to automatically log users off if a terminal is idle for a certain period. This would also improve data-security, preventing passers by from accessing other users' filestores and print credit.

On a final note relating to technology use in the library, it may also be worth considering setting up a web-based service which advises users where they can find available workstations. Northumbria University has successfully established such a scheme and displays information on plasma screens at the entrance of the

library and on the library website. As screenshot of this service is shown in fig. 5.1:

Terminal Availability - City Campus	19:40:16			
Location	**Opening Hours**	**Free**	**In Use**	
Library Learning Cafe	0800 - 2000	25	3	🟩
Library 1st Floor South	0800 - 2000	58	2	🟩
Library 1st Floor	0800 - 2000	100	8	🟩
Library 2nd Floor	0800 - 2000	38	1	🟩
Library 3rd Floor	0800 - 2000	35	0	🟩
Library 4th Floor	0800 - 2000	39	1	🟩
Library 5th Floor	0800 - 2000	39	1	🟩
Library 6th Floor	0800 - 2000	25	5	🟩
Lipman Cafe	Closed	-	-	🟥
Pandon Basement	0000 - 2359	35	1	🟩
Students Union - Reds Balcony	Closed	-	-	🟥

Figure 5.1 – Screenshot of Northumbria University's PC availability screen (Northumbria University 2007).

Introduction of such a system at Loughborough University would be of undoubted benefit to users, especially at peak times.

5.3.2 Café facilities

Although the café is not managed by the library, this study would recommend that Imago (who operate the café for the university) consider extending the opening hours during the busy revision period. The eating habits of the students observed in this study would also lead us to suggest that the café begin to sell pizza! Users were regularly observed eating takeaway pizza which was delivered to them at the library. The vending machines were also frequently empty by mid-evening. It would be worth ensuring that these are refilled twice per day as this is a service which users clearly value. These are marketing opportunities which would be worth exploring further.

5.3.3 Improving diversity

The popularity of the space with students, and especially male undergraduate students may indicate that other members of the university community are not being provided for. Whilst the design of this study prevents any firm conclusions

regarding the diversity of library users, this may be an area that the library management team wishes to explore further using an alternative methodological approach, such as a targeted survey. This would allow the library to investigate how far it is meeting the needs of different user groups.

5.3.4 Enhancing the furnishing of Open^3

Open^3 is a dynamic space which is undergoing a process of continual change. Should the library find itself in a position to invest further in the development of Open^3, it would be worth considering new furniture for the area. The space is furnished in a minimalist style using heavy, immobile furniture. However other universities have been able to make better use of limited space through the use of specialised easily moveable furnishings. JISC describe the optimum learning environment as a 'self regulating building' where "sound and visual cues, layout and style of furniture, and different types of technology in different configurations, signal the different purposes of areas..." (JISC 2006, p. 23). Whilst it is pleasing to note that a number of improvements to Open^3 have been made over the course of the summer vacation (new carpet, replacement of PCs, provision of sofa-style seating in the café), further investment in the fittings and furnishing of the area would render it an even more flexible learning space, and possibly mediate some of the problems arising from noise and lack of space.

5.4 Reflections on the methodology

As explained in chapter 3, most of the data collection for this study took place during June 2007 when the library was trialling 24hr opening. This period is one of the busiest times of the year for the library, when undergraduate students are revising for their exams. Some observation was conducted during the vacation period, but data saturation was reached fairly rapidly as the library was generally much less busy. The vacation observation phase was postponed for a time whilst Open^3 and the remainder of level 3 was re-carpeted and new electrical outlets were installed. This certainly had an impact on library usage during July, requiring anyone visiting to conduct their work on levels 1 and 2. It is impossible to establish how far study-habits developed during this period will have influenced library users over the summer. These factors are important to bear in

mind as they have implications for the kind of activities taking place in the library. Had the study been conducted at a different point in the academic year, the results might have been markedly different. To gain a deeper understanding of how the university community uses Open^3 it would be necessary to undertake further studies at different junctures in the academic year.

In a small-scale study such as this, it was not possible to employ more than one researcher to collect data. However future ethnographic studies would be advised to recruit more researchers in order to ensure that one individual's perspective does not overly dominate the findings. Such an action would have further benefits insofar as it would prevent one individual becoming overly fatigued during the data collection phase. Ethnography is a tiring research method, requiring intense concentration from the observer during fieldwork. The library/bookstore study of McKechnie *et al.* (2004) is an example of a larger scale study which successfully used multiple researchers. Further projects might like to expand the data collection area to include the reference and short loan sections. It would also be interesting to conduct fieldwork in other academic libraries in order to compare user behaviour.

5.5   Closing remarks

A recent study listed five criteria that universities needed to meet in order to enable their students to fulfil the increasingly wide-ranging learning objectives of degree programmes. These criteria require libraries to be:

- **Adaptable – enabling various sized groups to form and work within a discrete area.**
- **Flexible – in that they can be transformed easily by other users.**
- **Multi-dimensional – allowing different types of activities to occur simultaneously.**
- **Accessible – permitting open access to students according to need.**
- **Secure – providing storage for incomplete and ongoing work.**

(Jamieson, Dane & Lippman 2005, p. 20)

The present study has compiled and analysed observation-based evidence on how the Loughborough University community uses Open^3. This project has also demonstrated that the ethnographic methodology can be successfully and usefully applied within an academic library. It is hoped that the findings of this

study will be of practical, beneficial use to the management team at the Pilkington Library. In concert with the data collected by the library's 2006 user survey, this study can confirm that the library is successful in its mission to provide "provide an appropriate and comfortable environment, accommodation and facilities for the use of Library resources, and for individual and group study" (Loughborough University 2007c). With the facilities on levels 1 and 2, the group study rooms, and Open[3], the library has succeeded in providing a wide range of learning spaces. These facilities go a long way to fulfilling the five criteria identified by Jamieson, Dane & Lippman, and therefore contribute positively to learning within the university.

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