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Research Article

Using Ethnographic Methods to Explore How International Business Students Approach Their Academic Assignments and Their Experiences of the Spaces They Use for Studying

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Abstract

Objective – Understanding students' approaches to studying and their experiences of library spaces and other learning spaces are central to developing library spaces, policies, resources and support services that fit with and meet students' evolving needs. The aim of the research was to explore how international students approach academic assignments and how they experience the spaces they use for studying to determine what constituted enablers or barriers to study. The paper focuses on how the two ethnographic methods of retrospective interviewing and cognitive mapping produce rich qualitative data that puts the students' lived experience at the centre and allows us a better understanding of where study practices and study spaces fit into their lives.

Methods – The study used a qualitative ethnographic approach for data collection which took place in April 2016. We used two innovative interview activities, the retrospective process interview and a cognitive mapping activity, to elicit student practices in relation to how they approach an assignment and which spaces they use for study. We conducted eight interviews with international students in the Business School, produced interview notes with transcribed excerpts, and developed a themed coding frame.

Results – The retrospective process interview offered a way of gathering detailed information about the resources students draw on when working on academic assignments, including library provided resources and personal social networks. The cognitive mapping activity enabled us to develop a better understanding of where students go to study and what they find enabling or disruptive about different types of spaces. The combination of the two methods gave students the opportunity to discuss how their study practices changed over time and provided insight into their student journeys, both in how their requirements for and knowledge of spaces, and their use of resources, were evolving.

Conclusion – The study shows how ethnographic methods can be used to develop a greater understanding of study practices inside and outside library spaces, how students use and feel about library spaces, and where the library fits into the students' lives and journey. This can be beneficial for universities and other institutions, and their stakeholders, looking to make significant changes to library buildings and/or campus environments.

Introduction

User research in academic libraries in the past has often focused on quantitative data to learn about their users, utilising results from the National Student Survey and statistics such as gate entries and book borrowing data, providing a limited understanding of library use. However, library staff have increasingly used ethnographic methods to develop a richer understanding of students' usage patterns and needs within and outside of their study spaces. This contextual qualitative data about students' lived experience is not easily available through other methods and can be of great use in developing library staff's understanding of the preferences and practices of [potential] users. The research presented in this paper was inspired by a large scale quantitative piece of research which identified some groups of students as 'low users' of the library spaces and resources (i.e. those who rarely or never visited the library, and rarely or never accessed library subscribed resources) (Stone & Ramsden, 2013; Collins & Stone, 2014; Stone, Sharman, Dunn & Woods, 2015; Sharman, 2017). One low user

group identified in the quantitative research was international students. The quantitative study did not have any information about spaces students might go to study, what they thought about library spaces or which resources they might access, if not library resources. The study offered a very limited view of student practices and we wanted to understand more about how students access resources and support for their studies. Also, the term 'low user' is conceptualised primarily from the perspective of the service goals of an academic library and as such can be seen to have negative connotations by classifying students as somehow deficient. This was not how we approached or perceived the students and the focus on international students were therefore formed in response to them being a group that we seemed to know very little about (although this could be said to be true of most of the student groups identified in the quantitative study). Our approach was exploratory and aimed at developing a more holistic view of student practices and experiences. We turned to the business school for participant recruitment as they have the highest percentage of international students. The students recruited were not specifically identified as 'low users', or part of the previous quantitative research study, but volunteered as participants in our qualitative study.

In this method-focused paper we argue that, in order to develop a better understanding of the students' study practices, we need to focus on gathering data about the contexts and processes that students are situated within, and engage in: the purpose of this paper is to demonstrate the effectiveness of the methods used in gathering richer data that can improve our understanding of student practices. In terms of study practices, our focus is on how they approach academic assignments and considering how their study practices are enabled or disrupted by the spaces they use for studying.

We gathered data regarding these practices by utilizing retrospective interviews to explore their assignment processes and employed cognitive mapping within interviews to explore their experiences of and attitudes towards spaces where they studied.

The retrospective interview technique involves asking the participant to draw and then explain how they go about an activity in order to understand their process, the resources they make use of on and their decision making. The cognitive mapping technique also involves the participant spending a short time drawing a map based on a theme, in this case study spaces. The map is then labelled by the participant with explanatory details and discussed with the interviewer. The details of the map are discussed within the interview and form part of the transcript that is then coded and analyzed. You could potentially carry out a separate analysis of the maps, but in this study they were analyzed as part of the interview discussion.

Both techniques produce rich data that can be used to provide prompts for discussion and to explore experiences, concepts and perceptions in more detail. These methods put the experiences of the participant at the centre of the research process and can therefore yield the kind of qualitative data that is a crucial part of understanding how complex the everyday lives of students are. The maps are a great way to showcase the interrelatedness of studying, and can also be used to complement, critique and contextualise patterns and issues identified by quantitative studies. Library practitioners and other professionals can adapt the methods discussed in this paper, as well as the coding themes identified, to their own contexts to focus on different user groups. The details of the implementation and analysis of the ethnographic data can act as a framework for staff in other academic libraries to explore their students' academic practices, develop their understanding of the student journey, and gather details of students' experiences of, and preferences in relation to, learning spaces.

Literature Review: Ethnographic Methods in Academic Libraries

Incorporating and adapting ethnographic methods to explore the user experience (UX) of libraries is an evolving field (Gibbons, 2013; Goodman, 2011; Lanclos & Asher, 2016; Priestner & Borg, 2016; Ramsden, 2016) and driven by a recognition that such a qualitative approach offers opportunities to gather meaningful data about the 'how' and 'why' of student behaviour. This literature review focuses on the use of ethnographic methods in library research, providing an overview of techniques as a background and foundation for understanding the context of our own research intentions. The papers included demonstrate and discuss the importance of utilizing ethnographic methods and how the data can be more beneficial to service (non)users. For a more detailed, comprehensive review of the use of ethnographic methods in libraries, refer to Khoo, Rozakilis and Hall (2012), who provide extensive information on both the variety of methods employed and the purpose of their use.

Using ethnographic methods enables us to gain an insight into the complexity of students' everyday lives, which can inform and improve the design of study spaces, library signposting practise, library policies and other support services. The use of ethnography is frequently identified as central in library research to aid in understanding student practises. Tewell, Mullins, Tomlin and Dent (2017) highlight that as social behaviours are central to ethnography it is "particularly useful for developing insights into people's experiences and expectations" (p. 80). These insights into the everyday lived experience of students can then feed into the way spaces and services are organised: "Being aware of student research processes and preferences can result in the ability to design learning environments and research services that are more responsive to their needs" (Tewell, Mullins, Tomlin, & Dent, 2017, p.79). Lanclos Ethnographic approaches have also been used to explore the experiences of specific groups of and Asher (2016) argue that ethnography as an approach enables a holistic focus for the research in order to consider contexts and connections outside of or beyond the students' engagement with the library. In a study of students' research processes at an Irish university, Dunne (2016) considers that "…gathering data about individual student interactions through ethnographic study captures the physical use of space and the emotional experience of students, in a way that surveys and interviews cannot" (p. 412).

In research carried out at the University of Rochester in the USA to explore student practices, ethnographic methods were used in order to "…learn more about where students like to study and why, with whom, and when" (Gibbons & Foster, 2007, p. 20). This research also involved several other methods, including retrospective interviews. The interviews required students to draw the process of completing an assignment, while describing each step as they drew. Students were also asked to keep a "mapping diary" detailing where they went throughout the day (Briden, 2007, p. 40). Influenced by the work by Foster and Gibbons (2007), the ERIAL Project (Asher & Miller, 2011) was a two-year ethnographic study of the student research process at five universities in Illinois, USA. The researchers adopted multiple methods, including the cognitive mapping method developed by Mark Horan (1999) to explore students' knowledge of libraries. Horan (1999) describes the output as a 'sketch map' and claims they "can give patrons an opportunity to express things for which they perhaps do not have the words" (p. 194). The ERIAL project (Asher & Miller, 2011) also utilized retrospective research interviews when researching student practices at the University of Rochester. The combination of visual data alongside qualitative interviews that explained the images in their context proved a particularly powerful research tool in discovering student practices (Asher & Miller, 2011).
students. In Regalado and Smale's (2015; n.d.) extensive research of commuter students at the

City University of New York (CUNY) a key finding was that students "valued the library as a distraction-free place for academic work, in contrast to the constraints they experienced in other places - including in their homes and on the commute" (Regalado & Smale, 2015, p. 899). The data from this large scale study includes students' maps of their daily routes, photographed items related to their academic lives, and representations of their research processes (Regalado & Smale, 2015; Smale & Regalado, n.d.).

The benefit of focusing on the complexity of student lives is further reinforced by a recent U.S. study focusing on how users experience the library in the context of their lives. 'A day in the life' of over 200 students' focused on students' lives, and the library's place in it, undertaking collaborative ethnographic research as part of a mixed methods approach (Asher, Amaral, Couture, Fister, Lanclos, Lowe, Regalado, & Smale, 2017). In a presentation at the Association of College & Research Libraries Conference on 'The Topography of Learning: Using Cognitive Mapping to Evolve and Innovate in the Academic Library', the benefit of getting participants to produce and discuss maps of their practises is that they can contribute to revealing the unrevealed and offers a way to 'provide narrative to accompany statistics' (Lanclos, Smale, Asher, Regalado, & Gourlay, 2015).

Qualitative research designed with students at the centre, particularly utilising ethnographic or UX based designs, is clearly a key route to developing understanding of library users and the lives of students more generally. Our intention when carrying out our own research was to do just that, learning about our students and what was important to them in their study practises. Additionally, our research gave us an opportunity to further our understanding of ethnographic practise in library user research.

Methods

In order to explore the reasons why international students may be low users of the library and library resources, we designed a study to gather more contextual knowledge about their academic practises, where they study and how they approach academic assignments. We already knew that we were looking to learn more about where students liked to study (and why), as well as to explore what resources the students used for their studies, including how they accessed the resources and who they worked with in this process, e.g. tutors, librarians, peers, friends, etc. These were the initial parameters for designing the study and guided the analysis of the data later on.

We chose the methods of cognitive mapping (as per Asher and Miller (2011) above) and retrospective process interviews because they involve the participants in producing something which is not driven by questions from the researcher. What the participant produces can then form the basis of the subsequent conversation. These methods ensure that the participants' experience and meaning making is at the centre of the research and frames the data produced in the interview.

The instructions were given in a short verbal explanation to the students and also written down. This served as a useful reminder, but also helped to communicate the various steps involved in the exercise to international students. We stressed there was no right way go about doing these exercises and if, for example, the students didn't feel comfortable drawing the spaces they frequented, they could produce a mind map or simply write down keywords.

We believe these methods are well suited to developing meaningful discussions with international students who may not have

English as a first language. The method of cognitive mapping had previously been employed as part of a research project about academic study practises and more general use of campus spaces at the University of Huddersfield (Ramsden, Jensen, & Beech, 2015). The research highlighted how useful the maps were in getting details about the complex reasoning behind students' choice of study spaces. The research also indicated that the maps were very useful as interview talking prompts and we therefore saw the benefit of using this approach in getting students to tell us about the characteristics of the spaces they choose to study in.

Following the instructions for the activity from Asher and Miller (2011), the mapping activity was carried out with three differently coloured pens, with the interviewee changing pens every two minutes (3x2 minutes). The idea behind the mapping activity is that the participant will first draw what is the main or most important area for them. We asked students to draw a map of where they go to learn or study, and gave them six minutes in total to complete the exercise. Following the drawing exercise, we asked participants to label the spaces and add details as we talked through their maps as part of a recorded interview. The prompt for the mapping activity was:

> You will be given six minutes to draw from memory a map of where you go to learn or study (your learning spaces). Every two minutes you will be asked to change the colour of your pen in the following order: 1. Blue. 2. Green. 3. Red. After the six minutes are completed, please label the features on your map. Please try and be as complete as possible, and don't worry about the quality of the drawing.

The second method, retrospective process interviews, was utilized to learn about students' approach to writing and researching assignments, and to explore what resources, from online databases and search engines to their peers or academic colleagues, they use in this process. Our use of the method drew from Foster and Gibbons (2007) and Asher and Miller (2011), who recommend this method for 'step-by-step processes' that require students to recall how they did a particular activity. In contrast to the cognitive mapping, there was no time limit or requirement to swap pen colours. The prompt for the retrospective process interview was:

> Please describe how you did your last assignment. Begin with when you first got the assignment brief/title, how/where you looked for information, how you wrote it and end with when you submitted it on Turnitin. Please draw each step below.

In order to get some ideas about the different factors and decision making that came into play in their study processes, we then asked follow-up questions. For example, where did the students seek help, did they rely on reading list items or engage in wider reading and did they use the specialist resources purchased for their subject area. It was felt to be a particularly effective and simple method to use with international students to facilitate useful conversations to find out more about their study habits and how they differed to that of their U.K. peers.

Recruiting Students

Rather than recruit international students from all the disciplines, we concentrated on the Business School. We chose students from the Business School partly because they have the largest population of international students and partly because they had compulsory classes, where we could ask for volunteers to participate in the study. We recognize that this recruitment process may represent some limitations for the study in terms of constituting a convenient sample and capturing only subject specific practices. This research is a snapshot of a particular set of students, from varying backgrounds and cultures, studying in the UK for a limited time. This methodology allows researchers to understand the practises of students who have had to adapt their own

norms of studying to those of the University they find themselves in. Readers and practitioners should be aware that cultural differences may have informed previous, and current, study practices of the students involved.

Tutors from the Business School's International Learning Development Group recruited the students. The students were a mixture of undergraduate and postgraduate; four participants were Chinese, while others came from Iraq, Thailand, Vietnam, and Morocco. The students received a £10 voucher as an incentive to participate and to reimburse them for their time. The interviews were recorded and lasted from 30 minutes to about an hour. The interviews were carried out by all the team members. Following the interviews, we produced notes with transcribed excerpts.

Thematic Analysis

The qualitative data from the interviews was analyzed by identifying patterns of meaning across the data in order to develop themes (Braun & Clarke, 2006). Our focus was on the experiences and the reality of the participants in relation to the topic areas of study practises and study spaces that we identified at the beginning.

Although we were building on existing research, the team decided to do the initial coding of the interviews without a predetermined framework of themes. This was to allow for any unexpected topic areas that participants might focus on or highlight as being of specific importance for their experiences and practises.

Developing Consistent Coding

In order to code the interviews consistently, all the team members first coded the same interview and then met to discuss the codes assigned. This initial coding of the data aimed to develop themes in an inductive way, to be as close to the data as possible and therefore produce themes mostly descriptive in nature. However, it is important to recognize that we were building on previous research, which meant some of the initial coding was more interpretive. One example of interpretive coding is that we decided to code whether something was a "study enabler" or "study barrier" for the students' practises. Codes were subdivided again into comments that expressed positive or negative attitudes towards the theme in terms of how they affected their study and labelled as such to distinguish how the same things can have different resonance to different people. For example, some people find group work enables their study, whereas some find other people a distraction.

Following this initial phase, a detailed list of codes and sub-codes was developed to code the interviews. We then stripped the interviews of their codes, swapped amongst team members, and re-coded. All the team met to compare the re-coded interviews and amalgamate or refine codes as needed. One team member created a spreadsheet with all the coding incidences across the eight interviews, and this formed the basis for the team to write up the findings across the themes that were most prevalent. The codes are outlined in Appendix 1, and can be used as a starting point for anyone planning research into this area. They have already informed further research into the user experience at the University.

Second stage data analysis consisted of revisiting the interviews to flesh out the selected coding themes. Initial coding of the eight interviews included ten themes. When the team reviewed the coding themes in all the interviews, four areas were identified as common across the interviews and were therefore explored in more detail. This doesn't mean that themes that were identified in perhaps just one interview were not taken into account in the presentation of the findings. We recognize that the commonality of themes was also produced in part because we were asking interviewees about specific aspects of their practise.

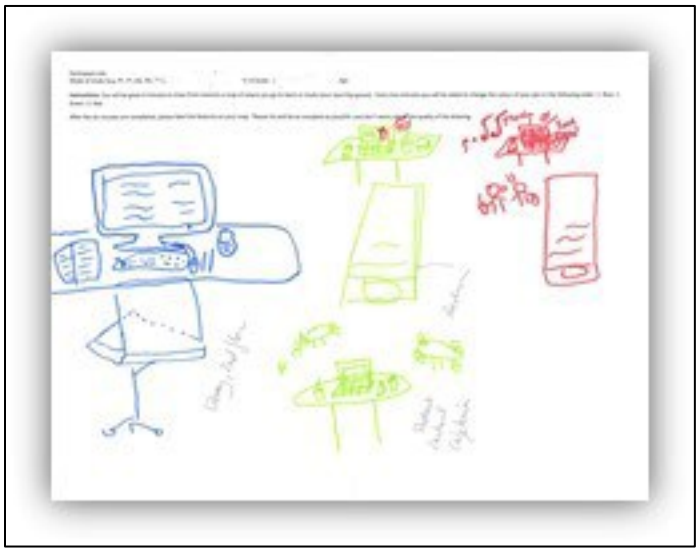

Figure 1
A cognitive map of the student's study spaces.

Results: Where Students Go to Study and Why

The cognitive mapping activity helped us to identify the types of spaces where students went to study and what made some spaces better suited for studying than others. The maps visualized the components of the different spaces, and the subsequent discussion enabled the interviewer to ask follow-up questions as to what was positive and negative in terms of studying in each of the spaces drawn. The maps varied considerably in terms of the details drawn but they were excellent for pointing us towards what the students found enabling or disruptive for study purposes, and to their requirements and expectations of the different types of spaces. This information on the varying requirements of students is useful in supporting a university in making decisions on what types of spaces meet student needs at different times.

Figure 1 is an example of one of the cognitive maps produced during the interviews, and here we can see the first space mapped in blue pen as depicting a single desk with a computer and a chair. Importantly, this space has then been labelled as a specific floor in the library to identify the space in more detail. The second space in green pen is a communal space where the key items are a large table with a laptop, and this is also later labelled with the name of a central student cafeteria area on campus: the student likes the option to eat and drink while studying, which library rules prevent. And finally, the last space in red pen is the home environment where a bed, desk, music, food, and friends are drawn in detail. In the interview, the student explained that not much studying happens when they meet up with friends at home. The map is a useful visual prompt for the

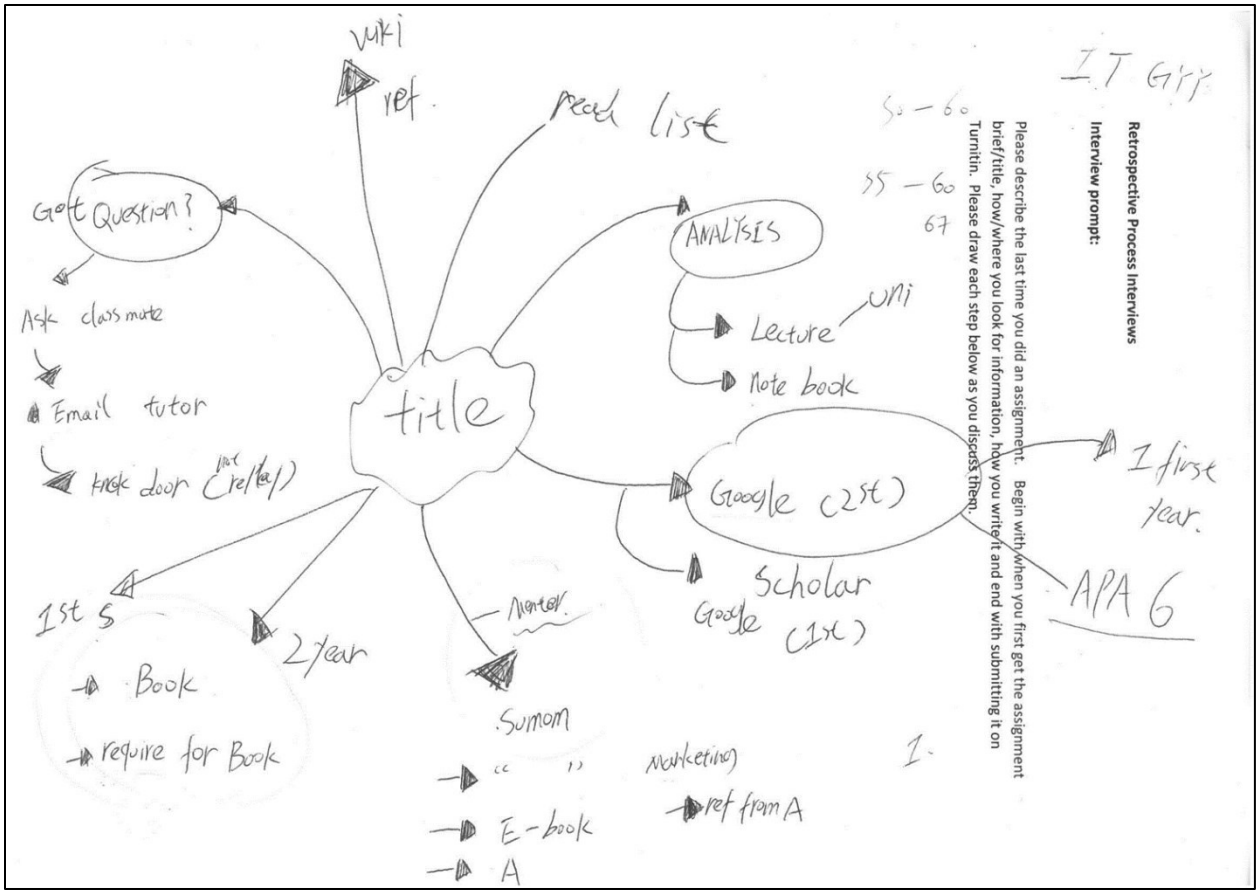

Figure 2
Retrospective interview map from interview eight.

interviewer (and student) to discuss what is enabling and what is disrupting about the different spaces, as well as valuable in identifying the resources they use and their study practises.

Results: Retrospective Process Maps of Approaches to Academic Assignments

The retrospective process maps were valuable as a tool to discover what resources students used in planning their assignments, and what different people they involved in this process (classroom peers, lecturer, tutor, support staff, library staff, etc.).

Figure 2 shows an example of an output from the retrospective process interview demonstrating a starting point for researching an assignment, and then subsequent key points in the student's planning process including the resources they are drawing on. On the map, the student indicates that their first action after getting the assignment title is to ask classmates for help, but if they require additional support they email the tutor.

In the example, the student also indicates the different practises they have used from the first to their third year, giving the interviewer a useful prompt for further discussion, as well as producing valuable data on their student journey. The discussion covers the development of academic skills, from using Google as a first source in the first year to a growing understanding of the benefit of using academic references in the third year, which is prompted

by a discussion with his tutor following a poorly graded assignment.

> I got 45% and my tutor said you have to paraphrase the paragraph and change your structure and you have to put the name, author's name and the year - Phew! (Interview eight.)

Discussion: Space Preferences and Student Needs

Our analysis of the discussion of the maps highlighted that students change where they go depending on what they need to get done and what their current preferences or needs are, and they plan this according to their evolving knowledge about the spaces that work for them. The picture this rich data presents challenges simplistic assumptions about the library as a study space and foregrounds the complexity of student decision making around studying. The theme of convenience and the link to current location and schedule emerged strongly in the multi-sited U.S. study Mapping Student Days. They found that:

> Though students across the board were most likely to report a feeling of happiness when they were at home, the choices they made for studying depended on convenience (such as proximity to their next destination) and on surroundings that encouraged them to do academic work (which could be a designated space at home or could be table or carrel in a library where being in the company of other students encouraged focus).
> (Asher, Amaral, Couture, Fister, Lanclos, Lowe, Regalado, & Smale, 2017, p. 310)

For example, a student discussed going from one floor of the library to another floor as a result of discovering a space that matched their needs to discuss their work with fellow students.

> I found the room here [indicates the room opposite the interview space, which is an open area] you can talk with your classmates, because we are discussing. Because if you work alone you will just sleep, you will not get your work done this way … if you go to silent area, to quiet area you can't talk, you can't discuss. (Interview seven.)

Understanding the changing and different space requirements students have is important for staff working in libraries if they want to play a key role in enabling the study practises of their students.

Another student talked about the library space as being part of their social network, and this is demonstrated in the maps where social and academic activities can be seen to overlap. The details of the maps also underline the importance for students to be able to easily access food and drink in order to carry out their academic work. When students talked about using non-campus spaces like cafes, the benefits they mentioned were their atmospheres, such as lighting, music, and the smell of coffee.

Some of the students preferred to work at home because they had more autonomy over what they could do within the space, including eating and drinking. Being able to eat and drink is a large factor in how they think of spaces, though it is possible that this reflects a general wish to have more control over the environments they work in. One student mentioned that in their personal room, they can de-stress and do what they want as they study. The positives of working in the 'home space' give us some ideas about why the library spaces might not be the students' first choice.

We did find that students appreciated the bookable group areas in the library, as being able to work with their peers at times that are best for them was important. Some students found working with friends a distraction, but still used the group work areas whilst being

aware that they do their best work solo in their own space. For these students, the library was therefore a social study space, rather than a solo study space. Allan (2016) found similar student behaviours in terms of adapting the space for personal needs.

In relation to exploring low usage of the library, the methods helped us to discover some reasons why home is a preferred study space, to learn that the international students were unfamiliar with the support they could get from librarians, and that navigating the library classification system remains a challenge for most.

Student confusion about the role of librarians, as well as which staff are librarians, is also highlighted in a U.S. ethnographic study using observation and interviews with library users in an academic library recently relabelled as an 'information commons' (Allan, 2016). That students do not make use of librarians in relation to support with their studies, but only for more 'directional support' such as asking where a book is located is also reported in another recent U.S. study (Tewell, Mullins, Tomlin, & Dent, 2017).

The analysis of the discussion of the maps from the retrospective interviews enabled us to identify student support networks as the students talked about making use of friends, peers or classmates, tutors, and other support services. For example, it became clear that the International Learning Development Group (ILDG) played a central role in supporting international students as students referred to ILDG as being how they had become aware of resources to use and learned about referencing, how to check their work for plagiarism, and was also somewhere they could book appointments to discuss their drafted work. In contrast, the students did not mention the librarian in relation to information searching and referencing, which has led us to consider ways of raising awareness of the librarian role and to consider better signposting for the librarian help desk in the physical library space.

The cognitive map activity allowed us to better ask questions about what students liked or did not like about the spaces they had drawn and how this was connected to enabling or disrupting their studying. It also enabled us to collect rich data about the different ambiances of the spaces, including how others contribute towards that ambiance, and making connections as to how this contributed to the feelings of students towards the space and their use of it.

We believe one reason students expressed a preference for studying in 'home spaces' is that in these spaces students have more control over their environment, such as access to food and drink, noise levels, and soft furnishings. Conversely, some students recognized that this meant that the benefits of the home space could also turn into distractions, which were barriers to getting studying done.

The need to adapt space to different individual requirements is reported by Tewell, Mullins, Tomlin, and Dent (2017) as they found students attempted to create their own temporary 'home spaces' for studying within the library by moving furniture and books.

The research findings led us to recommend that regulations regarding the consumption of food and drink within the Library should be reconsidered, especially concerning access to hot drinks as this is clearly an issue of great concern to students and central to their study practises. The students' attitude to working in library spaces is negatively impacted by the enforcement of a no-hot-drinks policy, which is a policy that appears incongruent to the development of the library as being open 24/7. The Library has since relaxed the rules on allowing hot drinks, as long as they are brought into the library in a travel mug, and provides a space for students to go relax and eat snacks

should they want to take a break without leaving the Library.

The rich detail from the mapping approaches is a reminder of the need for a holistic approach that takes into account the complexity of student lives when looking at study practises. We are reminded of the embodied and embedded nature of any activity.

Conclusion

We have made a case for the value of ethnographic methods in exploring the contexts and processes of students' study practises, as these methods allow us to gather rich qualitative data that offer a more holistic representation of the students' lived experience. Understanding our students' lives and needs are important, and is the key to optimally developing and evaluating library spaces, policies, resources, and support services. The retrospective process interview offered a way to gather details and develop knowledge of student use of resources (including those provided by the library) and their social networks to aid their studying. The cognitive mapping activity provided us with a better understanding of where students go to study and what they find enabling or disruptive about different types of spaces. The combination of the two methods allowed the students to talk about changes over time to the way they did academic work and gave us insight into their student journeys; their requirements for and knowledge of spaces, as well as their use of resources, were evolving. The data collected helped to highlight the international student experience and study culture. Further research has been planned to use the same research techniques with U.K. students to find out whether they experience similar issues and engage in similar practises.

The study shows how ethnographic methods can be used to develop a greater understanding of how students use and feel about library spaces and where library staff, resources, and spaces fit into the students' lives and journeys. This can be beneficial for universities, other institutions, and their stakeholders looking to make significant changes to library buildings or campus environments. The student practises and preferences revealed by the maps also formed the basis for practical recommendations, such as the necessity of ensuring the library opening hour policy is congruent with the facilities for refreshments and storage available to students. Although this was small scale research, it demonstrates the value of mini projects to develop targeted data collection to contextualize and develop our understanding of quantitative and survey data. Such projects enable the development of an analytical framework that can then be built on, and allow for accumulation of evidence that can impact practise.

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Appendix 1
Interview Codes and Sub-Codes

1. Resources
1.1 Discovery systems/search tools
1.1.1 Library, Summon
1.1.2 Search engine (Google, Bing, Yahoo etc)
1.1.3 Academic search engine (Google Scholar, Academia.edu)
1.2 Library physical resources (books)
1.3 Library subscription resources (databases, journals, Mintel etc)
1.4 Internally monitored non-subscription resources (UniLearn, MyReading)
1.5 Non-subscription external non-monitored resources (Wikipedia, websites)
1.6 Personally owned resources (books)
1.7 eBooks
2. Help/support
2.1 Peer
2.1.1 Peer face to face
2.1.2 Peer online (Facebook etc)
2.2 Tutor
2.2.1 Tutor face to face
2.2.2 Tutor online (email)
2.3 Librarian
2.3.1 Librarian face to face (one to one, help centre)
2.3.1.1 Librarian teaching session/induction
2.3.2 Librarian online (question point, email)
2.4 ILDG
2.5 IT support
2.5.1 IT support within the library
2.5.2 IT support remotely
2.6 Library support staff (student helpers)
2.7 Interlibrary Loans staff
3. Time
3.1 Management of time
3.2 Time of day specific activities
3.2.1 Morning
3.2.2 Afternoon
3.2.3 Evening
3.2.4 Night
4. Space/use of space
4.1 Library
4.1.1 Floor specific
4.1.1.1 Floor 2
4.1.1.2 Floor 3
4.1.1.3 Floor 4
4.1.1.4 Floor 5
4.1.1.5 Floor 6

4.1.2 Bookable group area
4.1.3 Silent working area
4.1.4 Wayfinding
4.2 Home (bedroom, halls)
4.3 External multi-use environments (coffee shop etc)
4.4 Internal multi-use environments
4.4.1 Student central
4.4.2 Business School
4.5 Non-study
4.5.1 Home
4.5.2 Library
4.5.3 External multi-use environments
4.5.5 Internal multi-use environments
5. Student journey (changes between years)
6. Country differences
6.1 Language
6.2 Structure of course
6.3 Culture
6.4 Academic expectations
6.5 Library
7. Food and drink
7.1 Food
7.1.1 Snacks
7.1.2 Main meals
7.2 Drink
7.2.1 Drink-hot
7.2.1 Drink-cold
8. Study style
8.1 Noise/quiet (preferred noise level important)
9. Technology use
9.1 Laptops (personal)
9.2 Library technology
9.2.1 Laptops (borrowed)
9.2.2 Library printers
9.2.3 Computers
10. Academic skills
10.1 Grades
10.2 Critical thinking
10.3 Exams
10.4 Structure
10.5 References
10.6 Search skills (truncations etc.)
10.7 Plagiarism (Turnitin etc.)