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Affective Experiences of International and Home Students during the Information Search Process

An increasing number of students are studying abroad requiring that they interact with information in languages other than their mother tongue. The UK in particular has seen a large growth in international students within Higher Education. These non-native English speaking students present a distinct user group for university information services, such as university libraries. This article presents the findings from an in-depth study to understand differences between the search processes of home and international students. Data were collected using an online survey and diary-interview to capture thoughts and feelings in a more naturalistic way. International students are found to have similar information search processes to those of home students, but sometimes face additional difficulties in assessing search results such as confusion when dealing with differing cultural perspectives. The potential implications for information service providers, particularly university libraries, are discussed, such as providing assistance to students for identifying appropriate English sources.

Keywords: university libraries; search engines; students

Introduction

In the academic year 2014-15 it was reported that 13.4% of undergraduates and 37.9% of postgraduates in British universities came from outside the United Kingdom (Higher Education Statistics Agency, 2016). In addition to adjusting to an unfamiliar social context, many of these students must adapt to a new academic culture and its library services, while overcoming language barriers (Baron & Strout-Dapaz, 2001; Kelly & Moogan, 2012). Differences in cognition, affect and patterns of behaviour also lead to adaptation issues (Liu & Winder, 2014). Unsurprisingly, international students have been found to suffer from higher anxiety levels throughout the academic year compared to their home student peers (Maringe, 2010).

A critical part of study is students' information seeking behaviour, a "process driven by humans' needs for information so that they can interact with the environment"

(Marchionini, 1995:28). Various models have been developed to describe how information needs, or gaps in knowledge, are identified and resolved (Wang, 2011); many considering the roles of motivation, mood, preference, and evaluation as critical to an individual's search process (Julien & McKechnie, 2005). A number of models have also established the importance of affect or emotion in a variety of information seeking contexts, which has formed an important part of assessing the user experience of information products and services (Kuhlthau, 2004; Wang, 2011). Although the emotional aspects of how students cope with the adjustment of studying abroad have been the subject of much previous research in the United Kingdom (Liu & Winder, 2014; Morrison et al., 2005; Andrade, 2006), how international students feel during the information seeking process, and how they use the languages at their disposal to meet their information needs has not been studied before and forms the main focus of this paper.

This research takes an inductive approach in its assessment of the experiences of home and international students and the information search process. We address the following research question: Are there differences in affect between home and international students when searching for information? Quantitative data were gathered by means of a survey of students at the University of Sheffield; qualitative data were obtained by means of a week-long diary-interview study. The results capture some of the feelings and thoughts which the participants experienced during the study, as well as their more general experiences. We compare the thoughts, actions and feelings of international students and home students during the information seeking process and consider the implications of our findings for university library services. The work reported in this paper is based on an MA dissertation project undertaken by the first author at the University of Sheffield in 2014.

The remainder of this paper is structured as follows: the following section reviews previous relevant work and explains why further research is necessary; then we describe and justify the methodology for data collection and analysis employed in this study; the results are then presented from the online questionnaire, the diary study and the face-to-face interviews. We discuss and interpret the findings in the context of the existing literature and conclude the paper by summarising key findings of the study and providing suggestions for future research.

Related Work

Affect and Information Seeking Behaviour

Many models of information seeking behaviour address the affective aspects of the information seeking experience (Savolainen, 1995; Wilson, 1999; Kuhlthau, 2004; Naumer et al., 2008), and a number of research studies have explored the role of emotions in various information seeking contexts (Kuhlthau, 1991; Nahl, 2005; Hyldegård, 2006; Arapakis et al., 2008). We now discuss some of the key models of information seeking behaviour that, in particular, consider affect and emotion.

One of the most widely cited models of information seeking behaviour is that developed by Tom Wilson. His 1996 model substantially revised an earlier version by incorporating psychology, and thus affect, as one of a number of intervening variables which might support or frustrate the fulfilment of users' information needs (Wilson, 1999; Wang, 2011). Wilson's model presents emotion as an influencing factor on the broad activity of information behaviour, but falls short of providing detailed insight into the complexity of each phase of information seeking. Dervin's (1998) sense-making model addresses this and incorporates the emotional aspects of information seeking as part of the bridge between an individual's context and the

outcome of the process (Wang, 2011; Naumer et al., 2008). This reflects the use of feeling as a significant indicator of outcomes, the social role of emotions and their potential to influence thought and action. Savolainen (1995) incorporated both cognitive and affective aspects as factors in the typologies which he used to define approaches to non-work information seeking and problem solving. These were integrated into his everyday life information seeking model which positions the information seeker in their social context. Although it has some similarities with the content of previous models, Savolainen focuses on concepts rather than processes (Case, 2012).

Kuhlthau argued for "a holistic view of the information user encompassing affective experience as well as cognitive aspects" (Kuhlthau, 2004). Her theories were largely based on constructivist approaches to psychology, which view emotion, cognition and action as interrelated. Her 1985 study of secondary school pupils in the United States formed the basis of a six-stage process of information seeking: task initiation, topic selection, topic exploration, focus formulation, gathering information and finally the conclusion of the task. These theories were refined through subsequent research studies, with findings showing that a common sequence of feelings was experienced at each stage in the process. Uncertainty, confusion and apprehension were present at the outset and increasing until a focus was identified, at which point confidence levels improved. On completion of the process, a sense of satisfaction was generally experienced. Furthermore, it was established that an attitude of open-minded enquiry and willingness to accept change was most compatible with the earlier stages of the process; an indicative mood, rejecting new information and concepts, proved more suitable in the later stages.

Kuhlthau's model has been repeatedly tested and found to hold for other groups,

including undergraduate students and professionals in information-intensive environments (Kuhlthau, 1988b; Kuhlthau, 1999; Kuhlthau & Tama, 2001). Some differences in affect have been discovered between the sexes, with girls exhibiting a more positive affect than boys on commencing the search process, but boys being the more confident at its conclusion (Kuhlthau et al., 2008). Language and culture have, however, only recently been considered as influencing factors. In a longitudinal study on English language learners in a New Jersey public high school, Kim (2010) found that different ethnic groups exhibited different levels of both positive affect and negative affect throughout the study. Kim suggests that the difference is related to proficiency in the English language; however, no native English speakers were included in the study for comparison.

Language Proficiency

English language skills are a critical issue for students and greater proficiency correlates with higher academic achievement in English language classrooms (Liu, 2006). Angelova and Riazantseva (1999) found that, despite exhibiting high levels of motivation to study in the United States, international students can be poorly prepared for academic assignments and exhibit negative feelings at the outset of their courses. However, by the end of their course case study participants had greater confidence in writing academic English although it took them a great deal of time and effort to gain this confidence. Although not explicitly related to Kuhlthau's model, these case studies appear to display the shift from a negative to a more positive affect between the initiation and concluding stages. A similar correlation between greater proficiency, diminishing anxiety and improved confidence applies to students' use of spoken English in academic contexts (Liu, 2006).

Those who speak more than one language are able to select the search language best

suited to fulfil their information need or to obtain information specific to a location. The perception that a higher quality of information is available in English also influences language choice (Rieh & Rieh, 2005; Aula & Kellar, 2009). Multilingual subjects also report switching languages during a search session where searching in their native language had been unsuccessful. Conversely, the choice of language may have a negative impact on the success of a search. A study of seventeen Hungarian college students who spoke English as a second language showed that cursory Internet searches in the latter were less successful than those conducted in participants' native language (Józsa et al., 2012). This was not so for in-depth searches, which produced comparable results in both Hungarian and English. Similarly, Swedish subjects took more time to evaluate English language texts than texts in their native language (Hansen & Karlgren, 2005). In addition, the resulting conclusions of participants searching in English were less accurate than when the same participants conducted their searches in Swedish. Although the effectiveness of searching in additional languages and the reasons for language choice has both been documented, the affective aspect of the use of additional languages for information seeking has not been studied.

International Students
The cultural, social and academic experiences of international students have been extensively studied and previous work focussing on their experience of the academic library provides some useful insights into the issues some students experience during the information search process. The notion of 'library anxiety' was first documented by Mellon (1995) and is characterised by feelings of inadequacy in using the library when all other students are perceived as competent. This is compounded by a reluctance to ask for assistance and hence reveal a lack of knowledge. The problem is well-documented amongst all students, although it lessens as university experience increases (Jiao et al., 1996). International students may be particularly affected by a lack of understanding of academic library culture in the United Kingdom (Robertson, 1992). It

has been suggested that previous experiences of different library cultures influence the expectations of international students in university libraries (Baron & Strout-Dapaz, 2001; Garcha & Russell, 1993). A study of fifteen international graduate students in the United States found affective barriers to be a particularly significant factor in their library use (Lu & Adkins, 2012). Subjects demonstrated the confusion and anxiety found in the initiation stage of Kuhlthau's model of the information search process, as well as concerns about obtaining assistance. Although this suggests that students from different cultural backgrounds experience the same affective issues when using the library as found in Kuhlthau's studies, it is not stated if they experience these to a greater degree than home students. This contradicts the findings of Varga-Atkins and Ashcroft (2004) who found no significant gap between the information skills of international and home students in a British University. The researchers suggested that the availability of electronic information was eroding the differences in students' educational backgrounds. Subsequent research has found that increased access to technology has not led to a corresponding improvement in young people's information skills (Rowlands et al., 2008).

Technology has changed the research process of university students, with both undergraduates and postgraduates moving away from traditional print media and library reference services and towards electronic resources and Internet search (Barrett, 2005; Gayton, 2008). Research by Gross and Latham (2009) found that undergraduates with lower level information skills tended to overestimate their abilities. Although students' search skills become more sophisticated as they progress through graduate courses, online resources remain significant in graduate students' information search processes and they exhibit a preference for resources that are convenient and easy to access, especially through search engines (George et al., 2006). Connaway et al. (2011) found that convenience and ease of access was important for both undergraduates and

postgraduates, and that students were content to use resources whose convenience made them 'good enough' rather than spend further time engaged in searching. Despite this, students cite the quality of information as an important factor when selecting resources for academic assignments (Gross & Latham, 2009; Colón-Aguirre & Fleming-May, 2012). Some student library users are also aware that library resources, such as databases, are more reliable than search engines, although they find them more demanding to use (Connaway et al., 2011; Colón-Aguirre & Fleming-May, 2012). More advanced search skills, such as using synonyms or Boolean logic, also present difficulties for students (Varga-Atkins & Ashcroft, 2004).

Issues with the information seeking process may be perpetuated by well-meaning library staff. Robertson (1992) notes that where librarians provide resources without teaching international students how to use the library and conduct search tasks, "the student does not learn how to complete the task and the situation continues to occur." This approach prevents the student from experiencing the exploratory nature of the information seeking process, and may hinder understanding of the research topic (Kuhlthau, 2004).

Methodology

An inductive approach was used to explore students' affective experiences when searching for information. Data were collected through a survey, a diary study and semi-structured interviews, and qualitative analysis of individuals' responses was used to build a picture of each student's affective experiences during a variety of search tasks. A preliminary online survey of language skills, difficulties encountered in looking for information and confidence levels in searching was designed based on questionnaires previously used in the field. An electronic search task record form was also created, using past diary studies as a basis for

both format and content. An example of a search task record, completed by the researcher, was also made available as part of the diary study to indicate what was expected (Corti, 2003). Interviews were semi- structured and largely based upon the search task records completed by participants. Questions were also included in later interviews in response to data gathered in previous interviews and themes that recurred in the analysis of the search task records.

Design of the Online Survey

The survey comprised three sections: demographic information, additional languages and information about the user's search experience. The term "search experience" was selected as being more familiar to students than "information seeking experience". Demographic information was requested to provide context for the subsequent diary case studies and qualitative analysis. Language proficiency responses were used to supplement the diary study data in devising interview questions. Volunteers were invited to participate in the online survey via an email sent to a volunteer mailing list for students at the University of Sheffield.

Design of Diary-Interview Study

The diary-interview method was considered preferable to a lab-based observational study for capturing participants' behaviours in their normal environment, especially where the presence of a researcher may influence participant behaviour or create unnatural scenarios (Zimmerman & Wieder, 1977; Toms & Duff, 2002; Singh & Malhotra, 2013). A key advantage of the diary method is that diaries can be completed at the time of the event. The detail provided by a diary allows intensive interviewing in which participant can be asked to expand on the reported entries as well as elements of interest which the diary did not capture (Zimmerman & Wieder, 1977). Although the nature of diary recording assumes a degree of literacy that may create barriers to participation, it was considered that this would not be an issue in a university setting.

The diaries were designed to assess general search trends and identify individuals' emotions during search tasks. It was decided that allowing students to document their own information needs would result in a more naturalistic study than if search tasks were specified. This emphasis on selection may, however increase the bias towards including events that participants perceive to be of interest to the researcher, or to include only those searches that were perceived as interesting or successful by the student (Bolger et al., 2003). In an effort to mitigate this, participants were asked to be honest in their answers, and were told that unsuccessful searches were of as much interest as successfully completed tasks (Rieman, 1993). Search tasks are suited to the event-based nature of the diaries as they are an easily identified trigger and it was considered that this would be less onerous for participants than a request to document all of their information behaviour for a week.

A number of diary formats were explored, including paper-based entry, blogs, Tweets and downloadable documents (Hyldegård, 2006b; Singh & Malhotra, 2013; Bolger et al., 2003). In the end, a Google Form was selected as participants were familiar with this format due to frequent use in surveys at the University; it was flexible enough to allow multiple entries, easy to set up and free to run. It also allowed a hyperlink to be emailed to participants thus allowing repeated access.

Students were asked to document their searches for a one-week period. A week was considered a suitable period to capture a variety of information behaviour, but not long enough that respondents tired of reporting their experiences (Verbrugge, 1980). Although some studies have had success with longer diary-keeping periods (Keleher &

Verrinder, 2003), time and resource constraints prohibited a more longitudinal approach. Diaries that rely entirely on free text can be discouraging to participants, as well as being potentially difficult for the researcher to analyse (Goodall, 1993). However, space was also provided for participants to add any other comments about their search experiences (Keleher & Verrinder, 2003). Consideration was also given to balancing the burden of time and effort placed upon student participants while gathering data of sufficient depth and quality (Bolger et al., 2003). Mandatory initial interviews can adversely affect diary study participation rates, accounting for a significant proportion of attrition during such studies (Verbrugge, 1980). Mid-point interviews were not incorporated due to the unrealistic workload this placed upon a single researcher (Rieman, 1993). It was hence decided to focus on more in-depth interviews at the conclusion of the diary studies. As well as providing evidence to support the content of the diaries, the interviews also have the potential to investigate the participant's information behaviour over a longer period than that covered by the diary study (Rieman, 1993). Copies of the search task records were made available to interviewees for reference at the time of the interview, which improved their recall of events and led to expansion and clarification of the content.

Although the intention was to select volunteers who represented a balanced sample of the different cultures present at the University, low recruitment numbers meant that all diarists were invited to interview. The questions were prompted by the content of the search task records, and later interviews contained questions on themes which emerged in the early stages of analysis. This approach allowed the development of interview questions which were broadly similar in their themes but tailored to the unique experiences of each participant (Kuhlthau, 1988a). Participants were given the opportunity to expand and elaborate on their answers to allow their own perspective and

experience to emerge.

Data Analysis

Data collection was undertaken over a four week period that allowed the survey invitation to be sent out twice, so that two diary studies were run in immediate succession to maximise participant numbers. Interviews were conducted within a week of each student completing the diary study, with the exception of one participant. Obtaining sufficient volunteers proved to be difficult and the resultant survey sample was too small for meaningful quantitative analysis of results; therefore we conducted a more comprehensive description and exploration of the information search process as experienced by the five participants volunteering for this part of the study (Choemprayong & Wildemuth, 2009). It is acknowledged that a larger study would have provided a broader picture of student's information behaviour and hence yielded more generalisable results. It must also be recognised that it is subjective due to the reliance of the diary and interview methods on self-reporting of participants' behaviours and feelings.

A brief review and analysis of the diaries commenced before the interviews to establish any emerging themes and to form the basis for the interview questions. All the interviews were transcribed to allow coding and facilitate analysis and analysis conducted during the data collection phase allowed for the adaption of research methods during the study. The search task records and interview transcripts were deductively coded according to categories derived from past work and the research data (Zhang & Wildemuth, 2009). An initial list of categories was generated from the themes of the research: stages of the information search process, feelings and thoughts, and language use. The data were then coded again to refine these categories into smaller subcategories. Data were also inductively coded to allow other themes to emerge. This

approach allowed data from the search task records and the interviews to be integrated to form case studies and facilitated comparison between the case studies at the analysis stage (Richards, 2009).

Results

Online Survey

A total of fourteen students from the University of Sheffield with diverse languages and experiences responded to the initial survey: two students were undergraduates; eight taught postgraduates and four postgraduate researchers. A total of three students were from the Faculty of Science and 11 from the Faculty of Social Sciences. Three students were categorised as home and 11 as international, with an equal number of males and females. 12 of the students were aged between 18-35 and had various first language skills (Chichewa=1, Chinese=3, English=4, Korean=1, Malay=2, Romanian=1, Spanish=1 and Yoruba=1). As the study was conducted in a British university it is unsurprising that all participants reported their English skills in both reading and writing as being in the upper ranges of the scale. Respondents tended to rank their reading ability as the same or greater than their writing ability; only two participants indicated that their writing ability surpassed their reading skills. Two students neglected to include English as one of their languages; bilinguals were assumed to have native ability.

Search Experience

All participants recorded at least a moderate degree of confidence when searching for information. Home students all reported their confidence level as being high or very high. However, none of the students who reported lower levels of confidence in looking for information proceeded to the diary-interview phase, so further data on their search experience has not been captured.

Table 1. Feelings reported by students in the questionnaire

Feeling reported	Number of international students	Number of home students	Total
Interest (+)	10	1	11
Optimism (+)	5	2	7
Curiosity (+)	10	2	6
Uncertainty (-)	4	1	5
Confusion (-)	3	1	4
Joy (+)	4	0	4
Doubt (-)	2	1	3
Frustration (-)	2	0	2
Anxiety (-)	1	0	1
Irritation (-)	0	1	1

Note: (+) indicates a positive feeling; (-) a negative feeling

Of the twelve potential feelings offered, ten were reported by at least one participant (see Table 1). Aversion and fear were not selected by any respondents. At this stage, no participants used the option to report other feelings. During the diary-interview phase all participants exhibited a greater variety of feelings than they disclosed in the survey, suggesting that the feelings recorded here should be interpreted as indicative of participants' general attitudes rather than predictors of the complexity of feelings experienced during search tasks. Although most respondents expressed some positive feelings about their experience of looking for information, one participant reported only doubt and uncertainty.
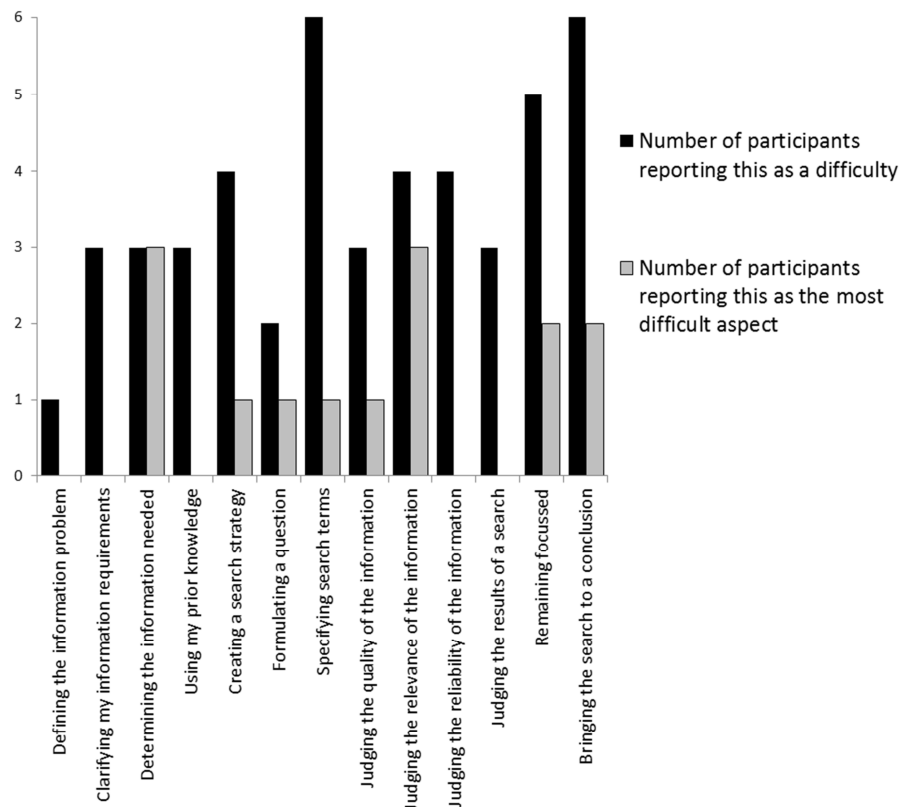
Figure 1. Reported difficulties in looking for information following the information search process from problem initiation to conclusion (Kuhlthau, 1994)

Of the thirteen information skills included in the survey, all were selected by at least one participant as presenting difficulties. Figure 1 shows the number of respondents who reported experiencing each difficulty, and which issues were identified as causing the greatest difficulty for participants. Both home and international students reported experiencing difficulties throughout the search process and no participant reported experiencing difficulty at only one stage. The presentation of the issues from left to right represents the approximate stage of the information seeking process at which these issues occur, from initiation through to completion (Kuhlthau, 1994). Some of these stages may recur throughout the process in response to new information uncovered during a search. Although respondents were given the option to provide further comments about their search experience, no significant comments were made at this stage. Participants in the case studies described experiencing a wider range of

difficulties than they indicated in the survey.

Table 2. Participant profiles for the case studies

Case Study	Student status	Faculty	Languages (native first)	Confidence Level	Feelings when looking for information
A	Taught Postgraduate	Social Sciences	English	High	Curiosity, optimism, interest
B	Undergraduate	Social Sciences	English	High	Curiosity, optimism, confusion and irritation
C	Postgraduate Researcher	Science	Spanish, English	Very High	Curiosity, interest
D	Taught Postgraduate	Social Sciences	Malay, Arabic, English	High	Interest, optimism, joy
E	Taught Postgraduate	Social Sciences	Chinese, English	High	Interest, joy, confusion

Diary Interview Results

A total of five students participated in the diary case studies, including a range of levels, languages and feelings when searching for information (see Table 2).

Home student: case study A

The feelings Participant A recorded for his first search task supported the data he recorded during the survey. The task was an attempt to find an item he had previously seen and now wished to purchase. Despite not being able to recall the name of the brand he was looking for, at the beginning of the task he recorded high levels of confidence and optimism. During his interview the respondent confirmed that the search was successful, resulting in a high satisfaction score. Participant A's later entries made it apparent that he experienced negative feelings during more complex searches. His task was to clarify what he had previously understood from new articles about a British government bill. Although Participant A described previous knowledge of the topic and was confident in assessing the reliability of sources, he recorded high levels of negative feelings during the task due to obtaining irrelevant results. He later found the information using news articles and specialist websites, which he confirmed by cross-checking multiple sources.

The final search task recorded by Participant A was conducted using Google Maps to locate a destination in London that he had not previously visited. He recorded his lowest starting confidence score for this task, but a high level of optimism. He struggled with using Google Maps to frame the situation in terms of his prior knowledge of London and therefore experienced some frustration and doubt. A lack of context also led to the uncertainty recorded at the end of the task. Discussion during the interview established that he had eventually used other online sources to confirm his findings. Although Participant A reported that creating a search strategy was the most challenging aspect of looking for information, he described a strategy for two of his three search tasks. Participant A also indicated difficulty judging the reliability of the information during a search although his search tasks did not reflect this. During the interview he showed a good awareness of issues of reliability in the context of his own research.

Home student: case study B

Participant B felt that his positive feelings were part of his personality, as well as being a result of prior experience. He described regularly feeling irritated during searches, but stated that this was usually fleeting. Participant B's first recorded search task was re-finding a video series, which he described as a routine task. His curiosity was related to the content of the video, and his satisfaction was similarly measured.

Like Participant A, he recorded no negative emotions when looking for previously discovered information. Participant B's second search task record detailed an attempt to retrieve multiple academic documents through Google Scholar. Despite having a list of references and being confident and optimistic at the beginning of the task, the respondent recorded disappointment, confusion and frustration as the search

progressed. This was the result of the difficulty encountered in finding the required documents: *"It was full references, so in theory they should be very easy to find (…) sometimes I just couldn't find the articles."* In interview Participant B stated that he would often use the library catalogue in similar situations: *"If you copy and paste the entire APA-style reference, sometimes it doesn't come up (…) and I don't know why"*. Despite this confusion he understood the need to select suitable search terms when using search engines. Participant B was one of only two interviewees who described using advanced search techniques. He attempted Boolean logic, or "codes", in bibliographic databases, which he did not distinguish from search engines. Participant B chose a mobile application to research Morocco for a forthcoming visit. He became frustrated when the search did not return relevant results, although in interview he acknowledged, *"I think it was the fact that I wasn't in Morocco that confused the search engine."* Despite his recorded disappointment, he stated that he would use the application again.

Despite reporting difficulty judging the reliability of information, Participant B described a process for deciding which information to trust: *"Generally I will ignore any comment that is not referenced (…) I'd weigh up both sides of the evidence, but I would generally go with it if it's more supported."* He admitted that he rarely examines references *"because it takes too long."* Time was a key factor in Participant B's use of the Internet over physical resources. He also reported asking staff to search the library catalogue for him rather than acquiring the necessary skills.

International student: case study C
Participant C placed both his reading and writing ability in the English language at level six, although he acknowledged that he had felt less confident using the English language at the beginning of his doctorate.

The first search task recorded by Participant C was a Spanish-language search. Despite encountering difficulties in locating a correct email address, he recorded very little feeling during this task *"because it wasn't very important to me."* Participant C's second search task record detailed a search for a book and used a variety of websites. As the book was published in English, the respondent selected this language for the task. Although he did not record frustration as part of the search task record, Participant C acknowledged in interview that he was disappointed and frustrated to find that he could not purchase it in the UK. Some confusion was encountered in using Amazon to search for the book: *"I found a couple of copies available used, but in the USA Amazon webpage, not in .co.uk. It wasn't a match between both websites."*

Unsurprisingly for the study's sole postgraduate researcher, Participant C described the clearest criteria for assessing academic resources and was able to discuss evaluating articles in terms of his own research, using citation metrics to assess quality and applying his knowledge of the field. Participant C usually used English to search for academic literature as *"the relevant materials are in English."* Spanish language searching supplemented this where specialist terminology was unclear. Participant C reported that he found specifying search terms the most difficult aspect of looking for information, which he felt was equally true for both English and Spanish. He explained the particular difficulties he encountered when conducting research: *"You need to be very precise in the words you are looking for and general terms, which can be useful when you are trying to expand your knowledge and your searching process, are not useful when you are looking for something very specific. But at the same time there are compromises, because they reduce the amount of information you can get from the webpages."*

International student: case study D

Participant D experienced considerable difficulties in all of her search tasks. As with Participants A and C, she experienced negative feelings while conducting her search tasks that were not reported in her survey data. Her native language was Malay and she reported an English language writing ability of level five and a reading level of six. Although able to read and write Arabic, Participant D does not use this language for searching as it requires a specialist keyboard.

Participant D's first search task record was looking for news articles on a recent airline crash. Although she was confident at the outset of this search due to a large number of results returned in English, Participant D found the content confusing due to the diversity of opinion. On switching to Malay she became frustrated while looking at multiple pages of irrelevant search results. Questioning by the interviewer revealed that Participant D was attempting to retrieve news in Malay using google.co.uk rather than a search engine specific to Malaysia or Brunei, of which the interviewee was unaware. This lack of awareness of a more appropriate search tool may be the underlying reason for the lack of success in retrieving relevant results in this instance.

Participant D's second search task record was also a news search, this time on the war in Gaza. Different opinions in the results themselves were a source of confusion. During interview, however, the respondent demonstrated a more balanced approach to the differences between English and Malay perspectives, stating *"we have different views and different culture, so I don't think that's really a problem."* She reported higher confidence at the end of this task than the first, explaining that it was due to getting more results for the second topic. In interview she described feeling confident at retrieving a lot of results, but being confused by the content of so many resources. She was unable to describe a means of resolving this dilemma. Despite these issues, this

respondent frequently mentioned searching in both Malay and English, explaining: *"If you just read English you probably get the same views (…) people in different countries have different views, so it's quite interesting."*

The third task recorded by Participant D was an academic literature search during which she used the library catalogue as well as a search engine. Her approach was to alternate these sources to get access to specific articles. Although she experienced negative feelings during the search, she was able to find suitable results and was satisfied by the end of the task. Participant D also reported using the advanced search function in the library catalogue. During the interview Participant D stated that she generally associated negative feelings with this type of task: *"I think sometimes academic search make you nervous. Because you need to find something and if you didn't get them that would make you frustrated."* In contrast to Participant C, her lack of knowledge of her field produced a haphazard approach to obtaining suitable resources. Asked to describe how she assessed academic sources, Participant D admitted, *"I don't really evaluate information first. I just want to find something. And then evaluate them later (…) if it is a journal then I just grab them."* While the task was primarily conducted in English, she used her native language to search for articles written from the Asian perspective, as this was relevant to her topic. Contrary to her earlier frustration at not retrieving news in Malay, she claimed that a lack of academic results in her first language did not affect her confidence as *"I know that sometimes not everything was written in a different language."* Participant D reported that the most difficult aspect of looking for information was bringing the search to a conclusion. During interview she identified time and the purpose of a task as factors in ceasing a search.

International student: case study E

Participant E attributed his confidence in looking for information to his search skills. Like Participant C, he felt equally confident in English and his first language. Although he claimed to find looking for information *"kind of boring"*, he was the only participant who highlighted a positive attitude as being a component of success: *"If you can be*

confident all the time you will be optimistic about the risks or troubles you will meet during the search for information, I think." The feelings reported in his survey were largely reflected in his search task records and repeatedly referred to during his interview.

Participant E's first search topic was carrying out research for his dissertation. This included finding definitions of terms, as well as more in depth literature using Google and the library catalogue. He began the task confident in his searching skills, but experienced uncertainty due to finding few relevant results and dealing with new terminology. He also recorded being annoyed *"because I was supposed to spend time on other things."*

Participant E's second search task record detailed his research into applying for a Schengen visa so he could go travelling in Europe. He used Google and Red Scarf, a Chinese language forum. Despite having this resource, he recorded only moderate confidence at the beginning of his search. He explained, *"it is the first time for me to apply for the Schengen visa, so I think I have to predict potential risks and problems or troubles I will meet."* At the end of the task he recorded high confidence, optimism and satisfaction as his search was made easier by information on Red Scarf; this also reduced his uncertainty and confusion. Participant E used both Chinese and English for the search tasks he recorded, repeatedly expressing a motivation to improve his English whenever possible. The respondent reported using Chinese to check the meaning of specialist academic terms and to complete tasks where he was apprehensive of making a mistake, such as booking travel. In situations where he was forced to use English, such as where websites did not support Chinese script, he accepted it as a fact of life: *"Because I'm living in UK (…) I have to use English to solve many problems."*

Judging the quality of information was the greatest difficulty for Participant E when looking for information. His process for screening search results for better sources relied heavily upon his academic supervisor. He also used his friends for support in understanding specialist terminology. Although he reported a preference for searching in Chinese to get information about life in England and travelling in Europe, Participant E expressed distrust of Chinese academic sources, preferring to use English language sources after comparing the content.

Discussion

Due to the small scale of this study it cannot be considered a comprehensive picture of the information search processes of the wider student population at the University of Sheffield. Feelings are particularly personal and their description is inherently subjective, therefore the experiences described by the participants should be seen as illustrative rather than evidence of wider trends. However, common themes have been identified in the case studies and help contribute to an understanding of how students approach the information search process.

Information Search Process

Although all international survey respondents reported high levels of English language ability, three recorded only moderate confidence in looking for information. It is not possible to extract which factors may have contributed to these lower confidence levels as none of the students who rated their search confidence as moderate took part in the diary-interview study. The international students who did take part in the diary-interview phase reported similar confidence levels to home students for all search tasks. Similarly, there was no significant difference in the difficulties experienced by home and international students when looking for information. The factors which did emerge as notable in the international students' search processes were the use of their first and

second languages in their search activities and their use of alternative tools and resources, most of which were available to them due to their ability to switch languages. These factors either contributed to their success in looking for information or adversely affected their efficacy in searching.

The international students displayed a variety of language use during the diary phase of the study. Only participant C recorded searches conducted exclusively in one language; Participants D and E both switched between languages during all their recorded tasks. Participant C had studied in England for two years longer and reported a slightly higher level of English language competence than the other two international students; his research experience, cultural acclimation and language skills may therefore account for this difference. Participant C's selection of an appropriate language to his task and lack of subsequent switching confirms the assertion that some multilingual students do select the language most appropriate to the task (Rieh & Rieh, 2005). It is significant that where participants used two languages during their search tasks they encountered additional challenges in terms of evaluating a greater number of sources than a search in one language alone would have yielded, and did not necessarily find useful information. Evaluating the results of such searches proved difficult due to the different opinions that participants were forced to reconcile. Participant D reported conflicting thought and feelings as a result of this, claiming, *"you didn't know whether it's true or not, because there's too many views."* In contrast, she also felt that different cultural perspectives *"make the world interesting."* Participant E took a practical approach to this conflict in academic contexts, and forwarded sources to his supervisor for recommendations. He also reported asking friends who he viewed as being "quite smart". Perhaps as a result of having a strategy for obtaining support, he expressed a lesser degree of conflict than Participant D when discussing these scenarios in interview. Kuhlthau's model of the

information search process documents confusion, frustration and doubt during the exploration phase (Kuhlthau, 2004). It appears that processing results in an additional language adds an extra dimension of difficulty at this stage for international students who are unfamiliar with target language resources.

The availability of language-specific search engines allowed Participants C and E to access information in their native languages rather than English. Participant D was unaware of such tools and simply changed Google's interface to Malay when she wished to search in her first language. Searches were notably more successful when a tool specific to the chosen language was used than when English platforms were asked to return foreign language results. Contrary to the findings of previous studies, the international students did not report more success in conducting in-depth searches in their native languages (Józsa et al., 2012). It must be noted however, that this was often for academic subjects or location-specific information where resources were unavailable in their native language, or were considered untrustworthy. The use of English for such tasks supports previous findings that the search language is chosen as being appropriate to the location or based upon the availability of information (Józsa et al., 2012). It was also commonly assumed by the international students that because their academic work was written in English, sources in English were preferable even where resources existed in their first language. Two participants reported using their native language to confirm their understanding of specialist terminology, a usage not previously documented in studies. Participant E's dual use of Chinese and English information to improve his knowledge of the latter language and Participant D's use of Malay and English to obtain different cultural perspectives for her own interest are also previously unrecorded motives for language switching during search.

It is interesting to note that when asked in interview about how they approach the issue selected as their greatest difficulty in the search process, a majority of participants were able to discuss a reasonable approach to their identified problem. This suggests that most difficulties are overstated based on negative past experiences or a lack of confidence in this particular task, rather than a genuine lack of knowledge or ability in this area. Where difficulties posed deeper issues, they relate with an absence of coping strategies and general confusion about how to approach this aspect of searching, suggesting low levels of skills in this area. This seems to support previous findings that international students are not equipped with the full range of skills required for academic assignments in English-language universities (Angelova & Riazantseva, 1999). None of the international students experienced the English language as being a barrier to their understanding except in the case of specialist terminology, which Participants C and E used their first language to clarify.

A recurring theme throughout the interviews was the importance of prior knowledge in the search process. Participant C described a very clear approach to evaluating academic resources that relied heavily on his existing knowledge of the field in question and his broader understanding of the academic world. With less experience of life in the United Kingdom in general and the university research process in particular, Participants D and E were unsure which English language resources they could trust, and struggled to assess the reliability of results. Despite this, Participant E reported that he generally preferred to use an English language source, stating that he perceives this information to be of superior quality (Rieh & Rieh, 2005; Aula & Kellar, 2009).

Thoughts, Feelings and Actions
The survey found that five respondents reported only positive feelings when asked generally about looking for information. Three of these completed the diary-interview

study, but reported experiencing both positive and negative feelings during the search process. All participants' search task records reflected a wider range of emotions than indicated in their survey data. This was particularly pronounced in those who reported experiencing only positive feelings; students who acknowledged feeling mixed emotions at the survey stage were more accurate predictors of the negative feelings that they later reported in the diary study. Students who completed the diary-interview study all reported a general confidence level of high or very high, however this varied considerably with their search tasks. These discrepancies suggest that feelings vary considerably in relation to the search task undertaken. The findings may also indicate that some students are biased towards over reporting their search skills (Gross & Latham, 2009) or simply exhibit a positive attitude consistent with their general life approach (Savolainen, 1995). Participant E's description of a positive attitude as a component of success reflects Dervin's depiction of attitudes and ideas as a bridge between a situation and its outcome (Dervin, 1998).

This study found that exploratory searches presented the most difficulty for all students, regardless of their context. This resulted in corresponding fluctuations of feeling for all participants. Although all of the participants began their academic searches with at least a moderate level of confidence and optimism, they reported frustration, confusion, uncertainty and doubt during their task. This correlates with the exploration phase of Kuhlthau's model, which is characterised by dealing with information sources which may seem to be irreconcilable. Kuhlthau noted that, "for many students, this is the most difficult stage in the process" (Kuhlthau, 2004:47). All participants set out reasonable strategies for their searches, but two struggled in dealing with a lack of relevant results. The respective strategies for coping with these issues both resulted in eventual satisfaction. This change in thought, and the resulting shift towards a positive affect, suggests a change from

an affective response to a cognitive response, supporting the idea that there is significant interplay between these factors (Kuhlthau, 2004). Processing the meaning of a lack of information also seems to function in the same way as the processing of information shown in Wilson's model, as this "feedback loop" informs a person's context (Wilson, 1999). Participant A's later identification of alternative sources also highlights the ongoing nature of some search tasks. All the students reported feeling that their academic search tasks were among the most important; other exploratory search tasks, however, also elicited high level of both positive and negative feelings.

Although non-academic exploratory tasks were often begun with slightly lower levels of confidence than the academic research, they were subject to similar fluctuations in emotion. This suggests that Kuhlthau's model can be applied outside the educational and professional contexts of prior research, and has relevance for leisure tasks. In general, the easier a task was expected to be, the greater the negative feelings when it did not progress as expected. This was reported by home and international students and as with previous research; both groups cited the extra time needed to resolve these issues as a key source of frustration (George et al., 2006; Connaway et al., 2011). International students reported spending extra time understanding specialist terminology or being confused by opinions from different cultures. Both home students also reported occasional difficulties in dealing with conflicting opinions in search results, but did not cite different cultural perspectives as presenting a problem. This suggests that cultural differences may cause issues for some international students beyond navigating information resources (Lu & Adkins, 2012), creating additional barriers to assessing results for relevance and reliability.

Two search task records completed by the home students showed a lack of emotional variation. These both documented re-finding tasks, where participants either located an item they had previously found when conducting a similar search, or were navigating to a previously visited webpage. Unsurprisingly, participants exhibited the greater degrees of confidence and surety in these tasks than any other. These records were unique in that no negative feelings were expressed about the search experience and that satisfaction was reported as very high at the end of the process. The search task records and interviews indicate that these tasks did not go through an exploratory phase, which was identified by Kuhlthau as the stage where doubt is experienced. This type of search also lacks the uncertainty usually present at the initiation stage of Kuhlthau's model that results from a lack of clarity about the issue in question (Kuhlthau, 2004), therefore the associated anxiety and confusion do not occur. This finding thus supports Kuhlthau's argument for the correlation between uncertainty and ambiguity at the initiation stage of the information search process. No international students documented re-finding information and, therefore, their experience cannot be compared.

One search task was distinct in recording only two low-level emotions. Participant C recorded a known item search that also had little emotional impact, although his feeling shifted from confidence to uncertainty during the task. He attributed this lack of feeling to the relative lack of importance he placed upon the task. The evaluation of the relative importance of the task shows the problem solving behaviour depicted in Savolainen's (1995) everyday life model. This account also seems to support Savolainen's assertion that individuals tend towards processing a problem either cognitively or affectively. In this case, it seems that the thoughts associated with the search controlled the emotional response.

The international students did not express any negative feelings regarding being forced to search in English to obtain suitable results for some tasks. It was broadly accepted as being a part of life at a British university and was in fact viewed by Participant E as an opportunity to improve his language skills. It must be stated that all the students who participated in the research had been in England for at least ten months at the time of the study and hence had been used to using English for various tasks during that period. Participant C noted in interview that his confidence in searching in English had improved during his three years at the university and he was now equally comfortable using Spanish and English when looking for information. This supports Angelova and Riazantseva's observations of eventual improvement in confidence of international students who have gained experience in producing written English (Angelova & Riazantseva, 1999).

Considerations for the University Library Service

Participants were not asked to record library use in the diary study as the intention was to capture their natural search behaviours, not to impose artificial tasks upon them. Despite this, all participants reported some interaction with the library catalogue or subscription-access electronic databases during their diary week. All the interactions with the library and its facilities took place online, confirming the findings of existing studies (Rowlands et al., 2008; Connaway et al., 2011). The results also reflect previously documented search practices: students do not distinguish the online library catalogue and bibliographic databases from search engines and therefore struggle to formulate searches and obtain relevant results (Connaway et al., 2011). The theme of convenience was also evident, with Participant B exemplifying the lack of patience shown for traditional research methods: *"nobody has time for that nowadays."* The disappointment Participant C recorded due to not knowing immediately if a book would be obtainable through interlibrary loan indicates that time and patience is a

factor in interaction with library systems as well as search tools.

The interactions with staff that emerged during interview also followed patterns identified in the literature (Robertson, 1992; Garcha & Russell, 1993). Participant E reported that he did not ask library staff for advice about searching due to cultural expectation: *"because in my previous university in China, I think many librarians job is something like helping people how to find books instead of giving any piece of suggestion, the dissertation or something like that."* Staff were also perceived as otherwise occupied, as Participant E added, *"they were quite busy to answer students"* (as also highlighted in (Lu & Adkins, 2012)). Although Participant B stated that he approached staff in the library for help, it was clear that he was not taught how to find resources for himself: *"they'll find the decimal number and then they'll tell me."* Although Robertson (1992) noted this type of interaction taking place with international students, it is not confined to that user group.

The implications for the library are considered in the context of providing a service to international students whose first language is not English and have not previously studied in an English-language university. None of the international students reported experiencing a language barrier in accessing library resources, and participants either reported their own strategies for dealing with unfamiliar specialist vocabulary or did not report this issue. For two participants the difficulty was more cultural than linguistic and centred on deciding which English language sources to trust. The library should be aware that some international students may therefore require assistance in identifying appropriate English language sources; however, it is appreciated that in some cases this requires specialist knowledge and is best referred to lecturers or dealt with in partnership with the academic departments. Students may also have different

expectations of library staff based on their cultural background, which determine whether they seek help in the library at all, so consideration should be given to how to support new international students and promote the library services to them. The library provides a number of information skills tutorials through its website, but no students discussed using these resources to support them when searching online. The library should give consideration to promoting these through media other than the catalogue home page given that students are more likely to search using Google than the Sheffield library catalogue system, StarPlus.

Conclusions

This paper presents a study to investigate the affective experiences of home and international students at the University of Sheffield. The information search processes of multilingual international students were studied to compare their thoughts feelings and actions to those of monolingual home students. We utilised an online survey and diary-interview method to elicit more in-depth insight into participants' information searching processes and emotions. The results showed that for the sample studied, there were little observable differences in the affective experiences of international students compared with home students. The information search process was likewise very similar for both groups. The international students search processes were rendered distinct by the use of more than one language and by the use of alternative search tools and information resources available in their first languages. Where students switched languages during a search task they experienced confusion due to conflicting cultural perspectives and struggled to identify reliable sources. Where students selected a language appropriate to the task and did not switch to another language during the process this did not occur. Selecting a tool appropriate to the language in use was also an important factor in the success of these searches.

We acknowledge that findings are based on a small sample of students with the results themselves, being focused on thoughts and feelings, considered as highly subjective and representative only of the students' own personal perceptions of their experiences. In future work we aim to increase the number of participants that would enable the findings regarding language switching to be tested on a larger sample. Although some uses of language switching and the underlying motivations have been identified, it is probable that more uses of language switching exist and that other multilingual individuals would report different reasons for their choices in this respect. While this study has identified that factors, such as cultural knowledge and awareness of trustworthy sources, can impact the success of searches in additional languages, other confounding variables may also play a part. Further studies may succeed in identifying these factors, as well as investigating students with a greater diversity of English language skills and confidence in searching.

References

Alaszewski, A. (2006). *Using diaries for social research : SAGE research methods*. London, United Kingdom: Sage Publications Ltd. doi:10.4135/9780857020215.

Andrade, M. S. (2006). International students in English-speaking universities: adjustment factors. *Journal of Research in International Education*, *5* (2), 131–154. doi:10.1177/1475240906065589

Angelova, M., & Riazantseva, A. (1999). "If you don't tell me, how can I know?": a case study of four international students learning to write the U.S. way. *Written Communication*, *16* (4), 491–525. doi:10.1177/0741088399016004004

Arapakis, I., Jose, J. M., & Gray, P. D. (2008). Affective feedback. In *Proceedings of the 31st annual international ACM SIGIR conference on research and development in*

information retrieval - SIGIR '08 (p. 395-402). New York, New York, USA: ACM
Press. doi:10.1145/1390334.1390403

Aula, A., & Kellar, M. (2009). Multilingual search strategies. In *Proceedings of the
27th international conference extended abstracts on Human factors in computing
systems - CHI EA '09* (p. 3865-3870). New York, New York, USA: ACM Press.
doi:10.1145/1520340.1520585

Baron, S., & Strout-Dapaz, A. (2001). Communicating with and empowering
international students with a library skills set. *Reference Services Review*, *29* (4), 314–
326. doi:10.1108/00907320110408447

Barrett, A. (2005). The information-seeking habits of graduate student researchers in the
humanities. *The Journal of Academic Librarianship*, *31* (4), 324–331.
doi:10.1016/j.acalib.2005.04.005

Benbasat, I., Goldstein, D. K., & Mead, M. (1987). The Case research strategy in
studies of information systems. *MIS Quarterly, 11* (3) 369-386. doi:10.2307/248684

Bolger, N., Davis, A., & Rafaeli, E. (2003). Diary methods: capturing life as it is lived.
Annual Review of Psychology, *54*, 579–616.
doi:10.1146/annurev.psych.54.101601.145030

Case, D. O. (2012). *Looking for information: a survey of research on information
seeking, needs and behaviour* (3rd ed.). Bingley, United Kingdom: Emerald Group
Publishing Limited.

Choemprayong, S., & Wildemuth, B. M. (2009). Case studies. In B. M. Wildemuth (Ed.), *Applications of social research methods to questions in library and information science* (pp. 51–61). Westport, CT: Libraries Unlimited.

Colón-Aguirre, M., & Fleming-May, R. A. (2012). "You just type in what you are looking for": undergraduates' use of library resources vs. Wikipedia. *The Journal of Academic Librarianship*, *38* (6), 391–399. doi:10.1016/j.acalib.2012.09.013

Connaway, L. S., Dickey, T. J., & Radford, M. L. (2011). "If it is too inconvenient I'm not going after it:" convenience as a critical factor in information-seeking behaviors. *Library & Information Science Research*, *33* (3), 179–190. doi:10.1016/j.lisr.2010.12.002

Corti, L. (2003). Diaries, self-completion. In R. L. Miller & R. L. Brewer (Eds.), *The A-Z of social research* (pp. 69–75). London, United Kingdom: SAGE Publications, Ltd. doi:10.4135/9780857020024.n26

Denscombe, M. (2010). *The good research guide : for small-scale social research projects* (4th ed.). Maidenhead, United Kingdom: Open University Press. Retrieved from https://www.dawsonera.com/readonline/9780335241408/startPage/168

Dervin, B. (1998). Sense-making theory and practice: an overview of user interests in knowledge seeking and use. *Journal of Knowledge Management*, *2* (2), 36–46. doi:10.1108/13673279810249369

Eleta-Mogollón, I. (2008). *Investigating multilingual access to digital libraries*. (MA dissertation, University of Sheffield, Sheffield, United Kingdom).

Garcha, R., & Russell, P. Y. (1993). Bibliographic instruction for international students in academic libraries. *Library Review*, *42* (6), 14–22. doi:10.1108/00242539310045426

Gayton, J. T. (2008). Academic libraries: "social" or "communal?" The nature and future of academic libraries. *The Journal of Academic Librarianship*, *34* (1), 60–66. doi:10.1016/j.acalib.2007.11.011

George, C., Bright, A., Hurlbert, T., Linke, E. C., St. Clair, G., & Stein, J. (2006). Scholarly use of information: graduate students' information seeking behaviour. *Information Research*, *11* (4). Retrieved from http://www.informationr.net/ir/11-4/paper272.html

Goodall, D. (1993). Use of diaries in library and information research. *Library and Information Research*, *17* (59), 17–21. Retrieved from http://www.lirgjournal.org.uk/lir/ojs/index.php/lir/article/view/447

Gross, M., & Latham, D. (2009). Undergraduate perceptions of information literacy: defining, attaining, and self-assessing skills. *College & Research Libraries*, *70* (4), 336–350. Retrieved from http://crl.acrl.org/content/70/4/336.full.pdf

Hank, C., Jordan, M. W., & Wildemuth, B. M. (2009). Survey Research. In B. M. Wildemuth (Ed.), *Applications of social research methods to questions in library and information science* (pp. 256–269). Westport, CT: Libraries Unlimited.

Hansen, P., & Karlgren, J. (2005). Effects of foreign language and task scenario on relevance assessment. *Journal of Documentation*, *61* (5), 623 – 639. doi:10.1108/00220410510625831

Higher Education Statistics Agency Limited. (2016). Students in higher education 2014/15. Retrieved October 25, 2016, from https://www.hesa.ac.uk/data-and-analysis/publications/students-2014-15

Hyldegård, J. (2006). Collaborative information behaviour—exploring Kuhlthau's Information Search Process model in a group-based educational setting. *Information Processing & Management*, *42* (1), 276–298. doi:10.1016/j.ipm.2004.06.013

Hyldegård, J. (2006b). Using diaries in group based information behavior research. In *Proceedings of the 1st international conference on Information interaction in context - IIiX* (p. 153-161). New York, New York, USA: ACM Press. doi:10.1145/1164820.1164851

Hyldegård, J. (2009). Beyond the search process – exploring group members' information behavior in context. *Information Processing & Management*, *45* (1), 142–158. doi:10.1016/j.ipm.2008.05.007

Jiao, Q. G., Onwuegbuzie, A. J., & Lichtenstein, A. A. (1996). Library anxiety:

characteristics of "at-risk" college students. *Library & Information Science Research*,

18 (2), 151–163. doi:10.1016/S0740-8188(96)90017-1

Józsa, E., Köles, M., Komlódi, A., Hercegfi, K., & Chu, P. (2012). Evaluation of search

quality differences and the impact of personality styles in native and foreign language

searching tasks. In *Proceedings of the 4th Information Interaction in Context*

Symposium on - IIIX '12 (p. 310). New York, New York, USA: ACM Press.

doi:10.1145/2362724.2362782

Julien, H., & McKechnie, L. E. F. (2005). What we've learned about the role of affect

in information behaviour/information retrieval. In *7th ISKO-Spain Conference* (pp.

342–356). Barcelona, Spain. Retrieved from http://bd.ub.edu/isko2005/julien.pdf

Keleher, H. M., & Verrinder, G. K. (2003). Health diaries in a rural Australian study.

Qualitative Health Research, *13* (3), 435–443. doi:10.1177/1049732302250342

Kelly, P., & Moogan, Y. (2012). Culture Shock and Higher Education Performance:

Implications for Teaching. *Higher Education Quarterly*, *66* (1), 24–46.

doi:10.1111/j.1468-2273.2011.00505.x

Kim, S. U. (2010). The information seeking and use of English language learners in a

high school setting. Retrieved from http://dx.doi.org.doi:10.7282/T3DV1JNZ

Kuhlthau, C. C. (1988a). Developing a model of the library search process: cognitive and affective aspects. *RQ*, *28* (2), 232–242. Retrieved from http://www.jstor.org/stable/25828262?seq=5

Kuhlthau, C. C. (1988b). Perceptions of the information search process in libraries: a study of changes from high school through college. *Information Processing & Management*, *24* (4), 419–427. doi:10.1016/0306-4573(88)90045-3

Kuhlthau, C. C. (1991). Inside the search process: Information seeking from the user's perspective. *Journal of the American Society for Information Science*, *42* (5), 361–371. doi:10.1002/(SICI)1097-4571(199106)42:5<361::AID-ASI6>3.0.CO;2-#

Kuhlthau, C. C. (1993). A Principle of uncertainty for information seeking. *Journal of Documentation*, *49* (4), 339–355. Retrieved from http://www.emeraldinsight.com/doi/abs/10.1108/eb026918

Kuhlthau, C. C. (2004). *Seeking meaning: a process approach to library and information services* (2nd ed.). Westport, CT: Libraries Unlimited.

Kuhlthau, C. C. (1999). The role of experience in the information search process of an early career information worker: perceptions of uncertainty, complexity, construction, and sources. *Journal of the American Society for Information Science*, *50* (5), 399–412. doi:10.1002/(SICI)1097-4571(1999)50:5<399::AID-ASI3>3.0.CO;2-L

Kuhlthau, C. C., & Tama, S. L. (2001). Information search process of lawyers: a call for 'just for me' information services. *Journal of Documentation*, *57* (1), 25–43. doi:10.1108/EUM0000000007076

Kuhlthau, C. C., Heinström, J., & Todd, R. J. (2008). The "information search process" revisited: is the model still useful? *Information Research*, *13* (4). Retrieved from http://www.informationr.net/ir/13-4/paper355.html

Liu, M. (2006). Anxiety in Chinese EFL students at different proficiency levels. *System*, *34* (3), 301–316. doi:10.1016/j.system.2006.04.004

Liu, D. W. Y., & Winder, B. (2014). Exploring foreign undergraduate students' experiences of university. *International Journal of Qualitative Studies in Education*, *27* (1), 42–64. doi:10.1080/09518398.2012.736643

Lu, Y., & Adkins, D. (2012). Library anxiety among international graduate students. *Proceedings of the American Society for Information Science and Technology*, *49* (1), 1–4. doi:10.1002/meet.14504901319

Marchionini, G. (1995). *Information seeking in electronic environments*. Cambridge, England: Cambridge University Press.

Maringe, F. (2010). Leading learning: enhancing the learning experience of university students through anxiety auditing. *Education, Knowledge and Economy*, *4* (1), 15–31. doi:10.1080/17496891003696470

Mellon, C. A. (1985). Library anxiety: a grounded theory and its development. *College and Research Libraries*, *47* (2), 160–65. Retrieved from http://crl.acrl.org/content/47/2/160.full.pdf+html

Morrison, J., Merrick, B., Higgs, S., & Le Métais, J. (2005). Researching the performance of international students in the UK. *Studies in Higher Education*, *30* (3), 327–337. doi:10.1080/03075070500095762

Nahl, D. (2005). Measuring the affective information environment of web searchers. *Proceedings of the American Society for Information Science and Technology*, *41* (1), 191–197. doi:10.1002/meet.1450410122

Naumer, C. M., Fisher, K. E., & Dervin, B. (2008). Sense-making: a methodological perspective. In *Proceedings of the ACM SIG CHI Conference 2008*. Florence, Italy. Retrieved from sites.google.com/site/dmrussell2/Naumer-final.pdf

Pickard, A. J. (2012). *Research methods in information* (2nd ed.). London, United Kingdom: Facet.

Richards, L. (2009). *Handling qualitative data: a practical guide* (2nd ed.). London, England: Sage Publications Ltd.

Rieh, H., & Rieh, S. Y. (2005). Web searching across languages: preference and behavior of bilingual academic users in Korea. *Library & Information Science Research*, *27* (2), 249–263. doi:10.1016/j.lisr.2005.01.006

Rieman, J. (1993). The diary study. In *Proceedings of the SIGCHI conference on Human factors in computing systems - CHI '93* (pp. 321–326). New York, New York, USA: ACM Press. doi:10.1145/169059.169255

Robertson, J. E. (1992). User education for overseas students in higher education in Scotland. *Journal of Librarianship and Information Science*, *24* (1), 33–50. doi:10.1177/096100069202400105

Rowlands, I., Nicholas, D., Williams, P., Huntington, P., Fieldhouse, M., Gunter, B., et al. (2008). The Google generation: the information behaviour of the researcher of the future. *Aslib Proceedings*, *60* (4), 290–310. Retrieved from http://www.emeraldinsight.com/doi/full/10.1108/00012530810887953

Savolainen, R. (1995). Everyday life information seeking: approaching information seeking in the context of "way of life." *Library & Information Science Research*, *17* (3), 259–294. doi:10.1016/0740-8188(95)90048-9

Savolainen, R. (2014). Emotions as motivators for information seeking: a conceptual analysis. *Library & Information Science Research*, *36* (1), 59–65. doi:10.1016/j.lisr.2013.10.004

Singh, A., & Malhotra, S. (2013). A researcher's guide to running diary studies. In *Proceedings of the 11th Asia Pacific Conference on Computer Human Interaction - APCHI '13* (pp. 296–300). New York, New York, USA: ACM Press. doi:10.1145/2525194.2525261

Slater, M. (1990). Qualitative research. In M. Slater (Ed.), *Research methods in library*

and information studies. (pp. 107–127). London, United Kingdom: The Library
Association.

Toms, E. G., & Duff, W. (2002). "I spent 1 1/2 hours sifting through one large box. ...":
diaries as information behavior of the archives user: lessons learned. *Journal of the
American Society for Information Science and Technology*, *53* (14), 1232–1238.
doi:10.1002/asi.10165

Varga-Atkins, T., & Ashcroft, L. (2004). Information skills of undergraduate business
students – a comparison of UK and international students. *Library Management*, *25*
(1/2), 39–55. Retrieved from
http://www.emeraldinsight.com/doi/abs/10.1108/01435120410510247
Verbrugge, L. (1980). Health diaries. *Medical Care*, *18* (1), 73–95.

Wilson, T. D. (1999). Models in information behaviour research. *Journal of
Documentation*, *55* (3), 249–270. doi:10.1108/EUM0000000007145

Wang, P. (2011). Information behaviour and seeking. In I. Ruthven & D. Kelly (Eds.),
Interactive information seeking, behaviour and retrieval. (pp. 15–41). London, United
Kingdom: Facet.

Zimmerman, D. H., & Wieder, D. L. (1977). The Diary-interview method. *Urban Life*,
5 (4), 479–498.

Zhang, Y., & Wildemuth, B. M. (2009). Qualitative analysis of content. In B. M.
Wildemuth (Ed.), *Applications of social research methods to questions in library and
information science*. (pp. 308-319). Westport, CT: Libraries Unlimited.